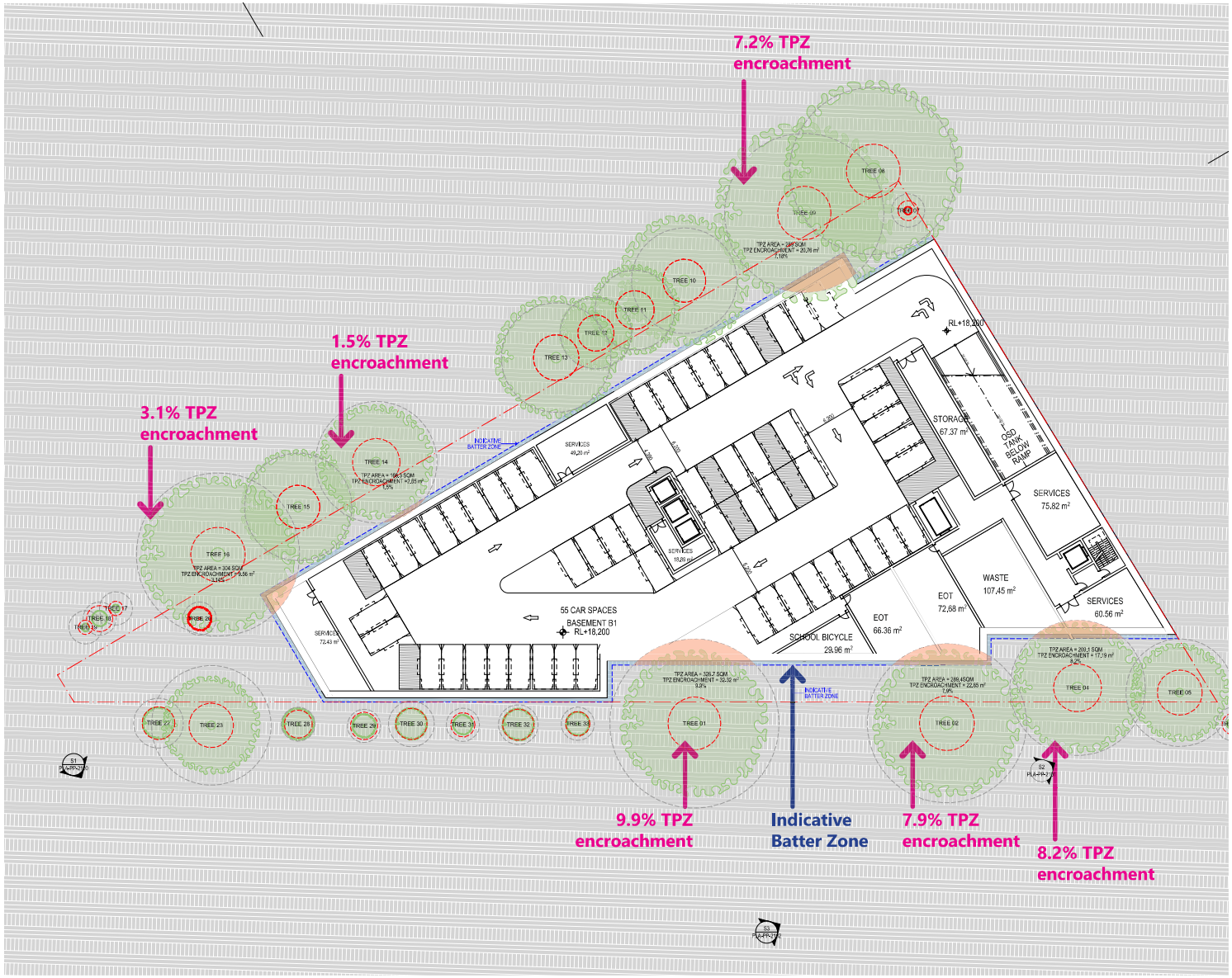
Attachment A2-5

Urban Design Report

07
APPENDIX

TREES STRATEGY - BASEMENT



There are several street trees surrounding the site with a mix of reduced quality and high value.

Following an arborist report and further development on the plans, the current proposal achieves the following:

General

- There is no SRZ encroachment
- All street trees maintained, except the ones identified as Retention Value R or C, which are trees recommended to be removed, or of reduced quality.

B01

- All TPZ encroachments in basement are less than 10%. The TPZ encroachments also factor in an indicative batter zone.

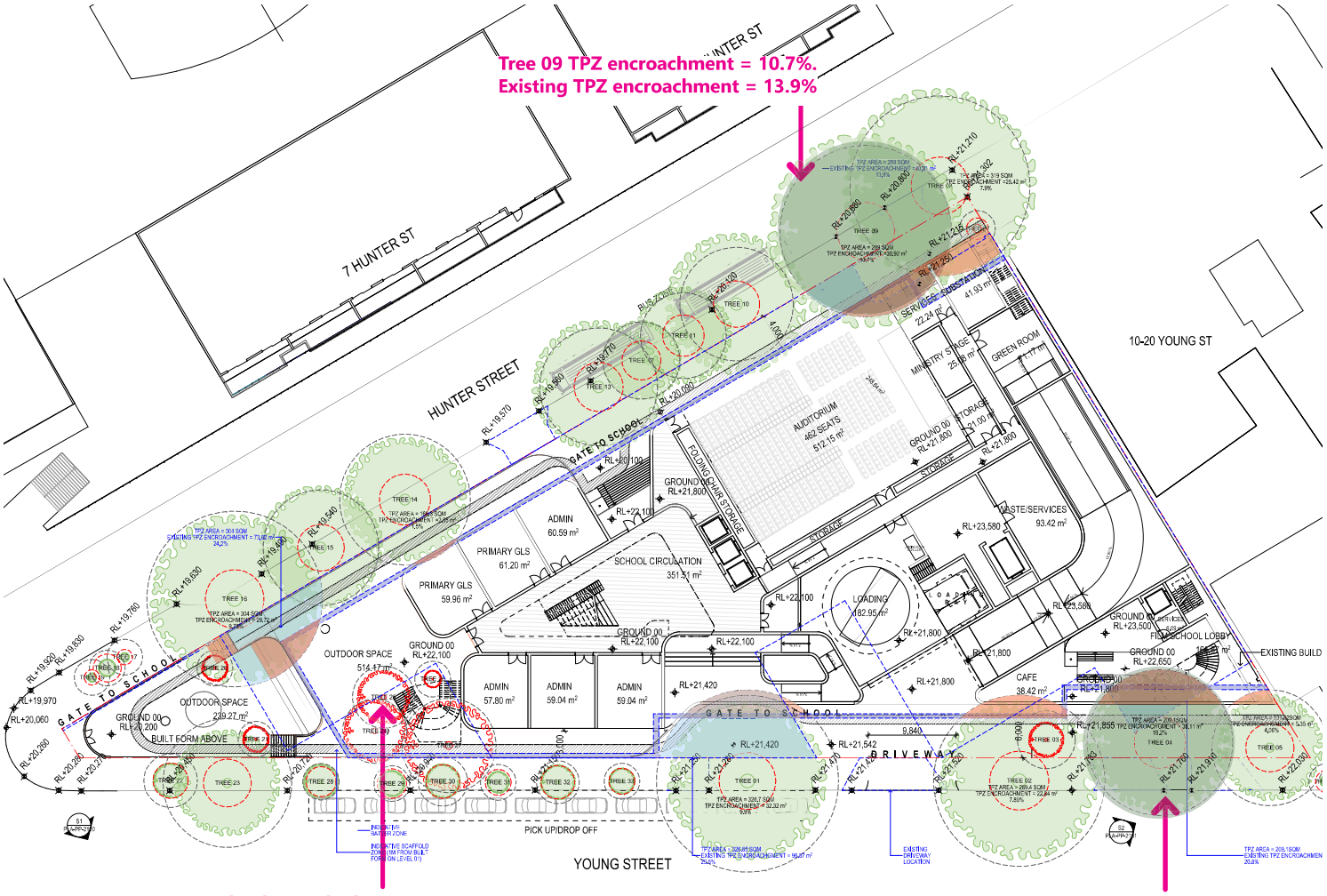
Ground

- Two trees have a TPZ encroachment higher than 10%, however, in each case, the existing built form had an even greater TPZ encroachment. Note: TPZ encroachments also factor in the indicative batter zone from basement.

