



TOWN OF GAWLER



HISTORIC WALLS IN THE PUBLIC ENVIRONMENT, GAWLER, SA CONSERVATION STRATEGY

September 2007

McDougall & Vines, Conservation and Heritage Consultants
27 Sydenham Road, Norwood, South Australia 5067
Ph (08) 8362 6399 Fax (08) 8363 0121
Email: mcdvines@bigpond.com

CONTENTS

HISTORIC WALLS IN THE PUBLIC ENVIRONMENT, GAWLER, SOUTH AUSTRALIA - CONSERVATION STRATEGY

	Page
1.0 INTRODUCTION	1
1.1 Background	
1.2 Objectives of Conservation Strategy	
1.3 Existing Heritage Listings and Development Plan Provisions	
1.4 Study Area and Scope of Walls Covered	
1.5 Methodology of Conservation Strategy	
2.0 HISTORICAL OVERVIEW	4
2.1 Historical Overview	
2.2 Early Photographs of Stone Walls in Gawler	
3.0 DEVELOPMENT PLAN PROVISIONS FOR PROTECTION OF STONE WALLS IN GAWLER	9
4.0 CASE STUDIES	11
4.1 Case Study 1: Leaning Stone Retaining Wall - Rendered Finish	
4.2 Case Study 2: Stepped Stone Wall - Crimped Wire Entry Gate	
4.3 Case Study 3: Stepped Stone Wall	
4.4 Case Study 4: Straight Stone and Brick Walls	
4.6 Case Study 5: Concrete Rendered Stone Walls	
4.6 Case Study 6: Stone and Brick Wall with Metal Railing	
4.7 Case Study 7 : House Fence with Rising Damp	
4.8 Case Study 8: Church Wall - Rendered Outside Face	
4.9 Case Study 9 : Church Wall - Stone and Brick Wall with Cement Render Damage	
4.10 Case Study 10: Public Wall	
4.11 Case Study 11: Stone Walls Which Require Re-Pointing	
4.12 Case Study 12: Missing Wall - Plinth Only Survives	
4.13 Case Study 13: New Stone Wall	
5.0 TYPICAL PROBLEMS AND WALL SOLUTIONS	36
5.1 Re-pointing of Stone and Brickwork (and removal of cement pointing)	
5.2 Damp-proofing of Walls	
5.3 Replacement of Stone	
5.4 Removal of Hard Cement Render from the Face of Stone	
5.5 Cast Iron Replacement in a Stone Fence	
5.6 Removal of Paint from Masonry Surfaces	
5.7 Removal of Surface Salts	
5.8 Plastic Repairs	
5.9 Sacrificial Renders	
5.10 Stabilization of Walls where not Vertical	
5.11 Paint Finishes on Render Sections of Stone Walls	
5.12 Cleaning of Stone and Brick work	
5.13 New Stone Walls	
5.14 Maintaining Stone Walls	
6.0 TRADESMEN, COSTINGS AND PRIORITIES FOR WALL CONSERVATION	42
7.0 GAWLER WALLS PRIORITY RANKING	43
APPENDICES	44
1. Source of Information	
2. Burra Charter	
3. Stone Walls with Heritage Listings (Gawler Stone Wall Audit 2006)	
4. Glossary of Terms Used in Report	

1.0 INTRODUCTION

1.1 Background

The Historic Walls in the Public Environment - Conservation Strategy (hereafter known as the Historic Walls Strategy) has been commissioned by the Town of Gawler, and builds upon the excellent inventory of over 360 stone walls¹ which was completed by the Town of Gawler in May 2006 via a community process. This photographic inventory had been prepared in a photographic format linked to a cadastral map and photographs and plots historic stone walls visible from streets in Gawler, providing a comprehensive coverage of the existing walls.

The Historic Walls Strategy uses this inventory as a basis, and examines the practical management issues associated with conserving stone walls. It should be noted that the study does not include early timber picket fences or metal fencing (except where these fences include stone plinths) and concentrates on stone walls which may also have some render, brick and cast metal elements.

For those walls scheduled in the inventory, a ranking system has been developed which outlines priorities for conservation works, and where maintenance works are required for walls.

1.2 Aims of Conservation Strategy

The Historic Walls Strategy will assist in providing the Town of Gawler with long term planning and financial management objectives for the conservation of stone walls in the Council area and assist with decision making in relation to any financial assistance by way of grants from relevant grant agencies for stone wall conservation.

The Strategy has the following objectives:

- Assessment of walls in the inventory against an agreed framework, which, among other things, includes risk of deterioration, risk to public safety and a short description. Priority listing of walls against a risk and value assessment.
- Identification of a minimum of 10 case studies across a range of wall management issues and wall functions, eg:
 - retaining wall/fence
 - retaining wall
 - high risk failure
 - replacement versus conservation options
 - basic long term maintenance of essentially sound walls
- Outlining model solutions with particular reference to managing costs and balancing this against aesthetic and heritage values.

The Historic Walls Strategy will provide guidance on the conservation and management of stone walls and ensure best practice management of cultural heritage values of the walls.

1.3 Existing Heritage Listings and Development Plan Provisions

The Development Plan for the Town of Gawler contains provisions aimed at protecting the character and fabric of historic walls in Gawler. These include provisions relating to individual protection of places and their associated walls (either as an individual State Heritage place or a Local Heritage Place) or the wall being located in the Church Hill State Heritage Area or a Historic Conservation Zone.

¹ The Gawler Stone Wall Audit - May 2006

The relevant *Development Plan* (consolidated - 24 November 2005) provisions for this strategy are described in Section 3 of this report.

Appendix Three sets out the table extracted from the Gawler Stone Wall Audit and their heritage listings. It includes a ranking assessment of priority for conservation works for each of the walls.

1.4 Study Area and Scope of Walls Covered

The study area for this strategy is the Town of Gawler. Walls within the study are those walls within the public view. Walls on private property away from the public view are not covered.

1.5 Methodology of Conservation Strategy

The Historic Walls Strategy has been developed in accordance with the principles of the *Burra Charter*. The terminology used in the Strategy accords with the definitions of terms within the *Burra Charter*, the Australian ICOMOS Charter for the Conservation of Places of Cultural Significance (Refer Appendix 2).

The study has selected 13 case studies which cover the variety of wall types, and these have been detailed in Section 4 of this report.

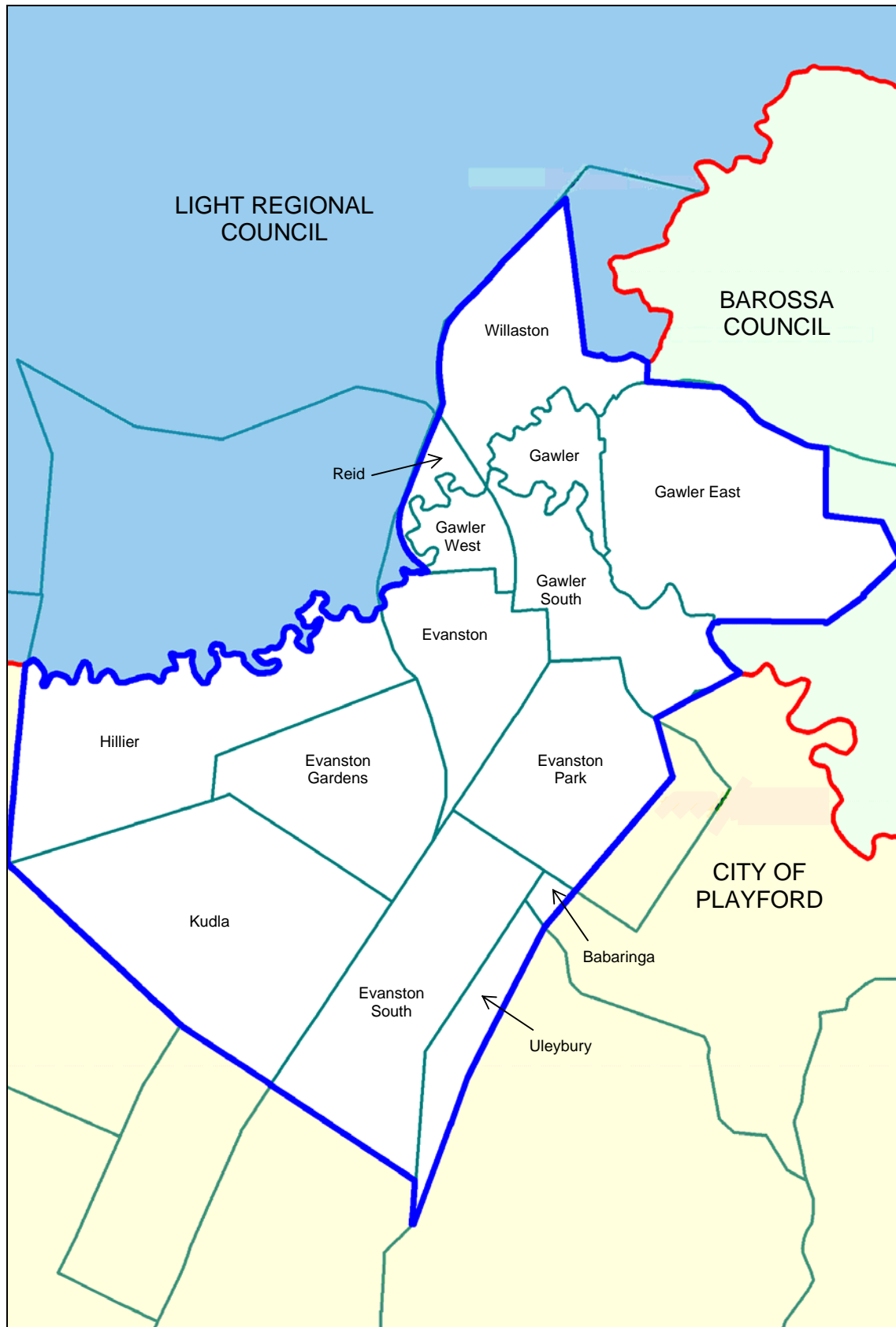
1.6 Development Approval and referral to Heritage Advisor

Conservation work or alterations to existing stone walls, or the erection of new walls requires development approval from the Town of Gawler where it is:

- In a heritage area (Historic Conservation Zone or Church Hill)
- Associated with a State Heritage Place or a Local Heritage Place outside of a heritage area
- Is masonry and over 1.0 metre in height, or non-masonry and over 2.0 metres.

Although not all circumstances require approval for maintenance work, it is advisable to ensure correct techniques which extend the life of the walls are observed.

When contemplating repairs to a stone wall, **consultation should be made to council's heritage advisor** who consults at Gawler on a regular basis, and is able to provide technical expertise for wall conservation.



MAP OF THE TOWN OF GAWLER



2.0 HISTORICAL OVERVIEW OF GAWLER

2.1 Historical Overview

The township of Gawler was established through an application for a Special Survey by Henry Dundas Murray and John Reid as part of a syndicate. The site was recommended for a town by Colonel William Light to David McLaren (the manager of the South Australian Company) when they passed through the district while returning from the Barossa in January 1839. Light foresaw the area at the junction of the North and South Para rivers as a key point for future journeys to the north and the Murray River.

E.H. Coombe quotes from an official statement on settlement in 1840:- "Gawler Town...contains one very good inn, one public house, police barracks, two smith's shops, six dwelling houses and 34 inhabitants." There was little progress until the discovery of copper at Kapunda in late 1842. The transportation of the ore to Pt. Adelaide and return trips laden with supplies used Gawler as a rest stop. The principal street in the town running north south, Murray Street soon became closely filled with shops and trade buildings of all descriptions.

A bridge had been built over the North Para in 1842, the South Para still being crossed at the ford at Dead Man's Pass (formerly Para Pass). By 1848, the population had grown to 300 with about 60 buildings and early fencing associated with these were of post and rail with wooden post uprights.

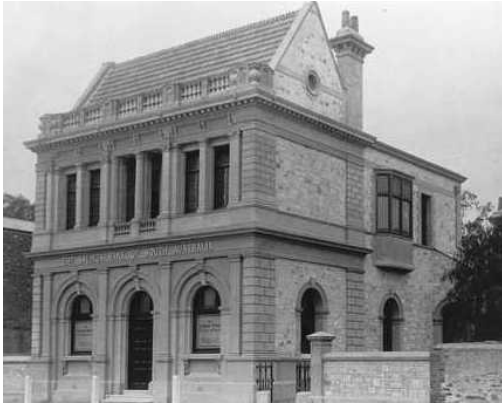
Gawler lay originally within three district council areas - Barossa West, Munno Para West and Munno Para East. Gawler residents were dissatisfied with this arrangement and it was not until 9 July 1857 that the proclamation of the incorporation of Gawler appeared in the Government Gazette, the area basically covering the township selection of the Special Survey and Gawler East to East Terrace, totalling 487 acres.

The Gawler Church Hill State Heritage Area is located in the centre of the plan for Gawler devised by Light, Finnis & Co in 1839. It has a distinctive character deriving from the consistent scale, form and density of the houses. Church Hill was planned with three central parks along Cowan Street and the three most dominant churches (Anglican, Catholic and Presbyterian) in Gawler had their buildings located adjacent to or in those parks. The area forms part of a relatively intact example of mid-nineteenth century town planning and exhibits a high degree of integrity. It also contains many stone walls which are the subject of this study.

The erection of many walls in Gawler is part of the story of the development of the township. Many of the earliest stone walls were not stone, and were constructed in post and rail often with rough wood uprights. Very few of these early fences survive. The more robust stone, brick, and cast iron walls were constructed with the growing prosperity of Gawler. Local limestone and bluestone, together with locally made bricks were used in these early walls. In addition, local iron lacework is used in many domestic front walls, cast at local foundries, with lime from local lime kilns and local sands used in the mortar mixes. Of note throughout the town is the use of stone retaining walls, and walls that follow the slope of the ground, often stepping down the hill with carefully designed tops to accommodate the fall.

The collection of early walls in Gawler is important on a state wide basis, and it is one of the best collection of walls within residential and commercial neighbourhoods within a South Australian country town.

2.2 Early Photographs of Stone Walls in Gawler



Savings Bank of SA – well detailed stone and brick fence
(Source: State Library of South Australia B58666)



Current Photo of former Savings Bank



James Martin Foundry c.1908 – note extent of stone work to this early building
(Source: State Library of South Australia, B55524)

EARLY PHOTOGRAPHS OF STONE WALLS AND WALLING IN GAWLER



Cameron Street House c.1900 (note stone base between timber posts)
(Source: State Library of South Australia B40202)

Current Photo of 1 Cameron St.



George Moore's House - Cameron Street c.1900 – stone and brick wall, with timber and metal fencing incorporated with stone and brick base.

(Source: State Library of South Australia B40201)



EARLY PHOTOGRAPHS OF STONE WALLS IN GAWLER



McKinley Monument c. 1890 – a public wall on a main thorough fare.
(Source: State Library of South Australia B25175)



Fire Brigade Station c.1905 – dividing stone walling between properties. Front fencing is picket fencing.
(Source: State Library of South Australia B20465)

EARLY PHOTOGRAPHS OF WALLS IN GAWLER



Corner of Jacob Street c.1900
(Source: *State Library of South Australia B16401*) – note that this fence is constructed in rendered brick work and the early photo shows the Busbridge brick works kiln behind the residence.



**Current Photo of Corner of Jacob Street
and Cameron Street**



Dr Dawes Residence c.1905 (Corner of High St and Lyndoch Road) – stone walling with brick piers.
(Source: *State Library of South Australia B59609*)

EARLY PHOTOGRAPHS OF WALLS IN GAWLER

3.0 GAWLER DEVELOPMENT PLAN PROVISIONS FOR PROTECTION OF STONE WALLS

The current Development Plan for the Town of Gawler (consolidated 13 September 2007) has many provisions which relate to the conservation of stone walls.

The Development Plan lists State Heritage Places, Local Heritage Place, and contributory places, although this schedule does not outline whether there are existing stone walls associated with these places. However, there are specific references to fences within the provisions of the Development Plan as follows:

COUNCIL WIDE

PRINCIPLES OF DEVELOPMENT CONTROL

Residential Garages/Carports and Fences

123 *Fences and walls abutting streets (excluding service lanes) should:*

- (a) *be complementary with the associated development and existing attractive fences and walls in the locality;*
- (b) *enable good visibility of buildings from and to the street to enhance safety and allow surveillance; and*
- (c) *be incorporated in site developments in localities of historic development.*

RESIDENTIAL ZONE

PRINCIPLES OF DEVELOPMENT CONTROL

Heritage Places (State and Local)

16 *Development should have fences to define street boundaries that complement the historic fences found in the locality. Existing traditional front fencing should be preserved in the Zone or appropriate Policy Area.*

17 *The design of new fences, or alterations to existing fences associated with places identified in 131HTable Ga/3 or 132HTable Ga/6 should complement and reinforce the historic character of the place as follows:*

- (a) *front fences should complement historic adjacent fences in height, be timber picket, metal palisade, woven wire mesh between timber posts, hedges or rendered masonry with brick copings or other traditional materials (high brush or corrugated steel fences are not appropriate);*
- (b) *side and rear fences should be timber picket or board, corrugated steel sheeting (natural galvanised or painted finish), hedges or rendered masonry with brick copings or other traditional materials;*
- (c) *side fences should match the front fence in height for the depth of the front yard.*

RESIDENTIAL HISTORIC (CONSERVATION) ZONE

PRINCIPLES OF DEVELOPMENT CONTROL

12 *Development should have fences to define street boundaries that complement the historic fences found in the locality. Existing traditional front fencing should be preserved in the Zone.*

13 *The design of new fences, or alterations to existing fences should complement and reinforce the historic character of the zone as follows:*

- (a) *front fences should complement historic adjacent fences in height, be timber picket, metal palisade, woven wire mesh between timber posts, hedges or rendered masonry with brick copings or other traditional materials (high brush or corrugated steel fences are not appropriate);*
- (b) *side and rear fences should be timber picket or board, corrugated steel sheeting (natural galvanised or painted finish), hedges or rendered masonry with brick copings or other traditional materials;*
- (c) *side fences should match the front fence in height for the depth of the front yard.*

Light Policy Area (206H Figure Res H(C)/4)

Desired Character

... The Policy Area includes the Church Hill State Heritage Area, which was declared in 1985. The Church Hill State Heritage Area comprises all the elements within its boundaries, **including individual dwellings and other buildings, walls, fences, trees and major landscape features** such as street trees, roadways, bluestone kerbing and cobblestones and fire hydrants. Development in this area is controlled by the Church Hill Management Plan pursuant to the Heritage Act, 1993.

Gardens within residential locations should be in scale with the buildings and large allotments should not be reduced in size if attractive building settings, which are provided by gardens and significant trees, will be compromised or put at risk. Fences to define street boundaries are of critical importance to maintain and enhance the streetscape.

OBJECTIVES

Objective 2: Development complementary to the historic character and significance of the Policy Area as expressed in the Future Character.

Objective 3: Conservation and preservation of the collective elements which form the heritage value of Church Hill State Heritage Area.

Objective 4: Development which enhances the existing character of the Church Hill State Heritage Area, and those physical elements which collectively create that character.

PRINCIPLES OF DEVELOPMENT CONTROL

16 Original unpainted plaster, brickwork, stonework, or other masonry should be preserved unpainted.

17 Front and side fencing to the alignment of the front of the building should be between 1 and 1.4 metres in height above the adjacent footpath level.

18 Rear fencing and side fencing behind the alignment of the front of the building should generally not exceed 1.5 metres in height.

19 Where new side and rear fencing abuts a public road the height, style and materials should be consistent with the characteristics of the adjacent predominant traditional fencing.

Special Uses Zone Historic (Conservation) Policy Area

PRINCIPLES OF DEVELOPMENT CONTROL

10 The design of new fences, or alterations to existing fences associated with places or items identified in 287H Table Ga/328H, Table Ga/6 or 289H Table Ga/7 should complement and reinforce the historic character of the place as follows:

- (a) front fences should complement historic adjacent fences in height, be timber picket, metal palisade, woven wire mesh between timber posts, hedges or rendered masonry with brick copings or other traditional materials (high brush or corrugated steel fences are not desired);
- (b) side and rear fences should be timber picket or board, corrugated steel sheeting (natural galvanised or painted finish), hedges or rendered masonry with brick copings or other traditional materials;
- (c) side fences should match the front fence in height for the depth of the front yard.

4.0 CASE STUDIES

The following case studies have been provided to cover the range of stone walls which exist in Gawler, and the typical issues associated with these walls. In all cases, the recommended works will require development approval, as outlined in Section 3 above.

