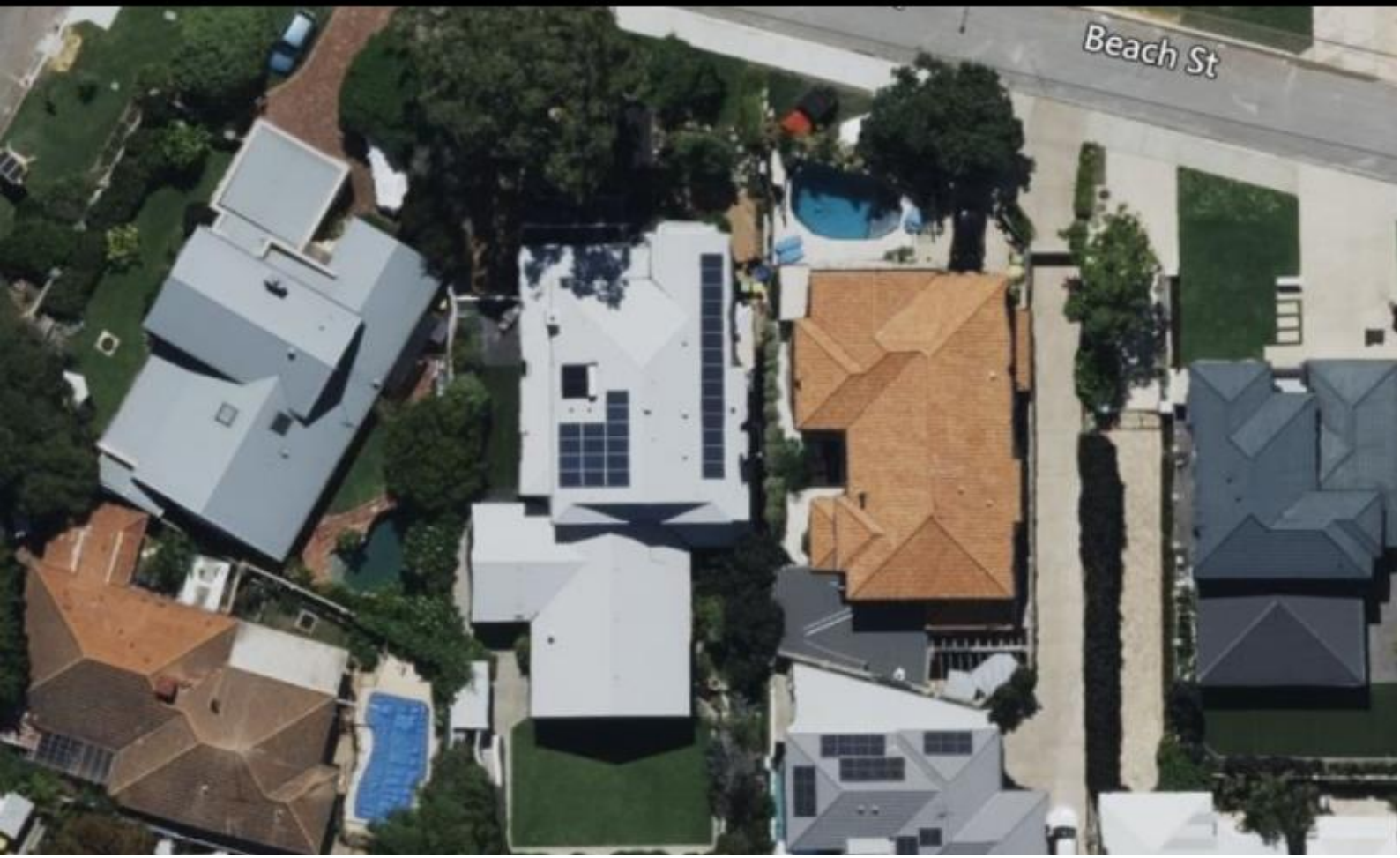


# TESG

BUILDING SURVEYORS  
ESSENTIAL SAFETY MEASURES COMPLIANCE  
FIRE SAFETY ENGINEERS

**14 BEACH STREET, BICTON  
BUILDING CODE COMPLIANCE REPORT**



## Executive summary

TESG Building Surveyors Pty Ltd has been engaged by the City of Melville to carry out the following in accordance with the following resolution made at the Ordinary Meeting of the Council on the 16 August 2022:

- Inspect the boundary structure footings and associated retaining at 14 Beach Street, Bicton; and
- Provide a (written) report.

The City's objective for the inspection is to:

- Identify any issues or non-conformances relating to the footings and retaining when compared to Building Approval Certificate (BA14) BA-2017-466; and
- Identify any additional issues that become apparent during the inspection.

The City seeks to:

- Gain an understanding of the current condition of the entirety of the foundation and retaining along the boundary of 14 Beach Street, Bicton;
- Have an independent entity either confirm the foundation and retaining as built and current condition aligns with the drawings supplied with BA-2017-466 or advise otherwise; and
- Be informed as to a path forward should rectification of the foundation, retaining and any other issues be required.

A site inspection of the retaining wall at 14 Beach Street, Bicton, was carried out at 3pm on the 9 December 2022. The inspection was carried out from 12 Beach Street.

Following my assessment, I conclude the following:

1. Building licence BA-2002-2166 is the relevant building approval for the limestone retaining wall.
2. The limestone retaining wall located adjacent to the side allotment boundary with 12 Beach Street is not in compliance with the approved structural limestone retaining wall details and notes shown on drawing S4 as follows:
  - a. The limestone blocks are no longer fully bedded and grouted, contrary to Note 5.
  - b. A timber deck has been constructed up to and on top of the retaining wall, contrary to Note 7 which states no structure is to be built closer than the height of wall + base, away from the face of the wall.

Item (ii) has subsequently been addressed by the Building Approval Certificate (BA 2017-466) issued on the 27 March 2017 where the same structural engineer (Terpkos) has certified the timber deck forming part of the screen wall.

3. The limestone retaining wall appears to be exposed to moisture, resulting in the fretting of the mortar and the disintegration of the limestone blocks. Note 10 on the structural drawings states builder to provide drainage and waterproofing as required to rear. Either the drainage or waterproofing provided is not working adequately, or no drainage or waterproofing has been provided.
4. The only structural certification provided by Terpkos civil & structural consulting that relates to the mass limestone retaining wall and screen wall is in the letter dated 14 December 2015.
5. There is no structural certification that specifically addresses the structural adequacy of the limestone retaining wall located adjacent to the side allotment boundary with 12 Beach Street.
6. The constructed screen wall appears to be in compliance with Building Approval Certificate BA 2017-466.
7. Section 88(3) of the Building Act cannot be used to address the aesthetics of the limestone retaining wall as the building licence for the limestone retaining wall was issued prior to the commencement date of the Building Act.
8. The limestone retaining wall and screen wall did not display any visual signs of imminent danger of collapse at the time of my site inspection. A building order can only be issued if a building or incidental structure is reasonably believed to be in a dangerous state.
9. Whilst the current state of the limestone retaining wall is not in compliance with the approved structural plans, there appears to be no means for the City of Melville to issue a building order to bring the limestone retaining wall into compliance with the approved structural plans.


I make the following recommendations:

1. The limestone retaining wall located adjacent to the side allotment boundary with 12 Beach Street should be inspected by a structural engineer to determine the structural adequacy of the retaining wall to determine:
  - a. compliance with the approved structural drawings, in particular compliance with Notes 5, 7 and 10; and
  - b. whether the limestone retaining wall and screen wall can reasonably be believed to be dangerous.
2. Subject to the outcome under (1)(b) above, consider issuing a building order under Section 112(2)(g) of the Building Act 2011 if the structural engineer considers the limestone retaining wall or screen wall to be dangerous.