Upper Levels

- Several tree canopies are encroached on the upper levels. 3D views comparing the massing and the 3d point cloud have been prepared

TREES STRATEGY - GROUND



There are several street trees surrounding the site with a mix of reduced quality and high value.

Following an arborist report and further development on the plans, the current proposal achieves the following:

General
- There is no SRZ encroachment
- All street trees maintained, except the ones identified as Retention Value R or C, which are trees recommended to be removed, or of reduced quality.

B01
- All TPZ encroachments in basement are less than 10%. The TPZ encroachments also factor in an indicative batter zone.

Ground
- Two trees have a TPZ encroachment higher than 10%, however, in each case, the existing built form had an even greater TPZ encroachment. Note: TPZ encroachments also factor in the indicative batter zone from basement.

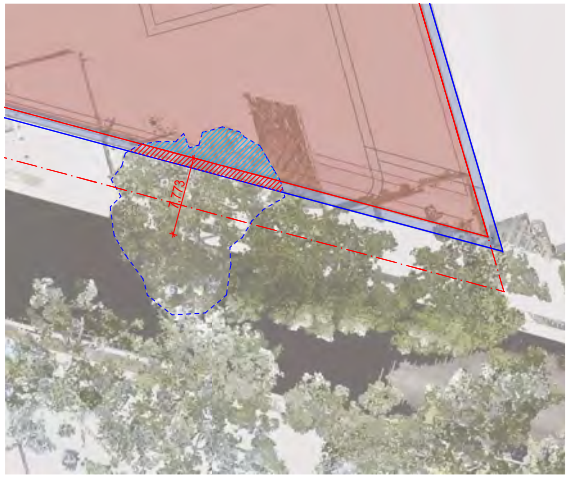
Upper Levels
- Several tree canopies are encroached on the upper levels. 3D views comparing the massing and the 3d point cloud have been prepared

Retained Tree - TPZ encroachment <10%

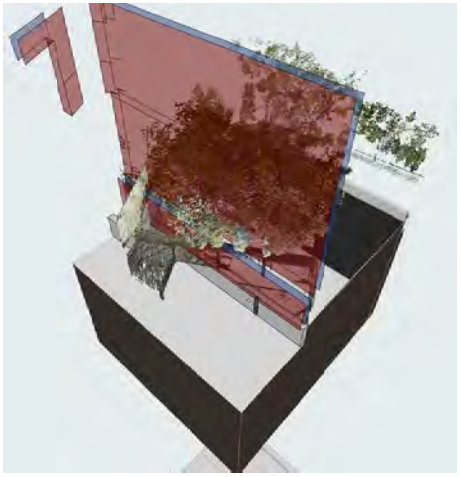
Retained Tree - TPZ encrochament >10% (minor)

Tree to be demolished (Retention Value R or C)

TREES STRATEGY - CANOPIES

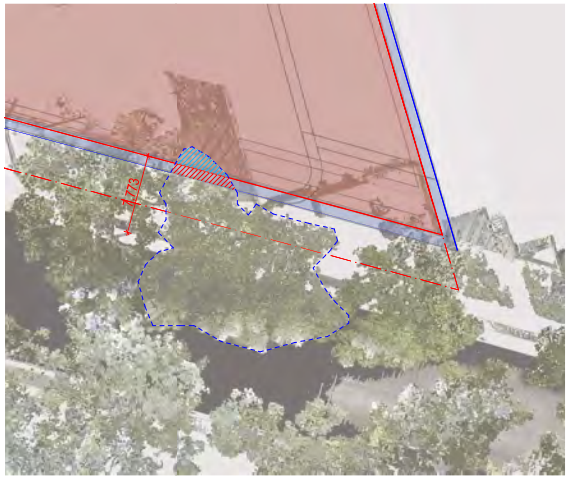


TREE 02 - PLAN



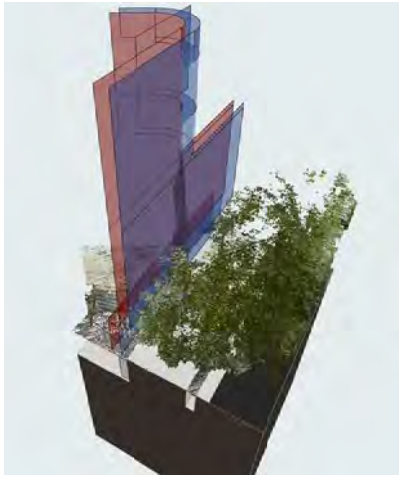
TREE 02 - 3D VIEW

TREE 02 - 3D VIEW



TREE 04 - PLAN

TREE 04 - 3D VIEW



TREE 04 - 3D VIEW

There are several street trees surrounding the site with a mix of reduced quality and high value.

Following an arborist report and further development on the plans, the current proposal achieves the following:

General

- There is no SRZ encroachment
- All street trees maintained, except the ones identified as Retention Value R or C, which are trees recommended to be removed, or of reduced quality.

B01

- All TPZ encroachments in basement are less than 10%. The TPZ encroachments also factor in an indicative batter zone.

Ground

- Two trees have a TPZ encroachment higher than 10%, however, in each case, the existing built form had an even greater TPZ encroachment. Note: TPZ encroachments also factor in the indicative batter zone from basement.

Upper Levels

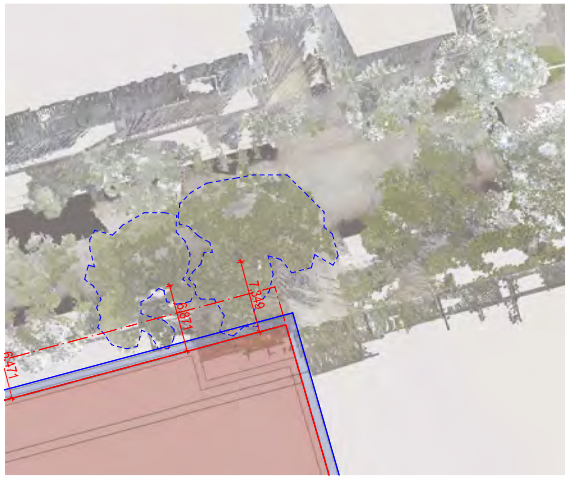
- Several tree canopies are encroached on the upper levels. 3D views comparing the massing and the 3d point cloud have been prepared

Tree Canopy (as derived from Point Cloud)

Proposed Built Form

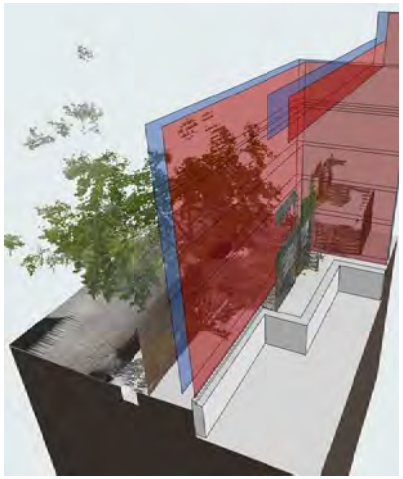
Scaffolding

TREES STRATEGY - CANOPIES

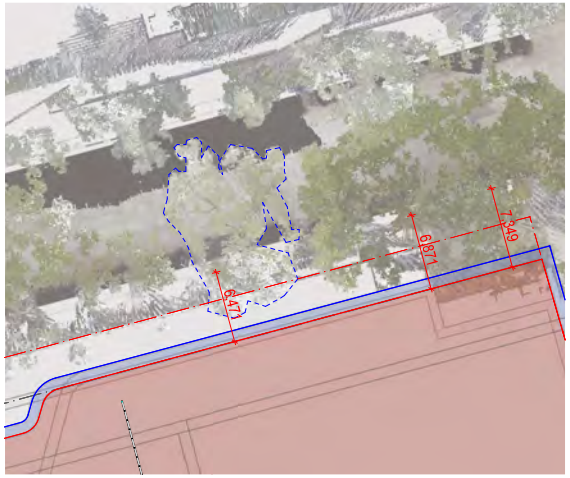


TREE 08+09 - PLAN

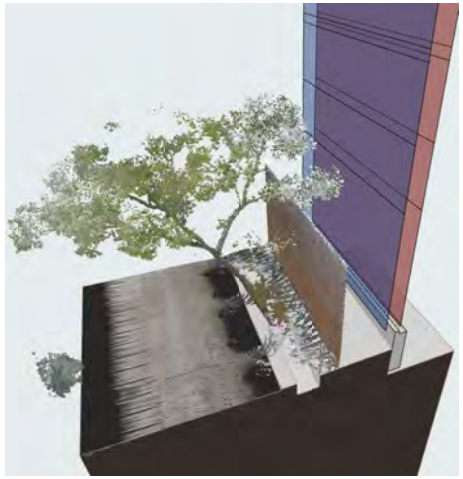
TREE 08+09 - 3D VIEW



TREE 08+09 - 3D VIEW



TREE 10 - PLAN



TREE 10 - 3D VIEW

TREE 10 - 3D VIEW

There are several street trees surrounding the site with a mix of reduced quality and high value.

