

South Melbourne Town Hall

Fire Services Investigation Report

Prepared for: City of Port Phillip Council

Project No: MEL2057
Date: 27 March 2020
Revision: 01



Project: South Melbourne Town Hall

Location: 208-220 Bank St
South Melbourne, VIC 3205

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Project No: MEL2057

Revision: 01

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Project Team

Client City of Port Phillip Council
Joe Gangi

Fire Services Consultant ADP Consulting Pty Ltd



Contents

Executive Summary.....	3
Objectives:	3
Findings:	3
Proposed remedial options and cost:.....	4
Recommendations:	6
Actions required in the interim:	7
1. Introduction	8
2. Sprinklers system	9
2.1 Existing arrangement	9
2.2 Proposed work	16
2.3 Sprinklers system - Opinion of Probable Cost.....	16
3. Hydrant and Hose Reel systems	17
3.1 Existing arrangement	17
3.2 Proposed work	20
3.3 Hydrant & Hose Reel systems - Opinion of Probable Cost.....	20
4. Fire extinguishers.....	21
4.1 Existing arrangement	21
4.2 Proposed work	21
4.3 Fire extinguishers - Opinion of Probable Cost	21
5. Fire Detection & Alarm Systems.....	22
5.1 Existing arrangement	22
5.2 Proposed work	26
5.3 Fire detection & alarm systems - Opinion of Probable Cost.....	26
6. Recommendations	27
7. Actions required in the interim	28
Appendix.....	29

Executive Summary

Objectives:

- Fire services assessment and report across the entire building to determine the requirements to meet compliance and improve the functionality and practical use of the system
- Development of remedial options and opinion of probable cost

Findings:

Based on the site inspection carried out on 23/01/2020 and documents received, we have identified the following:

- The sprinklers system was installed in Year 1993, and it is due for a 25 yearly test which require samples sprinklers to be removed and tested
- OMEGA sprinkler heads have been identified (recalled approx. 20 years ago) and due for replacement
- Sprinklers system is currently capped at structural and water damage restoration work areas
- Sprinklers system has not been installed throughout the entire building
- Detection system has not been installed throughout the entire building
- EWIS system has not been installed throughout the entire building
- Beam detection only in the Main Hall
- Statutory documents such as Building / Occupancy Permit (year of BCA used), and/or Fire Engineering Report (if any) are not available

Proposed remedial options and cost:

Compliance to NCC BCA 2019 [1]:

Fire Services	Comply (Y/N)	Remedial Work for Compliance	Option of Cost / \$ [2]
Sprinklers system	N	<ul style="list-style-type: none"> Replace sprinkler heads due to "recalled" Omega heads; and other heads which are due for 25-year sample test (it is more cost effective to replace them) Extend sprinklers system to non-sprinklers areas (to achieve fully-sprinklered protected building) Re-instate sprinklers at structural and water damage areas Install flow switches and remote test drain 	70,000 60,000 80,000 20,000
Sub-total:			\$230,000
Hydrants & Hose Reels	N	<ul style="list-style-type: none"> Replace existing hydrant pipe from 65mm to 100mm Install 1x new hydrant on Level 1 to achieve compliant coverage, extending from the nearest hydrant pipework Booster Assembly to be provided with additional Suctions to allow simultaneous boosting (operation) of both hydrant and sprinkler systems Install a new hydrant fire ring main if this building classified as "large-isolated building" by Building Surveyor 	30,000 7,000 3,000 60,000
Sub-total:			\$100,000
Fire Extinguishers	Y	<ul style="list-style-type: none"> N/A based on maintenance records as per AS1851, but shall be replaced as required as FE has a lifespan of 5 – 12 years 	N/A
Detection & Alarm system	N	<ul style="list-style-type: none"> Extend detection & alarm system to serve the entire building Re-zone and commission of FIP Install WIP (Warden Intercom Phone) throughout or fire brigade phone jacking points 	70,000 20,000 20,000
Sub-total:			\$110,000
General	N/A	<ul style="list-style-type: none"> Update of Block Plans & Evacuation Diagrams 	\$10,000
Total:			450,000

[1] We advised the client to engage a building surveyor to firm up the building classification based on relevant BCA year in order to determine the full compliance requirements of fire services via either DTS (Deemed-to-satisfy) OR performance solution (fire engineering) pathway

[2] Opinion of cost above excludes builders work, structural modification, tenancy fit-out, relocation or upgrade of other services, after-hours work, etc.

Min. Compliance to relevant BCA year ^[1]:

Fire Services	Comply (Y/N)	Remedial Work for Compliance	Option of Cost / \$ ^[2]
Sprinklers system	See notes below	<ul style="list-style-type: none"> Replace sprinkler heads due to "recalled" Omega heads; and other heads which are due for 25-year sample test (it is more cost effective to replace them) Re-instate sprinklers at structural and water damage areas 	70,000 80,000
Sub-total:			\$150,000
Hydrants & Hose Reels	See notes below	<ul style="list-style-type: none"> Install 1x new hydrant on Level 1 to achieve compliant coverage, extending from the nearest hydrant pipework 	\$7,000
Fire Extinguishers	Y	<ul style="list-style-type: none"> N/A based on maintenance records as per AS1851, but shall be replaced as required as FE has a lifespan of 5 – 12 years in general 	N/A
Detection & Alarm system	See notes below	<ul style="list-style-type: none"> N/A as long as routine services and maintenance as per AS1851 is carried out 	N/A
General	N/A	<ul style="list-style-type: none"> Update of Block Plans & Evacuation Diagrams 	\$10,000
Total:			167,000

[1] There is a **limitation** to define the minimum compliance of the existing fire services system as this is depending on the year of Building / Occupancy Permit issued (year of BCA used - which determines the year of Standards referenced). We noted these statutory documents are not available from the client.

As such, we have made the assumptions for the following:

Sprinklers:

As the building was built in 1880s and the sprinklers system was installed in Year 1993, we have assumed the sprinklers system was triggered / introduced as part of the building work based on BCA requirements at the time.

Hydrants:

In general, the hydrant standard has not gone through many revision changes where the 2005 version is still applicable as of today, and we have assumed the hydrant standard used for this building was based on a 1994 or 1988 version. This can be justified with the 65mm hydrant pipe work currently installed which is deemed acceptable in those standard's year.