4.1 Case Study 1: Leaning Stone Retaining Wall - Rendered Finish



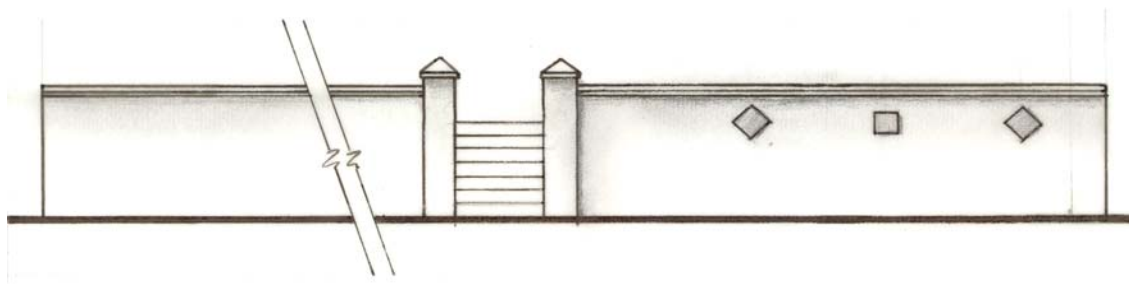
Address: 25 High Street, Gawler East **Heritage Status:** Local Heritage Place in the Town Centre Historic (Conservation) Zone, Town Centre Historic (Conservation) Policy Area

Description: This wall, approximately 42 metres long and about 2 metres high, functions as a retaining wall for the front garden. The wall is constructed of paddock limestone. The wall is topped with cant bricks on the front and the southern boundary stone wall has glass set into the rubble capping (this appears to be original).

The wall has been rendered at a later date, possibly in the 1950s, as evidenced by the pebble dash content of the render. The render is in very poor condition and in some areas has been dislodged. Structurally the wall is in poor condition with the wall leaning out towards the pavement. Towards the southern end of the wall, steel bracing rods have been inserted into the wall and are braced back into the garden. There are two large trees located in the garden bed behind the retaining wall which are contributing towards the destabilisation of the wall. Separate to this report an engineers report was prepared on this wall and the Town of Gawler provided with a copy of this report. **This report recommends either the rebuilding or the conservation of the wall as follows:**

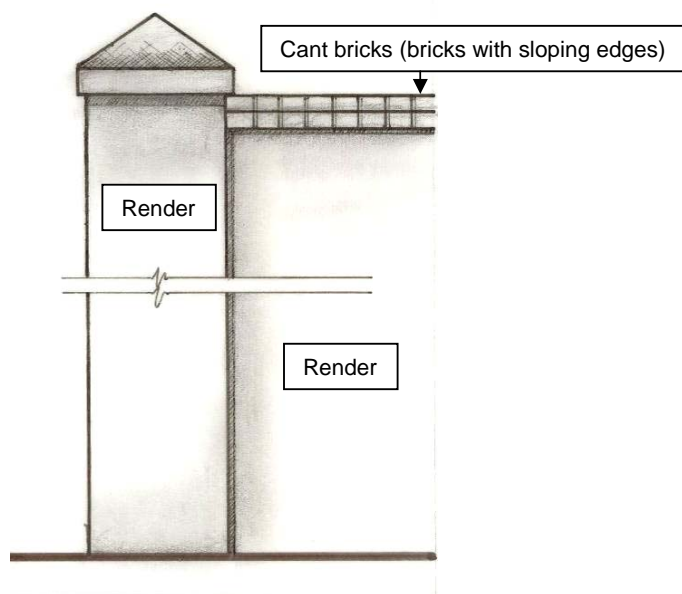
- **Remove soil behind wall** - The first approach in the remedial works is to take the pressure off the retaining wall. It is recommended that the soil is removed to a height of approximately one metre above the base of the wall and cut back to a natural batter to meet the existing ground line of the lawn.
- **Install base wall drainage** - At the base of the wall an agricultural pipe should be provided, draining to the street. The trench should be backfilled with rubble, lined with a damp proof course ("Forticon" or similar). A terracotta or brick dish drain should be installed at the new ground level to drain away any surface water. Once the soil has been removed it will be possible to stabilise the wall using a hydraulic ram with brackets installed every 1.2 to 1.8 metres. The wall may have incorporated drainage vents similar to that at 35 High Street.

- **Removal of cement render** - Following stabilisation of the wall, the render should be carefully removed, taking off small areas at a time and working away from the most damaged portions of the wall. The cant bricks (bricks with sloping top faces) should remain in place. Where stonework has been lost, new stone should be matching limestone (or "paddock stone") installed in the wall in a similar manner. The original lime mortar mix should be matched, with a mix of 2 parts sand to 1 part lime putty with appropriate sands used to match the colour of the original mortar.
- **Repointing of stone wall** - Once the sections of the wall have been rebuilt and the cement render removed, the mortar should be re done to match the existing mortar pointing.
- **Assessment of tree damage** - The trees in close proximity to the wall should be assessed by an arborist. It is recommended that the trees, if not significant are removed. If they are significant trees then root growth should be contained and roots pruned.
- **Top of wall** - Remnants of a mortar capping are evident on the wall. The side boundary wall retains most of this capping. The rubble protects the brick joints and it is recommended that this is reinstated. On the side boundary wall ground glass which has been set into the rubble capping is likely to be original to the wall.
- **Steel strap strengthening** - A steel strap has been fixed to the curved portion of wall alongside the driveway to strengthen the wall. This should remain in place.
- **Repair and replacement of brick capping** - Where the brick capping is in poor condition, bricks should be re-bedded and/or replaced as necessary.



Scale 1:100 – note full slope of wall not shown

Length of wall – 42 m **Height of wall** – 1820 - 2100 (varies with the slope of the wall – slope not shown) **Gate piers** – 500 x 500 Cant brick along the top. (later steel strengthening plates shown)



Scale 1:20

Pier details (pier size 500 x 500 x approx 2100 high - varies)

DRAWINGS OF WALL (25 High Street, Gawler East)

4.2 Case Study 2: Stepped Stone Wall - Crimped Wire Entry Gate



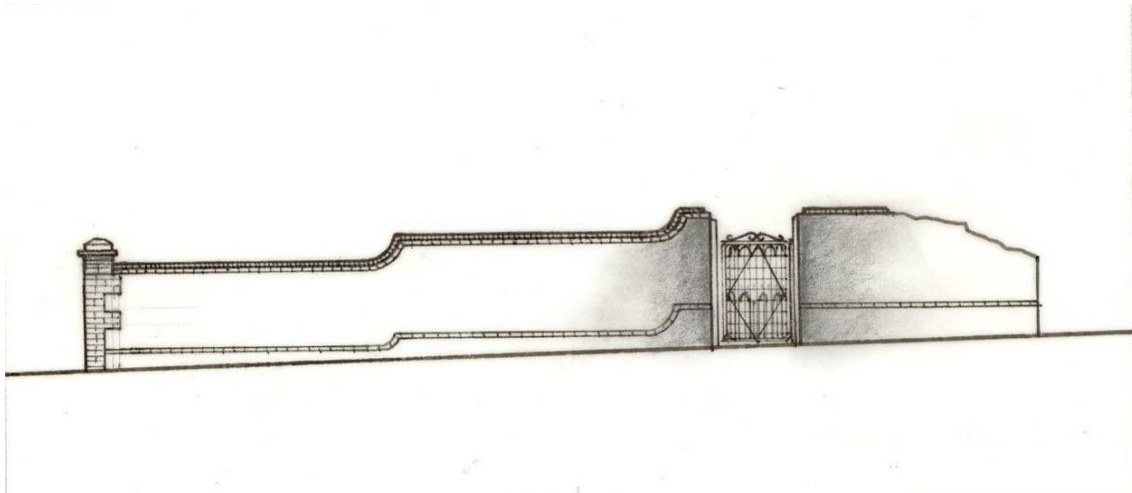
Address: 9 Daly Street, Gawler East

Heritage Status: Contributory place located in Residential Historic (Conservation) Zone, Gawler East Residential Historic (Conservation) Policy Area

Description: A stepped stone wall with brick capping and brick coursing through the base of the wall. The wall incorporates a curved recess to the entrance gate which has a crimped wire gate. The wall shows typical signs of stress associated with a wall acting as a retaining wall. Brickwork and stone sections are in deteriorated condition but the wall is capable of restoration and rebuilding. The wall at the southern end has lost its corner (shown on the right hand side of the photo above)

Works required and recommendations:

- **Remove soil behind wall** - The first approach in the remedial works is to take the pressure off the retaining wall. It is recommended that the soil is removed to a height of approximately one metre above the base of the wall and cut back to a natural batter to meet the existing ground line of the lawn.
- **Install base wall drainage** - At the base of the wall an agricultural pipe should be provided, draining to the street. The trench should be backfilled with rubble, lined with a damp proof course ("Forticon" or similar). A terracotta or brick dish drain should be installed at the new ground level to drain away any surface water. At the time of the soil removal (down to a level of 1 metre above the ground) it will be possible to restore the vertical alignment of the wall using a hydraulic ram with brackets installed every 1.2 to 1.8 metres.
- **Removal of cement pointing and repointing-** Following stabilisation of the wall, the hard cement mortar (which is clearly visible as grey hard mortar) should be removed, and repointing of the wall undertaken, using lime mortar (mix of 2 parts sand to 1 part lime putty.) The joints should be finished to match the original jointing of the wall.
- **Top of wall** – The top of the wall is red painted bricks – these should be stripped of paint, and bricks should be re-bedded and/or replaced as necessary
- **Rebuilding of wall around gate entry and end of wall** - The deteriorated section of wall needs to be rebuilt using matching stone, and carefully repointed to match pointing elsewhere. The end of the wall also needs to be rebuilt.



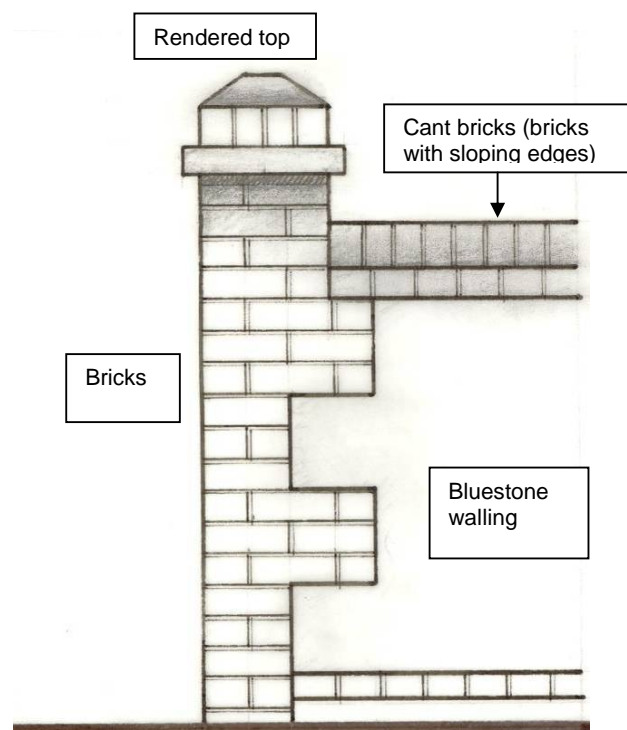
Scale 1:100

Length of wall – 13.5 m **Height of wall** – 1400 – 2300 (varies with slope of the wall) (note that the right hand end of the wall has deteriorated)

Gate piers – 350 x 350 Red painted brick along the top.



Left hand brick pier – leaning at the top.



Scale 1:20

Pier details (pier size 350 x 350 x 1830 high)

DRAWINGS OF WALL (9 Daly Street, Gawler East)

4.3 Case Study 3: Stepped Stone Wall



Address: 59 Main North Road, Willaston
Development Plan.

Heritage Status: Not currently recorded in

Description: A sandstone wall, which has a sloped top constructed in bricks which steps down the slope of the wall. The wall sits on a projecting brick plinth and has brick piers at either end. Structurally the wall is in good condition.

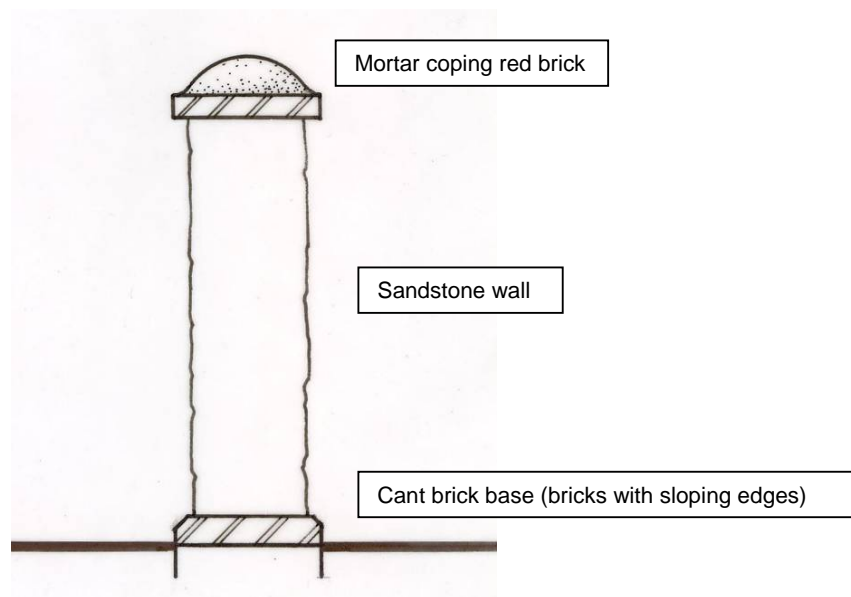
Works required and recommendations:

- Removal of paint off the brick piers Once paint has been removed, re-point any brick joints with lime mortar as required. Replace any bricks which may be damaged or deteriorated.
- Plinth of wall - this has been rendered over in cement, but does not at this stage appear to be causing any problems to the wall.
- Removal of later cement pointing - any cement re-pointing within the wall should be carefully removed and replaced with mortar to match the original lime mortar in colour and in texture.



Scale 1:100

Length of wall – 13.75 m Height of wall – 1405 – 1655 (varies)



Scale 1:20

Wall cross-section details (wall depth 420) Brick along the top.

DRAWINGS OF WALL (59 Main North Road,Willaston)

4.4 Case Study 4: Straight Stone and Brick Walls



14 Fourteenth Street, Gawler South



9 Fourteenth Street, Gawler South



19 Thirteenth Street, Gawler South

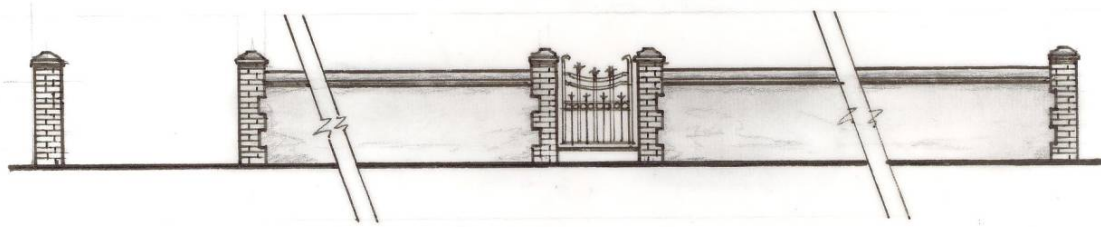
Address: 14 Fourteenth Street, Gawler South
9 Fourteenth Street, Gawler South
19 Thirteenth Street, Gawler South

Heritage Status: The three walls are Contributory places located in Residential Historic (Conservation) Zone, Gawler East Residential Historic (Conservation) Policy Area

Description: These walls all have straight tops and are all in good condition. All the face stone has been painted. They are an excellent group of fences of a similar design.

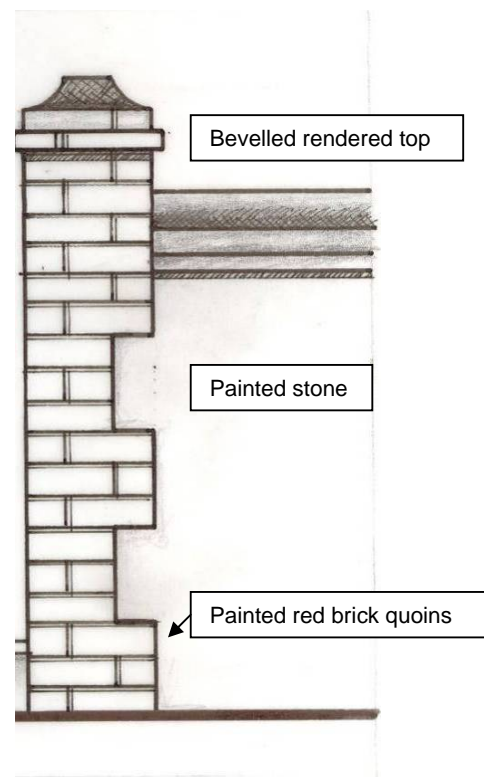
Works required and recommendations:

- Removal of paint from stonework - paint removal from stone is undertaken using paint removal chemicals and hot water applied at low pressure. This is undertaken by specialist contractors, and all the chemicals and removed paints have to be removed away from the site. (refer Section 5.6 for details)
- Assessment of condition of stone underneath removed paint - once paint has been removed it is possible to check the condition of the stone underneath the paint. It will then be possible to determine if stone replacement is required and how much re-pointing will need to be undertaken. Replacement of stone should be undertaken as required and any re-pointing of stone and brickwork undertaken.
- If damp proofing of any of the walls is required refer to Section 5.2 for methodology for damp proofing of walls.



Scale 1:100

Length of wall – 7 m on either side of the gate **Height of wall** – 1380 **Gate piers** – 350 x 350
 Cant brick (brick with sloping edge) and rendered bevelled edge along the top.



Scale 1:20

Pier details (pier size 350 x 350 x 1780 high)

DRAWINGS OF WALL (14 Fourteenth Street, Gawler South)

4.5 Case Study 5: Concrete Rendered Stone Walls



14 Thirteenth Street, Gawler South



18 Thirteenth Street, Gawler South



16 Eighth Street, Gawler South



21 Cowan Street, Gawler

Address: 14 Thirteenth Street, Gawler South,
16 Eighth Street, Gawler South,

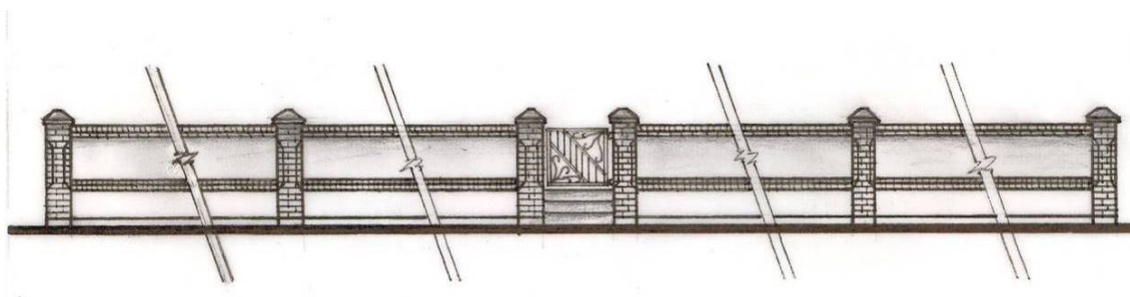
18 Thirteenth Street, Gawler South
21 Cowan Street, Gawler

Heritage Status: The first three walls are contributory places in the Residential Historic (Conservation) Zone, Gawler South Historic (Conservation) Policy Area, and 21 Cowan Street is in the Church Hill State Heritage Area.

Description: These walls have all had their faces finished with render. The best approach for walls with later cement render (in particular 16 Eighth Street and 21 Cowan Street) is to carefully remove the render off the face of the stone. Refer to Section 5.4 for guidelines on removal of hard render from the face of the stone. In some circumstances such as for 14 Thirteenth Street, the rendered wall may in fact be in good condition, without obvious signs of decay. Therefore removal of render may not be necessary.