Following an arborist report and further development on the plans, the current proposal achieves the following:

General
- There is no SRZ encroachment
- All street trees maintained, except the ones identified as Retention Value R or C, which are trees recommended to be removed, or of reduced quality.

B01
- All TPZ encroachments in basement are less than 10%. The TPZ encroachments also factor in an indicative batter zone.

Ground
- Two trees have a TPZ encroachment higher than 10%, however, in each case, the existing built form had an even greater TPZ encroachment. Note: TPZ encroachments also factor in the indicative batter zone from basement.

Upper Levels
- Several tree canopies are encroached on the upper levels. 3D views comparing the massing and the 3d point cloud have been prepared

Tree Canopy (as derived from Point Cloud)

Proposed Built Form

Scaffolding

APPENDIX

TREES STRATEGY - CANOPIES

TREE 14 - PLAN

TREE 14 - 3D VIEW

TREE 14 - 3D VIEW

TREE 15 - PLAN

TREE 15 - 3D VIEW

TREE 15 - 3D VIEW

There are several street trees surrounding the site with a mix of reduced quality and high value.

Following an arborist report and further development on the plans, the current proposal achieves the following:

General

- There is no SRZ encroachment
- All street trees maintained, except the ones identified as Retention Value R or C, which are trees recommended to be removed, or of reduced quality.

B01

- All TPZ encroachments in basement are less than 10%. The TPZ encroachments also factor in an indicative batter zone.

Ground

- Two trees have a TPZ encroachment higher than 10%, however, in each case, the existing built form had an even greater TPZ encroachment. Note: TPZ encroachments also factor in the indicative batter zone from basement.

Upper Levels

- Several tree canopies are encroached on the upper levels. 3D views comparing the massing and the 3d point cloud have been prepared

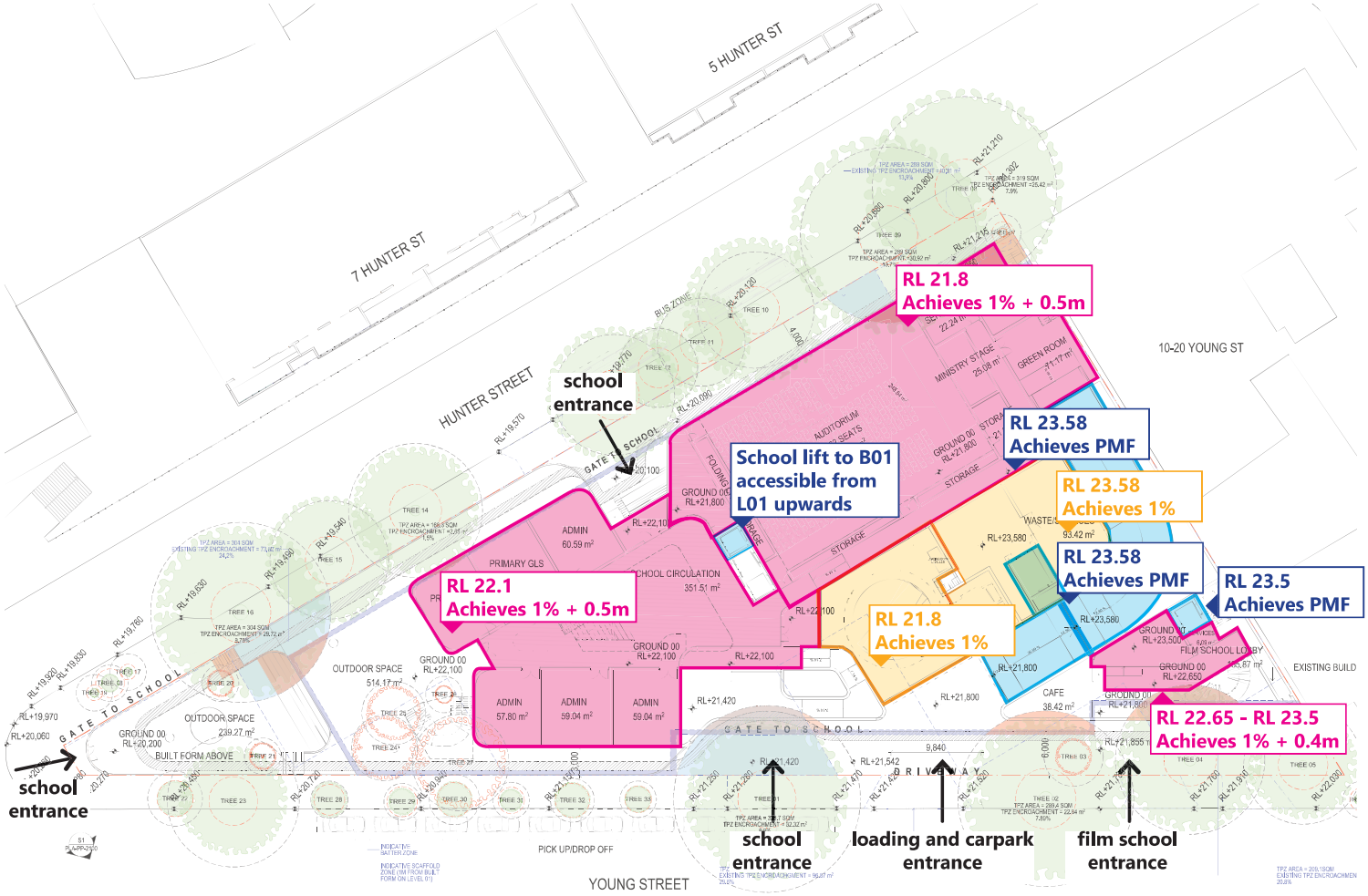
Tree Canopy (as derived from Point Cloud)

Proposed Built Form

Scaffolding

APPENDIX

FLOODING STRATEGY



Non habitable (minimum 1% AEP)

Habitatble (minimum 1% AEP + 0.4 / 0.5m)

Basement penetration (minimum PMF)

The proposed site has flooding issues on both Hunter Street and Young Street. Following a flooding assessment, the level on the ground have been amended to achieve the following:

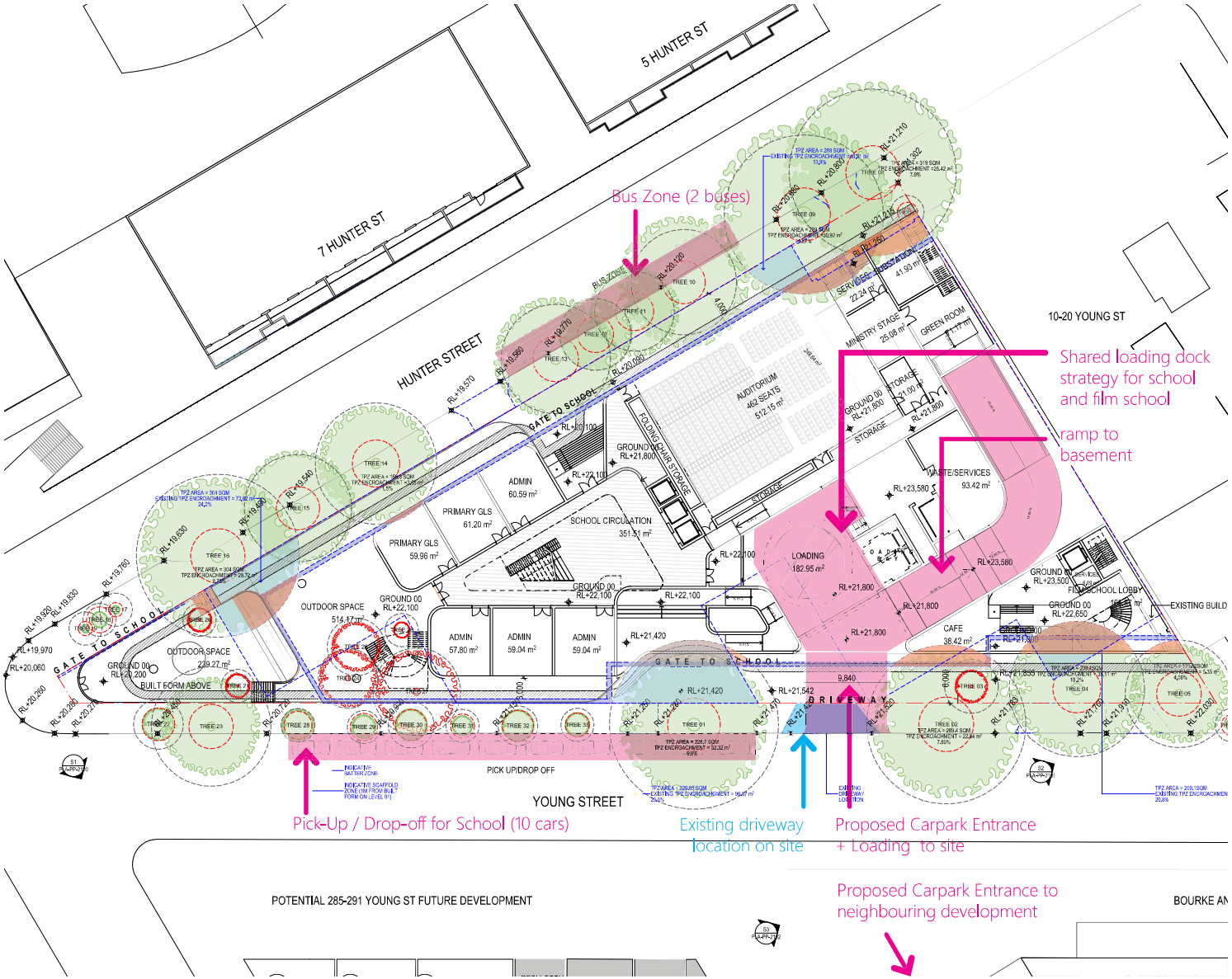
- All basement penetrations (ramps, stairs, lifts) are at the PMF level
- Most ground floor habitable areas are at 1% AEP + freeboard (0.4m or 0.5m depending on circumstance) except for some areas near entrances

School Lift Core Arrangement

to ensure openings below RL 23.5 do not flood the basement

APPENDIX

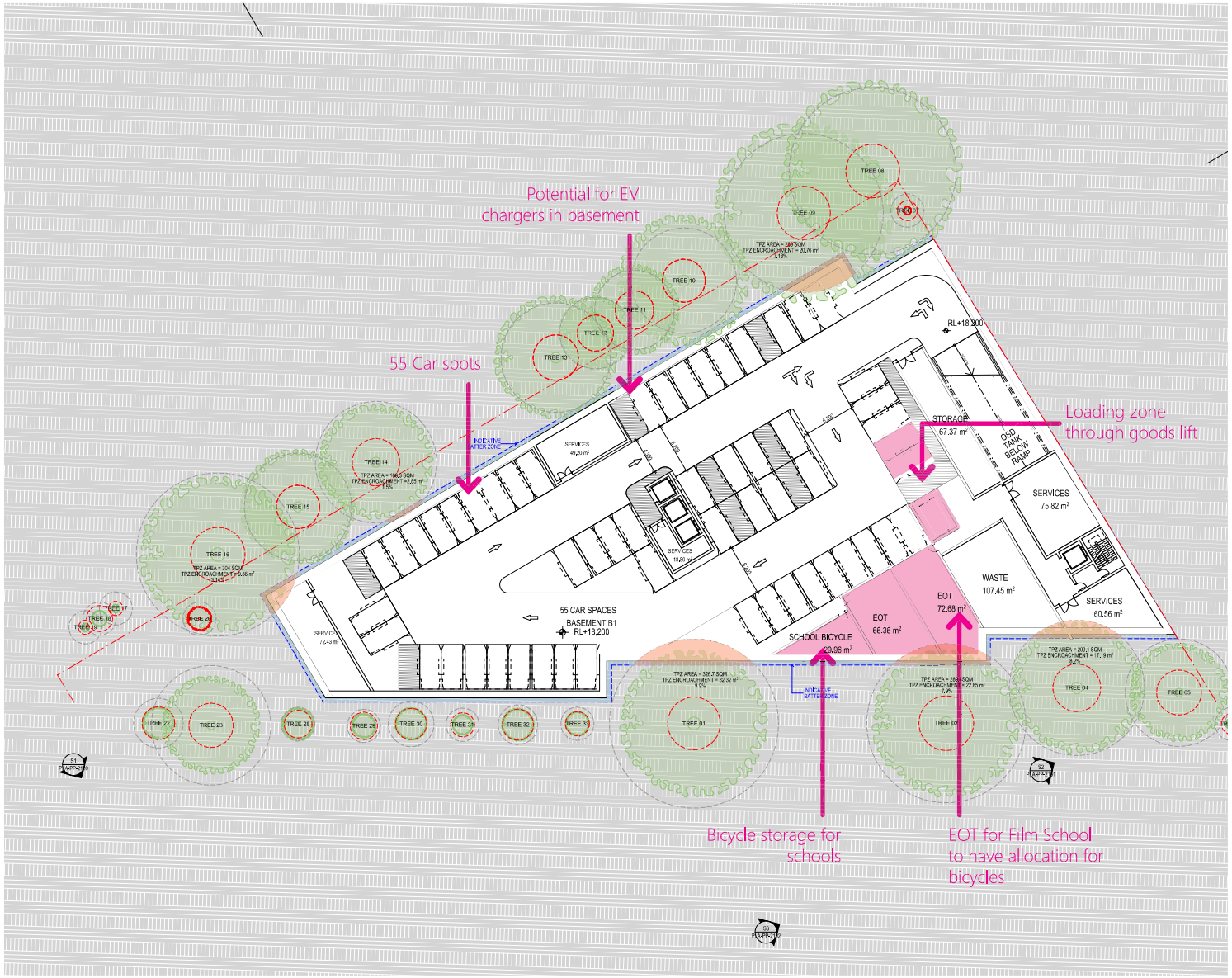
TRAFFIC STRATEGY - GROUND



- The proposed carpark entrance and loading dock entrance is off Young Street, which is located at an existing driveway to the site.
- Loading dock is used by the school and the film school during the weekdays, and by the shared community on the weekend.
- The proposed pick-up/drop-off zone for the school sits along Young Street. These locations are to reduce impacts to Hunter Street.
- A bus zone for the school is located on Hunter Street.

APPENDIX

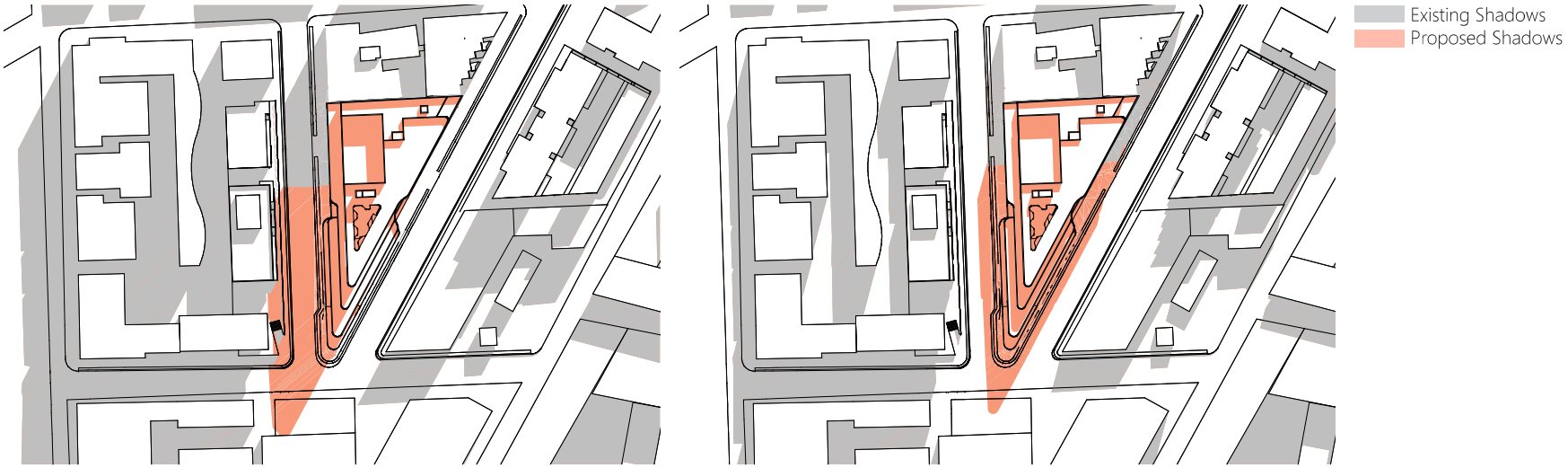
TRAFFIC STRATEGY - LOWER GROUND



- The basement holds 55 car spots, which will be used by the school and film school during the weekdays, and the shared community during the weekend.
- The basement car park will have the potential for EV chargers
- EOT for the film school will have the option for bicycles
- Bicycle parking for the school will also be stored in the basement