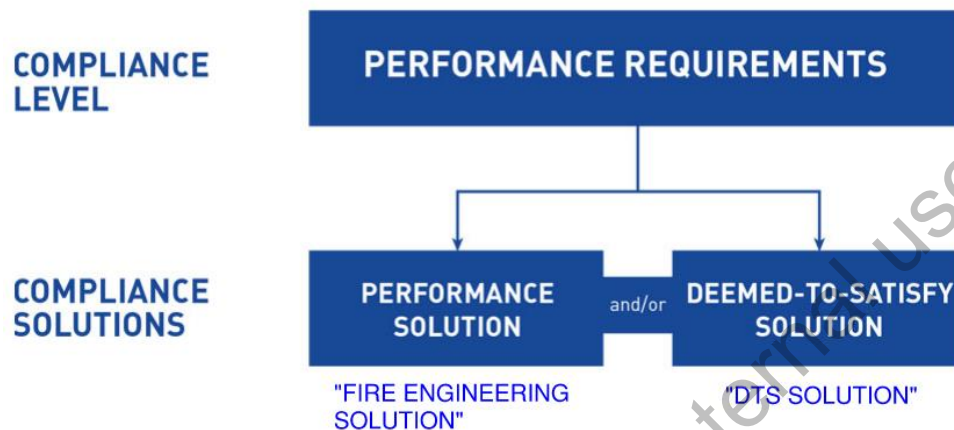
Detection & Alarm system

The dry fire system was not installed throughout the building, and we have assumed this was triggered / introduced when the tenancy "ANAM" (presumed a Class 5) moved into this town hall building. This can be justified as currently the detection & alarm system is only serving the ANAM tenancy.

[2] Opinion of cost above excludes builders work, structural modification, tenancy fit-out, relocation or upgrade of other services, after-hours work, etc.

Recommendations:

- As the current occupancy permit is not available, we recommend the client to engage a Building Surveyor to define the building classification based on relevant BCA year in order to confirm the requirements of fire services for this building



- The existing Omega sprinkler heads which have been recalled shall be replaced immediately
- The existing sprinkler heads which have been due for a 25 yearly test shall be replaced immediately. It is more cost effective to replace these sprinklers than the test due to labour cost
- Confirm with Building Surveyor if the structural & water damage restoration building work would trigger >50% volume and hence would trigger the need of upgrading existing fire services to meet the latest compliance requirements of current Standards

Actions required in the interim:

- Notify the Metropolitan Fire Brigade (MFB)
- Notify all relevant insurers
- Obtain and follow direction from the relevant insurer(s) on this matter
- Notify all owners / tenants
- Ensure the fire detection & alarm systems installed in the building are in correct operation
 - Ensure all maintenance requests have been actioned to avoid system malfunction
 - Ensure maintenance is up to date and any maintenance requests have been actioned to avoid malfunction
- Ensure the evacuation system installed in the building is in correct operation
- Ensure all maintenance requests have been actioned to avoid system malfunction
- Ensure the hydrant & hose reel system(s) installed in the building are in correct operation
 - Ensure all maintenance requests have been actioned to avoid system malfunction
- Ensure the electrical system installed in the building is in correct operation
 - Ensure all maintenance requests have been actioned to avoid system malfunction

ADP Consulting

27/03/2020

1. Introduction

South Melbourne Town Hall is of historical and social significance to the municipality identified as one of Victoria's grandest Town Halls.

On the 18 October 2019, a portion of the first-floor west wing ceiling collapsed in the South Melbourne Town Hall damaging the fire sprinkler system and causing extensive water damage to the ground and first floor of the building. Since the incident investigation by a structural engineer has identified major structural works to restore and renew parts of the building.

Following this, ADP have been engaged by City of Port Phillip council to review the existing fire services system in South Melbourne Town Hall with the following objectives:

- Fire services assessment and report across the entire building to determine the requirements to meet compliance and improve the functionality and practical use of the system
- Development of remedial options and opinion of probable cost

On the 23 Jan 2020, ADP have undertaken a site investigation to study the existing fire services system and have summarised the initial findings in this report.