## Table of contents

	<b>Executive summary</b>	<b>2</b>
<b>1.0</b>	<b>Background</b>	<b>6</b>
1.1	Scope	6
1.2	Documents assessed	6
1.3	Site inspection	7
<b>2.0</b>	<b>Assessment</b>	<b>9</b>
2.1	Documentation provided	9
	2.1.1 Building licence BA-2002-2166-XBDR	9
	2.1.2 Building licence BA-2005-606	10
	2.1.3 Building approval certificate BA 2017-466	10
	2.1.4 Building permit BA-2017-2149	11
	2.1.5 Building approval certificate BA 2021-1465	12
	2.1.6 Building permit BA 2021-1499	14
2.2	Existing retaining wall	15
2.3	Building approval certificate BA 2017-466	29
<b>3.0</b>	<b>Legislation</b>	<b>32</b>
3.1	Section 88 Finishes of walls close to boundaries	32
3.2	Section 112 Content of building order	33
<b>4.0</b>	<b>Conclusion and recommendations</b>	<b>34</b>
4.1	Conclusion	34
4.2	Recommendations	35

Project details	
Our ref:	2022-4510
Document:	BCA Compliance Report
Project:	14 Beach Street, Bicton
Client:	City of Melville
Designer:	N/A
Builder:	N/A

Document control		
Prepared by:	<b>Helmut Schwanke</b> Building Surveyor B Building Surveying CQU ASFPE, MSFS, MAPAA, MAIBS	
Position:	Director	
Signed:		
Revision number:	Description of revision:	Date:
0	Report issued to the City of Melville	15 February 2023
1	Report revised to provide additional information	10 March 2023

**Copyright©**

This report is the intellectual property of TESG Building Surveyors Pty Ltd and has been prepared for the purpose of providing compliance advice to the listed client. This report may not be copied or used in part or in full without the express permission of TESG Building Surveyors Pty Ltd.

## **1.0 Background**

### **1.1 Scope**

TESG Building Surveyors Pty Ltd has been engaged by the City of Melville to carry out the following in accordance with the following resolution made at the Ordinary Meeting of the Council on the 16 August 2022:

- Inspect the boundary structure footings and associated retaining at 14 Beach Street, Bicton; and
- Provide a (written) report.

The City's objective for the inspection is to:

- Identify any issues or non-conformances relating to the footings and retaining when compared to Building Approval Certificate (BA14) BA-2017-466; and
- Identify any additional issues that become apparent during the inspection.

The City seeks to:

- Gain an understanding of the current condition of the entirety of the foundation and retaining along the boundary of 14 Beach Street, Bicton;
- Have an independent entity either confirm the foundation and retaining as built and current condition aligns with the drawings supplied with BA-2017-466 or advise otherwise; and
- Be informed as to a path forward should rectification of the foundation, retaining and any other issues be required.

I confirm:

- I am an independent registered building surveyor, being registered as a building surveyor/building certifier in WA, NSW & Qld; and
- I have had no prior knowledge or involvement with 14 Beach Street, Bicton.

### **1.2 Documents assessed**

The following documents have been assessed to compile this report:

1. Building Licence BA-2002-2166-XBDR, dates 25 January 2003, for the construction of two storey front grouped dwelling (Documentation consisted of the building licence with conditions, structural drawings, house plans, planning approval with conditions, and specifications).
2. Building Licence BA-2005-606, dated 20 June 2005, for the construction of retaining wall and front fence (Documentation consisted of the building licence with conditions, and various drawings).
3. BA13 Application for building approval certificate (BA 2017-466), submitted by [REDACTED] [REDACTED] dated 23 March 2017, for unauthorised work related to a pool timber deck and

swimming pool barrier (Documentation consisted of the BA13 and various correspondence from Terpkos civil & structural consultants).

4. BA3 Certificate of design compliance (BA 2017-466), issued by the City of Melville, dated 19 March 2018, for swimming pool isolation barrier fencing (Documentation considered of the BA3, preliminary landscape drawings, photos, and a certificate of design compliance from Terpkos civil & structural consultants).
5. BA4 Building approval certificate (BA 2017-466), issued by the City of Melville, dated 10 July 2017, for swimming pool isolation barrier fencing (Documentation consisted of the building permit with conditions).
6. BA3 Certificate of design compliance (BA 2017-2149), issued by the City of Melville, dated 19 March 2018, for swimming pool isolation barrier fencing (Documentation consisted of BA3, drawings and structural design certification from Terpkos civil & structural consultants).
7. BA4 Building permit (BA 2017-2149), issued by the City of Melville, dated 19 March 2018, for swimming pool isolation barrier fencing (Documentation consisted of BA4 with conditions, approval letter, drawings and structural design certification from Terpkos civil & structural consultants).
8. BA18 Certificate of building compliance (BA 2021-1465), issued by issued by IDS Consultants Pty Ltd (t/a Ian Lush & Associates), dated 15 July 2021, for unauthorised work for an existing pool deck (Documentation consisted of the BA18 and post construction certification from Terpkos civil & structural consultants).
9. BA1 Application for building permit (BA 2021-1465) – certified, submitted by [REDACTED] dated 21 July 2021, for a pool isolation fence.
10. BA14 Building approval certificate (BA 2021-1465) issued by the City of Melville, dated 11 August 2021), for BCA Class 10b – Residential – Building Approval Certificate – Pool deck and safety barrier/fence supports (Documentation consisted of BA14 and approval letter).
11. BA3 Certificate of design compliance (BA 2021-1499), issued by IDS Consultants Pty Ltd (t/a Ian Lush & Associates), dated 21 July 2021, for the location of spa and safety barrier to existing residence (Documentation consisted of the BA3 and a site plan).
12. BA4 Building permit (BA 2021-1499), issued by the City of Melville, dated 3 August 2021, for the location of spa & safety barrier to existing residence (Documentation consisted of BA4 with conditions).

### 1.3 Site inspection



A site inspection of the retaining wall at 14 Beach Street, Bicton, was carried out at 3pm on the 9 December 2022. The inspection was carried out from 12 Beach Street. The two photos above show the location of the subject retaining wall, and screen wall, located adjacent to the property boundary between 12 Beach Street, and 14 Beach Street, Bicton.

## 2.0 Assessment

### 2.1 Documentation provided

Table 1 summarises the building approvals issued by the City of Melville:

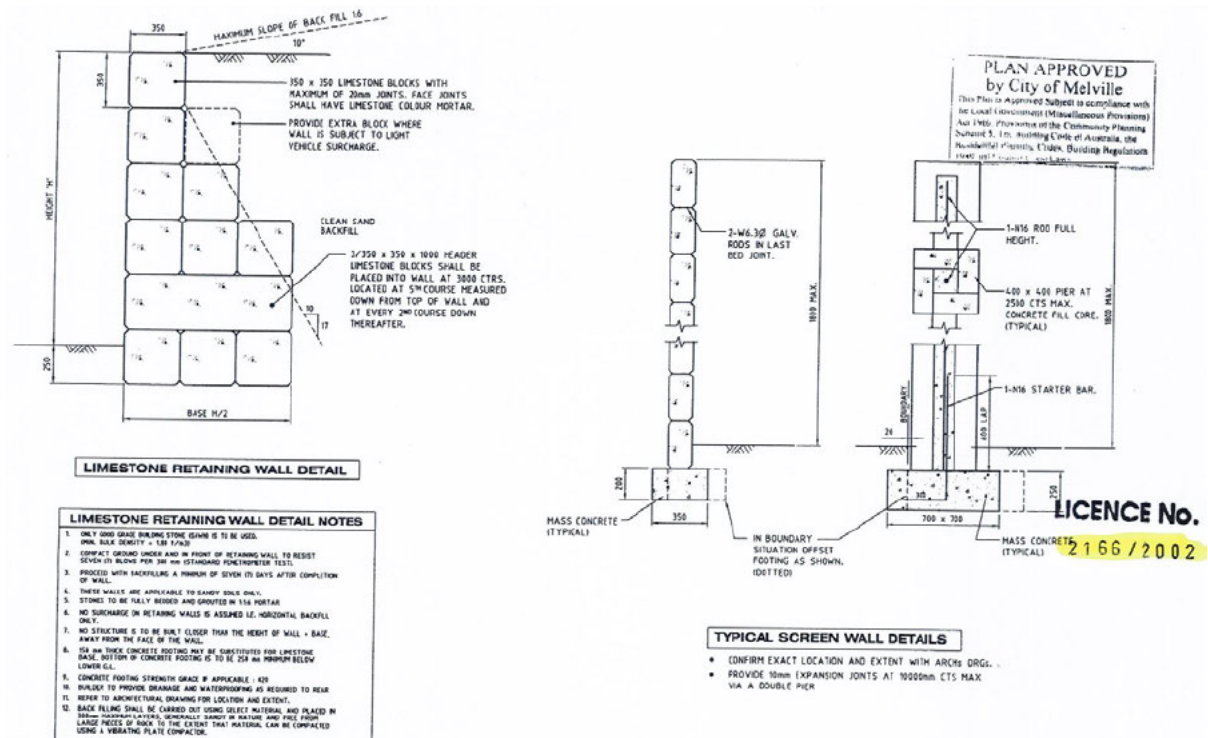
Approval document	Date issued	Issued for
Building licence BA 2002-2166	25 January 2003	Two storey front grouped dwelling
Building licence BA 2005-606	20 June 2005	Retaining wall and front fence
Building approval certificate BA 2017-466	10 July 2017	Deck and swimming pool isolation barrier fencing
Building permit BA 2017-2149	19 March 2018	Swimming pool isolation barrier fencing
Building approval certificate BA 2021-1465	11 August 2021	Pool deck and safety barrier/fence supports only
Building permit BA 2021-1499	3 August 2021	Location of spa & safety barrier to existing residence

Table 1 – Summary of building approvals issued by the City of Melville

#### 2.1.1 Building licence BA-2002-2166

Building licence BA-2002-2166 was issued by the City of Melville on the 25 January 2003 for the construction of a two-storey front grouped dwelling.