APPENDIX

SHADOW DIAGRAMS (WINTER SOLSTICE)



9AM

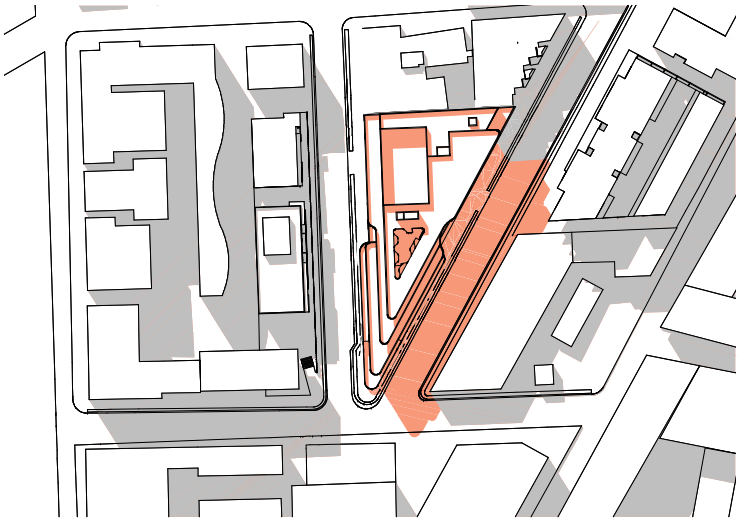
10AM

11AM

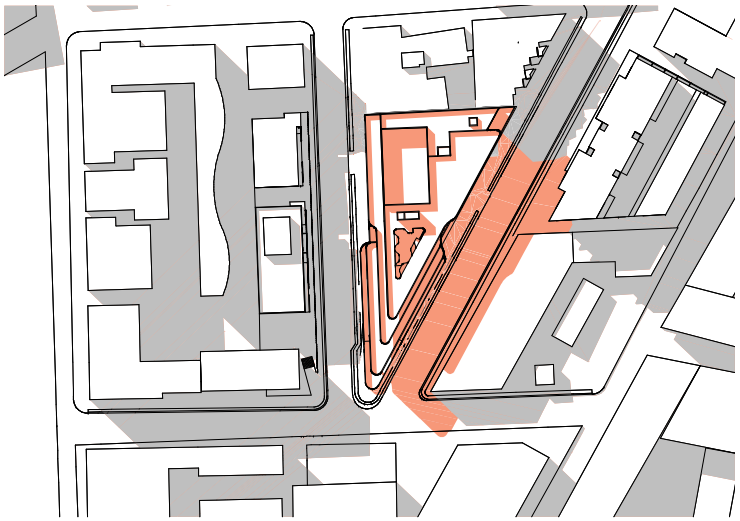
12PM

APPENDIX

SHADOW DIAGRAMS (WINTER SOLSTICE)

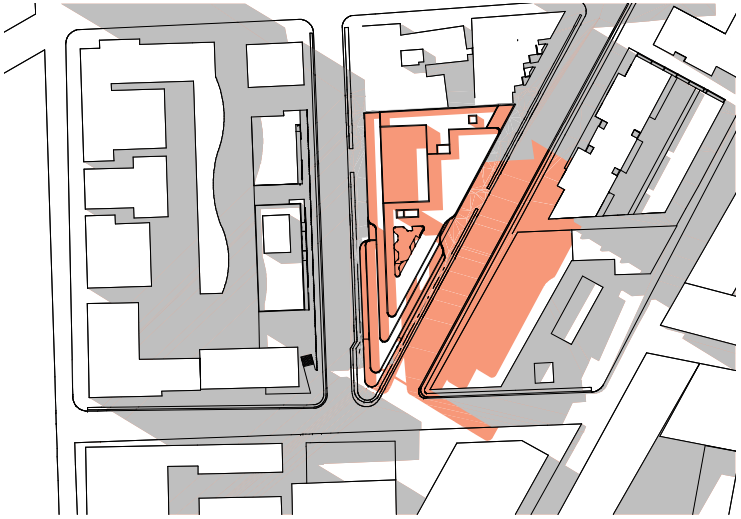


1PM



2PM

Existing Shadows
Proposed Shadows

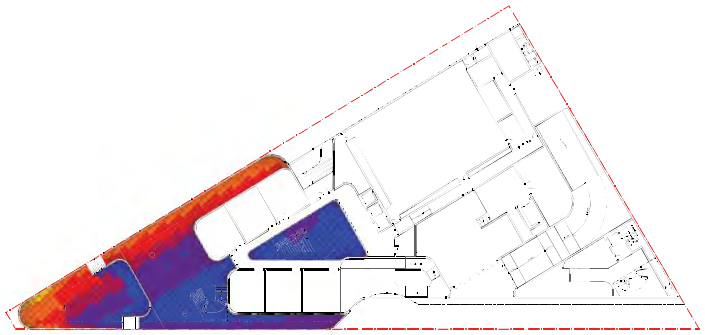


3PM

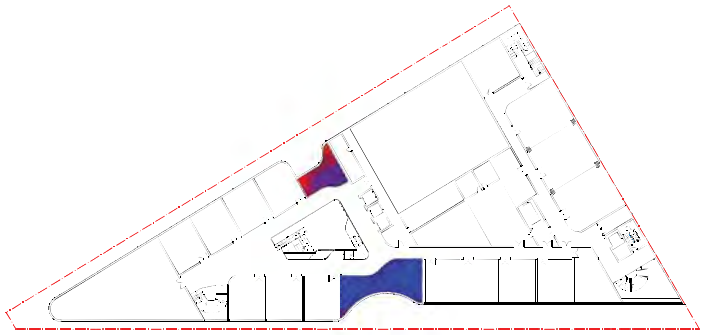
APPENDIX

OPEN SPACE SOLAR STUDY (WINTER SOLSTICE)

These diagrams illustrates the amount of time the school open space receives direct sunlight during winter solstice (9am-3pm).