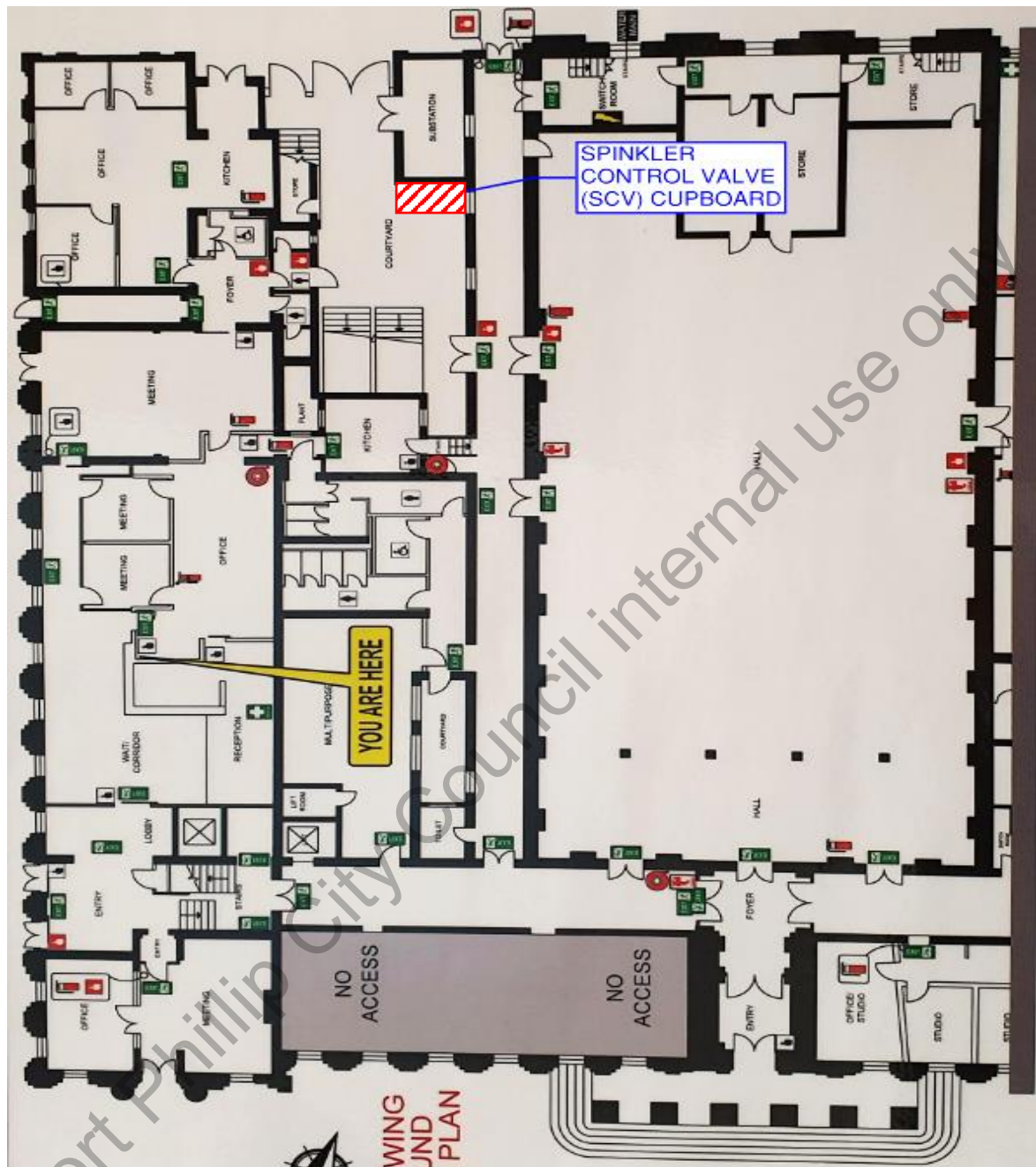


2. Sprinklers system

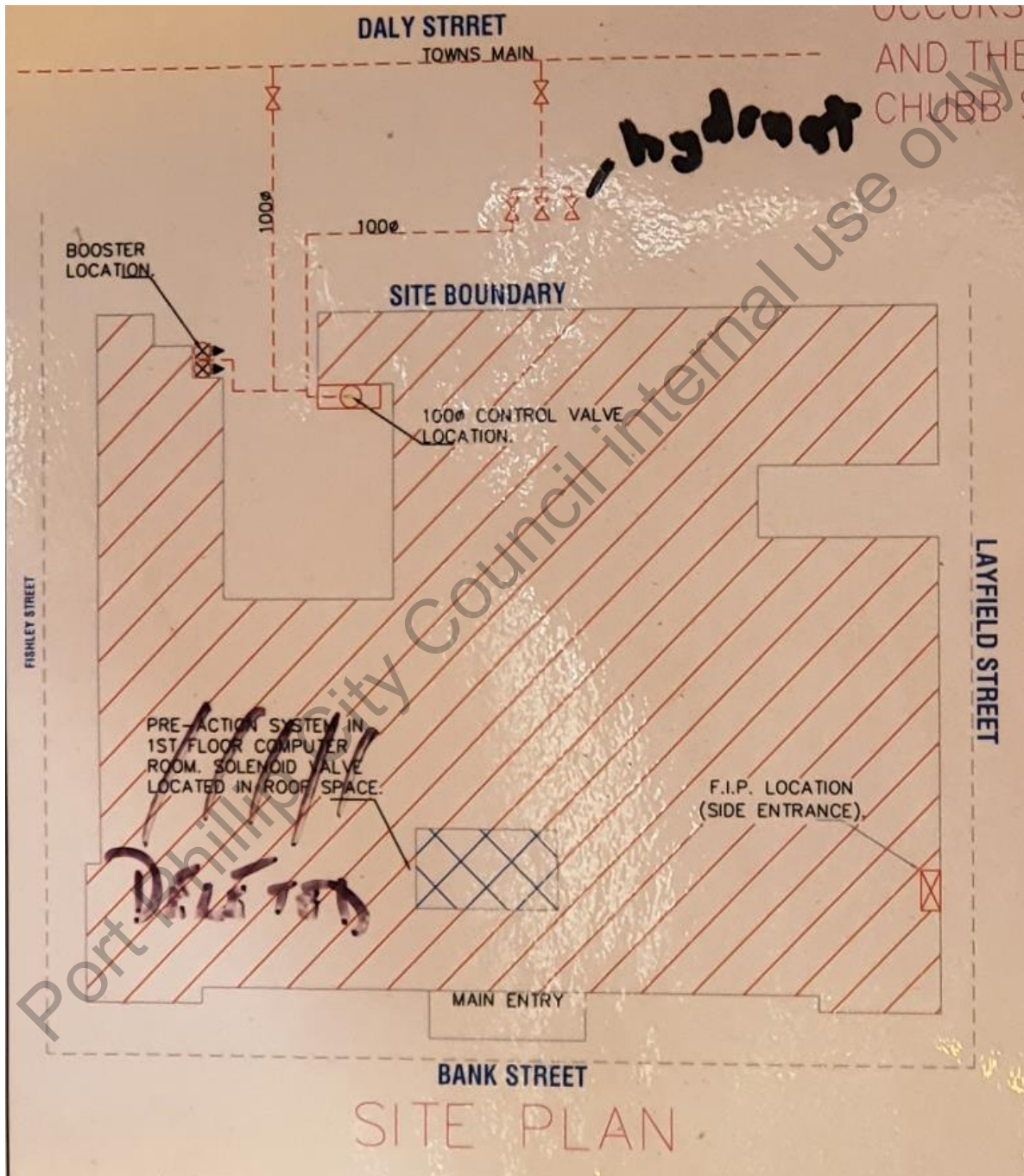
2.1 Existing arrangement

- There is 1x Sprinkler Control Valve (SCV) only serving the sprinklers system in the building
- It is noted this is not shown in all the Evacuation Diagrams, nor shown on the Block Plan at the FIP (Fire Indicator Panel)
- While sprinklers are generally installed in the building, they are not throughout the building – i.e. the main Hall is not sprinklers protected



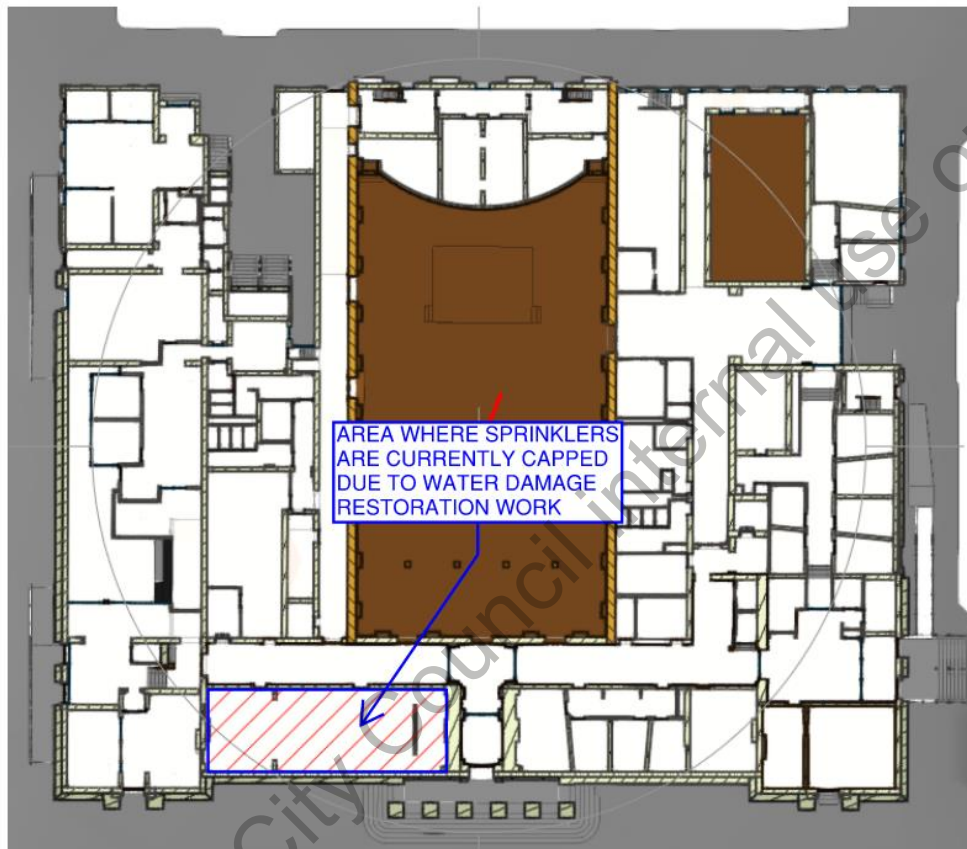


- The Block Plan in the SCV cupboard shows the sprinklers system is separate from the hydrant system, and it is being supported by the town main's water pressure and flow, without the use of on-site fire pump and tank