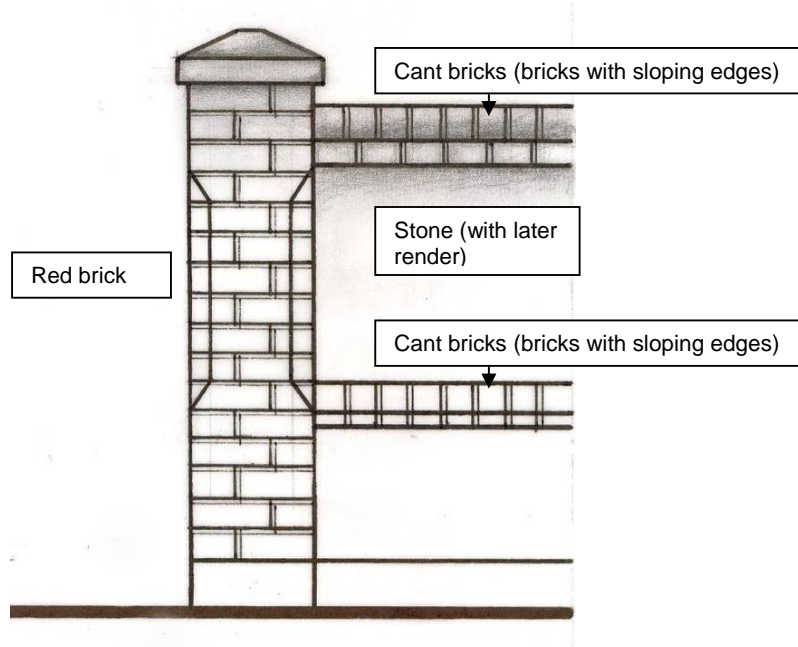
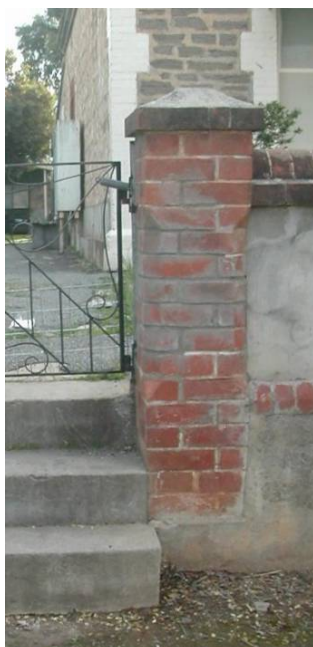
Works required and recommendations:

- Careful removal of hard cement render from the face of the stone. Refer Section 5.4 for methodology to remove hard render from face of stone.
- Repairs to associated brickwork - careful removal of cement slurry and cleaning of brickwork is required. Bricks may also require re-pointing and in some cases, replacement in matching bricks where these have deteriorated.
- Damp-proofing of walls - this may be required, although once the cement has been removed off the face of the wall, the wall should be given the opportunity to dry out. Installation of damp-proof coursing may not be necessary.
- Check the ground levels on the back of the wall are not higher than the front. If they are, lower the ground level and install an agricultural drain. Alternatively install a vertical plastic sheet damp course against the wall, and keep the base of the wall dry (and ensure that walls are not being watered by garden sprinklers).



Scale 1:100

Length of wall – 9 m on the left side of gate, 10.5 m on the right side of gate **Height of wall** – 1405
Gate piers – 350 x 350 Brick along the top.



Scale 1:20

Pier details (pier size 350 x 350 x 1595 high)

DRAWINGS OF WALL (16 Eighth Street, Gawler South)

Specific recommendations for 21 Cowan Street: This wall is a bluestone wall on a stone plinth with brick header and string courses. The string course at the lower level would have originally functioned as a capping to the bluestone base wall. The masonry wall above the cant brick string course is not original and has been added at a later date. It is possible that there was a cast iron infill on top of this plinth at an earlier date. The entire wall has been rendered with hard cement render at a later date.

- It is recommended that the hard cement render to the base course is removed as it is damaging the original cant brick capping above. Many of the bricks are badly damaged and in many instances the bricks require total replacement.
- The face stone base wall should be reinstated and necessary joint repairs undertaken with lime mortar.
- It is recommended that the non-original stonework above the base course is rendered in lime mortar with the colour to match the background surface of the wall.
- Where there are gaps in the mortar joints of the cant brick capping water penetration is occurring which can further damage the stone, therefore these joints should be repaired with lime mortar.

4.6 Case Study 6: Stone and Brick Wall with Metal Railing



22 Cowan Street, Gawler



32 Fourteenth Street, Gawler South



15 Queen Street, Gawler

Address: 22 Cowan Street, Gawler

Heritage Status: In Church Hill State Heritage Area

32 Fourteenth St, Gawler South **Heritage Status:** Contributory place in Residential Historic (Conservation) Zone, Gawler South Residential Historic (Conservation) Policy Area.

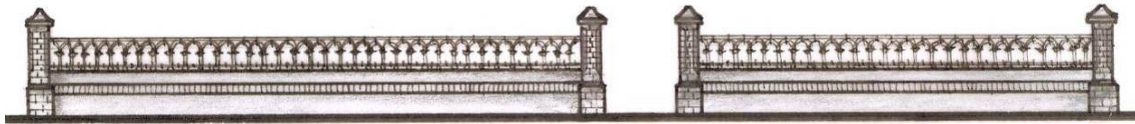
15 Queen Street, Gawler

Heritage Status: In Church Hill State Heritage Area

Description: These are typical walls with stone bases and metal railing infills. Number 22 Cowan Street has had the original cast iron railing removed, with later geometric and contemporary balustrading installed. 32 Fourteenth Street retains its original railing, but the top spikes have been removed and later gates have been installed. Both walls have had the stone painted over.

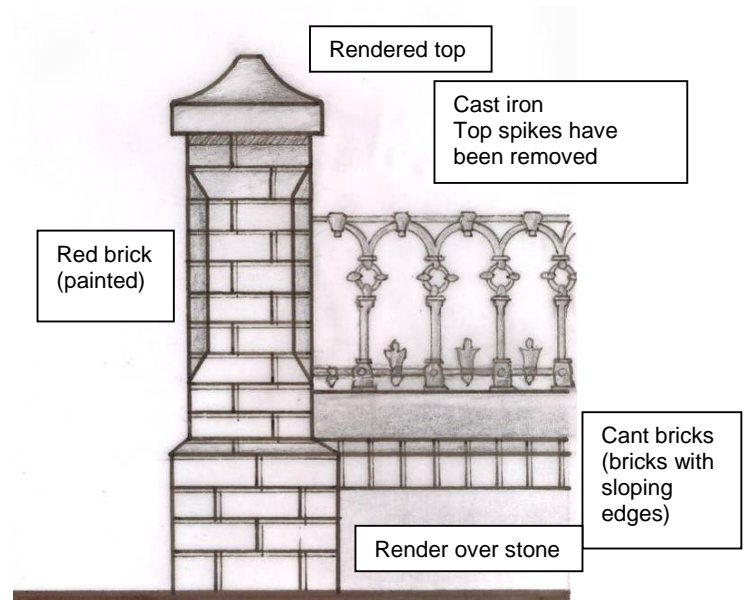
Works required and recommendations:

- Paint removal off brick and stone (for 32 Fourteenth Street) - paint removal involves the use of corrosive chemicals and hot water applied at low pressure. Refer to section 5.6 for details.
- Removal of cement render to wall at 22 Cowan Street - cement render holds moisture in the wall and stops the wall 'breathing'. Removal of hard render is required and this should be undertaken carefully in accordance with recommendations outlined in Section 5.4.
- Assessment of stone and brickwork - stones and bricks may be damaged and may require replacement. Stone needs to be carefully selected to closely match existing, and brick replacement should be undertaken using second hand bricks of the same profile and shape to match existing. Refer Section 5.3 for details of replacement of stone.
- Re-pointing of stone - both walls will require stonework to be re-pointing, using lime mortar. Refer Section 5.1 for recommendations on re-pointing.
- Cast iron replacement - the cast iron at 22 Cowan Street should be removed and this should be replaced to reinstate early detailing of this fence. Replacement cast metal should be selected from available ranges at foundries, and preference should be given to utilising patterns which exist in Gawler, and which suit the height of the fence. Refer Section 5.5 for recommendations on cast iron replacement.



Scale 1:100

Length of wall – 7.5 m on the left side of the gate, 5.5 m on the right side of the gate
Height of wall – approx 1040 **Gate piers** – 350 x 350



Scale 1:20

Pier details (pier size 350 x 350 x 1447 high)

DRAWINGS OF WALL (32 Fourteenth Street, Gawler South) – note this wall has had the top spikes of the iron removed. The iron pattern would have been same as 15 Queen Street below



15 Queen Street railing – this fence matches that at 32 Fourteenth Street with balustrade pattern originally containing the spikes on the top.

4.7 Case Study 7 : House Fence with Rising Damp



55 Cowan Street, Gawler



18 Cowan Street, Gawler

Address: 55 Cowan Street, Gawler
18 Cowan Street, Gawler

Heritage Status: In Church Hill State Heritage Area
Heritage Status: In Church Hill State Heritage Area

Description: Both these walls have rising damp, evidenced by the missing mortar (and later cement re-pointing) at 55 Cowan Street, and the later brick joint lines to the fence at 18 Cowan Street. Both walls are otherwise in good condition.

18 Cowan Street: a sandstone wall in good condition, which is acting as a retaining wall to the front garden. The wall shows evidence of later re-pointing and repairs with later joint lines. The fence incorporates tall brick piers with some brick deterioration evidence. There are also hard cement repairs. The wall sits on a rendered base course which shows signs of cracking. There is evidence of surface salts and efflorescence.

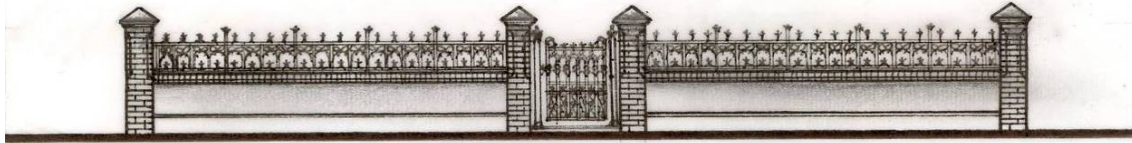
Works required and recommendations:

- Plastic repairs - the brick surface which is flaking could be repaired with brick dust plastic repairs which act as a veneer to prevent further deterioration. Refer Section 5.8 for details on this. Remove previous hard cement repairs.
- Base course of wall - some mortar repairs should be undertaken using 3 parts sand to 1 part cement at the base, and the base finished in a brick red colour to match the original. painted in a cementitious paint.
- Sandstone within the wall the wall face - these stones could also be repaired using plastic repairs (refer Section 5.8 for details) using ground stone, sand and lime mix.
- Rectify stormwater drainage in south west corner which runs down the face of the wall causing deterioration. This drain should be re-routed to the street so that the drains are clear of the wall and the pier.
- Treatment of surface salts on the brickwork should be in accordance with recommendations outlined in Section 5.7.

55 Cowan Street: a bluestone wall with red brick piers and top of base wall, with brickwork now painted.

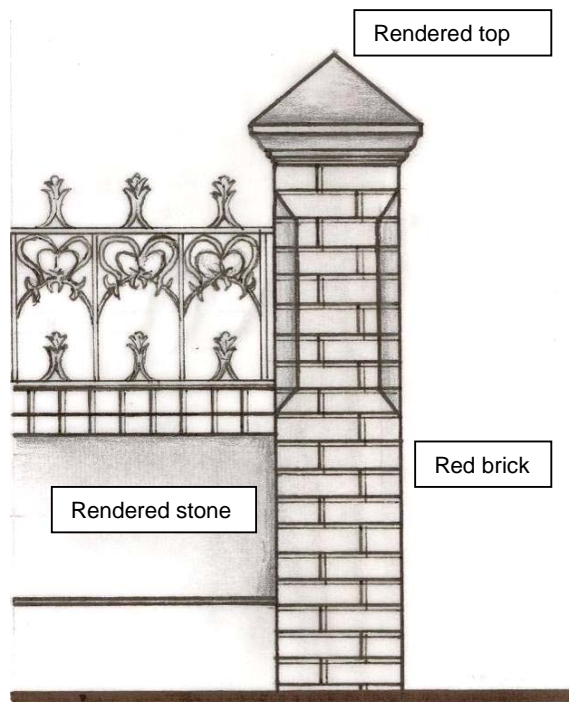
Works required and recommendations:

- Removal of paint from brickwork - this should be undertaken in accordance with recommendations outlined in Section 5.6.
- Stone base - later cement pointing should be removed and the base wall re-pointed in lime mortar. Refer Section 5.1.
- Repairs and re-pointing to brickwork - after paint removal has been undertaken, replace any defective bricks and re-point brickwork in lime mortar.



Scale 1:100

Length of wall – 5 m on either side of the gate **Height of wall** – approx 1450
Gate piers – 350 x 350



Scale 1:20

Pier details (pier size 350 x 350 x 1770 high)

DRAWINGS OF WALL (18 Cowan Street, Gawler)

4.8 Case Study 8: Church Wall - Rendered Outside Face



Stepped section on Parnell Street north section



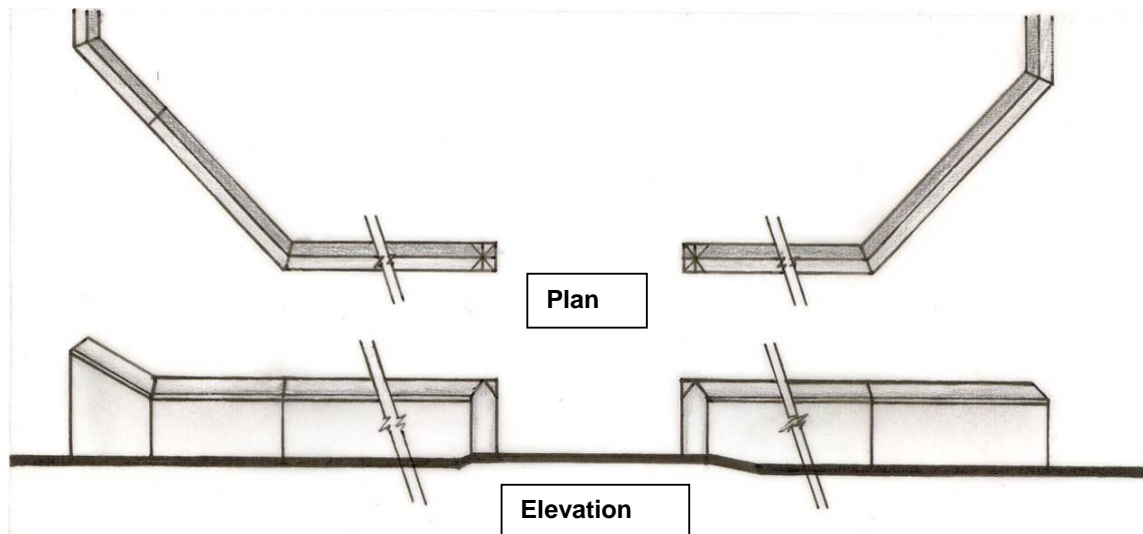
Address: Porter/Parnell Street and School Road, Gawler

Heritage Status: In Church Hill State Heritage Area

Description: This is a stone wall with three perimeter sides around the Church property. It is a stepped wall with a plinth and rendered piers. The wall was originally face stone as can be seen on the 1909 early photo of the church. The render is in good condition, and the most practical approach for this fence is to retain the rendered finish. However, the rendered wall face could be cleaned, and this should be undertaken with careful washing using biocides to remove mould and dirt accumulation. The inside of the wall is deteriorated in particular in the south east corner, and requires render repairs to be undertaken.

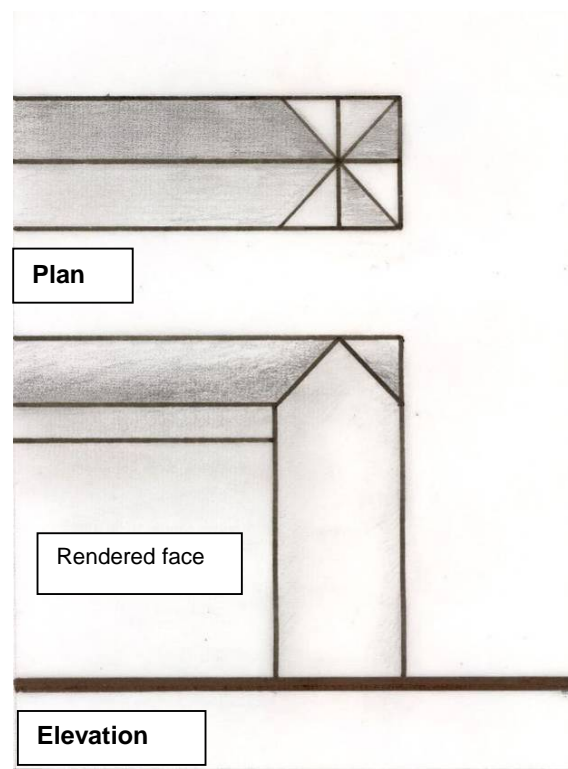


Early photo of Church Hill Precinct in 1909 showing the wall on Porter Street
(Source: State Library of South Australia B32012)



Scale 1:100

Length of wall – 13 m on either side of the gate **Height of wall** – approx 960 (varies with slope of the wall) **Opening piers** – 350 x 370



Scale 1:20

Pier details (pier size 350 x 370 x 960 high)

DRAWINGS OF WALL (Porter/Parnell Street, Gawler)

4.9 Case Study 9: Church Wall - Stone and Brick Wall with Cement Render Damage



Address: 1 Moore Street, Gawler

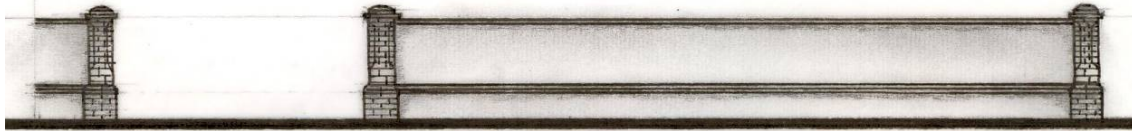
Heritage Status: In Church Hill State Heritage Area

Description: This is an important stone wall providing clear definition around a church building. However, it has been poorly repaired over time, utilising cement render, re-pointing and rendering of the face of the stone wall. There are also areas of deteriorated stone wall.

Works required and recommendations:

- Removal of hard render from face of stone - this hard render is holding moisture in the wall and stopping the wall 'breathing'. Remove hard cement render in accordance with recommendations outlined in Section 5.4.
- Assessment of stone condition and stone replacement - after removal of cement, the condition of the stone will be visible. There are large sections of stone which require replacement, and these should be undertaken using matching stone, and in accordance with the recommendations outlined in Section 5.3.
- Brickwork repairs and cleaning - after removal of later cement render and jointing on the brickwork, assess the condition of the bricks and replace bricks with matching second hand bricks if required. Cleaning of sound bricks should be undertaken using water, bristle brush and biocide cleaning materials. Refer Section 5.12.

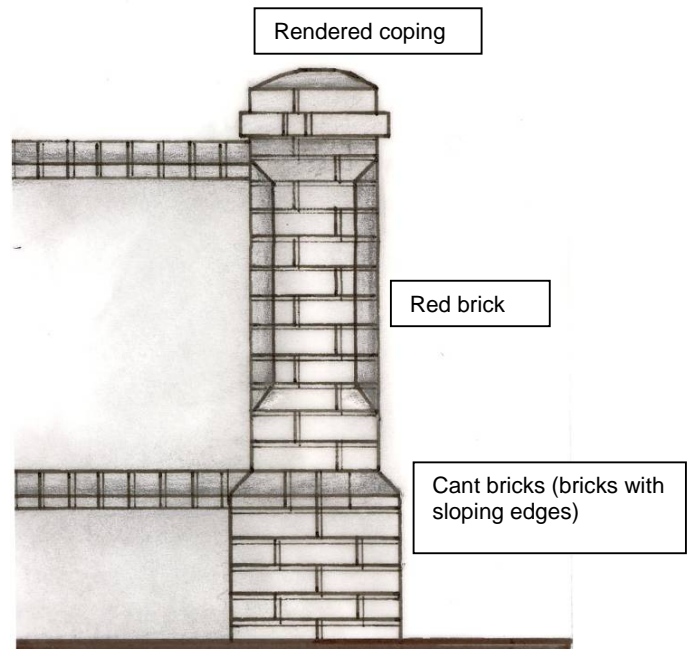




Section of North Wall

Scale 1:100

Length of wall – 9.5 m Height of wall – 1410 Cant brick along the top. Gate piers – 470 x 470



Scale 1:20

Pier details (pier size 470 x 470 x approx 1675 high)

DRAWINGS OF WALL (1 Moore Street, Gawler)

4.10 Case Study 10: Public Wall



McKinlay Monument c. 1890



Current Photo of wall

(Source: State Library of South Australia B25175)



Current Photo of Monument



Current Photo of Wall Pier

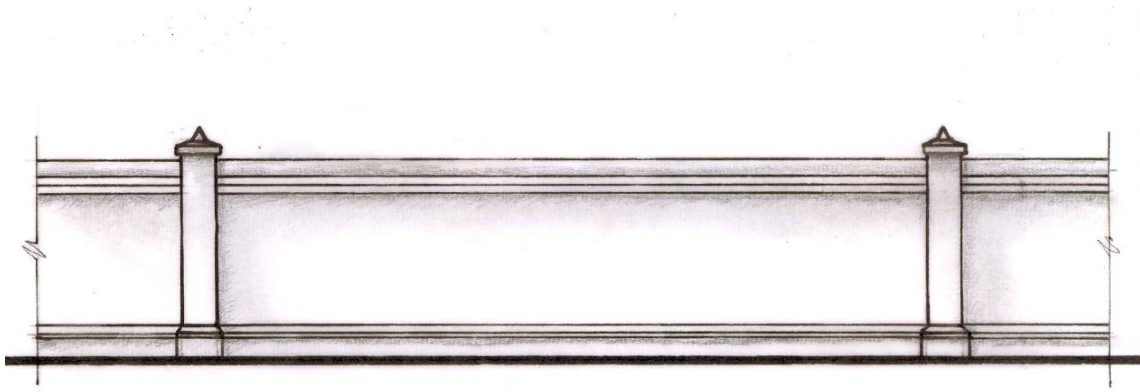
Address: 1 Murray Street, Gawler (McKinlay Monument)

Heritage Status: State Heritage Place

Description: This is an important wall on a main thoroughfare in Gawler and is constructed in bluestone with rendered dressings. The base of the wall has been rendered.