Structural drawing S4 shows a limestone retaining wall detail and a typical screen wall detail. The details are shown below. This drawing is stamped approved.



Drawing SK0 is of the site plan which shows the location of the house in relation to the allotment boundaries. This drawing is stamped approved.

Drawing SK1a is of the ground floor plan. The plan also shows the location of an 1800 high limestone wall to the side and front allotment boundaries. This drawing is not stamped approved.

There is a further site plan that has no title block. The drawing is date stamped the 29 January 2003. The drawing is stamped approved. The reference to an 1800 high limestone wall to the boundary is still shown; however, there is a notation that states front fence and swimming pool subject to separate application.

The building licence was issued subject to conditions. Condition 3(c) relates to retaining walls. The condition states *"Retaining walls shall be built in locations where cut and/or fill extend to the site boundaries. (Retaining walls to be built at site works stage) Walls over 600mm in height must be designed and endorsed by a structural engineer and have council approval"*.

Condition 14 states *"Every part of a building must be constructed in a proper workman like manner to achieve the required level of performance using materials that are not faulty or unsuitable for the purpose of which they are intended"*.

#### 2.1.2 Building licence BA-2005-606

Building licence BA-2005-606 was issued by the City of Melville on the 20 June 2005 for the construction of a retaining wall and front fence.

The amended (site) plan still shows an 1800 high limestone wall to the side allotment boundary, and a proposed limestone fence 1.8m high from paving level along part of the front allotment boundary. The notation of 'proposed swimming pool' is crossed out and the word 'Delete' written in red.

A notation in red states *"The masonry dividing wall and masonry front fence are not permitted to encroach into the adjoining properties or the road reserve"*.

#### 2.1.3 Building approval certificate BA 2017-466

An application for a building approval certificate (BA13) was submitted by [REDACTED] on the 23 March 2017 for unauthorised work consisting of pool timber deck and swimming pool barrier. The estimated value of the work including GST was given as \$15,000. The application was accompanied by several letters from Terpkos civil & structural consultants, and several drawings and a site plan.

The Terpkos correspondence is summarised in Table 2 below:

Correspondence	Title of correspondence	Summary of content
16 February 2016	Western steel framed privacy screen, structural inspection	The letter refers to the construction of a metal framed privacy screen. Additional stiffening required to a section of the privacy screen. The letter contains no reference to a retaining wall.

8 April 2016	Western steel framed privacy screen, structural inspection	The letter confirms 2 further site inspections were carried out and the required stiffening has been provided.
21 March 2017	Timber deck assessment – Post construction	The letter confirms inspection of the timber deck at the front of the property was carried out. Letter indicates existing decking and supports are structurally suitable for typical residential loading. The letter contains no reference to a retaining wall.
21 March 2017	Western steel framed privacy screen, structural inspection	Letter clarifies initial inspection and certificate of the screen fence included a review of the complete structure including the base connection and lateral support. The letter confirms the screen fence, the base connection and lateral support from other structures is satisfactory for the typical screen fence loadings. The letter contains no reference to a retaining wall.

**Table 2 – summary of Terpkos correspondence**

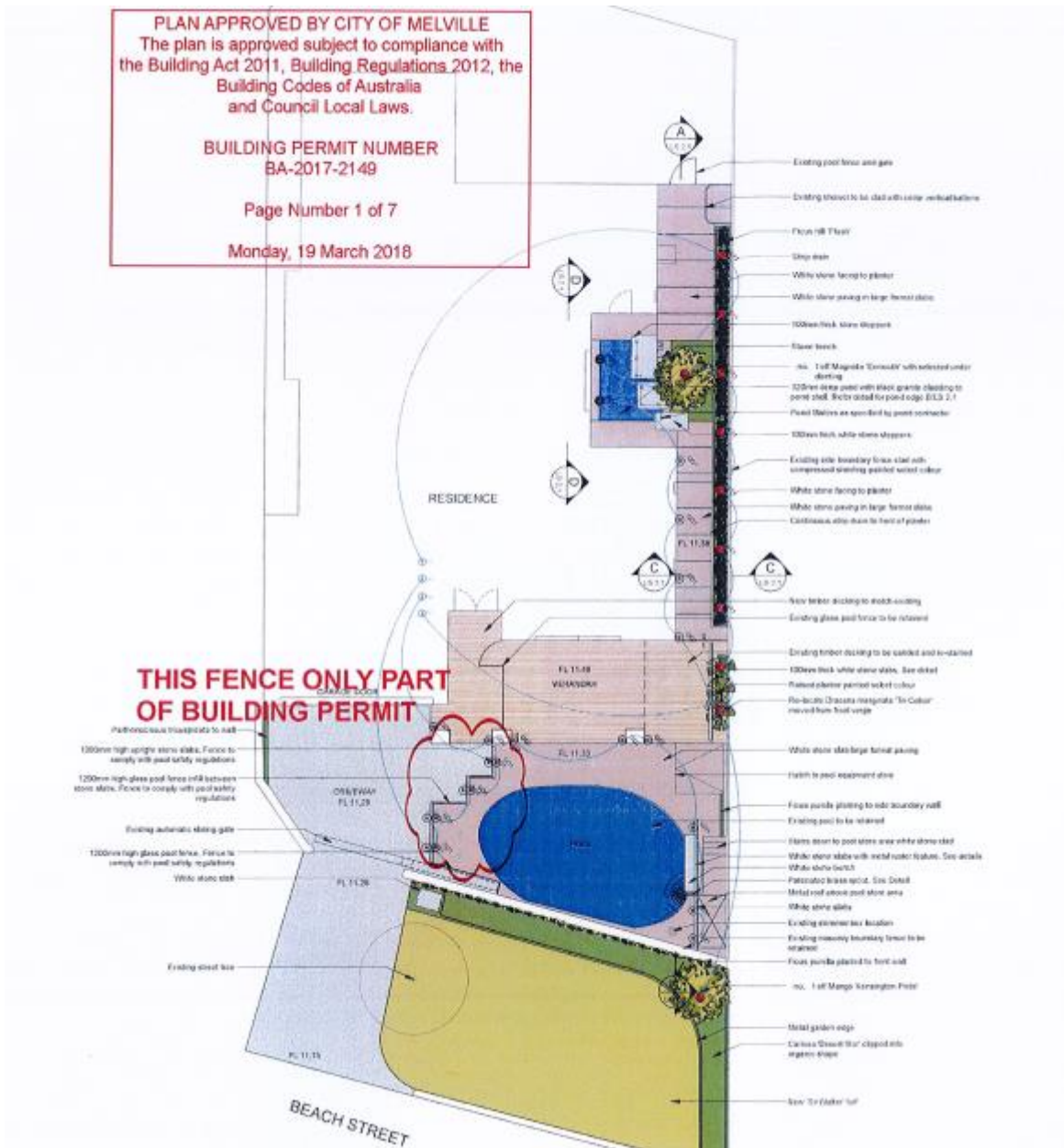
The City of Melville issued a Certificate of Building Compliance on the **27 March 2017** referencing drawings and documents stamped 'Plan Approved By City of Melville', Building Approval Certificate Number BA 2017-466, Page numbers 1 to 20 dated 27 March 2017, and inspections conducted by Paul Terpkos on the 15 and 16 February 2016 and the 21 March 2017.

The City of Melville issued Building approval certificate BA 2017-466 on the **10 July 2017** for the deck and swimming pool isolation barrier fencing with no conditions.

Further discussion on this building approval certificate is provided in Section 2.3.

#### **2.1.4 Building permit BA-2017-2149**

Building permit BA-2017-2149 was issued by the City of Melville on the **19 March 2018** for the construction of a swimming pool isolation barrier fencing. The building permit is accompanied by a certificate of design compliance issued by the City of Melville dated the **19 March 2018** with a reference number of BA-2017-2149. The CDC is for a swimming pool isolation barrier fencing.



The CDC only applies to the part of the fence highlighted on the landscape concept plan (LS1.2 Rev1) shown above.

This building permit has no relevance to the issue at hand.