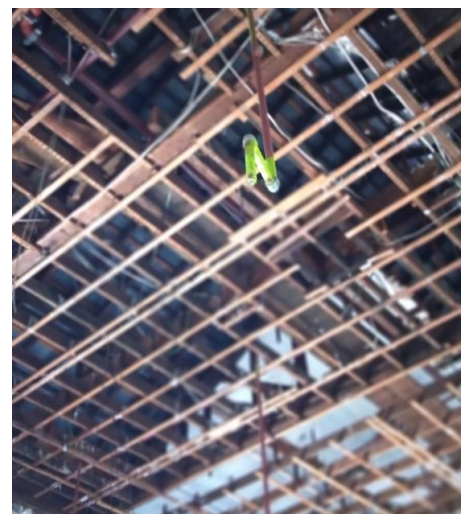
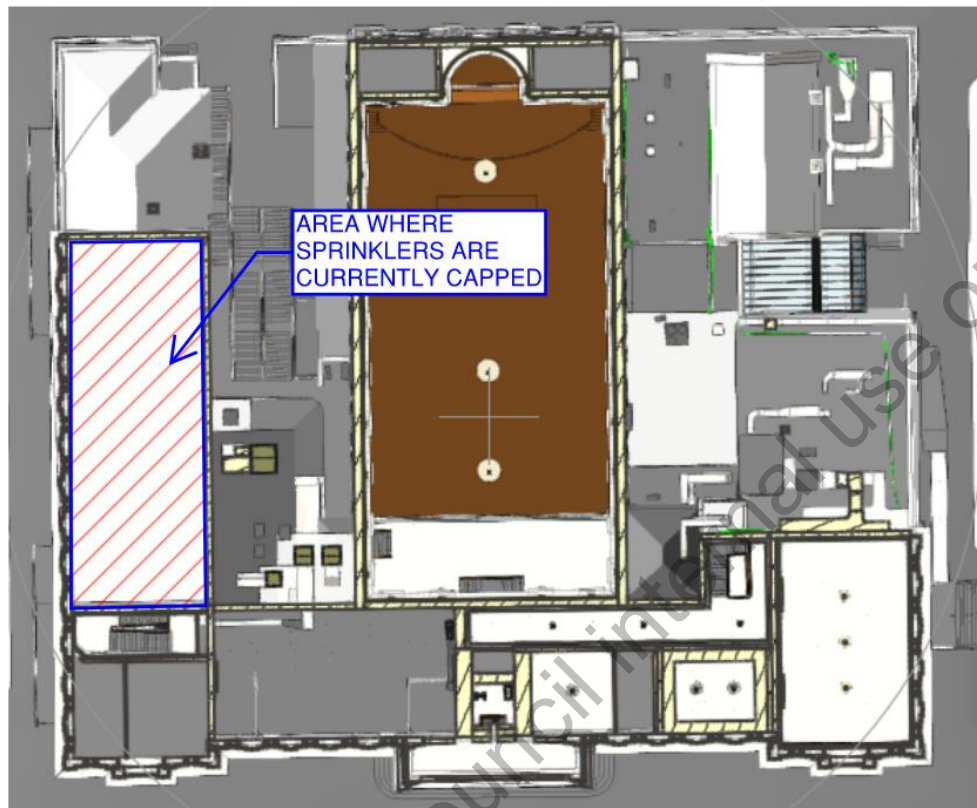


- There are some areas in the building where sprinklers are currently capped (disconnected) due to structural and water damage restoration work