Works required and recommendations:

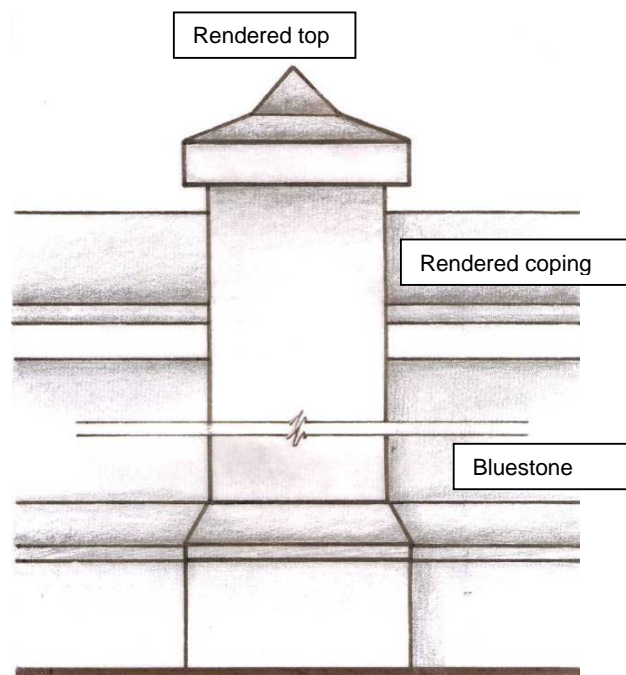
- Incorporate appropriate rear wall drainage to prevent collection of water at the rear of the wall.
- Remove later render to the base of the wall, and re point in lime mortar to match mortar used elsewhere on the wall
- Replace bluestone where required with matching bluestone where stone is found to be defective.



Elevation of Wall

Scale 1:100

Length of wall – 10 m (typical section) **Height of wall** – 2735 (rendered capping along the top)
Piers – 500 x 500

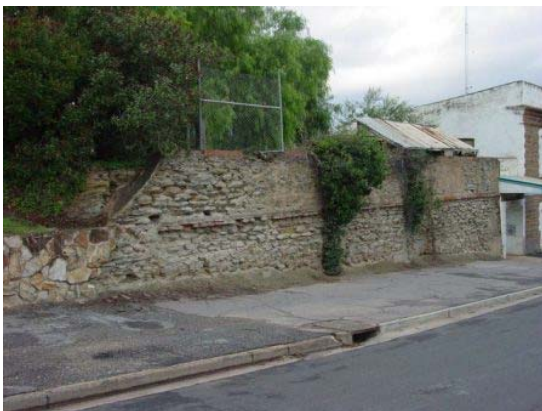


Scale 1:20

Pier details (pier size 500 x 500 x approx 3130 high)

DRAWINGS OF WALL (1 Murray Street, Gawler)

4.11 Case Study 11: Stone Walls Which Require Re-Pointing



Phoenix Foundry, 1 Calton Road, Gawler



Phoenix Foundry, 1 Calton Road, Gawler



36 Fourth Street, Gawler South

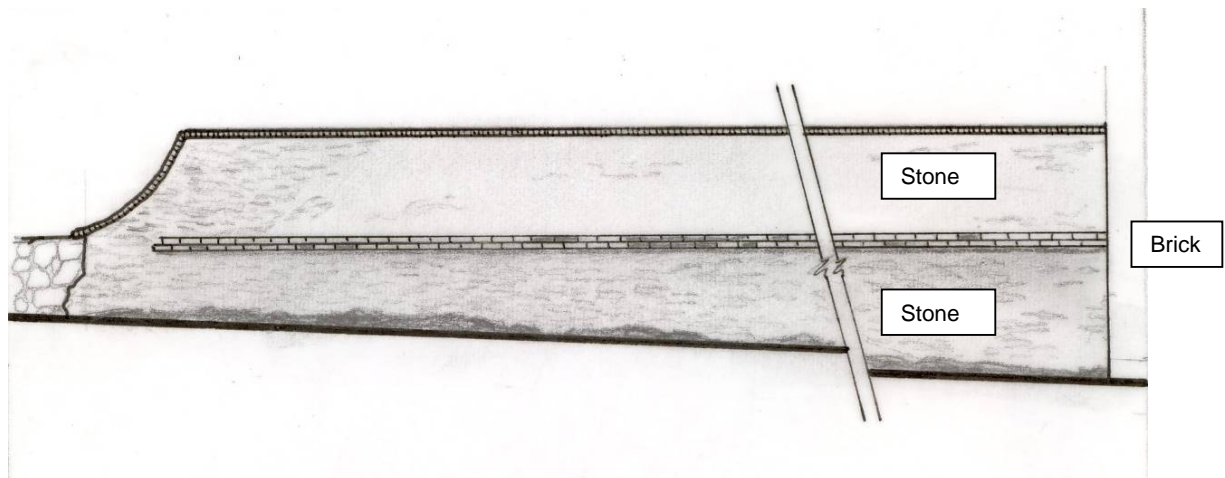
Address: Phoenix Foundry, 1 Calton Road
36 Fourth Street, Gawler

Heritage Status: State Heritage Place
Heritage Status: Contributory place in
Residential historic (Conservation) Zone,
Gawler South Residential Historic
(Conservation) Policy Area

Description: This wall has been subject to rising damp and deterioration of mortar over time. Salt decay has occurred due to soil build up, particularly on the Calton Road wall.

Works required and recommendations:

- Incorporate appropriate rear wall drainage to prevent collection of water at the rear of the wall.
- Remove later cement re-pointing - in accordance with recommendations outlined in Section 5.4.
- Stone and brick replacement - sections of wall materials will need to be replaced with stone and brick to match existing. Refer Section 5.3.
- Re-point stone - this should be carefully undertaken. Refer Section 5.1.
- Use of sacrificial mortar - this could be used for the wall at 1 Calton Road to assist with retention of the wall's life. However it would need to be regularly re mortared as the mortar will deteriorate rapidly. Refer Section 5.9 for application of sacrificial mortar. The other alternative is the rebuilding of the wall in stone after the installation of a agricultural drain at the base of the wall.



Scale 1:100

Length of wall – 20.55 m Height of wall – 2600 – 4300 (varies with the slope of the wall)

DRAWING OF WALL (1 Calton Road, Gawler)

4.12 Case Study 12: Missing Wall - Plinth Only Survives



38 Cowan Street, Gawler



12 Finnis Street, Gawler

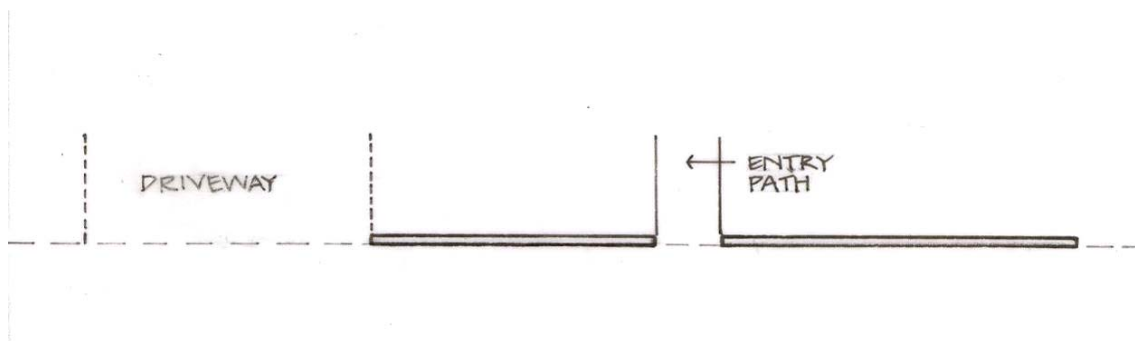
Address: 38 Cowan Street, Gawler
12 Finnis Street, Gawler

Heritage Status: In Church Hill State Heritage Area
Heritage Status: In Residential Historic
(Conservation) Zone, Light Policy Area

Description: These two walls have had their original fence above the base wall removed.

Works required and recommendations:

- Base wall - a decision needs to be made about whether the base wall is to be reused in a new fence, or whether the base wall would be demolished and a new fence constructed from the ground up.
- Type of fencing – it is possible that 38 Cowan St originally had a timber picket fence or metal paling to the property – the original configuration of the fence is not known. .
- Brick piers - it is possible that 12 Finnis ST had red brick piers as this was a traditional approach to brick and stone fencing in Gawler. Any new brick piers should be modelled on early brick and stone fences in Gawler, eg, 18 and 55 Cowan Street.



Scale 1:100

Length of wall – 4 m on the left side of the gate, 5 m on the right side of the gate

PLAN OF WALL (38 Cowan Street, Gawler)



15 Queen St – example of suitable cast metal fencing on (now rendered) stone base with red brick posts



55 Cowan Street, Gawler



18 Cowan Street, Gawler

Examples of suitable cast metal fencing on (now rendered) stone base with red brick posts

**EXAMPLES OF OTHER WALLS WHICH COULD BE USED AS MODELS FOR RESTORING
THE FENCE WHERE ONLY THE PLINTH REMAINS**

4.13 Case Study 13: New Stone Wall



8 Porter Street, Gawler



32 Cowan Street, Gawler

Address: 8 Porter Street, Gawler
32 Cowan Street, Gawler

Heritage Status: In Church Hill State Heritage Area
Heritage Status: In Church Hill State Heritage Area

Description: These two new stone walls have been undertaken in the State Heritage Area. Both walls provide good examples of new stone walling in the heritage area. These walls have been undertaken in general in relation to the recommendations outlined in Section 5.0 of this report.

The wall at 8 Porter Street was reconstructed from materials rescued from a demolished wall at the Gawler primary School and matches the style of that wall. The wall at 32 Cowan Street reused early stone, but has incorporated new bricks.

5.0 TYPICAL PROBLEMS AND WALL SOLUTIONS

5.1 Re-pointing of Stone and Brickwork (and removal of cement pointing)

Many stone walls require re-pointing of the mortar between the stone and brick. This is generally because the current pointing has failed or the original pointing has been replaced with a cement mortar which is too hard.

The procedure is as follows:

1. Rake out the mortar joint using a hammer and chisel – do not use a jackhammer. If the pointing has been done using hard cement mortar and its removal is damaging the brick or stone, it may be necessary to cut (using a small angle grinder) down the middle of the joint to weaken it before removal. As a general rule, the joint should be raked out to a depth twice that of its width.
2. Mix the mortar for re-pointing. Gauge every mix with the same measure of materials, that way the colour, texture and consistency will remain the same. Make sure you mix a lime rich mix; as a guide mix 9 sand 2 hydrated lime, ½ cement Brighton Lite. Do not use a sand with clay content. The sand should generally be a clean washed sand without impurities eg concrete sand.
3. Re-point using a small tool, small trowel or window tool, all depending on the size of the joints. Push the mortar into the joint so the joint is full, then before it goes off, sponge off to a smooth finish and then iron in (or mark) the lines if required. The “ironing” tool is generally made by each mason to suit each job. Some tools can be obtained from your local hardware shop.

Re-pointing of brickwork requires the same procedure. It is necessary to be aware of the type of pointing required to match the existing, or be prepared to find the type of pointing which would have been used in the era of construction. The selection of the correct pointing profile is critical to the success of the project. Mortar samples should also be undertaken so that new work matches the existing. Remember to record the mixes used so that these can be used again. There are many different methods of line marking the pointing on walls – with a rough trowel, careful line marking, or coloured lines. Avoid using inappropriate marking on walls where there was never line marking and ensure the new line marking matches the old.



Repointing being undertaken in the base of a house wall

New repointing can be aged with the use of diluted black tea over the pointing area to dirty up the pointing colour. An alternative is soot and water.

5.2 Damp-proofing of Walls

Rising damp is a common cause of stone wall deterioration. This is detected by flaking or crumbling stone at the base of the walls. The most effective way to damp proof a wall is to make

sure the damp proof course (DPC) is unobstructed. Original DPC's were constructed using slate or most commonly a mixture of tar and sand. If any material is built over the DPC it will not work, simply because moisture can and will then travel up the outside of the wall past the DPC and into the fabric of the wall. Often the DPC is rendered or pointed over as in the case of stonework, or even had a concrete path poured up against it.

The DPC was built into the wall in the bed generally below the vents. If there is any visible obstruction, such as an adjacent concrete path, then a **chemical DPC** can be injected into the mortar bed above the obstruction. Home kits are available from various sources in Adelaide and consist of a series of bottles with a nozzle. The nozzle is inserted into a hole which has been drilled into the mortar bed (the holes should be drilled every 100mm) and siloxane fluid is then poured or pumped into the bottle. It will then slowly soak into the mortar bed. Each bottle should be allowed to drain and then be refilled and allowed to drain again. If you have a double skin or solid wall, the procedure might have to be carried out on the other side of the wall as well.



Chemical injection being undertaken via a series of tubes with siloxane fluid poured into the holes

5.3 Replacement of Stone

Any replacement of deteriorated stone should be undertaken in matching stone. If the wall was constructed in Mt Lofty Sandstone, replace it with Mt Lofty stone (if replaced with different stone such as Basket Range or Lobethal Stone the wall will be a patchwork).

Be aware also that if limestone is inserted into a sandstone wall, the two stones will react with each other, and deteriorate very quickly.

When replacing stone, do a small area at a time, (about ½m² is usually quite acceptable), depending on the size of the stone (if it's small stone, take out a smaller area). Note that stone was often laid in regular courses and stone replacement needs to match these course lines.

Having taken the stone out of the wall, ascertain what has caused its deterioration and if it is something that should be rectified before the wall is rebuilt, then carry out this work. Before laying the first stone, install the damp proof course, (DPC) and ensure the product chosen (usually viscous), is wide enough to allow for a minimum 10mm overhang to the outside each side of the wall. Lay a full bed of mortar and bed the stone. Check it is level and upright before more stone is laid. When the prepared area has been filled, allow the mortar to go off before filling in the top joint. An acceptable way to do this is to place a piece of slate in the joint so it is a

tight fit and then fill the remaining area of the joint with mortar. Using a slate wedge in the top joint will ensure a constant pressure is maintained on the original wall above where you have underset.

Brick replacement procedure is the same as for stone. Ensure joints are a consistent 10mm and bonding remains consistent. Carry out the finished jointing before the mortar goes off and make sure it is the same as the original wall.



Stone replacement – note Damp Proof Course (DPC) at the base and size of hole where stone is being replaced.

5.4 Removal of Hard Cement Render from the Face of Stone

Render was often applied to the face of the stone in the mistaken belief that it consolidates the wall, holding together deteriorating stone. However, the hard render holds in the moisture and stops the wall 'breathing' which can cause the wall behind to deteriorate and disintegrate. Healthy masonry walls allow both moisture and air to pass through them and when this is stopped from occurring the fabric of the wall will disintegrate. The best method of saving the wall is to remove the hard render, and this is best done gently with hand tools. Under no circumstances should power tools in the form of a jackhammer be used. Such tools will cause the stone to disintegrate as it will most certainly be softer than the hard render, and will therefore take most of the impact of the jackhammer. If the area of hard render covers a large area, cuts could be made into the surface of the render using a small angle grinder, thus controlling the amount of render which can be pulled or chiselled off at one time. Whatever the circumstance, only hand tools should be used to get behind the render to remove it. Once the render has been removed, the wall can then "breathe" again and become more stable. It will then require repointing with lime mortar.

5.5 Cast Iron Replacement in a Stone Fence

For some fences, sections of cast iron can be missing, damaged, or completely removed. There are several retailers in Adelaide who stock sections of cast iron fence or can fabricate sections to match. This fabrication can be done in aluminium (with all sizing matching early components) or in steel. All cast iron fences were made in panels which can generally be handled by one or two people. These panels are set into the coping of the fence and slotted into the adjoining pieces. The pieces of fence which is set into the coping should be set in lead so it does not rust. Extreme care is required for undertaking this work, as pouring molten lead into a hole in cast iron and brick or stone might cause it to explode and splash. Correct protective clothing should be worn.

5.6 Removal of Paint from Masonry Surfaces

Paint over existing stone disguises the original appearance of the stone, and greatly detracts from the appearance of a stone wall. Removal of paint can be a hazardous job and should only be carried out by those qualified to do so. Paint removal involves the use of corrosive chemicals, hot water applied at low pressure and the possible risk of serious burns to skin and lungs. Leave this job to those who have the equipment and experience. There are products on the market which are in the form of a poultice, which can be applied by a trowel on to the face of the stone, and then scraped off. These products carry the same hazards and include the possibility of skin burns and breathing in corrosive vapours.

When carrying out any paint removal from stone or associated brickwork, it is essential that waste from the process is disposed of to EPA Requirements.

5.7 Removal of Surface Salts

Surface salts are recognisable as a white crystal evident on either bricks, stone, render or just on mortar joints. If this is evident, brush off with a stiff brush and then vacuuming up the crystals from the path or ground. Do **not** wash off with water or any other liquid, as this will wash the salts back into the wall and ground/path and concentrate them even further, thereby exacerbating the problem.

5.8 Plastic Repairs

This is a method of repair which can be carried out with the material – either brick or stone remaining undisturbed in the wall. A piece of base wall material is required (eg a piece of stone or brick from the wall)

Crush enough of the base material to repair the damaged area and mix this with a small amount of PVA glue and white cement (if it is a light colour stone), or grey cement (if it is a dark stone). It may also be necessary to add oxide for colour match. Mix the materials into a thick paste and then push into the crack or hole to be repaired. Allow the mortar to set and when it is hard enough use a straight edge to scrape the surface so the repair blends into the original material. The repair can be stippled or raked if a rougher finish is required. When the plastic repair has set, take the new look away by brushing some local soil over it. Use a fine haired paint brush to do this.



Examples of plastic repairs on fence posts

5.9 Sacrificial Renders

A sacrificial render is used in situations where a masonry wall (either brick or stone) is in an early stage of decay through salt ingress. The purpose of the sacrificial render is to draw the salts out of the wall and then fall to the ground. Once the render has fallen to the ground this should be vacuumed up and disposed of. Sacrificial renders may have to be applied more than once but they are a very effective and practical method of saving a wall from further damage.

A sacrificial render is a very weak render consisting of 10 Sand, 2 Lime, ¼ cement. After a sacrificial render has been applied, it must be left in its natural state. In some cases it is left for 12 months, in some cases several years. It is therefore important that the correct mix is used to obtain a good colour match as it must not be painted.

5.10 Stabilization of Walls where not Vertical

Walls that have moved off centre can, with careful work, be moved back to an upright position. If the wall has had earth built up behind it then this can be an obvious cause of the lean. Other causes can be as simple as failing footings, the soil being water logged, or works on an adjoining property. If there has been soil built up against the wall, then it should be removed. It can be sloped down to the footings of the wall and then a sealed drain made so that water does not flow directly into the footings, but is carried well away from the wall (to a location where water will not effect any other structure.)

The procedure to straighten the wall can be straight forward. Firstly, brace the wall with some rigid material such as RSJ's or solid railway sleepers and place them upright against the wall on the opposite side to which you need to apply pressure and fix them at the base with a steel peg. Devices such as Acrow props can then be lent against the steel or sleeper and secured there, then slowly wind the props outwards. The spacing of the props and supports is going to depend greatly on the type of wall, the materials used, its height, how bad the lean is, how long the wall is and so on. In reality, this is a job best left to the experts.

When the wall has been straightened, the next step is to stop it falling back to where it was. To do this place more stone into the joint which will have appeared at the base near the footings after the Acrow props have been used. Make sure the choice of stone matches the existing and is able to sustain the pressure which the wall will exert when the props are removed. Make sure the mortar used to fix the stone has had time to "go off" before the pressure is released from the props.

5.11 Paint Finishes on Render Sections of Stone Walls

It has become standard practice in the building industry to apply acrylic paint to rendered surfaces. New homes which have hard rendered quoins, walls or window bands are generally painted with acrylic paint. However for early walls (up to c1918) renders are generally lime based, as opposed to a cement based render. These walls must be allowed to "breathe" and acrylic paint will not allow this to happen. Acrylic paint should be removed and a cementitious paint applied (such as Keim or Murobond brand paints, which will allow your render to "breathe"). Limewash can also be used, which is available from various outlets (such as Porters Paints).

5.12 Cleaning of Stone and Brick work

Stone and brick work can often be disfigured by the accumulation of grime and dirt. Remove lichen and moss and general grime with water with soft brush. Lightly scrub with water only to remove grime. Apply biocide treatment, (available Ace Chemicals, Moorangee St, Hilton, Adelaide) to finish off cleaning process – this is sprayed on with a garden spray. This treatment prevents further organic growth on the face of the stone and brick.