### 2.1.5 Building approval certificate BA 2021-1465

A certificate of building compliance was issued by IDS Consultants Pty Ltd (t/a Ian Lush & Associates) dated **15 July 2021** for unauthorised works related to pool deck and safety barrier/fence supports only. The CBC lists the following technical documents:

1. Terpkos Engineering Certificate of Design Compliance Sandstone Pool Barrier dated 6 March 2018.

2. Terpkos Engineering Western Steel Framed Privacy Screen Structural Inspection 21 March 17 (2017).

The CBC is stamped 'Plan Approved by City of Melville' and lists a building approval certificate number BA-2021-1465 as shown below.

**CERTIFICATE** **FORM BA18**

**Certificate of building compliance**

PLAN APPROVED BY CITY OF MELVILLE  
The plan is approved subject to compliance with  
the Building Act 2011, Building Regulations 2012, the  
Building Codes of Australia  
and Council Local Laws.

Building Act 2011, section 57  
Building Regulations 2012, Building Codes of Australia

PERMIT AUTHORITY  
USE ONLY

BUILDING SURVEYING  
USE ONLY

Reference number

Reference number  
**3723**

**BUILDING APPROVAL CERTIFICATE NUMBER**  
**BA-2021-1465**

**1. Property this certificate relates to**

Page Number 1 of 19

Property street address (provide lot number where street number is not known)

Unit no	Street no	Level	Lot no
	14		-
Street name		Street type	Street suffix
Beach		Street	
Suburb		State	Postcode
Bicton		WA	6157

Wednesday, 11 August 2021

The documentation provided also contains the following correspondence from Terpkos summarised in Table 3 below. The letters highlighted in grey have been provided previously:

Correspondence	Title of correspondence	Summary of content
29 June 2021	Steel framed stone paved pool deck area, structural review – Post construction certification	The letter relates to galvanised steel channel framing to support stone paving to pool deck area. The letter contains no reference to a retaining wall.
6 March 2018	Certificate of design compliance sandstone pool barrier	The letter relates to the sandstone pool barrier and provides design compliance certification. The letter contains no reference to a retaining wall.
14 December 2015	Mass limestone retaining wall and screen wall assessment	The letter relates to a visual inspection of the mass limestone retaining wall and screen wall. The letter states the screen wall has a maximum height of 2m and is constructed from 150 wide limestone blockwork spanning between 300 x 300 piers at 3m centres, which complies with industry standards. The retaining wall below has a maximum exposed height of 1m. The letter states the wall is structurally sound, and that it will continue to perform adequately under similar loading. It is not clear from the

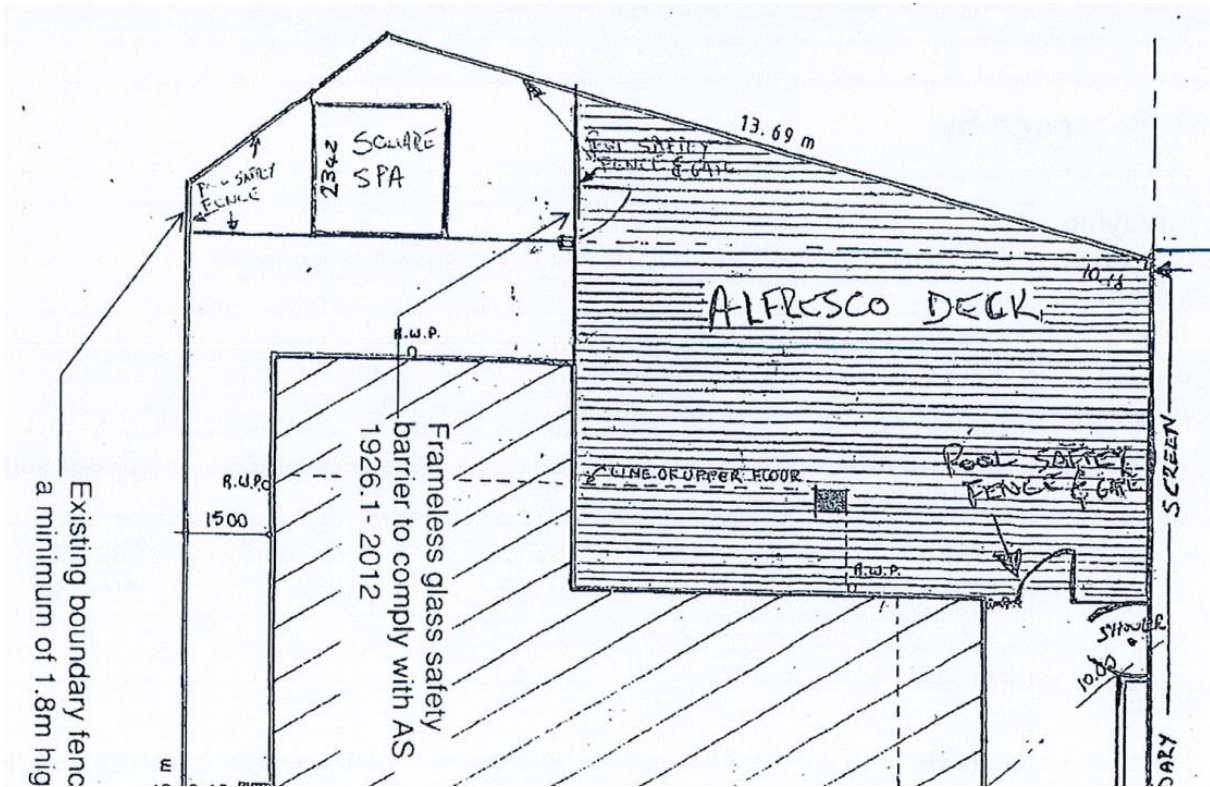
		letter where the retaining wall/screen wall is located?
16 February 2016	Western steel framed privacy screen, structural inspection	The letter refers to the construction of a metal framed privacy screen. Additional stiffening required to a section of the privacy screen. The letter contains no reference to a retaining wall.
8 April 2016	Western steel framed privacy screen, structural inspection	The letter confirms 2 further site inspections were carried out and the required stiffening has been provided.
21 March 2017	Timber deck assessment – Post construction	The letter confirms inspection of the timber deck at the front of the property was carried out. Letter indicates existing decking and supports are structurally suitable for typical residential loading. The letter contains no reference to a retaining wall.
21 March 2017	Western steel framed privacy screen, structural inspection	Letter clarifies initial inspection and certificate of the screen fence included a review of the complete structure including the base connection and lateral support. The letter confirms the screen fence, the base connection and lateral support from other structures is satisfactory for the typical screen fence loadings. The letter contains no reference to a retaining wall.

**Table 3 – Summary of Terpkos correspondence**

A Building approval certificate was issued by the City of Melville on the 11 August 2021. The BAC was issued subject to a compliant swimming pool safety barrier is to be maintained at all times.

**2.1.6 Building permit BA 2021-1499**

An application for building permit-certified was submitted by [REDACTED] on the 21 July 2021 for the construction of a pool isolation fence (City of Melville reference number BA 2021-1499). The application was accompanied by a certificate of design compliance issued by IDS Consultants Pty Ltd (t/a Ian Lush & Associates) dated 21 July 2021 for the location of spa and safety barrier to existing residence. The CDC references a site plan. The site plan shows a square spa and a notation pool safety fence & gate as shown below.



The City of Melville issued the building permit (BA 2021-1499) on the 3 August 2021 subject to conditions. The conditions relate to the spa safety barrier.

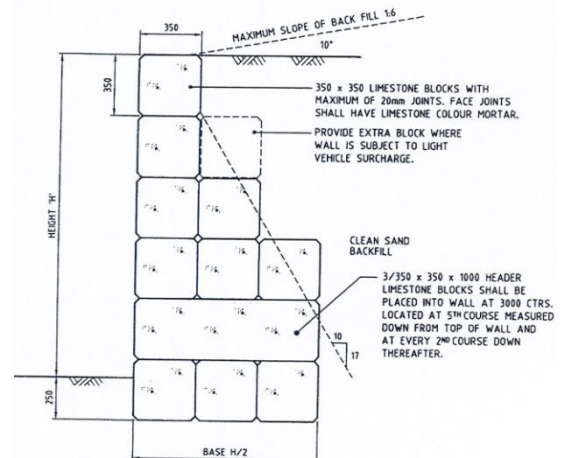
This building permit has no relevance to the issue at hand.

## 2.2 Existing retaining wall

The following photos show the existing limestone block retaining wall located adjacent to the side allotment boundary with 12 Beach Street. Photo 1 shows the retaining wall at the front boundary, with subsequent photos showing the retaining wall as you move along the side allotment boundary towards the rear, with Photo 37 showing the retaining wall at the rear allotment boundary of 14 Beach Street.