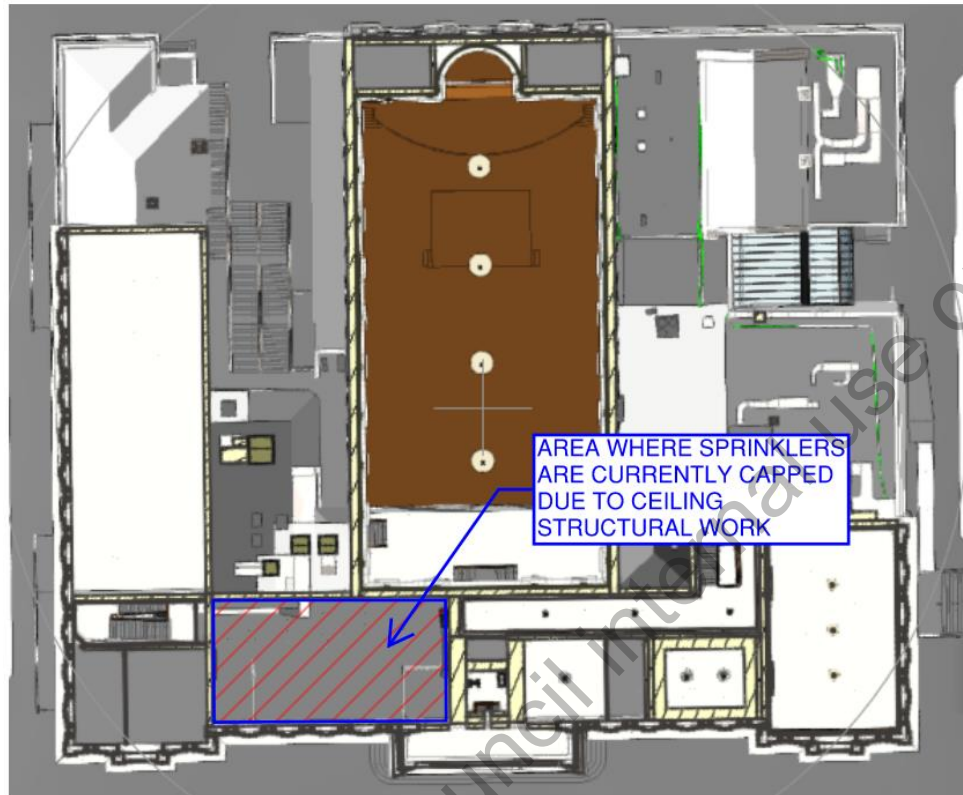
GROUND FLOOR



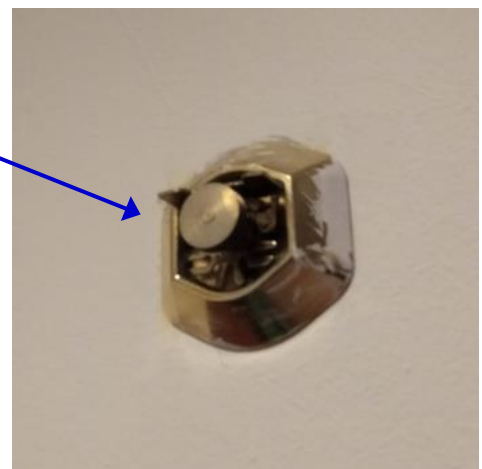
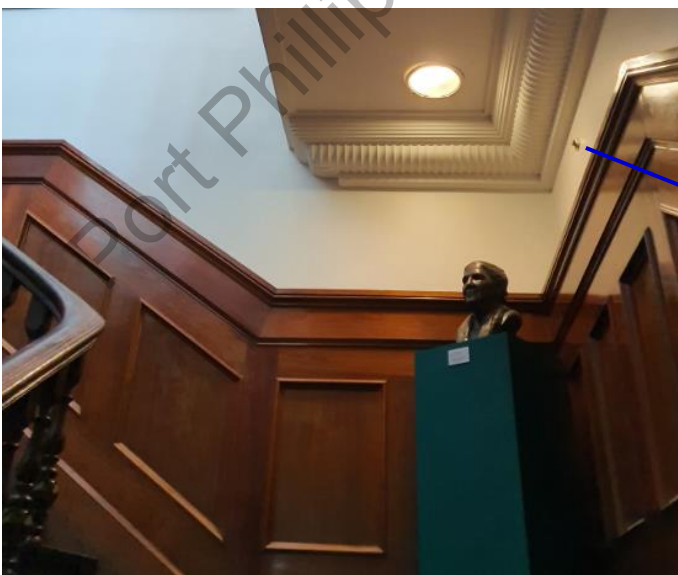
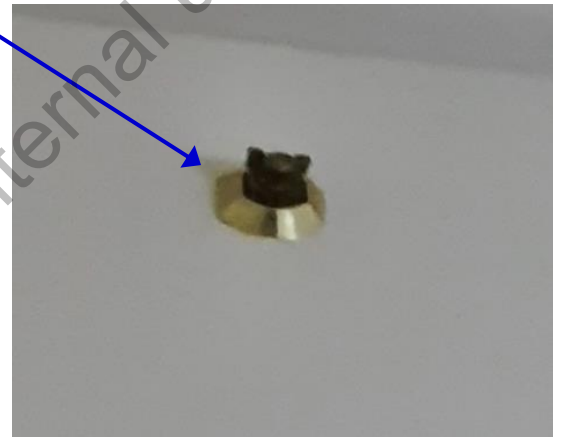
LEVEL 1



LEVEL 1



- The Block Plan in the SCV cupboard shows the sprinklers system was installed in Year 1993, which means the sprinkler heads are now due for 25 yearly sample tests as per AS1851
- Based on the documents we have reviewed, we noted Excel Fire Protection contractor and FES (Fire Equipment Services) contractor had identified the existing sprinkler heads are Omega heads (recalled approx. 20 years ago) and thus would require immediate replacement



2.2 Proposed work

2.2.1 Option 1 – Compliance to NCC BCA 2019:

- Replace all sprinkler heads due to existing “recalled” Omega heads; and other heads which are due for 25-year sample test (it is more cost effective to replace them)
- Extend sprinklers system to non-sprinklers areas (to achieve fully-sprinklered protected building)
- Re-instate sprinklers at structural and water damage areas
- Install flow switches and remote test drain

2.2.2 Option 2 – Minimum compliance requirements to relevant BCA:

- Replace all sprinkler heads due to existing “recalled” Omega heads; and other heads which are due for 25-year sample test (it is more cost effective to replace them)
- Re-instate sprinklers at structural and water damage areas

2.3 Sprinklers system - Opinion of Probable Cost

Table 1 Sprinklers system - Opinion of Probable Cost

Item	Description	Estimated Cost / \$
Option 1	As above 2.2.1	\$230,000
Option 2	As above 2.2.2	\$150,000

Notes:

- The above costs exclude GST
- The opinion of cost excludes builders work, structural modification, tenancy fit-out, relocation or upgrade of existing services, after-hours work, etc.