5.13 New Stone Walls

A new stone wall may require a reinforced footing. This will depend on how high and wide the wall is, and the type of stone to be used. In the case of a dwarf wall, solid stones may suffice as a footing, but before you lay the stone, remember to put the damp proof course into place. This can be in the form of viscous or forticon. For a stone wall consult a structural engineer to ascertain the footing required.

If the wall is being built with dimension stone (ie cut stone), lay the stone so it is “on bed”, that is, so the grain of the stone is horizontal or on the same plane as the ground. If you lay a stone “off bed” ie with the grain running vertical, the stone will laminate ie it will start to fall apart in sheets. This lamination will occur with slate, bluestone and sandstone. Quartzite stone will generally not laminate as it does not have a grain but will deteriorate if not protected from moisture and salt ingress.

To lay the stone, put down a full bed of mortar. Position the stone and force out the mortar by hammering the stone into place. The mortar bed should not be greater than 10mm once you have laid the stone. Continue to lay in horizontal beds and comply with the following;

- “Butter” the ends of each stone before it is laid (put mortar on each end).
- Check the stone is level and the face is perpendicular – no stone should be laid so it is higher than it is longer.
- Mix the stone so your horizontal beds are no longer than about 1200mm.
- Build up the ends first and then use a string line between the ends to keep the wall straight.

5.14 Maintaining Stone Walls

The following is a general maintenance list for stone walls

- Do not allow build up of soil or material against the wall.
- Do not paint stone walls, or render over stonework, even if in poor condition.
- Do not put garden beds against the wall or allow sprinklers or drip irrigation to keep the wall damp.
- If you have a path against the wall ensure it is below the DPC and the fall is away from the wall.
- Do not plant trees or creepers against the wall - even if it is to climb its own trellis. The creepers can attach to walls, pulling out the mortar. In addition, they can deplete the moisture at the base of the wall.
- Do keep the wall in a state where the damp proof course is not impeded and the wall can remain dry, or can dry out quickly after rain.

6.0 TRADESMEN, COSTINGS AND PRIORITIES FOR WALL CONSERVATION

In undertaking works to stone walls, it is important that **skilled tradesmen** are used who understand the nature of stone, and the need to use appropriate mortars. Section 5.0 of this report can be used as a basis for determining suitable approaches to the conservation and reconstruction of stone walls.

There are many tradesmen who undertake stone contracting work, and enquiries could be made with the Heritage Branch, Department of Environment and Heritage, phone: 8124 4960 to obtain a list of suitable stone contractors.

Costings for undertaking work to stone walls is dependent on the scope and nature of the work to be undertaken.

The following schedule of rates can be used to determine approximate prices for various types of wall reconstruction on a square meter, or lineal metre basis. These rates are estimates only, and may vary among tradesmen, but at the time of this report preparation were current and accepted rates.

Stone sections of walls

- Dismantling and rebuilding wall in solid stone (assume wall is 350mm thick)
- Repointing of existing stone walls (where mortar is missing or deteriorated)
- Repointing of stone walls where this has been undertaken in hard cement mortar, and mortar needs to be removed

Footings - separate concrete footings will be required for new walls and sizes need to be calculated by an engineer. Approximate lineal metre cost for new footings (500mm deep x 300mm wide)

Brick repairs - re-pointing of existing red brickwork (with mortar jointing to match original)

Brick replacement (utilising second hand red bricks)

Paint removal - of paint off stone or brick face

Poultice work over existing base stone wall (a poultice is a mix of render which is used to draw out salts from the stone)

Priority for conservation works on stone walls should be given to walls which are in poor condition.

NOTE:
Rates
removed
due to
age of
document

7.0 GAWLER WALLS PRIORITY RANKING

The walls scheduled in the Gawler Stone Wall Audit, 2006 (see Appendix 3 of this report) have been ranked according to their priority for conservation works. The rankings are as follows:

1. High priority - conservation works are urgently needed - walls are badly deteriorated and without urgent works will deteriorate rapidly. In some cases there are issues of structural safety.
2. Medium priority - conservation works are required - walls are deteriorated.
3. Low priority - walls are generally in good condition, but often painted. It would be appropriate to remove the paint from the stone and brickwork, and return them to their original appearance.
4. Maintenance only - walls are in good condition and maintenance works only are required.

The priority ranking has been inserted into the table in Appendix 3 of this report.

APPENDIX ONE: SOURCES OF INFORMATION

NSW Heritage Office Publications

Maintenance Series 2.3: The Need for Old Stone Buildings to Breathe, NSW Heritage Office, 2004

Maintenance Series 6.2: Removing Paint from Old Buildings, NSW Heritage Office, 2004

Maintenance Series 7.1: Plaster Finishes, NSW Heritage Office, 2004

SA Heritage Branch Publications

Built Heritage Technical Notes Series 3.6 Stone Masonry in South Australia

Young, DA. *Rising damp and salt attack*, South Australia, Department of Environment and Natural Resources and the City of Adelaide, Heritage Conservation Technical Note, 1994

Heritage Victoria Publications

Heritage Manual: Cleaning Masonry Walls, Heritage Victoria for the Heritage Council Victoria, 1997

Technical Notes part 2: Removing Paint, Heritage Council of Victoria, 2007

Other Relevant Publications

Ashurst, J., *Cleaning stone and brick, 2nd edition*, Society for the Protection of Ancient Buildings (SPAB), London, 1986

Ashurst, Nicola, *Cleaning historic buildings, Vol II, Cleaning materials and processes*, Donhead Publishing, London, 1994

Ashurst, J. & Ashurst, N., *Practical building conservation, English Heritage Technical Handbooks, Volume 1: Stone masonry, Volume 2: Brick, terracotta and earth*, Gower Technical Press, Aldershot Hants, UK, 1988

APPENDIX TWO: BURRA CHARTER

AUSTRALIA ICOMOS, THE ILLUSTRATED BURRA CHARTER

Good Practice for Heritage Places

by Meredith Walker and Peter Marquis-Kyle

This revised Charter was adopted on 26 November 1999

Preamble

Considering the International Charter for the Conservation and Restoration of Monuments and Sites (Venice 1964), and the Resolutions of 5th General Assembly of ICOMOS (Moscow 1978), the Burra Charter was adopted by Australia ICOMOS (the Australian National Committee of ICOMOS) on 19 August 1979 at Burra, South Australia. Revisions were adopted on 23 February 1981, 23 April 1988 and 26 November 1999.

The Burra Charter provides guidance for the conservation and management of places of cultural significance (cultural heritage places), and is based on the knowledge and experience of Australia ICOMOS members.

Conservation is an integral part of the management of places of cultural significance and is an ongoing responsibility.

Articles

Article 1. Definitions

For the purpose of this Charter:

- 1.1 *Place* means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.
- 1.2 *Cultural significance* means aesthetic, historic, scientific, social or spiritual value for past, present or future generations.

Cultural significance is embodied in the *place* itself, its *setting*, *use*, *associations*, *meanings*, records, *related places* and *related objects*.

Places may have a range of values for individuals or groups.
- 1.3 *Fabric* means all the physical material of the *place* including components, fixtures, contents and objects.
- 1.4 *Conservation* means all the processes of looking after a *place* so as to retain its *cultural significance*.
- 1.5 *Maintenance* means the continuous protective care of the *fabric* and *setting* of a *place*, and is to be distinguished from repair. Repair involves *restoration* or *reconstruction*.

- 1.6 *Preservation* means maintaining the *fabric* of a *place* in its existing state and retarding deterioration.
- 1.7 *Restoration* means returning the existing *fabric* of a *place* to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material.
- 1.8 *Reconstruction* means returning a *place* to a known early state and is distinguished from *restoration* by the introduction of new material into the *fabric*.
- 1.9 *Adaptation* means modifying a place to suit the existing *use* or a proposed *use*.
- 1.10 *Use* means the functions of a place, as well as the activities and practices that may occur at the place.
- 1.11 *Compatible use* means a *use* which respects the *cultural significance* of a *place*. Such a use involves no, or minimal, impact on cultural significance.
- 1.12 *Setting* means the area around a *place*, which may include the visual catchment.
- 1.13 *Related place* means a *place* that contributes to the *cultural significance* of another place.
- 1.14 *Related object* means an object that contributes to the *cultural significance* of a *place* but is not at the place.
- 1.15 *Associations* mean the special connections that exist between people and a *place*.
- 1.16 *Meanings* denote what a *place* signifies, indicates, evokes or expresses.
- 1.17 *Interpretation* means all the ways of presenting the *cultural significance* of a *place*

Conservation Principles

Article 2. Conservation and management

- 2.1 *Places* of *cultural significance* should be conserved.
- 2.2 The aim of *conservation* is to retain the *cultural significance* of a *place*.
- 2.3 *Conservation* is an integral part of good management of *places* of *cultural significance*.

- 2.4 *Places of cultural significance* should be safeguarded and not put at risk or left in a vulnerable state.

Article 3. Cautious approach

- 3.1 *Conservation* is based on a respect for the existing *fabric*, *use associations* and *meanings*. It requires a cautious approach of changing as much as necessary but as little as possible.
- 3.2 Changes to a *place* should not distort the physical or other evidence it provides, nor be based on conjecture.

Article 4. Knowledge, skills and techniques

- 4.1 *Conservation* should make use of all the knowledge, skills and disciplines which can contribute to the study and care of the *place*.
- 4.2 Traditional techniques and materials are preferred for the *conservation* of significant *fabric*. In some circumstances modern techniques and materials which offer substantial conservation benefits may be appropriate.

Article 5. Values

- 5.1 *Conservation* of a *place* should identify and take into consideration all aspects of cultural and natural significance without unwarranted emphasis on any one value at the expense of others.
- 5.2 Relative degrees of *cultural significance* may lead to different *conservation* actions at a *place*.

Article 6. Burra Charter Process

- 6.1 The *cultural significance* of a *place* and other issues affecting its future are best understood by a sequence of collecting and analysing information before making decisions. Understanding cultural significance comes first, then development of policy and finally management of the *place* in accordance with the policy.
- 6.2 The policy for managing a *place* must be based on an understanding of its *cultural significance*.
- 6.3 Policy development should also include consideration of other factors affecting the future of a *place* such as the owner's needs, resources, external constraints and its physical condition.

Article 7. Use

- 7.1 Where the *use* of a *place* is of *cultural significance* it should be retained
- 7.2 A *place* should have a *compatible use*.

Article 8. Setting

Conservation requires the appropriate visual *setting* and other relationships that contribute to the *cultural significance* of the *place*.

New construction, demolition, intrusions or other changes which would adversely affect the setting or relationships are not appropriate.

Article 9. Location

- 9.1 The physical location of a *place* is part of its *cultural significance*. A building, work or other component of a *place* should remain in its historical location. Relocation is generally unacceptable unless this is the sole practical means of ensuring its survival.
- 9.2 Some buildings, works or other components of *places* were designed to be readily removable or already have a history of relocation. Provided such buildings, works or other components do not have significant links with their present location, removal may be appropriate.
- 9.3 If any building, work or other component is moved, it should be moved to an appropriate location and given an appropriate use. Such action should not be to the detriment of any *place* of *cultural significance*.

Article 10. Contents

Contents, fixtures and objects which contribute to the *cultural significance* of a *place* should be retained at that *place*. Their removal is unacceptable unless it is: the sole means of ensuring their security and *preservation*; on a temporary basis for treatment or exhibition; for cultural reasons; for health and safety; or to protect the *place*. Such contents, fixtures and objects should be returned where circumstances permit and it is culturally appropriate.

Article 11. Related places and objects

The contribution which *related places* and *related objects* make to the *cultural significance* of the *place* should be retained.

Article 12. Participation

Conservation, *interpretation* and management of a *place* should provide for the participation of people for whom the *place* has special *associations* and *meanings*, or who have social, spiritual or other cultural responsibilities for the *place*.

Article 13. Co-existence of cultural values

Co-existence of cultural values should be recognised, respected and encouraged, especially in cases where they conflict.

Conservation Processes

Article 14. Conservation processes

Conservation may, according to circumstance, include the processes of: retention or reintroduction of a *use*; retention of *associations* and *meanings*; *maintenance*, *preservation*, *restoration*, *reconstruction*, *adaptation* and *interpretation*; and will commonly include a combination of more than one of these.

Article 15. Change

15.1 Change may be necessary to retain *cultural significance*, but is undesirable where it reduces cultural significance. The amount of change to a *place* should be guided by the cultural significance of the place and its appropriate *interpretation*.

15.2 Changes which reduce *cultural significance* should be reversible, and be reversed when circumstances permit.

15.3 Demolition of significant *fabric* of a *place* is generally not acceptable. However, in some cases minor demolition may be appropriate as part of *conservation*. Removed significant fabric should be reinstated when circumstances permit.

15.4 The contributions of all aspects of *cultural significance* of a *place* should be respected. If a place includes *fabric*, *uses*, *associations* or *meanings* of different periods, or different aspects of cultural significance, emphasising or interpreting one period or aspect at the expense of another can only be justified when what is left out, removed or diminished is of slight cultural significance and that which is emphasised or interpreted is of much greater cultural significance.

Article 16. Maintenance

Maintenance is fundamental to *conservation* and should be undertaken where *fabric* is of *cultural significance* and its maintenance is necessary to retain that *cultural significance*.

Article 17. Preservation

Preservation is appropriate where the existing *fabric* or its condition constitutes evidence of *cultural significance*, or where insufficient evidence is available to allow other *conservation* processes to be carried out.

Article 18. Restoration and reconstruction

Restoration and *reconstruction* should reveal culturally significant aspects of the *place*.

Article 19. Restoration

Restoration is appropriate only if there is sufficient evidence of an earlier state of the *fabric*.

Article 20. Reconstruction

20.1 *Reconstruction* is appropriate only where a *place* is incomplete through damage or alteration, and only where there is sufficient evidence to reproduce an earlier state of the *fabric*. In rare cases, reconstruction may also be appropriate as part of a *use* or practice that retains the *cultural significance* of the place.

20.2 *Reconstruction* should be identifiable on close inspection or through additional interpretation.

Article 21. Adaptation

21.1 *Adaptation* is acceptable only where the adaptation has minimal impact on the *cultural significance* of the place.

21.2 *Adaptation* should involve minimal change to significant fabric, achieved only after considering alternatives.

Article 22. New work

22.1 New work such as additions to the *place* may be acceptable where it does not distort or obscure the *cultural significance* of the place, or detract from its *interpretation* and appreciation.

22.2 New work should be readily identifiable as such.

Article 23. Conserving use

Continuing, modifying or reinstating a significant *use* may be appropriate and preferred forms of *conservation*.

Article 24. Retaining associations and meanings

24.1 Significant *associations* between people and a *place* should be respected, retained and not obscured. Opportunities for the *interpretation*, commemoration and celebration of these associations should be investigated and implemented.

24.2 Significant *meanings*, including spiritual values, of a *place* to people should be respected. Opportunities for the continuation or revival of these meanings should be investigated and implemented.

Article 25. Interpretation

The *cultural significance* of many *places* is not readily apparent, and should be explained by *interpretation*. Interpretation should enhance understanding and enjoyment, and be culturally appropriate.

Conservation Practice

Article 26. Applying the Burra Charter process

- 26.1** Work on a *place* should be preceded by studies to understand the place which should include analysis of physical, documentary, oral and other evidence, drawing on appropriate knowledge, skills and disciplines.
- 26.2** Written statements of *cultural significance* and policy for the *place* should be prepared, justified, and accompanied by supporting evidence. The statements of significance and policy should be incorporated into a management plan for the place.
- 26.3** Groups and individuals with *associations* with a *place* as well as those involved in its management should be provided with opportunities to contribute to and participate in understanding the *cultural significance* of the place. Where appropriate they should also have opportunities to participate in its *conservation* and management.

Article 27. Managing change

- 27.1** The impact of proposed changes on the *cultural significance* of the *place* should be analysed with reference to the policy for managing the place. It may be necessary to modify proposed changes following analysis to better retain cultural significance.
- 27.2** Existing *fabric* and *use* should be recorded before any changes are made to the *place*.

Article 28. Disturbance of fabric

- 28.1** Disturbance of significant *fabric* for study, or to obtain evidence, should be minimised. Study of a *place* by any disturbance of the fabric, including archaeological excavation, should be undertaken only to provide data essential for decisions on the *conservation* of the place; or to obtain important evidence about to be lost or made inaccessible.
- 28.2** Investigation of a *place* which requires disturbance of the *fabric*, apart from that necessary to make decisions, may be appropriate provided that it is consistent with the policy for the place. Such investigation should be based on important research questions which have potential to substantially add to knowledge, which cannot be answered in other ways and which minimises disturbance of significant fabric.

Article 29. Responsibility for decisions

The organisations and individuals responsible for management decisions should be named and specific responsibility taken for each decision.

Article 30. Direction, supervision & implementation

Competent direction and supervision should be maintained at all stages, and any changes should be implemented by people with appropriate knowledge and skills.

Article 31. Documenting evidence and decisions

A log of new evidence and additional decisions should be kept.

Article 32. Records

- 32.1** The records associated with the *conservation* of a *place* should be placed in a permanent archive and made publicly available, subject to requirements of security and privacy, and where this is culturally appropriate.
- 32.2** Records about the history of a *place* should be protected and made publicly available, subject to requirements of security and privacy, and where culturally appropriate.

Article 33. Removed fabric

Significant *fabric* which has been removed from a *place* including contents, fixtures and objects, should be catalogued, and protected in accordance with its *cultural significance*.

Where possible and culturally appropriate, removed significant fabric including contents, fixtures and objects, should be kept at the place.

Article 34. Resources

Adequate resources should be provided for *conservation*.

APPENDIX THREE: STONE WALLS WITH HERITAGE LISTINGS (GAWLER STONE WALL AUDIT 2006)

HISTORIC (CONSERVATION) ZONE/AREA KEY:

LHCPA	Light Historic (Conservation) Policy Area
GSHCPA	Gawler South Historic (Conservation) Policy Area
WHCPA	Willaston Historic (Conservation) Policy Area
WRHCPA	Willaston Residential Historic (Conservation) Policy Area
HCZ	Historic Conservation Zone
GEA1	Gawler East Area 1
GWA5	Gawler West Area 5

PRIORITY RANKING KEY:

1. High priority - conservation works are urgently needed - walls are badly deteriorated and without urgent works will deteriorate rapidly. In some cases there are issues of structural safety.
2. Medium priority - conservation works are required - walls are deteriorated.
3. Low priority - walls are generally in good condition, but often painted. It would be appropriate to remove the paint from the stone and brickwork, and return them to their original appearance.
4. Maintenance only - walls are in good condition and maintenance works only are required.