The approved retaining wall details are shown below.

LIMESTONE RETAINING WALL DETAIL NOTES	
1.	ONLY GOOD GRADE BUILDING STONE (SAWED) IS TO BE USED. (MIN. BULK DENSITY = 1.80 t/m <sup>3</sup> )
2.	COMPACT GROUND UNDER AND IN FRONT OF RETAINING WALL TO RESIST SEVEN (7) BLOWS PER 300 mm (STANDARD PENETROMETER TEST).
3.	PROCEED WITH BACKFILLING A MINIMUM OF SEVEN (7) DAYS AFTER COMPLETION OF WALL.
4.	THESE WALLS ARE APPLICABLE TO SANDY SOILS ONLY.
5.	STONES TO BE FULLY BEDDED AND GROUTED IN 1:1.6 MORTAR
6.	NO SURCHARGE ON RETAINING WALLS IS ASSUMED I.E. HORIZONTAL BACKFILL ONLY.
7.	NO STRUCTURE IS TO BE BUILT CLOSER THAN THE HEIGHT OF WALL + BASE, AWAY FROM THE FACE OF THE WALL.
8.	150 mm THICK CONCRETE FOOTING MAY BE SUBSTITUTED FOR LIMESTONE BASE. BOTTOM OF CONCRETE FOOTING IS TO BE 250 mm MINIMUM BELOW LOWER G.L.
9.	CONCRETE FOOTING STRENGTH GRADE IF APPLICABLE : N20
10.	BUILDER TO PROVIDE DRAINAGE AND WATERPROOFING AS REQUIRED TO REAR
11.	REFER TO ARCHITECTURAL DRAWING FOR LOCATION AND EXTENT.
12.	BACK FILLING SHALL BE CARRIED OUT USING SELECT MATERIAL AND PLACED IN 300mm MAXIMUM LAYERS, GENERALLY SANDY IN NATURE AND FREE FROM LARGE PIECES OF ROCK TO THE EXTENT THAT MATERIAL CAN BE COMPACTED USING A VIBRATING PLATE COMPACTOR.



The following limestone retaining wall detail notes are relevant to this assessment:

- Note 1 states only good grade building stone (sawn) is to be used.
- Note 5 states stones are to be fully bedded and grouted in 1:1:6 mortar.
- Note 6 states no surcharge on retaining walls is assumed i.e., horizontal backfill only.
- Note 7 states no structure is to be built closer than the height of the wall + base, away from the face of the wall.
- Note 10 states builder to provide drainage and waterproofing as required to rear.

The photos show that parts of the limestone retaining wall has badly deteriorated (Photos 17 to 30), with either the limestone blocks or the mortar joints fretted away. This has resulted in Note 5 no longer being complied with. There are signs that moisture may be the cause of the mortar fretting away or the limestone blocks breaking apart (Photo 4, 19 and 20 appear to show holes created by a water flow). I was not able to determine whether Note 10 has been addressed.

Note 7 states no structure is to be built closer than the height of the wall + base, away from the face of the wall. Photos 34 to 37 show a timber deck constructed up to and placed on top of the limestone wall. This is technically in contravention of Note 7.

Photos 6 to 10, 13, and 17 to 33 show the use of what appears to be a metal sheet or board to act as part of the retaining wall. This is contrary to Note 1 which only permits the use of sawn good grade building stone.