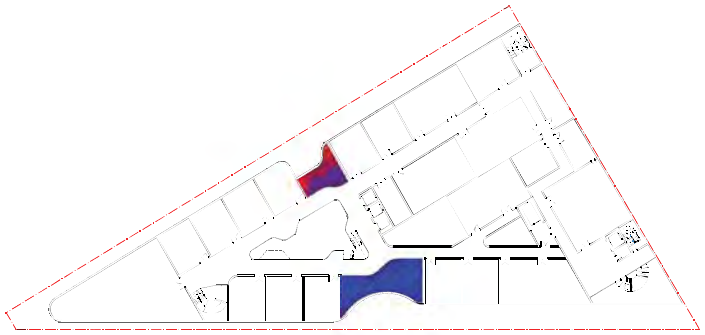


GROUND 00



LEVEL 01

LEVEL 02

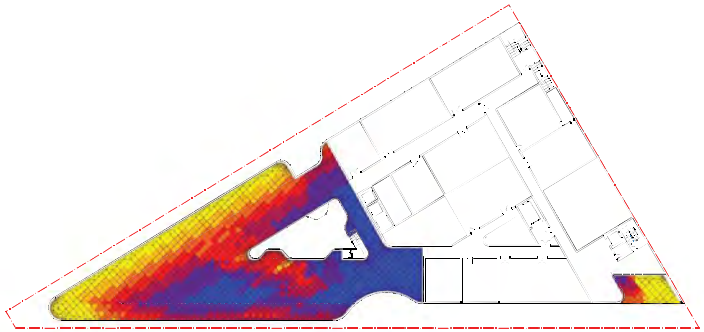


LEVEL 03

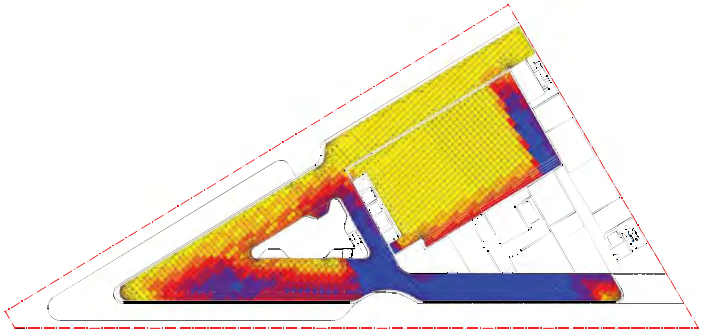
Note:
This is an indicative solar study taken on winter solstice between 9am to 3pm. Data is indicative only and is subject to being verified by an expert consultant.

APPENDIX

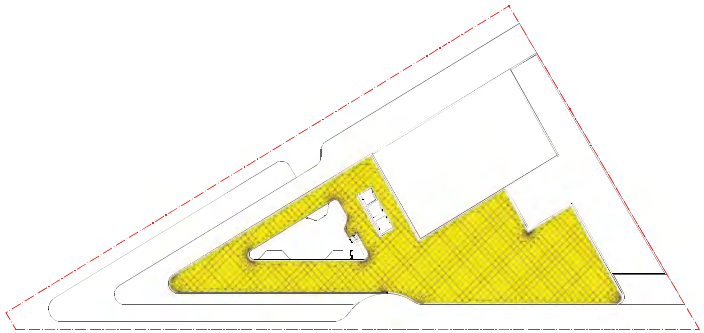
OPEN SPACE SOLAR STUDY (WINTER SOLSTICE)



LEVEL 04



LEVEL 05



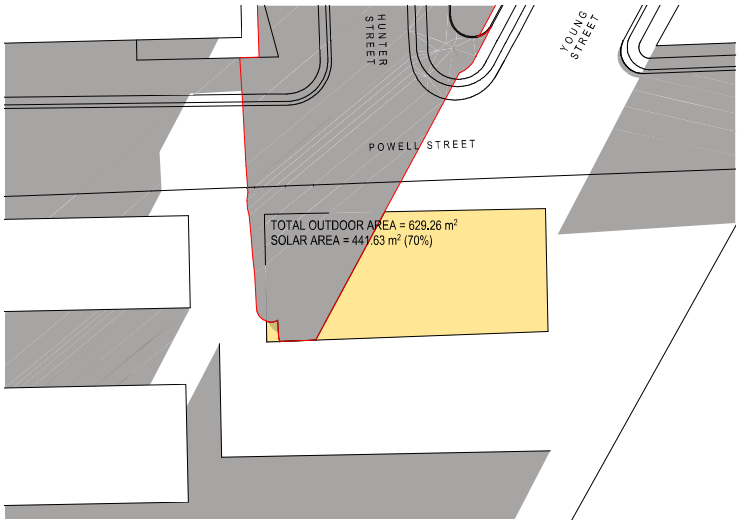
LEVEL 06

These diagrams illustrates the amount of time the school open space receives direct sunlight during winter solstice (9am-3pm).

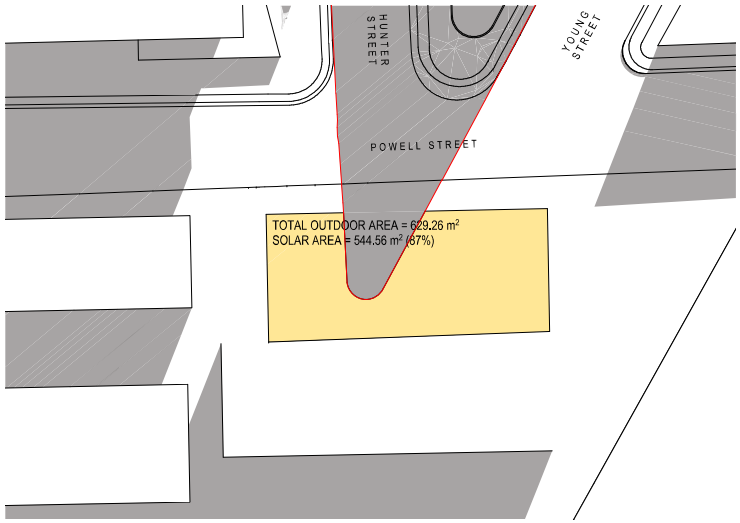
Note:
This is an indicative solar study taken on winter solstice between 9am to 3pm. Data is indicative only and is subject to being verified by an expert consultant.

APPENDIX

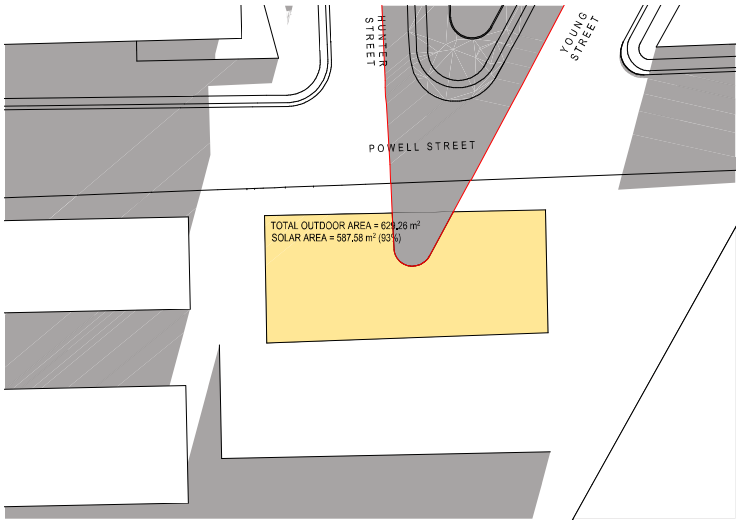
SOLAR ACCESS TO EXISTING NEIGHBOURING OUTDOOR AREA



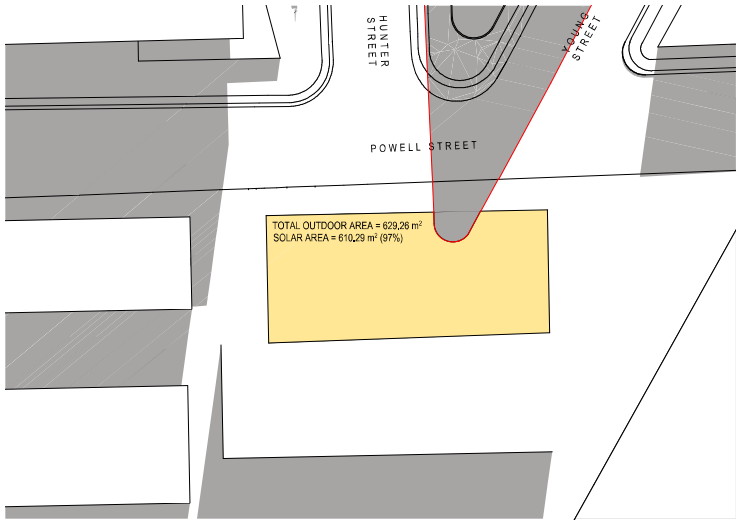
9AM



9:30AM



10AM



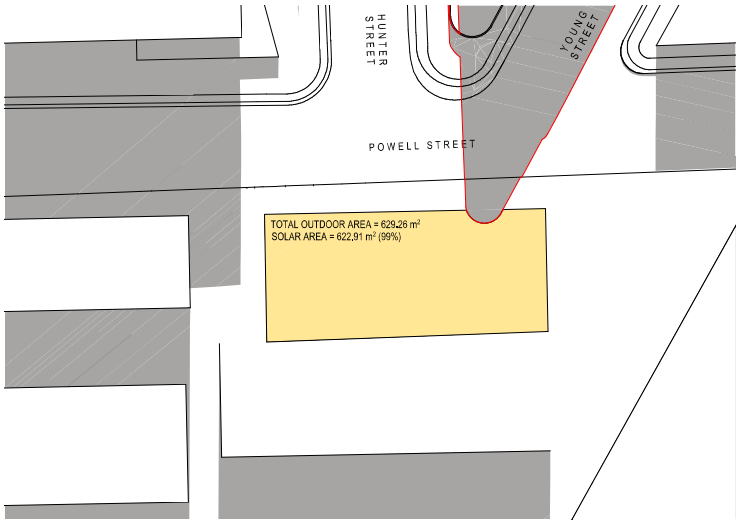
10:30AM

The neighbouring outdoor area to the south achieves the minimum 4 hours of solar access to more than 85% of its area from 9am to 3pm (winter solstice).