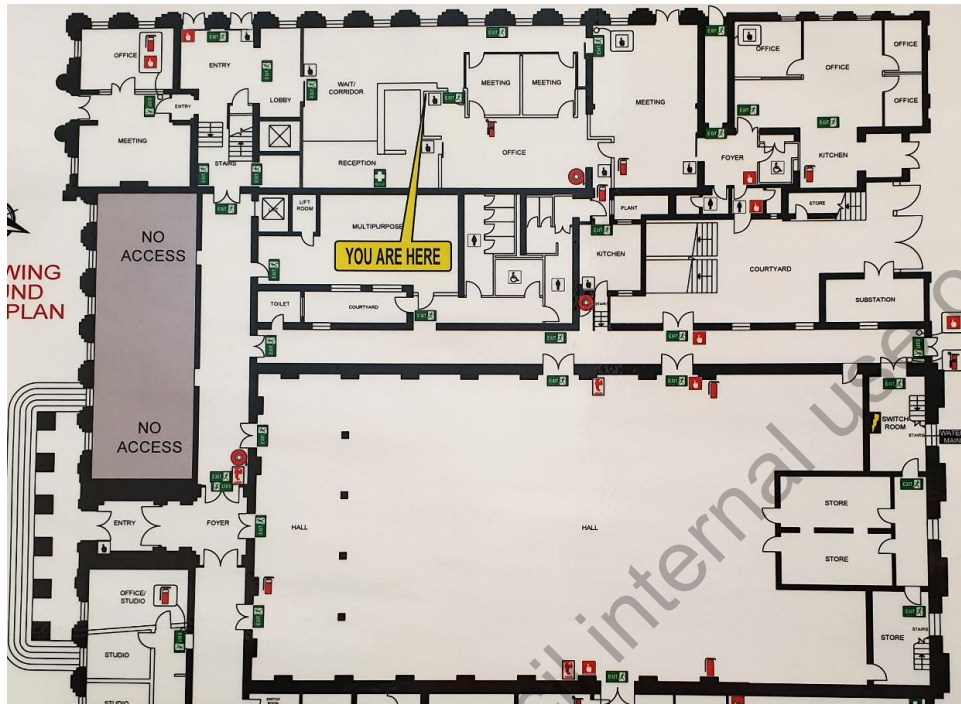
3. Hydrant and Hose Reel systems

3.1 Existing arrangement

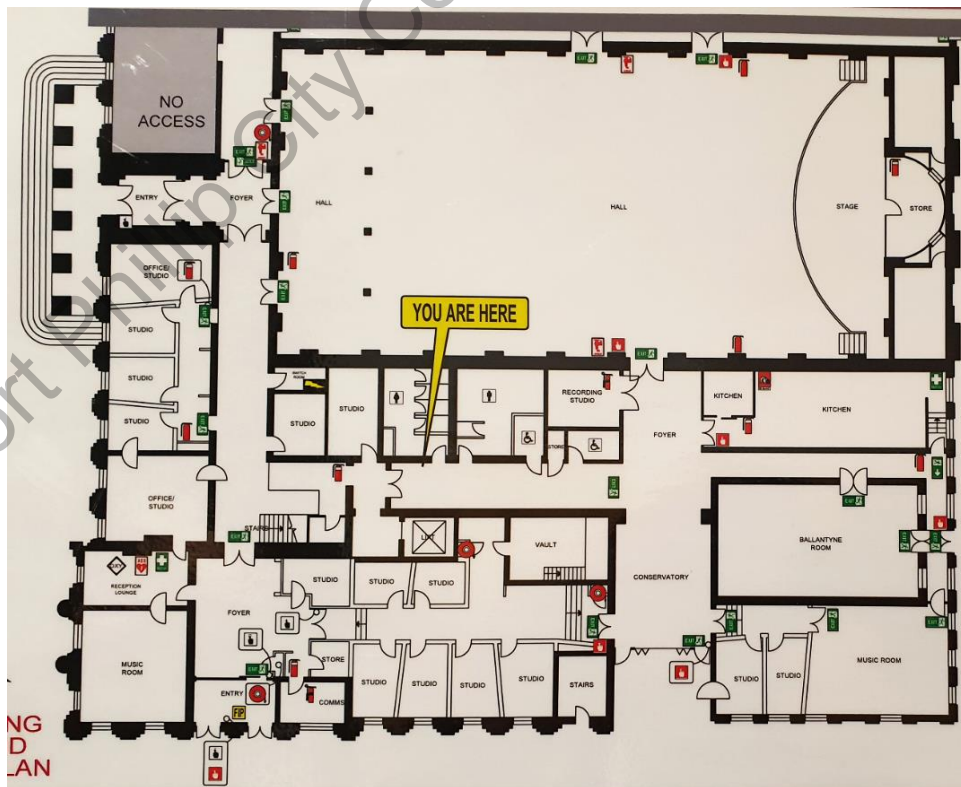
- Hydrants and hose reels are generally distributed throughout the building
- The maintenance records we have received and reviewed have shown the existing hydrants and hose reels have been maintained regularly as per AS1851
- Booster assembly for the hydrant system is located facing Daly St



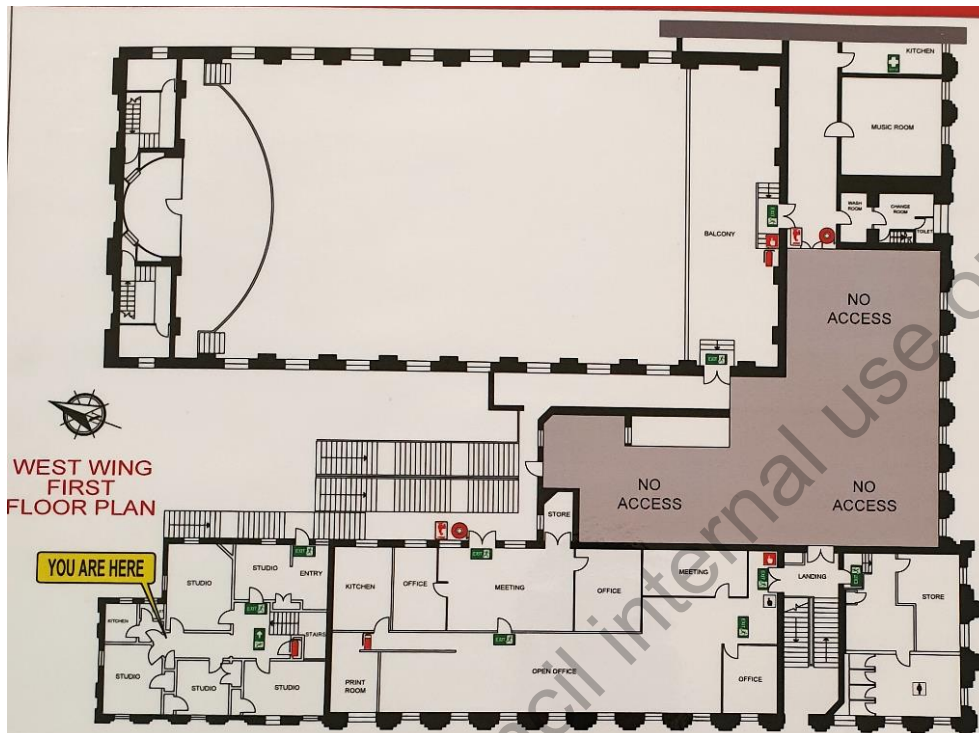
Ground Floor – West Wing



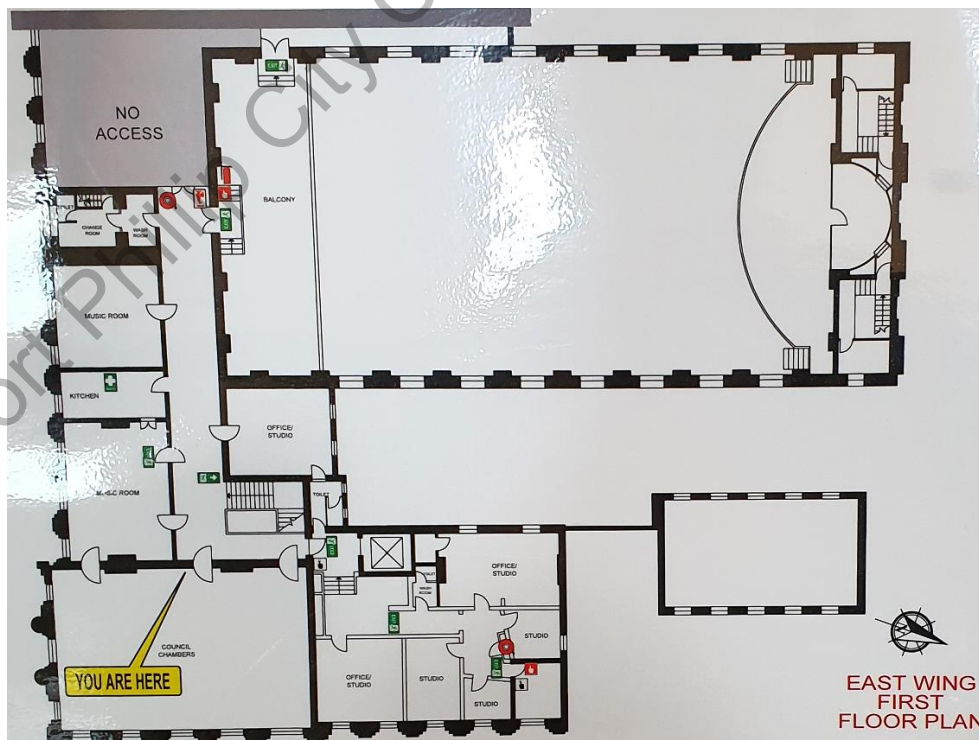
Ground Floor – East Wing



First Floor – West Wing



First Floor – East Wing



3.2 Proposed work

3.2.1 Option 1 – Compliance to NCC BCA 2019:

- Replace existing hydrant pipe from 65mm to 100mm
- Install 1x new hydrant on Level 1 to achieve compliant coverage, extending from the nearest hydrant pipework
- Booster Assembly to be provided with additional Suctions to allow simultaneous boosting (operation) of both hydrant and sprinkler systems
- Install a new hydrant fire ring main if this building classified as "large-isolated building" by Building Surveyor

3.2.2 Option 2 – Minimum compliance requirements to relevant BCA:

- Install 1x new hydrant on Level 1 to achieve compliant coverage, extending from the nearest hydrant pipework

3.3 Hydrant & Hose Reel systems - Opinion of Probable Cost

Table 2 Hydrant & Hose Reel systems - Opinion of Probable Cost

Item	Description	Estimated Cost / \$
Option 1	As above 3.2.1	\$100,000
Option 2	As above 3.2.2	\$7,000

Notes:

- The above costs exclude GST
- The opinion of cost excludes builders work, structural modification, tenancy fit-out, relocation or upgrade of existing services, after-hours work, etc.