Note: walls are listed in alphabetical order of Street location

Street	Property No	Wall No	Field Map ID	Wall Height (mm)	Wall Length (metres)	Retaining Wall (Y or N)	Htg. Status	Hist. Cons. Zone/Area	Special Features	Additional Comments	Priority Ranking	Photo ID
Adelaide Rd	1	314	5	700/1500	30	Y	-	GSHCPA	Contrast rendered, brick capping, inset entrance with steps	Painted	4	357, 358
Adelaide Rd	2	313	5	800	20	Y partly	Contr	GSHCPA	Rough rendered, columns, chain mesh and rail upper	End returns in as garden wall. Nib.	4	356
Adelaide Rd	4-6	312	5	1200	30	Y partly	Local	GSHCPA	Rendered, columns, double rail upper, gateway, slate steps	Painted	3	355
Adelaide Rd	18	277	6	1500	9	N	Contr	GSHCPA	Columns, rendered, angled cap, iron lattice upper	Painted.	3	311
Adelaide Rd	18/16	278	6	1500	25	N	-	GSHCPA	Rendered, round topped, stepped uphill	Side wall. Painted.	3	312
Adelaide Rd	18/18a	276	6	1500-1800	8	N	Contr	GSHCPA	Rendered, arched brick capping, curved increasing height.	Painted. Dividing wall.	3	310
Adelaide Rd	22-22a	273	6	900	16	N	Contr	GSHCPA	Squared rendered	Painted.	3	309
Adelaide Rd	22- 22a	274	6	900, 15-1800	10	N	Contr	GSHCPA	Lower height square, curved increasing height, round topped, rendered.	Painted. Dividing side wall.	3	309
Adelaide Rd	32	272	6	700	12	N	Contr	GSHCPA	Arched brick capping, brick ends, rendered, iron lattice upper & gateway	Painted	3	308
Adelaide Rd	44a	310	7	1500	5	N	Contr	GSHCPA	Patch rendered, rounded top	Remnant rear wall, adjacent George Ln	1	354
Adelaide Rd	54	280	7	900	30	N	-	GSHCPA	Extruding bricks features, rounded top, rendered	Side wall adjacent 5th St, painted	3	314
Adelaide Rd	46/48	279	7	1100	60	N	Contr	GSHCPA	Rounded capping, patch rendered	Car wash side wall, parts in ruin.	1	313
Adelaide	56/58	281	7	1400/160	60	N	Contr	GSHCPA	Stepped, rendered, rounded top	Side wall	4	315

Street	Property No	Wall No	Field Map ID	Wall Height (mm)	Wall Length (metres)	Retaining Wall (Y or N)	Htg. Status	Hist. Cons. Zone/Area	Special Features	Additional Comments	Priority Ranking	Photo ID
Rd				0								
Adelaide Rd	63	282	7	100	10	N	Contr	GSHCPA	Midsection upright spaced bricks, round top, columns, rendered, gateway	Painted	3	316
Adelaide Rd	82	283	7	1100	25	N	Contr	GSHCPA	Brick columns, squared capping	Painted	4	317
Ayers	2	214	5	1800	3	Y in part	Local	GEHCPA	Rendered column, arched brick capping	Remnant entranceway	1	243
Ayling	12	161	4	1200	30	N	-	-	Rounded top		2	185
Barnet	15	256	7	1200	25	N	Contr	GSHCPA	Rendered base, round capped, ball topped columns, iron lattice upper, gate	Painted	3	290
Bishop	6	192	1	1200	15	N	Contr	GEHCPA	Contrast rendered, brick end columns, arched brick capping, gate	Painted	3	217
Blanch	7-9	191	1	900	50	Y	Contr	HCZ	Gateway, angled brick capping		1	216
Blanch	10	190	1	1000	20	N	Contr	HCZ	Gate, brick end columns, arched brick capping, patch rendered		2	215
Blanch	31	189	1	300-800	6	Y	Contr	HCZ	Rounded top (Rendered or concrete?)	Sloped garden path retaining wall. Age?	4	214
Blanch	35	188	1	1000	10	Y in part	Contr	HCZ	Rendered, rounded capping	Painted, topped with new iron picket	4	213
Bridge St Sth	Bridge	315	5	1400	10	N	Contr	GSHCPA	Flat top, rendered	Painted, end section of bridge wall, mid section iron rail fence.	2	359
Brown	9	162	4	1000	25	N	-	-	Gateway		2	186
Brown	13	163	4	600	10	N	-	-	Remnant		1	187
Calton	1	261	5	3500	20	Y	State	GEHCPA	Brick capped, linear brick insert midway	Phoenix Foundry	4	296
Calton	6	204b	5	1200	16	N	Contr	GEHCPA	As wall No 204a, gateway		1	234
Calton	6	204c	5	1800	30+	Y in part	Contr	GEHCPA	Sloped downhill, patch rendered, round capped.	Side wall	2	235
Calton Rd	6	204a	5	1800	25	Y in part	Contr	GEHCPA	Stepped downhill, patch rendered, round capped, brick ends	Side wall, adjacent Daly St	1	233
Cameron	1	63	2	1200	16	N	State	LHCPA	Rendered, gateway	Painted	3	79
Cameron	12	106	2	1100	10	N	Contr	LHCPA	Rendered with rounded brick capping	Veranda sides and front wall. Painted	3	124
Cameron	14	105	2	1200	6	N	Contr	LHCPA	Side wall created as exposed art feature	Front section rendered & painted	3	123
Cameron	19	107	2	1100	15	N	-	LHCPA	Rendered, rounded brick capping	Adjoins wall No 103	4	125
Cameron	20	65a	2	1500	15	N	State	LHCPA	Rounded capping, brick layer insert,	Side wall, adjacent Cowan St	4	87
Cameron	20	65b	2	600	35	N	State	LHCPA	Gateways, columns, rounded brick capping	Lower half solid, upper chain mesh and rail insert.	2	88
Cameron	22	64	2	1200	30	N	State	LHCPA	Iron lace work. Rounded capping, columns.	Central feature with gateway. Rendered and painted	3	80

Street	Property No	Wall No	Field Map ID	Wall Height (mm)	Wall Length (metres)	Retaining Wall (Y or N)	Htg. Status	Hist. Cons. Zone/Area	Special Features	Additional Comments	Priority Ranking	Photo ID
Cameron	28-30	58	2	2000	10	N	State	LHCPA	Rendered, set in ventilation louvers at base	Adjoined to house	4	74
Cameron	32	60	2	300	45	N	State	LHCPA	Stone block lower, columns & ironwork upper		4	76
Cowan	15	138	2	1700	10	N	State	LHCPA	Round capped, adjoins shed wall	Rear wall, adjacent Queen St	4	162
Cowan	17	139	2	1500	12	N	State	LHCPA	Rendered, rounded capping	Adjacent Queen St	4	163
Cowan	18	80	2	1200	12	N	State	LHCPA	Iron lacework, stone base, brick column and capping		4	96
Cowan	19	84	2	600	20	N	State	LHCPA	Chain mesh and rail upper, gateway & columns	Painted	2	100
Cowan	20	78	2	800	14	N	State	LHCPA	Post and rail, chainmesh, rendered stone base	Painted	3	94
Cowan	21	83	2	1200	40	N	State	LHCPA	Rendered. Brick columns, capping and linear insert	Central feature, gateway hedge & ironwork upper	2	99
Cowan	22	74	2	1500	10	N	State	LHCPA	Rendered, rounded brick capping		4	90
Cowan	22	75	2	1500	5	N	State	LHCPA	Rendered, rounded brick capping		4	91
Cowan	29	79	2	1200	10	N	State	LHCPA	Rendered, rounded brick capping	Side wall. Front wall not noted?	4	95
Cowan	22b	5a	2	1600	30	Y	State	LHCPA		Zion Lutheran Church. Rendered. Adjacent Moore St	2	8
Cowan	22b	5b	2	1600	10	Y	State	LHCPA	entrance	Zion Lutheran Church. Rendered. Cnr Moore & Finnis	2	9
Cowan	22b	5c	2	1700	40	Y	State	LHCPA		Zion Lutheran Church. Rendered. Adjacent Finnis St	2	10
Cowan	22b	8	2	1000	10	Y	State	LHCPA	entrance steps	Adjacent Finnis St. Old?	2	15
Cowan	32a	66	2	1200	25	N	State	LHCPA	Brick columns, rounded capping, letterbox incorporated	Renovated or new?	4	81
Cowan	32b	67	2	1200	25	N	State	LHCPA	Brick columns, rounded capping, letterbox incorporated	Renovated or new?	4	82
Cowan	Lot 35	73	2	1500	7	N	State	LHCPA	Rendered columns	Remnant of Church fence	1	89
Cowan	35	76	2	800	8	N	State	LHCPA	Block, rendered, gateway		3	92
Cowan	38	71	2	200	10	N	State	LHCPA	Brick cant base		2	86
Cowan	55	70	2	1000	20	N	State	LHCPA	Iron lattice, stone base, brick columns, rounded capping		1	85
Cowan	57	69	2	1000	10	N	State	LHCPA	Iron lattice, rendered stone base, columns, rounded capping	Painted	3	84
Daly	5	203	1	1500	15	N	Contr	GEHCPA	Gate, arched brick capping, brick end columns		2	232
Daly	9	202	1	1500	20	Y in part	Contr	GEHCPA	Linear brick inlay, columns, stepped downhill, arched brick	Patch rendered	1	230,231

Street	Property No	Wall No	Field Map ID	Wall Height (mm)	Wall Length (metres)	Retaining Wall (Y or N)	Htg. Status	Hist. Cons. Zone/Area	Special Features	Additional Comments	Priority Ranking	Photo ID
Daly	17	201	1	800	25	N	Contr	GEHCPA	Rough rendered low wall, columns and capping	Painted	3	229
Dawkins Ave	Cemetery	174	9	300/2000	15	N	State	-	Large ornate columns, rendered stone base, heavy iron lattice upper	Cemetery entrance gates	2	198
Dean	5-7	253	7	1800	10	N	Contr	GSHCPA	Rounded top	Side wall	4	285
Dean	7	254	7	1700	25	N	Contr	GSHCPA	Rendered base, arched brick capping, brick columns, inset gateway, iron lattice		1	286, 287
Deland Ave	13	197	5	6-1000, 20	12	N	State	-	Large rendered columns, low stone wall, rendered capping, iron lattice upper	Entrance gateway Trevu House	4	223
Deland Ave	13	198	5	1800	8	N	State	-	Jutted rock capping	Adjoins barn	4	224
Duffield	1	207	5	4-800	40	Y	State	GEHCPA	Flat stone, sloped downhill		4	236
Duffield	1	211	5	1800	40	N	State	GEHCPA	Arched brick capping, brick ends		4	240
Duffield	2	208	5	1800	2x6	Y	Contr	GEHCPA	Rough rendered, end columns, flowing stepped arched capping	Curved wall stepped entranceway	4	237
Duffield	5a	216	5	500	2	Y	Contr	GEHCPA	End column, stepped rear entranceway. Remains.	Only steps accounted not extended stone retaining wall. Adjacent High St.	1	245
Duffield	5	217	5	1800	80	Y partly	Contr	GEHCPA	Inset gate, rendered end columns, round capped, stepped downhill	Rear wall, adjacent High St	1	246, 247
Duffield	7	215	5	600	4	Y	Contr	GEHCPA	Rendered, rounded top, rear step entrance	Remains, adjacent High St	1	244
Duffield	10	209a	5	1800	20	N	Contr	GEHCPA	Arched brick capping, brick ends		1	238
Duffield	10	209b	5	1800	6	N	Contr	GEHCPA	Gate, arched brick capping, brick ends		2	239
Duffield	30	212	5	1200	45	N	-	-	Arched brick capping, stepped downhill, curved gateway entrance		1	241, 242
Dundas	3	108	5	1800	60	N	-	LHCPA	Ornate brick top, rendered base, gates, iron lattice upper	Not 12 Tod St? Tortola House. Painted		
Dundas	8	98	2	600	10	N	Contr	LHCPA	Rendered base, iron lattice top, gates	Painted	3	115
Dundas	14	99	2	36526	10	N	Local	LHCPA	Rendered, brick capping	Curved, increasing height stepped	2	116
East Tce	25	199a	5	1800	30	N	-	-	Arched brick capping, stepped downhill, curved end gateway, brick end column		1	225, 226
East Tce	25	199b	5	1800	30	N	-	-	As wall No 199a, additional gate	End adjoins barn	1	226, 227
Edith	7	142	1	800/1600	15	N	Contr	HCZ	Inset gateway, columns, rendered, gate, hedge upper, stone base	ironwork hidden in hedge??	4	166
Edith	10	144	1	900	25	N	Contr	HCZ	Rendered, rounded capping, gate.		4	168
Edith	12	143	1	900	25	N	Contr	HCZ	Gate, rough rendered, rounded capping	Painted	3	167
Edith	13	141	1	6-1800	15	Y	-	HCZ	Columns, rough rendered, iron picket	Painted. Old?	4	165

Street	Property No	Wall No	Field Map ID	Wall Height (mm)	Wall Length (metres)	Retaining Wall (Y or N)	Htg. Status	Hist. Cons. Zone/Area	Special Features	Additional Comments	Priority Ranking	Photo ID
									upper, stone base			
Edith	20	140	2	1500	10	N	-	HCZ	Rendered, gateway, stepped		4	164
Eighteenth	23-25	240	7	1400	80+	N	State	GSHCPA	Rendered, Arched brick capping	Side wall	1	272
Eighteenth	23-25	241	7	1200	25	N	State	GSHCPA	Arched brick double layered capping, rendered, brick columns, gateway		1	273
Eighth	10	271	6	1800	15	N	Contr	GSHCPA	Contrast rendered, columns, new iron picket upper		4	307
Eighth	16	40	6	1300	27	Y in part	Contr	GSHCPA	Rounded brick capping, gateway, columns, rendered		4	54
Eighth	19	230	6	1700	12	N	Contr	GSHCPA	Rendered, columns, arched brick capping	Painted	3	261
Eighth	20	41	6	1300	13+	N	Contr	GSHCPA	Rounded brick capping, gateway, columns		4	55
Eighth	21b	229a	6	1300	15	N	Contr	GSHCPA	Rendered, columns, arched brick capping	In 2 parts, driveway and gate, painted	3	260
Eighth	21b	229b	6	1700	6	N	Contr	GSHCPA	Rendered	Side wall, painted	3	260
Eighth	21b	229c	6	1700	6	N	Contr	GSHCPA	Gate, slate steps, brick end columns & angled brick capping	Side wall, painted	3	261
Eighth	22	42	6	1300	26	Y in part	Contr	GSHCPA	Gateway, rounded capping, columns, rendered		4	56
Eighth	24	43	6	200	8	Y	Contr	GSHCPA		flat stone laid horizontally	4	57
Eighth	26	44	6	1100	23	Y in part	Contr	GSHCPA	gateway, includes ironwork top half, brick columns, rendered		4	58
Eighth	31-33	228	6	1000	10+	N	Contr	GSHCPA	Rendered	Side wall, painted	4	259
Eucalypt Dr	7	196	10	1100	60	N	Local	GEA1		In ruin	1	221, 222
Fifteenth	5-7	265b	6	1500	15	N	Contr	GSHCPA	Rendered, round topped	Side wall	4	301
Fifteenth	7	265a	6	1200	20	N	Contr	GSHCPA	Stone base, brick columns and upper wall. Gate, patterned brick top.		4	300
Fifth	7/7a	305	7	1100-1500	6	N	Contr	GSHCPA	Rendered, round top	Dividing wall	1	348
Fifth	7a	304a	7	1100	50	N	Contr	GSHCPA	Contrast rendered, rounded capping.	Extends around corner, side wall adjacent Houghton Ln	1	346, 347
Fifth	7	304b	7	1100	8	N	Contr	GSHCPA	Contrast rendered, rounded capping, gates	Same wall as No 304a extends across two properties	1	349
Fifth	7	306	7-5	1100	20	N	Contr	GSHCPA	Rendered, round top	Side wall	2	350
Fifth	9	303a	7	1200	30	N	Contr	GSHCPA	Rounded brick capping, brick end column, gateway	continues around corner wall No 303b	1	344
Fifth	9	303b	7	1200	35	N	Contr	GSHCPA	Round top, gateway	Side wall adjacent Houghton	1	345

Street	Property No	Wall No	Field Map ID	Wall Height (mm)	Wall Length (metres)	Retaining Wall (Y or N)	Htg. Status	Hist. Cons. Zone/Area	Special Features	Additional Comments	Priority Ranking	Photo ID
										Ln, continuation of wall No 303a		
Fifth	11	302	7	1400	20	N	Contr	GSHCPA			4	343
Fifth	5 & 38 4th	308	7	1100	20+	N	Contr	GSHCPA	Rendered, round top	Side wall, painted	3	351
Finniss	12	1	2	300	15	N	Contr	LHCPA	2 gates	Base only. Rendered	2	1
Finniss	20	6a	2	1700	30	Y	State	LHCPA	gateway		2	11
Finniss	20	6b	2	1700	45	Y	State	LHCPA		Adjacent Dundas St	2	12
Finniss	20	6c	2	1700	35	Y	State	LHCPA		Adjacent Jacob St	2	13
Finniss	22	7	2	1700	3	Y	State	LHCPA		Adjacent Jacob St	2	14
Finniss	26	9	2	1800	25	Y	State	LHCPA		Adjacent Cameron St	2	16
Finniss	28	10	2	3000	40	Y	State	LHCPA		Adjacent Cameron St	1	17
Finniss	28	11a	2	1700	10	N	State	LHCPA		2 entrance gates, painted	1	18
Finniss	28	11b	2	1700-2000	25	N	State	LHCPA		Gateway and end attached to old stable, painted	2	19
Finniss	32	19a	2	3000	25	Y	State	LHCPA		Not uniform, various materials. Adjacent Jacob St	1	30
Finniss	32	19b	2	1500	40	Y	State	LHCPA	Side wall	At rear, visual from Jacob St	1	31
Finniss	36	12	2	1600	8	N	State	LHCPA		Painted	1	20
Finniss	39	68	2	400	2.5	N	State	LHCPA		Remnant, rear of property, visual from Cowan St	2	83
Finniss	42	18	2	800	6	N	State	LHCPA	Side wall	At rear, visual from Jacob St	2	29
Finniss	44	13	2	1700	5	N	State	LHCPA			1	21
Finniss	44	14	2	400	8	N	State	LHCPA	Base and pillar for picket	Painted	3	22
Finniss	47	15	2	200	10	N	State	LHCPA	Brick cants		2	23
Finniss	48	17	2	2000	10	Y in part	State	LHCPA	Gate, drain holes	Adjacent Jacob St	1	28
Finniss	50	16a	2	1800	10	N	State	LHCPA	Picket section and gate	Rendered, painted	3	24
Finniss	50	16b	2	1800	50	N	State	LHCPA		Rendered. Adjacent Porter St	2	25
Finniss	50	16c	2	1800	8	Y in part	State	LHCPA		Corner Porter & Jacob Sts, rebuilt	1	26
Finniss	50	16d	2	2000	35	Y in part	State	LHCPA	Gate	2 sections/layers. Adjacent Jacob St	1	27
First	3-5	293	7	1200	8	N	Contr	GSHCPA	Rendered	Side wall, vegetation overhang	2	331
First	6	294a	7	1200	15	N	Contr	GSHCPA	Rendered, round top, stepped downhill		1	332
First	6	294b	7	1200	15	N	Contr	GSHCPA	Rendered, round capped, columns, upper rails, gate	Painted.	2	333
Fourteenth	9	30	6	1100	17	N	Contr	GSHCPA	Gateway, arched brick capping, brick columns	Painted	3	42

Street	Property No	Wall No	Field Map ID	Wall Height (mm)	Wall Length (metres)	Retaining Wall (Y or N)	Htg. Status	Hist. Cons. Zone/Area	Special Features	Additional Comments	Priority Ranking	Photo ID
Fourteenth	11	29	6	1100	17	N	Contr	GSHCPA	Gateway, arched brick capping, brick columns	Painted	3	41
Fourteenth	14	21	6	1000	14	N	Contr	GSHCPA	Gateway	Painted	3	33
Fourteenth	16	22	6	1000	18	N	Contr	GSHCPA	Arched brick capping. Gateway		4	34
Fourteenth	16	23	6	1000	12	N	Contr	GSHCPA		new wall	2	35
Fourteenth	20	25	6	600-1500	12	N	Contr	GSHCPA	Rendered, porch entrance	Supports verandah posts, painted, poor condition	1	37
Fourteenth	30	26	6	1300	19	N	Contr	GSHCPA	Gateway, diamond on columns	Lower part solid with columns supporting rail, painted	3	38
Fourteenth	32	27	6	1200	22	N	Contr	GSHCPA	Gateway, iron lace top half	Solid bottom and columns with iron lace top half, painted	3	39
Fourteenth	40	28	6	1100	14	N	Contr	GSHCPA	Gateway, rendered	Painted	3	40
Fourth	25	288	7	900	20	N	Contr	GSHCPA	Rendered, angled brick capped with small iron lace feature, columns, gates	Painted	3	324
Fourth	26/28	289	7	1000/1500	15+	N	Contr	GSHCPA	Rendered, round top	Side wall, painted	3	325
Fourth	28/30	290	7	1400	15+	N	Contr	GSHCPA	Patch rendered	Side wall	2	326
Fourth	30	301	7	1700	6	N	Contr	GSHCPA	Round top	Adjoins building, rear wall adjacent Cross Ln	1	342
Fourth	36	291a	7	1400	30	N	Contr	GSHCPA	Rendered, new brick capping, iron picket top, gateway	Restored or new?	4	328
Fourth	36	291b	7	1400	30	N	Contr	GSHCPA	Rendered, new brick capping, iron picket top	Restored or new?	4	329
Fourth	36	309	7	1400	40	N	Contr	GSHCPA	Rounded top	Side wall adjacent Fifth St & returns around corner adjacent Cross Ln	1	352, 353
Fourth	40	292	7	1200	12	N	Contr	GSHCPA	Flat top, rendered, gate	Patchy paint remains	2	330
Gawler River Rd	9	159	4	800	18	N	Local	-	Rendered brick, gate	Painted. Old?	3	183
Gawler Tce	17-19	264	7	1700	20	N	Contr	GSHCPA	Rounded top, end brick column	Side wall	1	299
Gawler-OTH Rd	Lot 80	263	8	1800	8	N	Local	-	Stone gate entranceway		1	298
High	17-21	262	5	3500	30	Y partly	Contr	GEHCPA	Part rendered	Side wall	1	297
High	2	175	3	2000	8	N	Contr	-	Rounded top	Shed attached, painted, adjacent Davies St	3	199
High	7	218	5	1800	10	Y partly	Contr	GEHCPA	Rendered, end column, inset gate, rounded capping		1	248
High	13	174	3	1600	4	N	-	GEHCPA	Rounded top	Painted, side wall adjacent	3	208