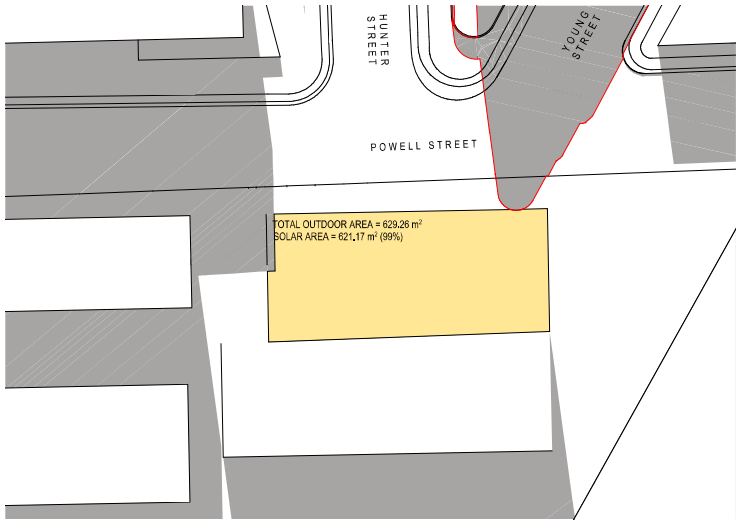
Existing Shadows
Proposed Shadows
Solar Access in Neighbouring Outdoor Area

APPENDIX

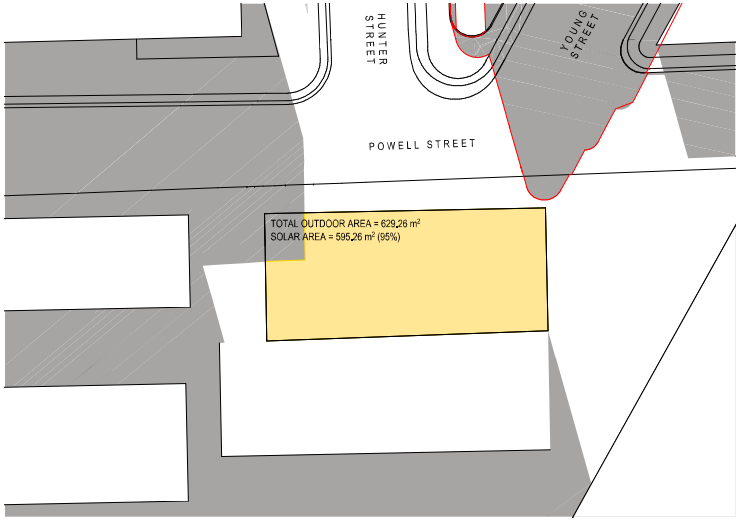
SOLAR ACCESS TO EXISTING NEIGHBOURING OUTDOOR AREA



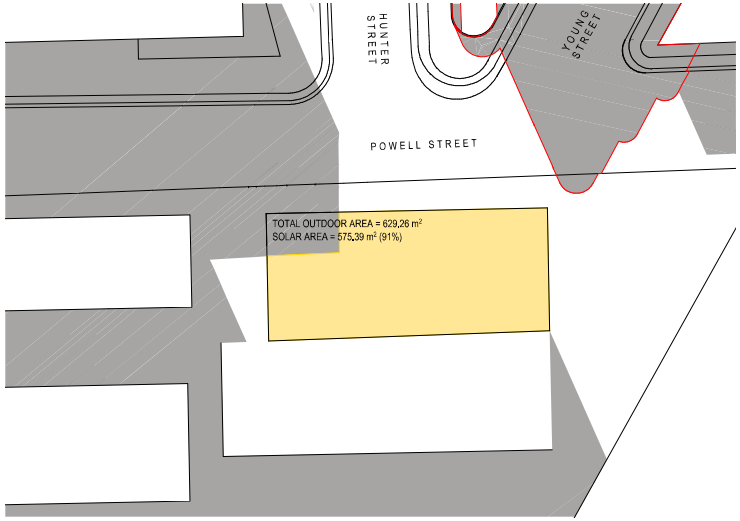
11AM



11:30AM



12PM



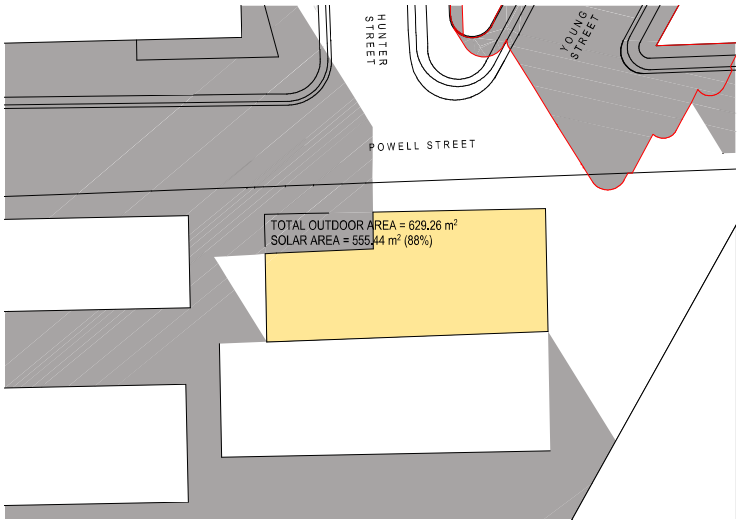
12:30PM

The neighbouring outdoor area to the south achieves the minimum 4 hours of solar access to more than 85% of its area from 9am to 3pm (winter solstice).

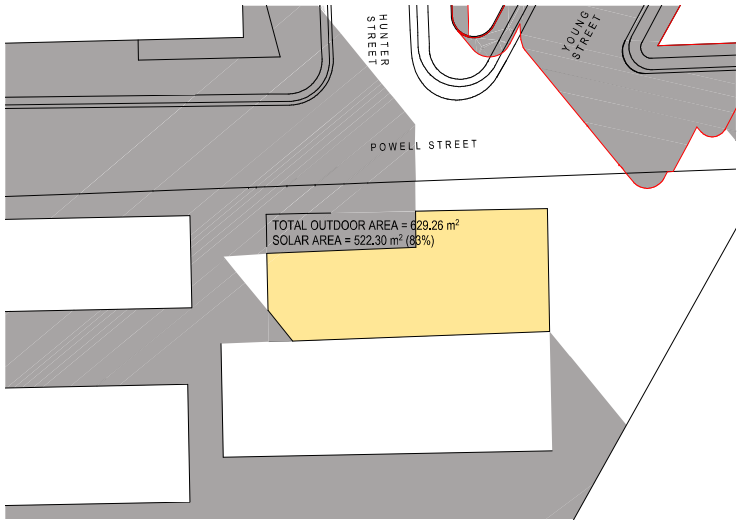
Existing Shadows
Proposed Shadows
Solar Access in Neighbouring Outdoor Area