4. Fire extinguishers

4.1 Existing arrangement

- Fire extinguishers are generally distributed throughout the building as per Evacuation Diagrams shown under Section 3 Hydrant & Hose Reel systems
- The maintenance records we have received and reviewed have shown the existing fire extinguishers have been maintained regularly as per AS1851

4.2 Proposed work

- N/A as long as maintaining the regular services and maintenance as per AS1851

4.3 Fire extinguishers - Opinion of Probable Cost

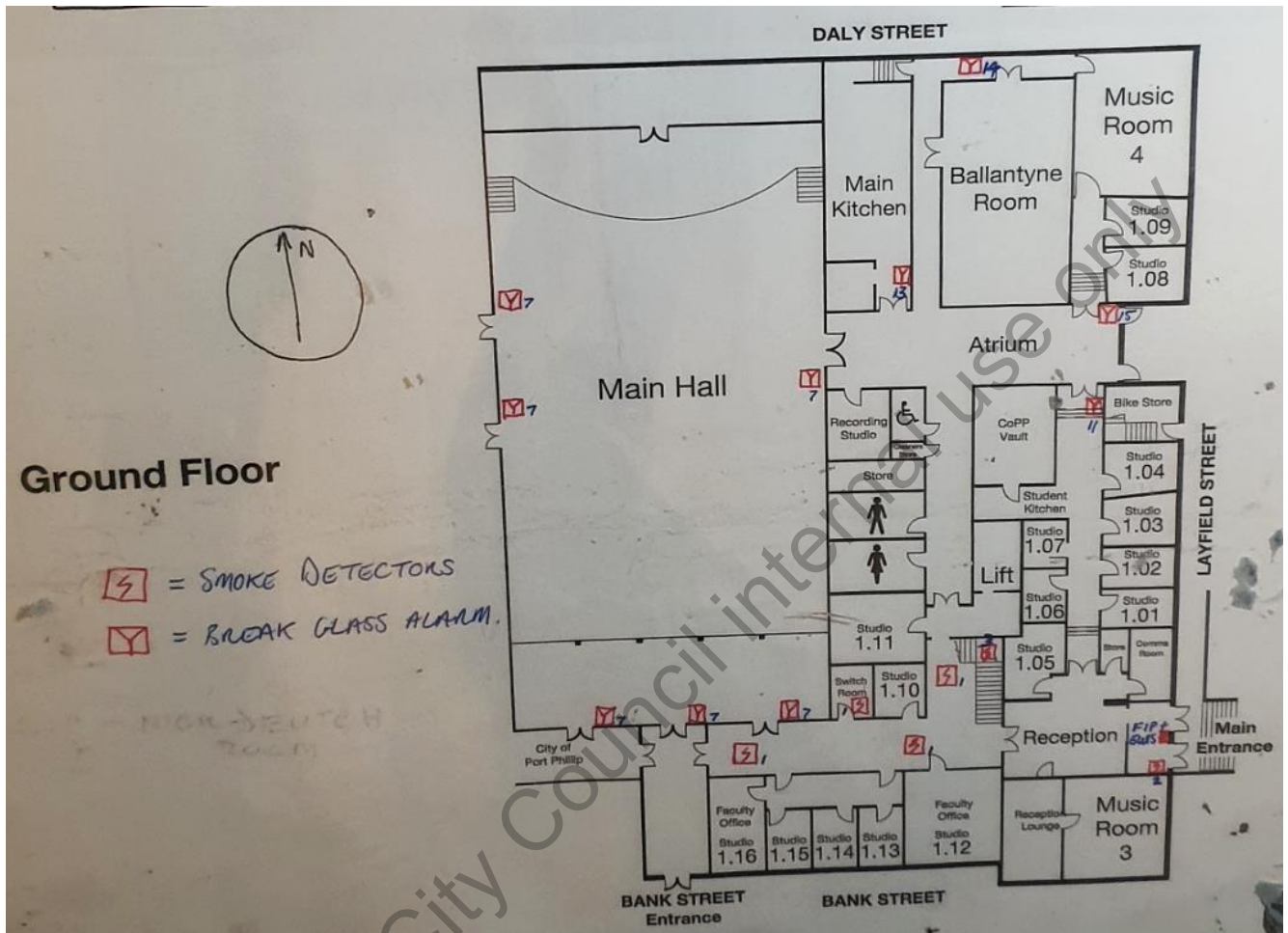
- N/A

5. Fire Detection & Alarm Systems

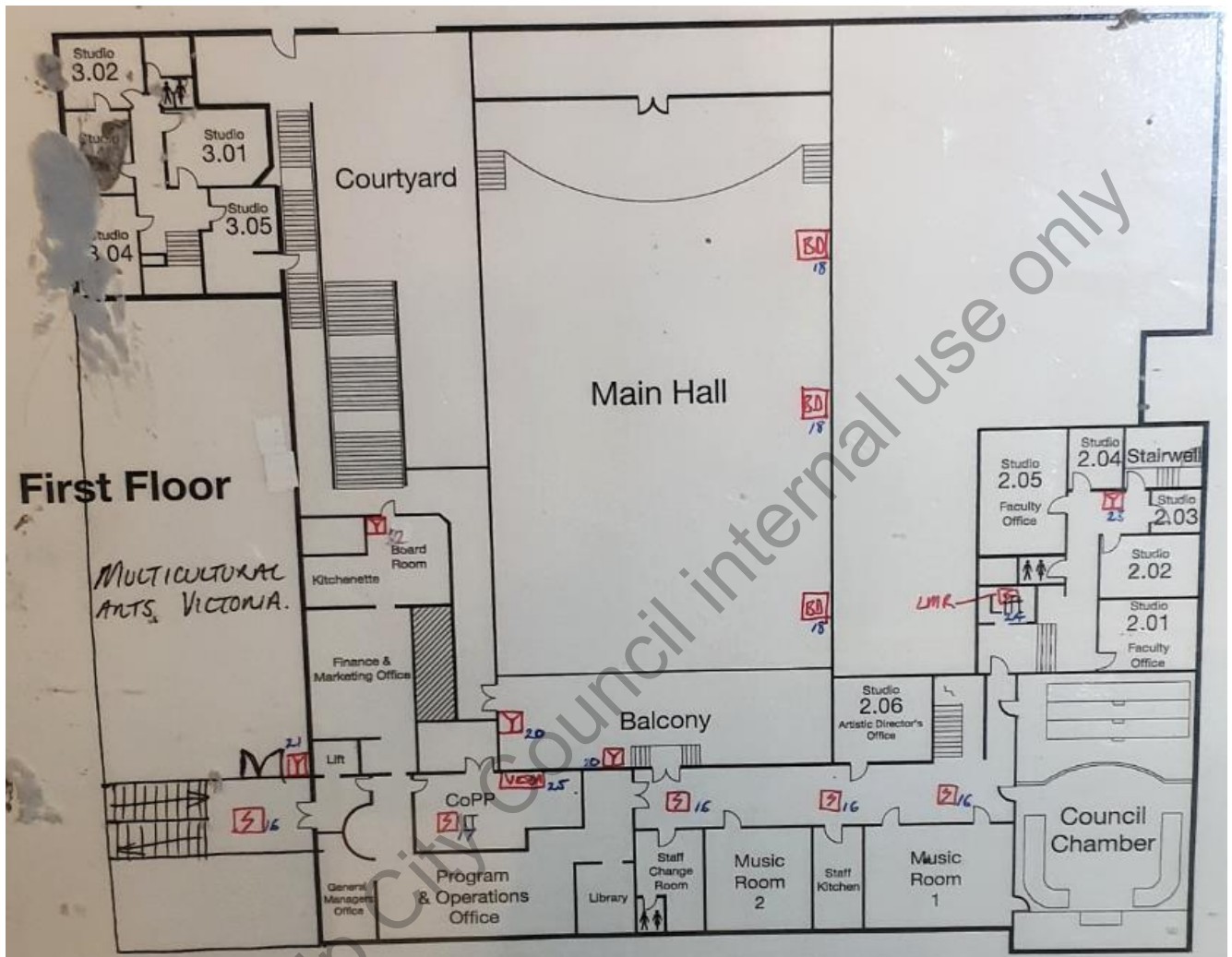
5.1 Existing arrangement

- The FIP + EWIS (Combo Panel) is currently located at the East entrance of the building, access from Layfield St
- Beam detectors only have been installed in the main Hall
- Smoke detectors have been installed at "ANAM" tenancy only but not throughout the building
- EWIS speakers have been installed at "ANAM" tenancy only but not throughout the building
- The maintenance records we have received and reviewed have shown the existing fire detection & alarm systems have been maintained regularly as per AS1851, but the document from "National Fire Solutions" have shown work carried out up until Year 2017 only. Verification required from the Building Maintenance Officer if other contractor(s) have been engaged





First Floor



- Beam detectors only in the Main Hall area



5.2 Proposed work

5.2.1 Option 1 – Compliance to NCC BCA 2019:

- Extend detection & alarm systems to serve the entire building
- Re-zone and commission of FIP
- Install WIP (Warden Intercom Phone) throughout or fire brigade phone jacking points

5.2.2 Option 2 – Minimum compliance requirements to relevant BCA:

- N/A as long as routine services and maintenance as per AS1851 is carried out

5.3 Fire detection & alarm systems - Opinion of Probable Cost

Table 3 Fire detection & alarm systems - Opinion of Probable Cost

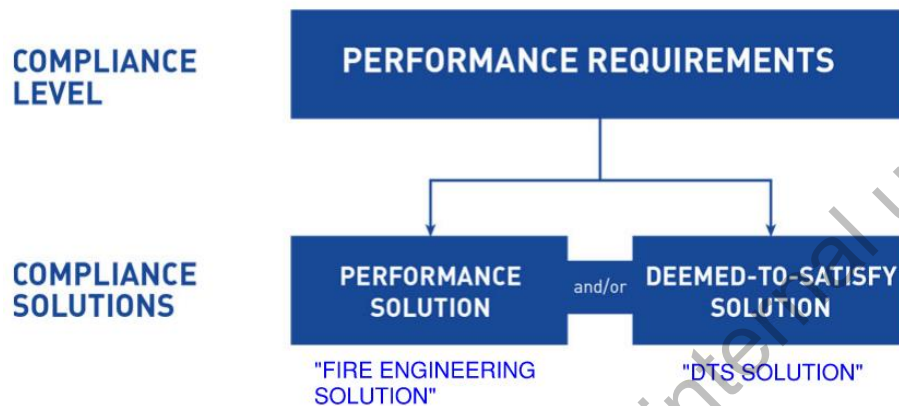
Item	Description	Estimated Cost / \$
Option 1	As above 5.2.1	\$110,000
Option 2	As above 5.2.2	N/A

Notes:

- The above costs exclude GST
- The opinion of cost excludes builders work, structural modification, tenancy fit-out, relocation or upgrade of existing services, after-hours work, etc.

6. Recommendations