Street	Property No	Wall No	Field Map ID	Wall Height (mm)	Wall Length (metres)	Retaining Wall (Y or N)	Htg. Status	Hist. Cons. Zone/Area	Special Features	Additional Comments	Priority Ranking	Photo ID
										Queen St		
High	17	183	3	1200	20	N	Contr	GEHCPA	Gate, rendered end columns, arched brick capping		4	207
High	25	222	5	2000	40	Y	Local	HCZ	Rendered, angled brick capping, slate stepped entranceway	In repair	1	252, 254
High	25	223	5	1800	40+	Y partly	Local	HCZ	Stepped uphill		2	253
High	35	224	1	2000	35	Y	-	HCZ	Gate, slate steps, brick end columns & angled brick capping	Part rendered	4	255
Hillier	27	257	7	1500	15	N	-	-	Rounded top, rendered	Middle section iron sheeting. Wall at both ends.	2	291
Hillier	60	258	7	600	30	N	-	-	Rendered brick with columns and top rail	Age?	3	293
Hillier	60-62?	257	7	600	15	N	-	-	Stone wall, brick columns	Side wall	1	292
Howard	13	153	4	1100	10	N	Contr	LHCPA	Brick rendered		1	177
Jacob	40-42	20	2	800	10	N	Contr	LHCPA	Brick, verandah supports		2	32
Jacob	23	95	2	1100	30	N	Contr	LHCPA	Gates, contrast rough rendered, columns	Painted	3	112
Jacob	25	96	2	1100	20	N	Contr	LHCPA	Columns, rendered, rounded top	Painted	2	113
Jacob	30	100	2	1100	20+	N	Contr	LHCPA		Side brick wall, old?	2	117
Jacob	32	101	2	1100	10	N	-	LHCPA	Rounded brick capping, rendered and lined	Capping painted	2	118
Jacob	34	102	2	1100	10	N	-	LHCPA	Gates, rounded brick capping, rendered	Painted	3	119
Jacob	36	103	2	1100	45	N	Contr	LHCPA	Rendered, rounded brick capping	Rounds corner onto Cameron St, painted	3	120,121
Jacob	39	2	2	300	6	N	-	LHCPA		At rear on Finnis St. Base only. Rendered	1	2
Jacob	43	104	2	1200+	30	Y	State	LHCPA	Two tiered, rendered	Top tier set back	2	122
Jarvis	5	160	4	600/1200	12	N	-	-	Brick columns & top of wall, rendered base, top rail		2	184
Jeringham	1a	137b	2	1800-400	8	Y in part	-	LHCPA	Steps down to lower wall	End wall No 137a	1	161
Jeringham	20	59	2	1800	40	Y	State	LHCPA	Rendered, end column	Side wall, adjacent Cameron St	1	75
Julian Tce	Apex Prk	114	5	400/1500	30	N	Local	LHCPA	Rendered, ornate columns support lamp posts	Painted. Adjoins bridge wall, No 315	2	134
King	4	132	2	1200	12	N	-	LHCPA	Brick columns, iron lattice upper, stone base, gates		3	155
King	5	136	2	1600	5	N	Contr	LHCPA	End columns, capped & rendered		4	160
King	7	133a	2	1200	20	N	Local	LHCPA	Brick columns & rounded capping, section iron lattice	Centred entrance Thompson gate	4	156
King	7	133b	2	1600	15	Y partly	Local	LHCPA	Brick capped, stepped	Adjacent Bridge St Nth	2	157
King	7	133c	2	1800	10	Y partly	Local	LHCPA	Brick capped, gate	Adjacent Bridge St Nth	2	158

Street	Property No	Wall No	Field Map ID	Wall Height (mm)	Wall Length (metres)	Retaining Wall (Y or N)	Htg. Status	Hist. Cons. Zone/Area	Special Features	Additional Comments	Priority Ranking	Photo ID
King	7	133d	2	2400	18	Y partly	Local	LHCPA	Stepped	Adjacent Bridge St Nth	1	159
King	12	129	2	600/1200	20	N	Contr	LHCPA	Large brick columns, iron lattice upper, stone base, gates		3	152
King	15	128	2	1100	15	N	Contr	LHCPA	Thompson gate, iron lattice top, brick columns & capping	Painted	3	151
King	16a	131	2	2000	8	N	State	LHCPA	Brick columns & capping, iron lattice upper, stone base	Side wall	3	154
King	16/16a	130	2	800/1200	16	N	State	LHCPA	Brick columns, iron lattice upper, stone base, gates		2	153
King	21-23	127a	2	1100	20	Y	Contr	LHCPA	Gate entrance columns, steps	Patch rendered	1	149
King	21-23	127b	2	1100	15	Y	Local	LHCPA	Top iron picket	Patch rendered	1	150
Lyndoch	6	150	1	1800	25	N	-	HCZ	Stepped		4	174
Lyndoch	8	149	1	1200	25	N	-	HCZ	Rough rendered, angled capping, gate & columns, stepped	Painted	3	173
Lyndoch	8-10	148	1	1800	50	N	Contr	HCZ		Side wall	4	172
Lyndoch	10	145	1	1800	20	N	Contr	HCZ	gate	Side wall adjacent Edith St	4	169
Lyndoch	10	146a	1	600/1800	30	N	Contr	HCZ	Iron lattice upper, stone base, columns, gate, rendered	Painted, side wall adjacent Edith St	3	170
Lyndoch	10	146b	1	600/1800	30	N	Contr	HCZ	Gate, iron lattice upper, stone base, rendered, columns, steps	Painted	3	171
Lyndoch Rd	11	194	1	2000	80	Y partly	Local	GEHCPA	Rendered columns & arched capping, repointed, gateway	School wall	2	219
Lyndoch Rd	11	200	1	300-600	4	Y	Local	GEHCPA	gateway steps		2	228
Lyndoch Rd	18	195	1	500	20	Y partly	Contr	HCZ	Rendered, stepped gateway	Topped with wooden picket	3	220
Lyndoch Rd	23	193	1	1000	15	N	Contr	GEHCPA	Rendered, stepped down, gate, angled brick capping, end columns	Painted	1	218
Main	7-9	187a	4	1600	3	N	Contr	WHCPA	Large end brick column, arched brick capping		1	211
Main	7-9	187b	4	1600	15	N	Contr	WHCPA	L shaped, large brick end columns, arched brick capping	Part of entranceway	1	211
Main	7-9	187c	4	1600	4	N	Contr	WHCPA	Curved entrance wall, large brick end columns, arched brick capping		1	212
Main North Rd	10	126	2	1100	25	N	Contr	LHCPA	Rendered, capped ends		3	148
Main Nth Rd	41	186	4	1000	35	N	Contr	WHCPA	Gate, rendered, rounded top	Painted	3	210
Main Nth	53	182	3	1600	30	N	-	-	Rendered base, brick middle, iron lattice	Painted	3	206

Street	Property No	Wall No	Field Map ID	Wall Height (mm)	Wall Length (metres)	Retaining Wall (Y or N)	Htg. Status	Hist. Cons. Zone/Area	Special Features	Additional Comments	Priority Ranking	Photo ID
Rd									upper, brick column			
Main Nth Rd	59	180	3	1600	20	N	-	-	Stepped height, arched brick capping, end column		4	205
Main Nth Rd	61	179	3	1200	12	N	-	-	Rough rendered, arched brick capping, columns, part iron lattice	Painted	3	204
Main Nth Rd	63	181	3	1200		N	-	-	Rendered lower, patterned block upper	Adjoins wall No 179	3	204
Main Nth Rd	72	175a	3	1500	30	N	-	-	Linear brick inlays, rounded top	Adjacent High St, adjoins shed	1	200
Main Nth Rd	72	176b	3	1200	25	N	-	-	Gates, brick ends & linear inlays, rounded top		1	201
Main Nth Rd	76	177	3	1200	30	N	-	-	Rendered, rounded top, brick inlay, entrance gateway, iron picket upper	Painted, stepped down, two sections	3	202
Main Nth Rd	79	178	3	1100	30	N	-	-			1	203
Main St	20	154	4	1100	8	Y	Contr	WHCPA	Steps, rendered, capped	Painted	1	178
Main St	22	155	4	1100	30	Y	Contr	WHCPA	Steps, rough rendered, capped	Painted	2	179
Moore	1	82	2	1800	16	N	State	LHCPA	Rendered	Rear wall, adjacent Cowan St	4	98
Moore	1a	85a	2	1200	40	N	State	LHCPA	Brick columns and capping	Side wall, adjacent Cowan St, patch rendered	1	101
Moore	1a	85b	2	1200	50	N	State	LHCPA	Gateway, brick columns & capping	Patch rendered, adjacent Reid St	1	102, 103
Moore	1a	85c	2	1200	45	N	State	LHCPA	Gateway, brick columns & capping	Patch rendered	1	104
Moore	1	88	2	1800	20	N	State	LHCPA	Gateway, rough rendered, rounded capping		2	105
Moore	2	89	2	1700	8	N	State	LHCPA	Rendered		1	106
Moore	3	81	2	1600	20	N	State	LHCPA	Rendered	Rear wall, adjacent Cowan St	2	97
Moore	4	90	2	1700	20	N	State	LHCPA	Gateways, rendered, rounded top		1	107
Moore	7	91	2	1500	15	N	State	LHCPA	Rendered	Side wall	1	108
Moore	7	92	2	1200	20	N	State	LHCPA	Gates, contrast rough rendered, columns	Painted	3	109
Moore	9	4a	2	2000	25	Y in part	State	LHCPA	inset gate, 6 slate steps	Rear wall adjacent Finnis St. Extends over two properties as wall No 3	1	5, 6
Moore	9	4b	2	2000	25	N	State	LHCPA		Adjacent Dundas St	2	7
Moore	9	77	2	1700	20	N	State	LHCPA	Rendered, contrast smooth lower rough upper, gateway.	Rear wall, adjacent Cowan St. Painted	3	93
Moore	9	93	2	1700	10+	N	State	LHCPA	Rounded top	Side wall	1	110
Moore	9	94	2	1200	15	N	State	LHCPA	Gates, contrast rough rendered, columns	Painted	3	111

Street	Property No	Wall No	Field Map ID	Wall Height (mm)	Wall Length (metres)	Retaining Wall (Y or N)	Htg. Status	Hist. Cons. Zone/Area	Special Features	Additional Comments	Priority Ranking	Photo ID
Moore	10	3	2	2000	30	Y in part	State	LHCPA	Buttress at eastern end	Rear wall adjacent Finnis St. Extension of wall No 4a	1	3, 4
Murray	1	227	5	1200	16+	Y	Contr	LHCPA	Brick capped, rough rendered, slate stepped entranceway	Painted, returns on side.	3	258
Murray	Lot 9	124	2	2400	45	Y in part	State	LHCPA	Arched capping, columns, McKinlay monument		4	146
Murray	18	115	5	1200	20	N	State	LHCPA	Gates, block stone, rounded capping, columns		4	135
Murray	25	116	5	1700	12	N	State	LHCPA	Iron picket top, rendered stone base, gates, large columns	Painted	3	136
Murray	25	219	5	1800	16+	N	State	LHCPA	Brick ends, rounded capping	Rear & side wall, adjacent High St	1	362
Murray	30	121	5	500	20	Y	State	LHCPA	Rendered, rounded top	Low side wall. Part road walls not accounted??	1	142
Murray	66	117	5	400	12	N	State	LHCPA	Iron work, curved on porch, large columns	Painted	3	137, 138
Murray	77	220	5	1800	6	N	-	LHCPA	Rendered	Rear side wall, adjoins building, adjacent High St	1	250
Murray	77	221	5	2000	30	N	-	LHCPA	Arched brick capping, brick ends	Rear wall, adjacent High St	1	251
Murray	78	120	2	1800	4	N	Contr	LHCPA	Extension of building, brick capping & end		1	141
Murray	93	118	2	1800	30	N	State	LHCPA	Large ornate column, ironwork fence	Incorporated in building property No 95	2	139
Murray	93	119	2	1800	0.8	N	State	LHCPA	Large ornate column, iron fence		4	140
Murray	103	226	1	4000	40	Y	Contr	LHCPA	Flat stone	Rear wall, adjacent High st exit	1	363
Murray	109	225	1	4000	40	Y	Local	LHCPA	Flat stone	Rear wall, adjacent High St	1	256
Murray	140	122	2	1800	6+	N	Contr	LHCPA		Rear side wall. Visible from Commercial Ln	1	143
Murray	152-4	123	2	2000	8	N	State	LHCPA		Rear side wall. Visible from Centenary Ln	1	144
Murray	170	125	2	800	16	N	Contr	LHCPA	Rough rendered, rounded capping, columns	Adjacent Main North Rd, painted.	3	147
Nineteenth	1	249	7	800	15	N	Contr	GSHCPA	Rendered, flat capping, columns, gate	Painted	3	281
Nineteenth	7	248	7	1000	15	N	Contr	GSHCPA	Rendered, arched brick capping, columns, gate	Painted	4	280
Nineteenth	7-9	247	7	1300	20	N	Contr	GSHCPA	Rounded top, rendered, end brick column	Side wall	2	279
Nineteenth	9	246	7	800/1500	20	N	Contr	GSHCPA	Base rendered, arched brick capping, columns, iron lattice upper		1	278

Street	Property No	Wall No	Field Map ID	Wall Height (mm)	Wall Length (metres)	Retaining Wall (Y or N)	Htg. Status	Hist. Cons. Zone/Area	Special Features	Additional Comments	Priority Ranking	Photo ID
Nixon Tce	1-13	45	2	1700	16	N	State	LHCPA	Rounded capping, rendered	recently repointed, in school yard	1	59
Panter	51,53?	156	4	1100	30	N	-	-	Rendered, rounded capping, brick columns, gate		3	180
Parnell	1-11	50	2	2000	4	N	State	LHCPA	Brick columns		1	65
Parnell	1-11	51	2	1500	40	N	State	LHCPA	Gate, rounded capping	Stepped uphill	1	66
Parnell	1-11	52	2	1500	60	Y in part	State	LHCPA		Side wall at rear of Church	1	67, 68
Parnell	1-11	53a	2	1500	40	Y in part	State	LHCPA	Base rendered	Stepped uphill, adjacent Sutton	1	69
Parnell	1-11	53b	2	2000	20	N	State	LHCPA		Blue stone, adjacent Sutton St	2	70
Parnell	1-11	53c	2	1500	20	N	State	LHCPA	Base rendered	Adjacent Sutton St	1	71
Parnell	1-11	54	2	2000	50	Y in part	State	LHCPA	Base rendered	Stepped uphill, adjacent Porter St	1	72
Patterson Tce	3	316	2	1500	10	N	Contr	LHCPA	Contrast rendered, rounded top, house section supports veranda, gate	Part painted, same wall as No 317 divided by house wall and gates	3	360
Patterson Tce	5	317	2	1500	10	N	Contr	LHCPA	Contrast rendered, rounded top, house section supports veranda, gate	Part painted, same wall as No 316 divided by house wall and gates	2	361
Paxton	Lot 50	157	4	700	20	N	Local	-	Brick rendered	New end brick column	1	181
Paxton	Lot 50	158	4	1200	40	N	Local	-	Brick rendered	New end brick column	1	182
Paxton	69	185	3	800	10	N	-	-	Gate, rendered base, wooden picket upper	Painted	3	209
Penrith	29-31	252	7	1400	15	N	State	GWA5	Ornate columns, rendered, feature section arched openings in wall, capped	Part base with veranda enclosure. Para Para gatehouse.	4	284
Porter	8	46	2	1800	10	Y in part	State	LHCPA	Brick quoins and capping	Rebuilt rear wall adjacent School RD	4	60
Porter	8	47a	2	12-1800	40	Y partly	State	LHCPA	rendered	Side wall of church adjacent School Rd	2	61
Porter	8	47b	2	1000	30	Y partly	State	LHCPA	Rendered	Church front wall	2	62
Porter	8	47c	2	12-2000	50	Y partly	State	LHCPA	Rendered, gateway and steps	Church side wall adjacent Parnell st	1	63, 64
Queen	1	137a	2	500-1800	20	Y in part	Contr	LHCPA		Adjoins wall No 137b, adjacent Jeringham St	1	161
Queen	10	62	2	1200	25	N	State	LHCPA	Gateway, rendered	Painted	3	78
Queen	14	57	2	1000	30	Y in part	State	LHCPA	Staggered block top feature, columns, rendered	Painted	2	73
Queen	15	61	2	1200	30	Y in part	State	LHCPA	Gateway, iron lace work upper, rendered lower and columns	Painted	2	77

Street	Property No	Wall No	Field Map ID	Wall Height (mm)	Wall Length (metres)	Retaining Wall (Y or N)	Htg. Status	Hist. Cons. Zone/Area	Special Features	Additional Comments	Priority Ranking	Photo ID
Railway Tce	11	255	7	1200	30	N	State	GSHCPA	Rendered base, angled brick capping, brick columns, inset gateway, iron lattice		2	288, 289
Redbanks Rd	14	164	4	1200	25	N	-	-	Rendered, gate, angled capped		1	188
Redbanks Rd	25	173	3	1500	12	Y in part	Contr	WRHCPA	Rough rendered, columns, rounded capping, linear brick inlay	Painted	2	197
Redbanks Rd	27	172	3	1600	15	Y base	Contr	WRHCPA	Brick upper with columns, base rendered	Old?	2	196
Redbanks Rd	33	171	3	1400	15	Y in part	Contr	WRHCPA	Brick columns, linear brick inlays rounded capping, gate		4	195
Redbanks Rd	37	170	3	1200	15	Y in part	Contr	WRHCPA	Brick columns & arched capping, linear brick inlay, gate, rendered	Painted	1	194
Redbanks Rd	39	169	3	500	12	Y	Contr	WRHCPA	Brick rendered, step insert		1	193
Redbanks Rd	41	168	3	1200	20	Y partly	Contr	WRHCPA	Gate, brick columns & rounded brick capping		2	192
Redbanks Rd	47	167	3	600	12	Y	Contr	WRHCPA	Rendered	Painted	1	191
Redbanks Rd	51	166	3	600	12	Y partly	Contr	WRHCPA	Stone base, brick & hedge upper	Base only	1	190
Redbanks Rd	55	165	3	600	10	Y partly	Contr	WRHCPA	Rendered, column & iron picket on stone base	Base only Painted	2	189
Reid	4	97	2	1100	20	N	Local	LHCPA		New brick wall replaced old, adjacent Jacob St	4	114
Schiebener Tce	1	109a	5	2000	10	N	State	LHCPA	Rendered, step down, rounded brick capping	Rear wall, adjacent Tod St, end part of wall No 109b	1	129
Second	1	213	6	800/1600	18	N	Contr	GSHCPA	Angled brick capping, columns, contrast rendered, iron lattice upper, inset gate	Painted	1/4	222, 223
Second	8	286	7	1100	10	N	Contr	GSHCPA	Rounded top, brick columns, rendered	Painted	3	321
Second	13	287	7	1200	12	N	Contr	GSHCPA	block stone, rendered angled capping & columns		1	320
Second	19	285	7	1100	20	N	Contr	GSHCPA	Angled capping, columns, gate, rough rendered	Painted	3	319
Second	26	284	7	1600	20	N	Contr	GSHCPA	Brick columns, gates, rendered, columns & curved capping	Painted	3	318
Seventh	1	300	6	1100	30	N	Contr	GSHCPA	Curved corner, as wall No 299	Same wall as No 299, part painted		
Seventh	3	299	6	1000	30	N	Contr	GSHCPA	Brick inlay & arch capping, columns, patch render. Section upright spaced	In sections, same wall as No 300.	1	338, 339