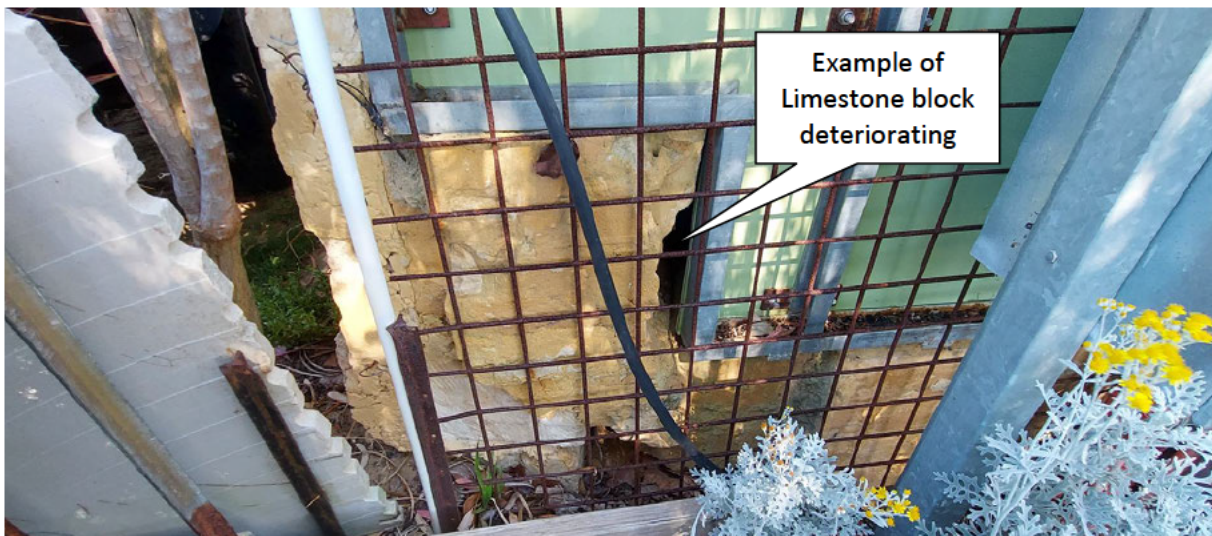


Photo 1

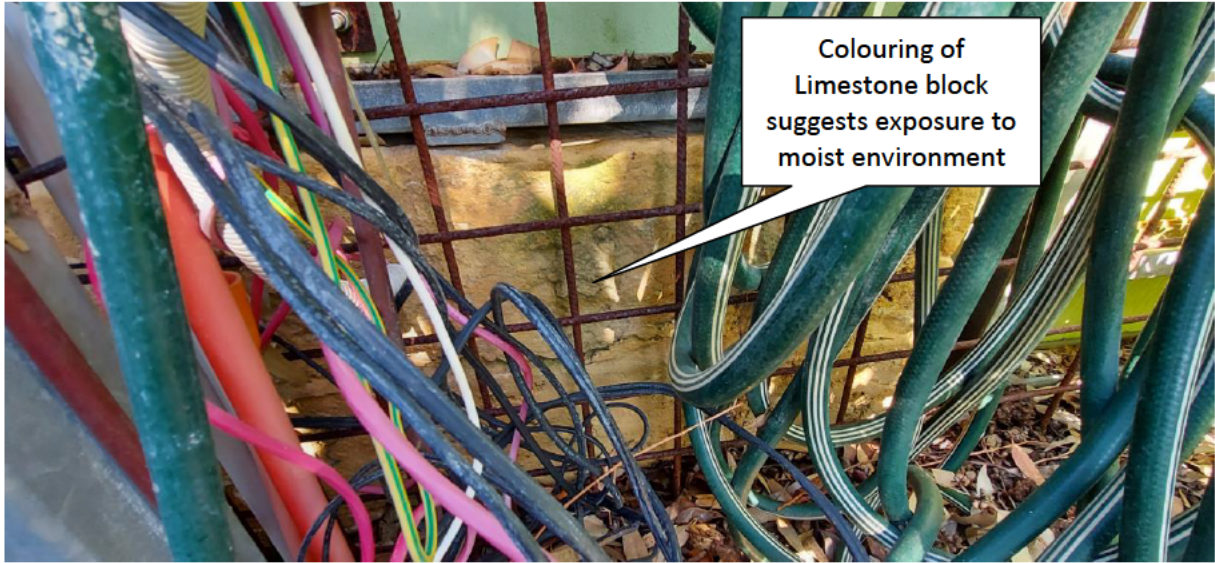


Photo 2



Photo 3



Photo 4



Photo 5

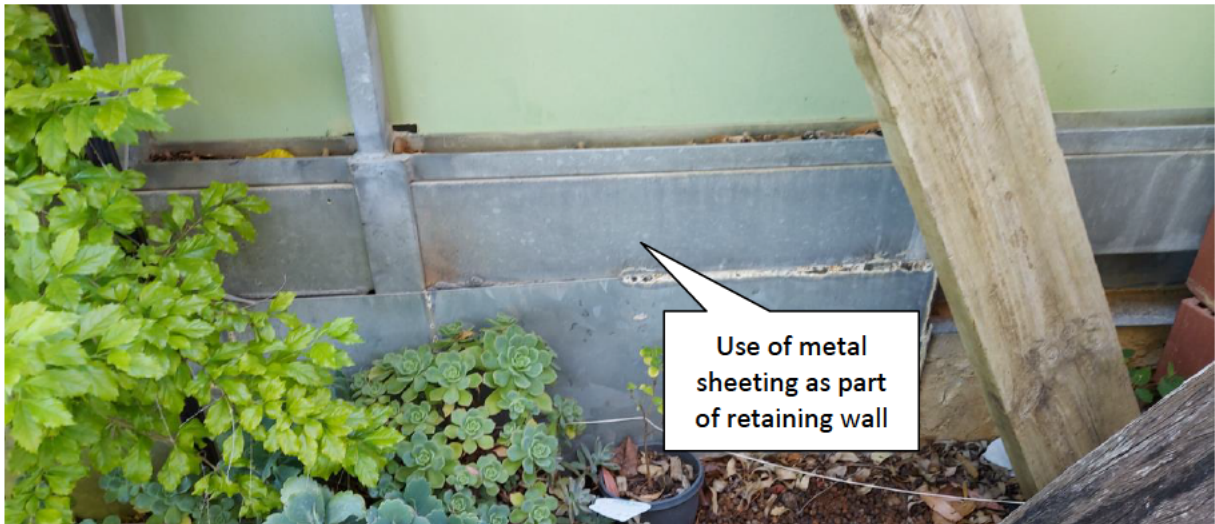


Photo 6

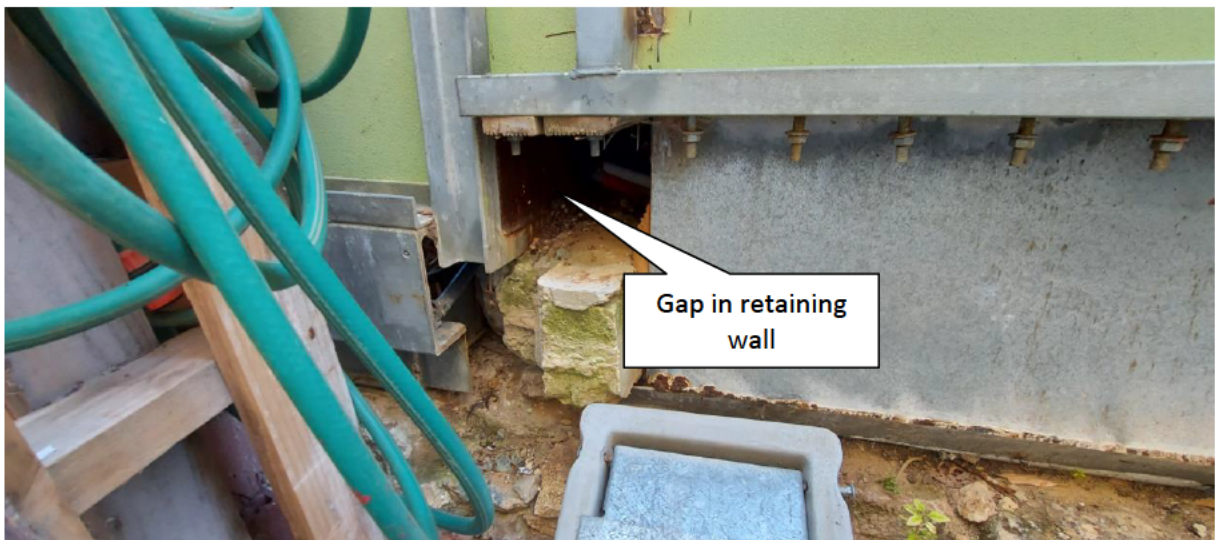


Photo 7



Photo 8



Photo 9



Photo 10

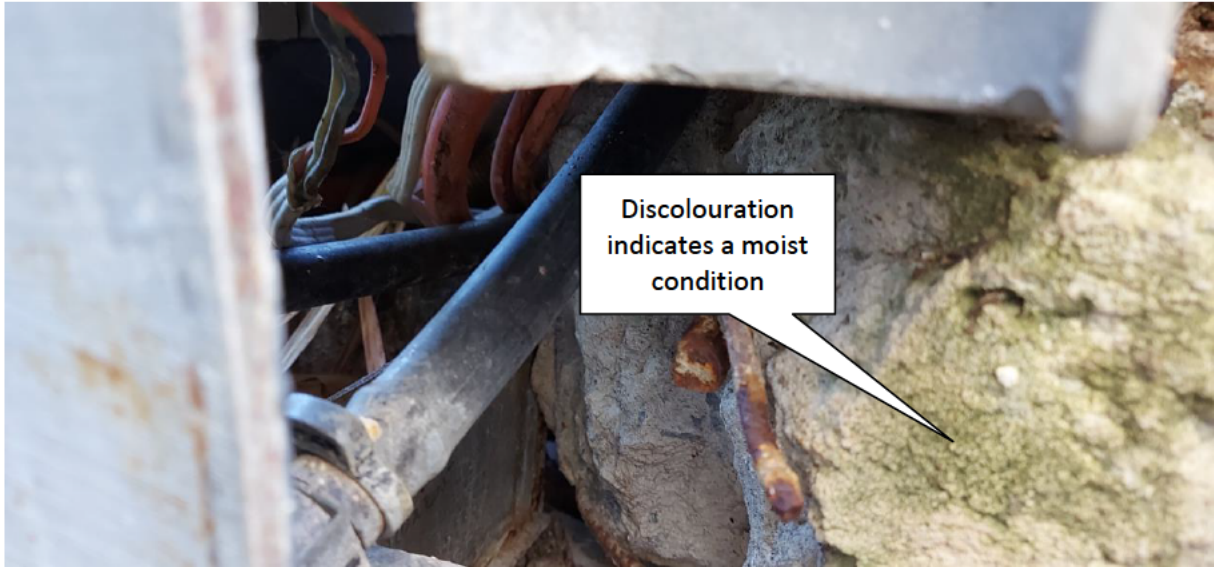


Photo 11



Photo 12



Photo 13



Photo 14



Photo 15



Photo 16



Photo 17



Photo 18



Photo 19



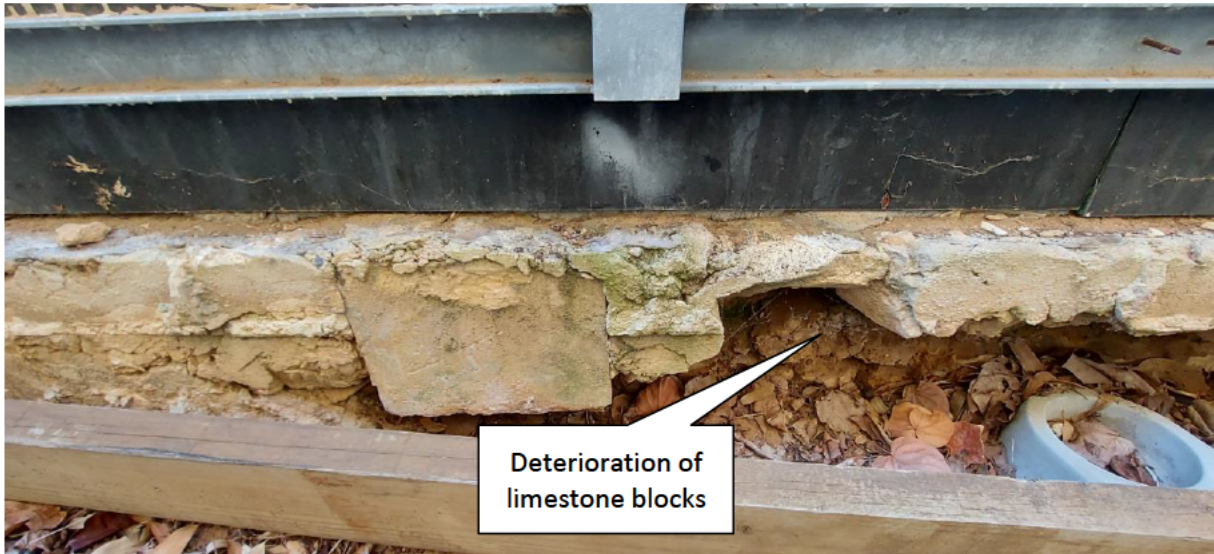


Photo 23

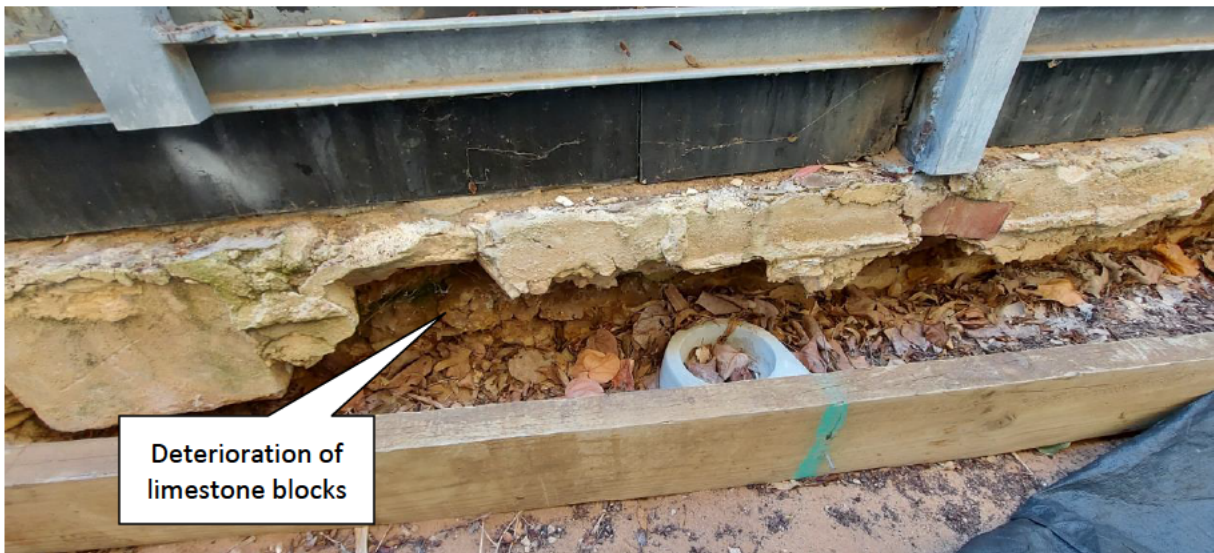


Photo 24

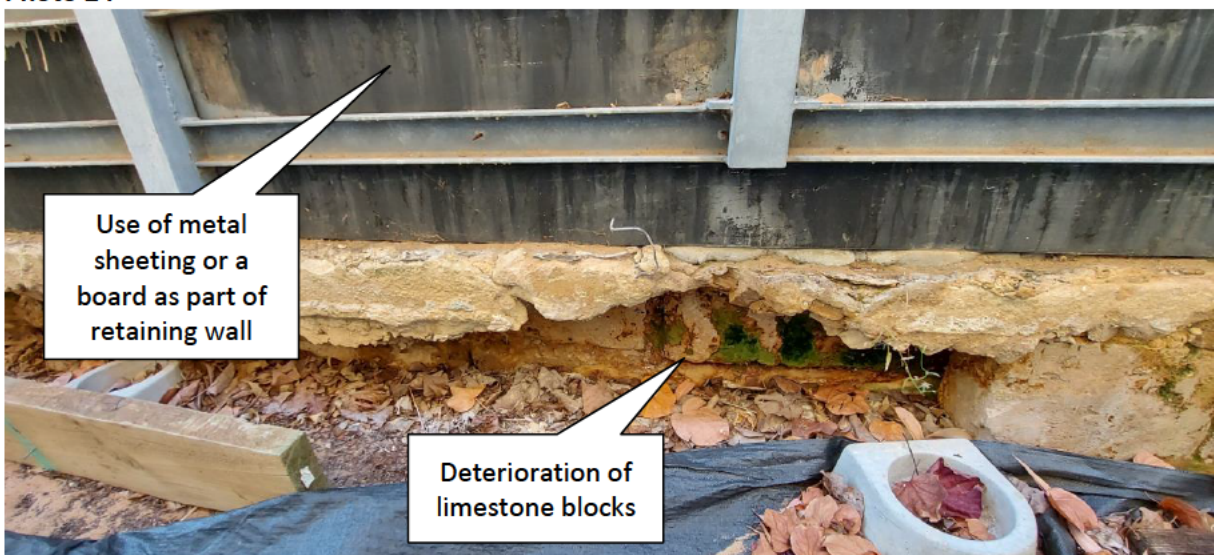


Photo 25



Photo 26



Photo 27



Photo 28



Photo 29



Photo 30



Photo 31

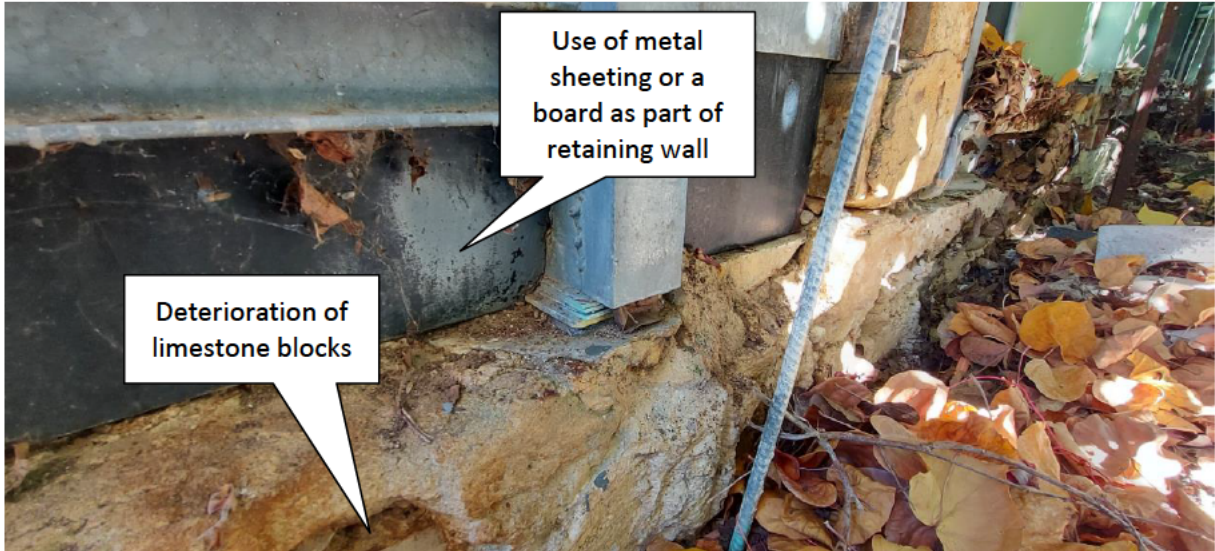


Photo 32



Photo 33



Photo 34



Photo 35



Photo 36



Photo 37

## 2.3 Compliance with building approval certificate BA 2017-466

Building approval certificate BA 2017-466 was issued to address unauthorised work consisting of a pool timber deck and swimming pool barrier. The certificate was issued with no conditions.

The application for a building approval certificate was accompanied by several letters from Terpkos civil & structural consultants, and several drawings and a site plan.

The City of Melville issued a Certificate of Building Compliance on the 27 March 2017 referencing drawings and documents stamped 'Plan Approved By City of Melville', Building Approval Certificate Number BA 2017-466, Page numbers 1 to 20 dated 27 March 2017, and inspections conducted by Paul Terpkos on the 15 and 16 February 2016 and the 21 March 2017.

The Terpkos inspection letters are summarised below:

Correspondence	Title of correspondence	Summary of content
16 February 2016	Western steel framed privacy screen, structural inspection	The letter refers to the construction of a metal framed privacy screen. Additional stiffening required to a section of the privacy screen. The letter contains no reference to a retaining wall.
8 April 2016	Western steel framed privacy screen, structural inspection	The letter confirms 2 further site inspections were carried out and the required stiffening has been provided.
21 March 2017	Timber deck assessment – Post construction	The letter confirms inspection of the timber deck at the front of the property was carried out. Letter indicates existing decking and supports are structurally suitable for typical residential loading. The letter contains no reference to a retaining wall.
21 March 2017	Western steel framed privacy screen, structural inspection	Letter clarifies initial inspection and certificate of the screen fence included a review of the complete structure including the base connection and lateral support. The letter confirms the screen fence, the base connection and lateral support from other structures is satisfactory for the typical screen fence loadings. The letter contains no reference to a retaining wall.

Table 2 – Summary of Terpkos correspondence

The following photos show the parts of the screen fence in relation to the elevations (Elevation A to J) shown on the approved site plan.