- As the current occupancy permit is not available, we recommend the client to engage a Building Surveyor to define the building classification based on relevant BCA year in order to confirm the requirements of fire services for this building



- The existing Omega sprinkler heads which have been recalled shall be replaced immediately
- The existing sprinkler heads which have been due for a 25 yearly test shall be replaced immediately. It is more cost effective to replace these sprinklers than the test due to labour cost
- Confirm with Building Surveyor if the structural & water damage restoration building work would trigger >50% volume and hence would trigger the need of upgrading existing fire services to meet the latest compliance requirements of current Standards

7. Actions required in the interim

In the interim, we must exercise our duty of care to inform the client to exercise the following immediately:

Actions Required:

- Notify the Metropolitan Fire Brigade (MFB)
- Notify all relevant insurers
- Obtain and follow direction from the relevant insurer(s) on this matter
- Notify all owners / tenants
- Ensure the fire detection & alarm systems installed in the building are in correct operation
 - Ensure all maintenance requests have been actioned to avoid system malfunction
 - Ensure maintenance is up to date and any maintenance requests have been actioned to avoid malfunction
- Ensure the evacuation system installed in the building is in correct operation
- Ensure all maintenance requests have been actioned to avoid system malfunction
- Ensure the hydrant & hose reel system(s) installed in the building are in correct operation
 - Ensure all maintenance requests have been actioned to avoid system malfunction
- Ensure the electrical system installed in the building is in correct operation
 - Ensure all maintenance requests have been actioned to avoid system malfunction

ADP Consulting

27/03/2020

Appendix

Documents received and reviewed:

- Pipe thickness testing results letter [PDF]
- South Melbourne Town Hall [PDF]
- SV7750815 [PDF]
- SV7828286 [PDF]
- SV7868216 [PDF]
- TS611920 [PDF]
- TS611928 [PDF]
- TS611932 [PDF]
- TS611958 [PDF]
- TS611959 [PDF]
- TS618554 [PDF]
- TSFlow Results [PDF]
- TS611956 [PDF]
- TS611957 [PDF]
- TS618557 [PDF]
- TS622791 [PDF]
- 80094941 - FES - South Melbourne Town Hall – 18100401 [PDF]
- Quote – 1185546 [PDF]
- South Melb town hall 2017 PASummary [PDF]
- Thef115 (1) [PDF]
- TS622812 [PDF]

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