Street	Property No	Wall No	Field Map ID	Wall Height (mm)	Wall Length (metres)	Retaining Wall (Y or N)	Htg. Status	Hist. Cons. Zone/Area	Special Features	Additional Comments	Priority Ranking	Photo ID
									bricks			
Seventh	22	298	6	1000/1700	20	N	Contr	GSHCPA	Rendered, arched brick capping, columns, part iron lattice upper, gates	Two sections, painted	3	337
Seventh	22/24	297	6	1700	20+	N	Contr	GSHCPA	End brick column	Side wall	1	336
Seventh	26/28	296	6	1700	20+	N	-	GSHCPA		Side wall	1	335
Seventh	32	295	6	800/1500	14	N	Local	GSHCPA	Rendered, round top, mid section lower with columns, gate and brick capping	Two sections and nibs	1	334
Sixteenth	3	24	6	600-2000	18	Y	Contr	GSHCPA			1	36
Sixteenth	6	266	6	1600	16	N	State	GSHCPA	Arched brick capping, end column	Side wall, driveway entrance, adjacent 15th St	1	302
Sixteenth	6	267	6	1600	46	N	State	GSHCPA	Arched brick capping, end columns, end section rendered	Side wall returns up driveway entrance, adjacent 15th St, abuts building	1	303, 304
Sixteenth	6	268	6	1600	6	N	State	GSHCPA	Brick capped, rendered, dips to lower height	Front side wall on corner of 15th St, adjoins building	3	305
Sixteenth	6	269	6	1200	50	N	State	GSHCPA	Columns, rendered, angled cap, iron lattice upper	Painted	1	305
Sunnydale Ave	2-6	260	10	1200	20	N	State	GEA1	Jagged rock topping	Front wall	1	294, 295
Tenth	11	232	6	1200	5	N	Contr	GSHCPA	Rendered	Side wall	1	263
Tenth	13	231	6	1000	18	N	Contr	GSHCPA	Contrast rendered, rounded top, columns at gate	Painted	1	262
Thirteenth	2-4	242	7	1000	15	N	Contr	GSHCPA	Rounded top, part rendered	Side wall	1	274
Thirteenth	4-4a	243	7	1500/2000	3	N	Contr	GSHCPA	Rendered, stepped height	Dividing wall	2	275
Thirteenth	4a-6	244	7	1400	12	N	Contr	GSHCPA	Rounded top, rendered, end brick column	Side wall	2	275
Thirteenth	15-13	236a	6	1600	10	N	Contr	GSHCPA	Capped	Side wall, visual from Glenelg Ln	1	267
Thirteenth	13?	236b	6	1800	30	N	Contr	GSHCPA		Rear wall, adjacent Glenelg Ln	1	268
Thirteenth	14	35	6	1400	11	N	Contr	GSHCPA	Rendered, rounded capping, columns, gateway	Painted	3	47
Thirteenth	15	34a	6	1800	14	N	Contr	GSHCPA	Gateway, brick columns, rounded capping	Painted	2	46
Thirteenth	15	34b	6	1800	20	N	Contr	GSHCPA	Gateway, rounded rendered capping	Forms part of shed	1	266
Thirteenth	16	36	6	1100	18	N	Contr	GSHCPA	Gateway, stone and brickwork features		1	49
Thirteenth	17	33a	6	1800	13	Y in part	Contr	GSHCPA	Rendered, rounded brick capping	Painted, adjacent Sixteenth St	2	45
Thirteenth	17	33b	6	1800	5	N	Contr	GSHCPA	Rendered capping	At rear, adjacent Glenelg Lane	1	264
Thirteenth	17	33c	6	2-3000	10+	N	Contr	GSHCPA		Inside wall	1	265

Street	Property No	Wall No	Field Map ID	Wall Height (mm)	Wall Length (metres)	Retaining Wall (Y or N)	Htg. Status	Hist. Cons. Zone/Area	Special Features	Additional Comments	Priority Ranking	Photo ID
Thirteenth	18	37	6	1800	18	Y in part	Contr	GSHCPA	Gateway, rounded capping, columns, rendered		1	50
Thirteenth	19	32	6	1300	32	N	Contr	GSHCPA	Gateway, arched brick capping, brick columns	Painted	1	44
Thirteenth	20	38	6	600, 1800	20	N	Contr	GSHCPA	Central feature, columns, gateway, chain mesh and rail upper	End sections full height stone, capped, painted	2	51, 52
Thirteenth	21	31	6	1800	22	N	Contr	GSHCPA	Mix of styles, gateway, ironwork	Centre wall features solid lower, ironwork upper. Painted	1	43
Thirteenth	22	39	6	1200	30	Y in part	Contr	GSHCPA		overgrown with ivy	1	53
Tod	10	109b	5	1200	10	N	Local	LHCPA	Rendered, rounded brick capping	Part of wall No 109a	1	130
Tod	Lot 10	111	5	1200	40	N	State	LHCPA	Rounded top, end column	Uniting Church side wall	1	131
Tod	10	112	5	1100	60	N	Local	LHCPA	Arched brick capping, brick ends	Extends around corner adjacent Scheibener Tce	1	132,133
Twelfth	24-26	246	6	1800	2	N	Contr	GSHCPA	Rendered	Adjoins barn, rear wall, adjacent Station Ln	1	277
Twelfth	17	237	6	1800	15	N	Contr	GSHCPA	Rounded capping	Side wall, adjacent Glenelg Ln	1	269
Twelfth	32	238	6	1200	15	N	Contr	GSHCPA	Iron lattice upper, stone base, columns, gate, rendered	Part side wall all solid	1	270
Twelfth	32	239	6	1200	25	N	Contr	GSHCPA	Rendered	Part sidewall	1	271
Twentieth	6	250	7	1000	12	N	Contr	GSHCPA	Rendered, arched capping, columns, gate	Painted	3	282
Twentyfirst	6	251	7	1400	12	N	Contr	GSHCPA	Rounded top, rough rendered		4	283
Union	2	151a	1	1400	15	N	-	HCZ	Patch rendered		1	175
Union	2	151b	1	12-1400	10	N	-	HCZ	Stepped, rendered, adjoins shed wall	Side wall. Wall beyond shed?	1	176



1



2



3



4



5



6



7



8



9



10



11



12



13



14



15



16



17



18



19



20



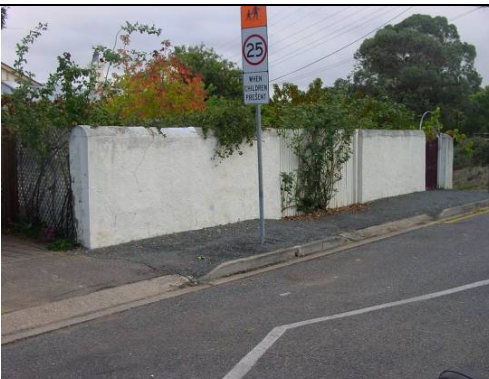
21



22



23



24



25



26



27



28



29



30



31



32



33



34



35



36



37



38



39



40



41



42



43



44



45



46



47



49



50



51



52



53



54



55



56



57



58



59



60



61



62



63



64



65



66



67



68



69



70



71



72



73



74



75



76



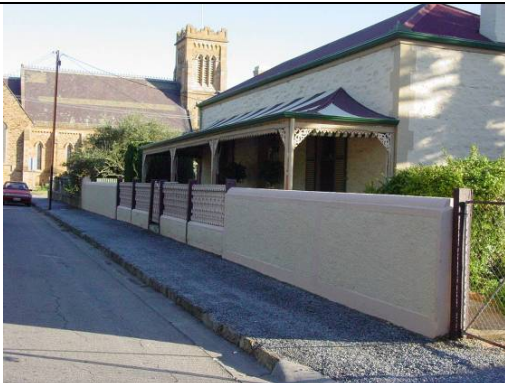
77



78



79



80



81



82



83



84



85



86



87



88



89



90



91



92



93



94



95



96



97



98



99



100



101



102



103



104



105



106



107



108



109



110



111



112



113



114



115



116



117



118



119



120



121



122



123



124



125



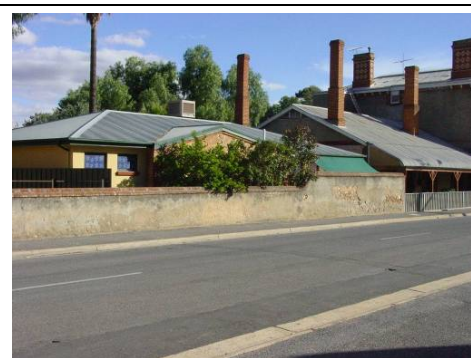
126



127



128



129



130



131



132



133



134



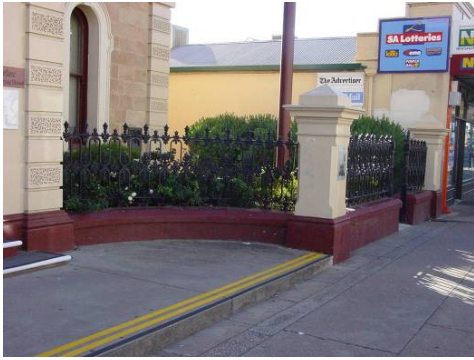
135



136



137



138



139



140



141



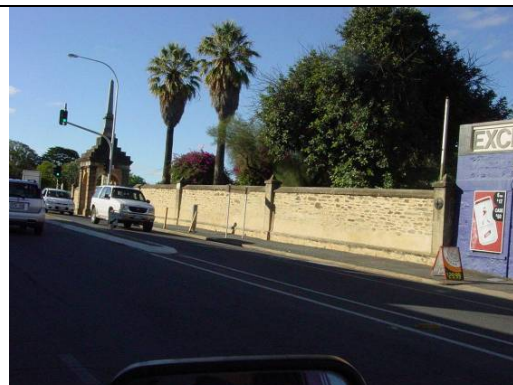
142



143



144



146



147



148



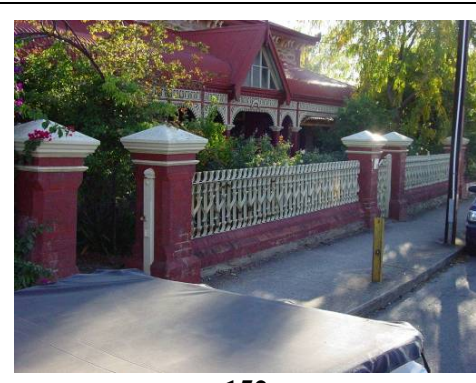
149



150



151



152



153



154



155



156



157



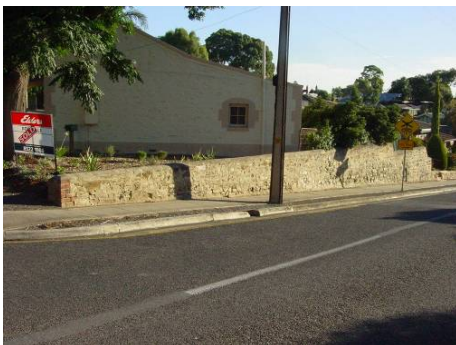
158



159



160



161



162



163



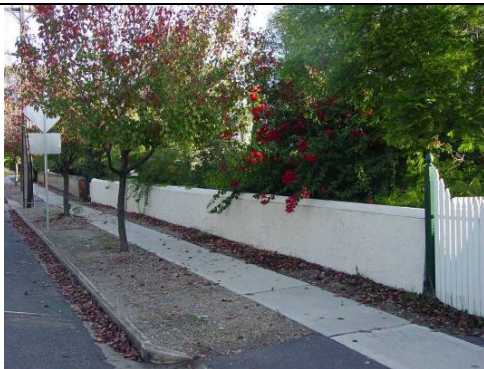
164



165



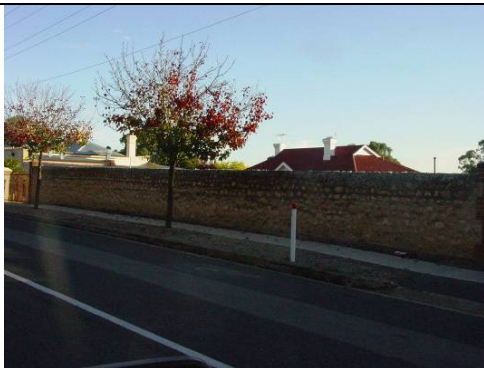
166



167



168



169



170



171



172



173



174



175



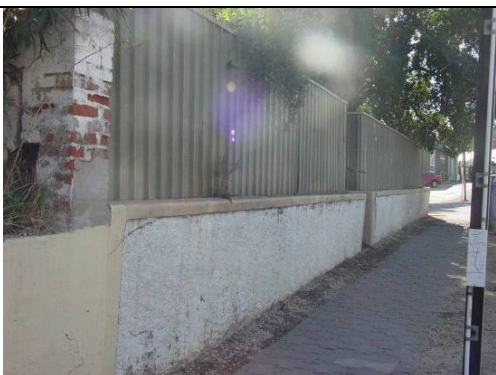
176



177



178



179



180



181



182



183



184



185



186



187



188



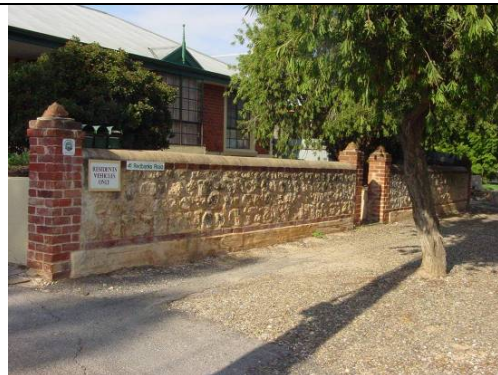
189



190



191



192



193



194



195



196



197



198



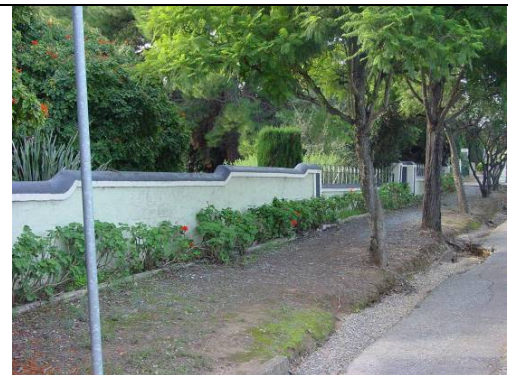
199



200



201



202



203



204



205



206



207



208



209



210



211



212



213



214



215



216



217



218



219



220



221



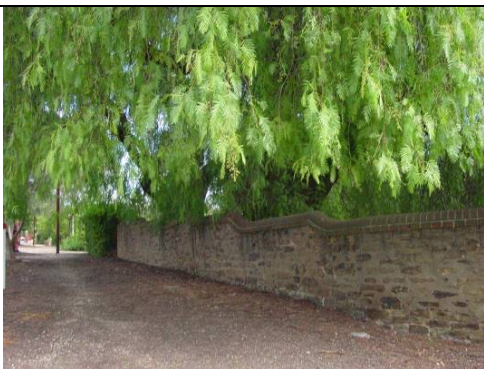
222



223



224



225



226



227



228



229



230



231



232



233



234



235



236



237



238



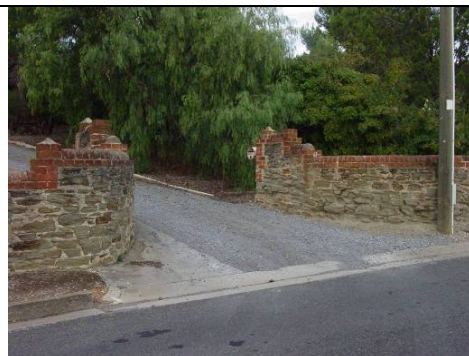
239



240



241



242



243



244



245



246



247



248



250



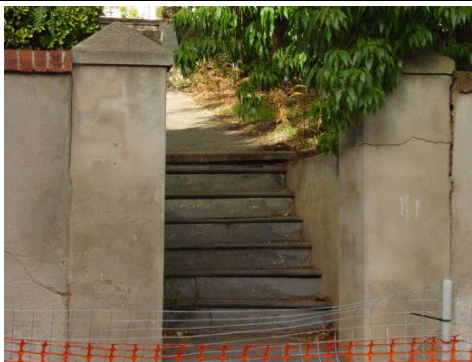
251



252



253



254



255



256



257



258



259



260



261



262



263



264



265



266



267



268



269



270



271



272



273



274



275



276



277



278



279



280



281



282



283



284



285



286



287



288



289



290



291



292



293



294



295



296



297



298



299



300



301



302



303



304



305



306



307



308



309



310



311



312



313



314



315



316



317



318



319



320



321



322



323



324



325



326



327



328



329



330



331



332



333



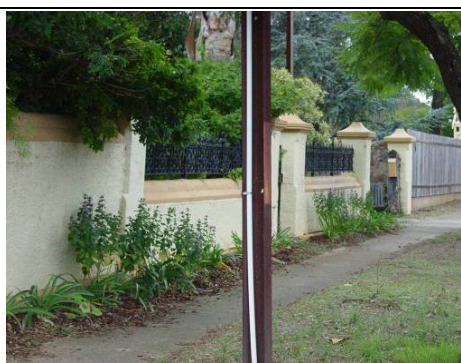
334



335



336



337



338



339



340



341



342



343



344



345



346



347



348



349



350



351



352



353



354



355



356



357



358



359



360

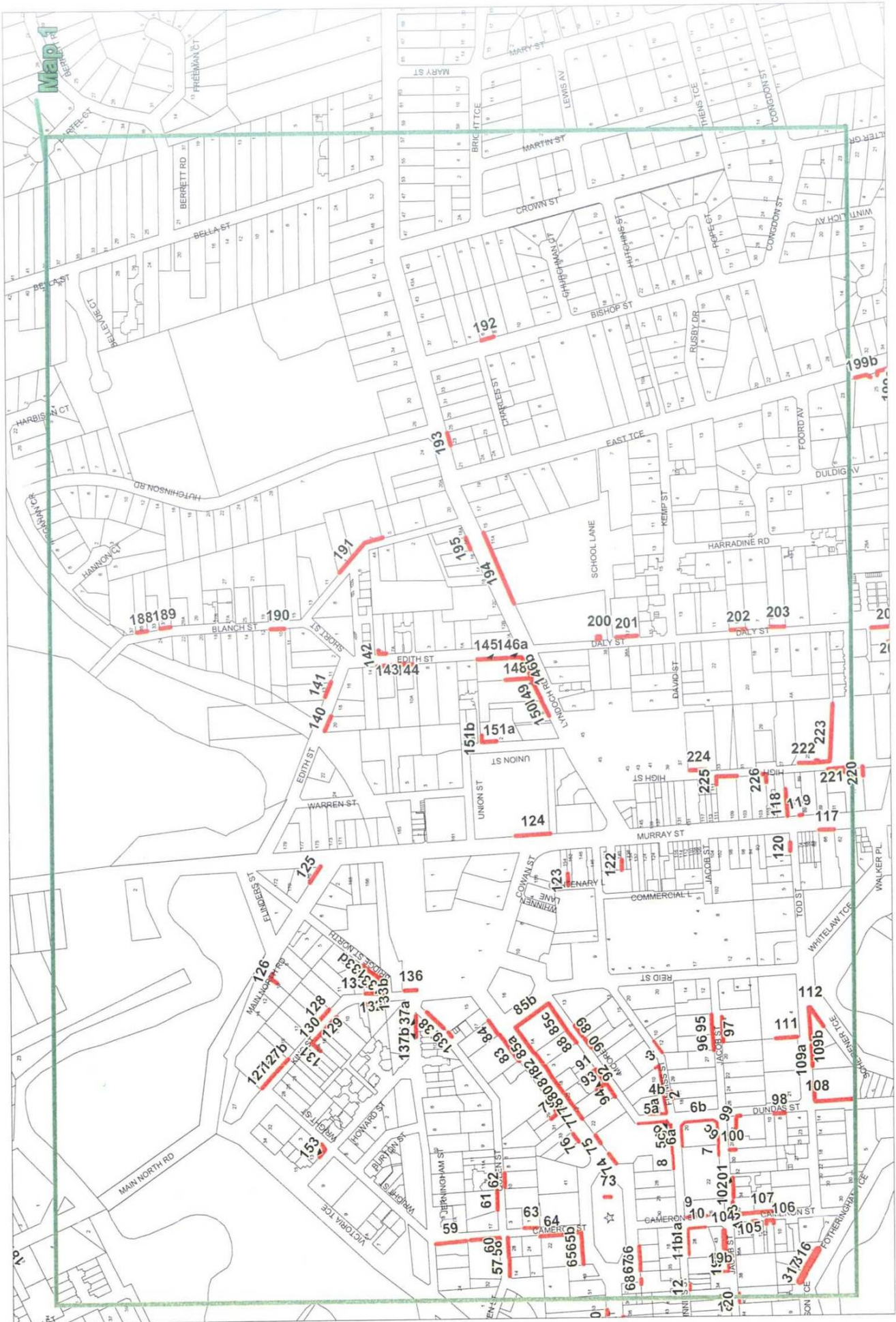


361



362

















Map 7



Map 8

Map 9





APPENDIX FOUR: GLOSSARY OF TERMS USED IN REPORT

The following short glossary explains words used in within this document. It is not a full glossary relating to stone conservation.

Biocide Treatment	A cleaning process which prevents further organic growth on the face of stone or brick.
Cant bricks	Bricks with a bevelled edge, often used at the top of a wall
Cement pointing	Pointing/mortar joints of stone or brick undertaken in cement
Cementitious paint	A paint which is not lead or acrylic based, but comprises a very fine wash of pigments and cement
Damp Proof Course (DPC)	A barrier usually inserted at the base of a wall to prevent water rising up a wall. A DPC can be undertaken in viscourse or fortecon (often black plastic sheeting) or as an additive to the mortar used as the base of the wall.
Lime mortar	Mortar without the addition of cement, which comprises a mix of sand and slaked lime. Weak lime mortar can also be achieved using 9 parts sand : 3 parts lime : ½ part cement.
Plinth	The projecting base of a wall.
Plastic repairs	A method of stone repair (see page 39).
Poultice	Also a word used for sacrificial render - used to draw out salts from the stone.
Sacrificial mortar or render	An applied render used to draw the salts out of the wall, and then the render falls to the ground.