Photo 1 shows Elevation A, B & C



Photo 2 shows Elevation B, C & D

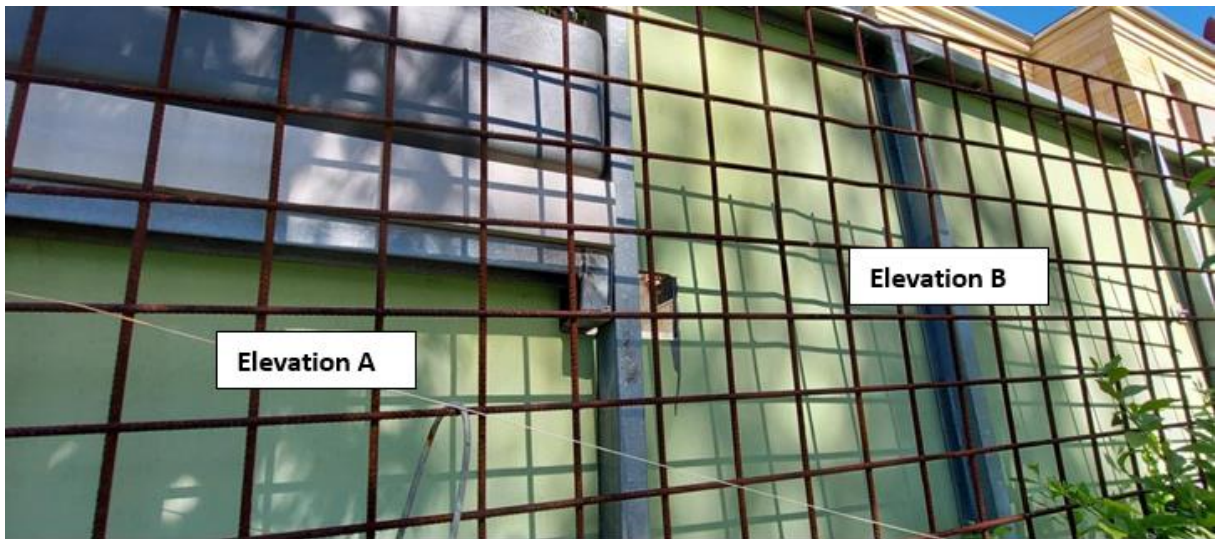


Photo 3 shows closeup of Elevation A & B



Photo 4 shows sheet connection



Photo 5 shows Elevation H



Photo 6 shows Elevation F & G

Based on my visual inspection, the construction appears to comply with the approved plans referenced in the Certificate of Building Compliance issued by the City of Melville. This is confirmed by the structural engineer in the Terpkos letter dated 21 March 2017. The letter confirms the screen fence, the base connection and lateral support from other structures is satisfactory for the typical screen fence loadings.

### 3.0 Legislation

The Building Act 2011 contains the following sections that may be relevant to the issue at hand. I provide my comment on each section below.

#### 3.1 Section 88 Finishes of walls close to boundaries

##### 88. Finishes of walls close to boundaries

(1) In this section —

**close wall** means a wall, fence, post or column —

- (a) whether free-standing or attached to, or forming part of, a building or structure, that is so close to a boundary of the land on which the wall or fence is located that it is not reasonably practicable to build a separate dividing fence along the boundary; and
- (b) in respect of which building work, of a kind for which a building permit is required, is done on or after commencement day;

**outward facing side** means the side of a close wall that faces land beyond the boundary of the land on which the wall is located.

- (2) The regulations may provide for matters relating to the finish of the outward facing sides of close walls.
- (3) A permit authority may, for the purpose of imposing a condition under section 27 or making a building order, specify the way in which an outward facing side of a particular close wall must be finished if —
  - (a) there are no regulations as mentioned in subsection (2) that apply to the wall; and

- (b) the finish for the outward facing side of the wall is not set out in the plans and specifications that were specified in the applicable certificate of design compliance for the building permit for the wall.

Whilst the requirements of Section 88 could be applied to the screen wall as the Building Approval Certificate was issued after the commencement of the Building Act 2011, the requirements of Section 88 cannot be applied to the limestone retaining wall as the building licence for the limestone retaining wall was issued prior to the commencement of the Building Act.

Given the finish of the screen wall was set out in the plans that were specified in the certificate of design compliance, the requirements of subsection (3) are not applicable in this case.

### 3.2 Section 112 Content of building order

Section 110(1) of the Building Act states a Permit Authority may make a building order in respect of the following:

- (1) A permit authority may make an order (a **building order**) in respect of one or more of the following —
  - (a) particular building work;
  - (b) particular demolition work;
  - (c) a particular building or incidental structure, whether completed before or after commencement day.

Section 112(2) states a building order may require a person to whom the order is directed to do any one or more of the following within the specified time. Subclause (2)(g) deals with a building or incidental structure that is reasonably believed to be in a dangerous state or unfit for human occupation. A building order can be issued for the building or incidental structure to be:

1. renovated or repaired to a specified standard or in a specified way so as to prevent or stop the building or incidental structure from being a danger to persons, to other property or to the environment or to render it fit for human occupation (subclause (2)(g)(v)); or
  2. demolished, dismantled or removed (subclause (2)(g)(vi)).
- (g) if a building or incidental structure is reasonably believed to be in a dangerous state or unfit for human occupation —
    - (i) to conduct a survey of the building or incidental structure;
    - (ii) to cause the building or incidental structure to be evacuated or remain unoccupied;
    - (iii) to stop all or specified building or demolition work that is causing or contributing to the state or condition of the building or incidental structure;
    - (iv) to shore up, fence or otherwise secure the building or incidental structure in a specified way

- for the protection of persons, of other property or of the environment;
- (v) to renovate or repair the building or incidental structure to a specified standard or in a specified way so as to prevent or stop the building or incidental structure from being a danger to persons, to other property or to the environment or to render it fit for human occupation;
- (vi) to demolish, dismantle or remove the building or incidental structure;

I do not reasonably believe the limestone retaining wall and screen wall is in a dangerous state or unfit for human occupation. At the time of my inspection, I did not observe any visual signs that would suggest the limestone wall or screen wall was in danger of imminent collapse.

Whilst the retaining wall, in its current state, is not in compliance with the approved structural drawings, there is no mechanism within Section 112 of the Building Act to issue a building order to bring the limestone retaining wall back into compliance with the approved plans.

## 4.0 Conclusion and recommendations

### 4.1 Conclusion

I conclude the following:

1. Building licence BA-2002-2166-XBDR is the relevant building approval for the limestone retaining wall.
2. The limestone retaining wall located adjacent to the side allotment boundary with 12 Beach Street is not in compliance with the approved structural limestone retaining wall details and notes shown on drawing S4 as follows:
  - i. The limestone blocks are no longer fully bedded and grouted, contrary to Note 5.
  - ii. A timber deck has been constructed up to and on top of the retaining wall, contrary to Note 7 which states no structure is to be built closer than the height of wall + base, away from the face of the wall.

Item (ii) has subsequently been addressed by the Building Approval Certificate (BA 2017-466) issued on the 27 March 2017 where the same structural engineer (Terpkos) has certified the timber deck forming part of the screen wall.

3. The limestone retaining wall appears to be exposed to moisture, resulting in the fretting of the mortar and the disintegration of the limestone blocks. Note 10 on the structural drawings states builder to provide drainage and waterproofing as required to rear. Either the drainage or waterproofing provided is not adequately working, or no drainage or waterproofing has been provided.
4. The only structural certification provided by Terpkos civil & structural consulting that relates to the mass limestone retaining wall and screen wall is in the letter dated 14 December 2015.

5. There is no structural certification that specifically addresses the structural adequacy of the limestone retaining wall located adjacent to the side allotment boundary with 12 Beach Street.
6. The constructed screen wall appears to be in compliance with Building Approval Certificate BA 2017-466.
7. Section 88(3) of the Building Act cannot be used to address the aesthetics of the limestone retaining wall as the building licence for the limestone retaining wall was issued prior to the commencement date of the Building Act.
8. The limestone retaining wall and screen wall did not display any visual signs of imminent danger of collapse at the time of my site inspection. A building order can only be issued if a building or incidental structure is reasonably believed to be in a dangerous state.
9. Whilst the current state of the limestone retaining wall is not in compliance with the approved structural plans, there appears to be no means for the City of Melville to issue a building order to bring the limestone retaining wall into compliance with the approved structural plans.

## **4.2 Recommendations**

I make the following recommendations:

- 1 The limestone retaining wall located adjacent to the side allotment boundary with 12 Beach Street should be inspected by a structural engineer to determine the structural adequacy of the retaining wall to determine:
  - a. compliance with the approved structural drawings, in particular compliance with Notes 5, 7 and 10; and
  - b. whether the limestone retaining wall and screen wall can reasonably be believed to be dangerous.
- 2 Subject to the outcome under (1)(b) above, consider issuing a building order under Section 112(2)(g) of the Building Act 2011 if the structural engineer considers the limestone retaining wall or screen wall to be dangerous.