APPENDIX

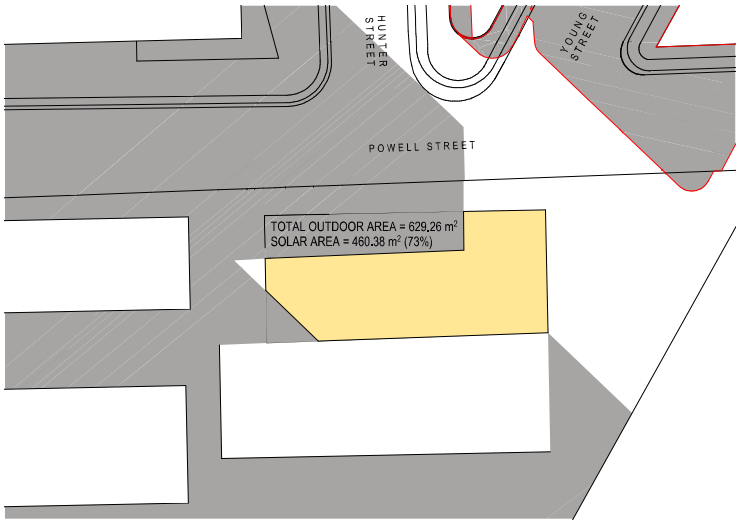
SOLAR ACCESS TO EXISTING NEIGHBOURING OUTDOOR AREA



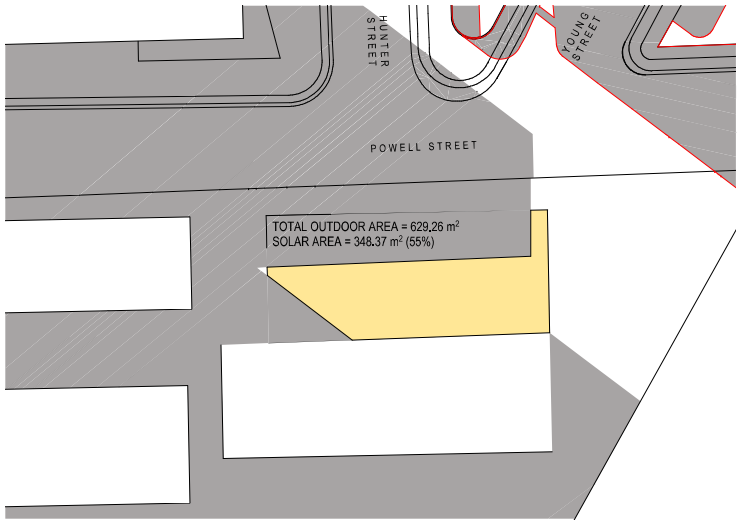
1PM



1:30PM



2PM



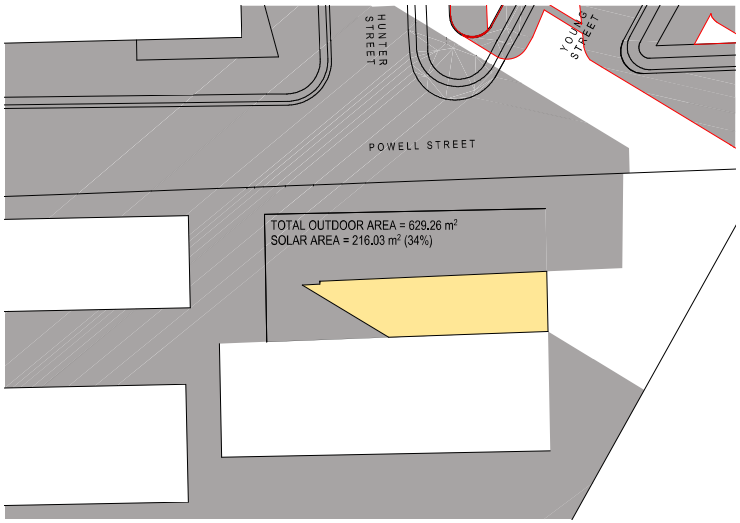
2:30PM

The neighbouring outdoor area to the south achieves the minimum 4 hours of solar access to more than 85% of its area from 9am to 3pm (winter solstice).

Existing Shadows
Proposed Shadows
Solar Access in Neighbouring Outdoor Area

APPENDIX

SOLAR ACCESS TO EXISTING NEIGHBOURING OUTDOOR AREA



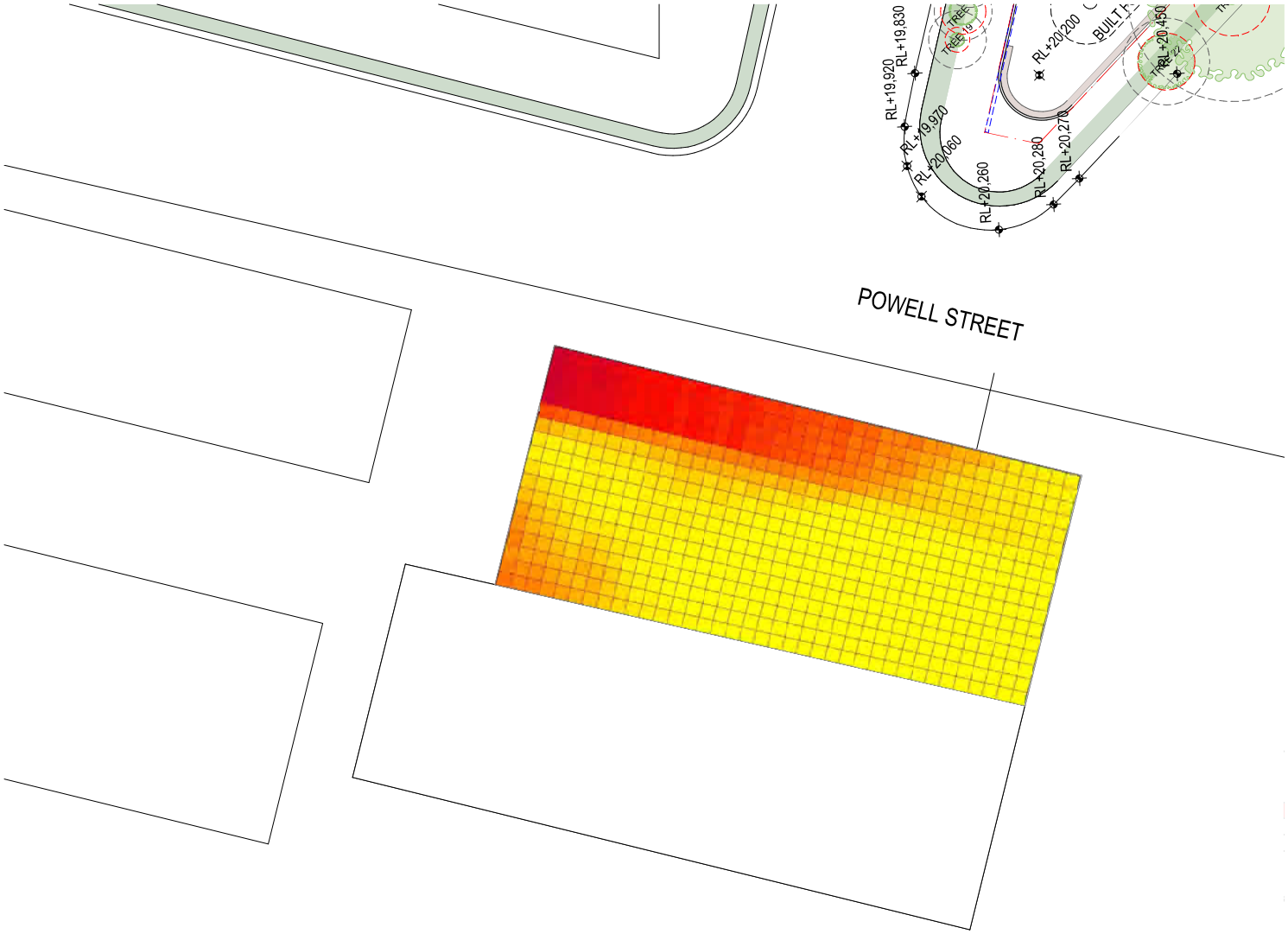
3PM

The neighbouring outdoor area to the south achieves the minimum 4 hours of solar access to more than 85% of its area from 9am to 3pm (winter solstice).

Existing Shadows
Proposed Shadows
Solar Access in Neighbouring Outdoor Area

APPENDIX

SOLAR ACCESS TO EXISTING NEIGHBOURING PARK



City of Sydney has sought a solar insolation analysis that demonstrates 4 hours of sunlight can be provided continuously over 50% of the park to the south of Powell Street.

The Solar Study demonstrates that 4 hours of sunlight is achieved to 86.7% of the park on June 21 between 9am-3pm, when sunlight is measured at 10-minute intervals. These intervals have been calculated to be exposed to sunlight throughout the interval.

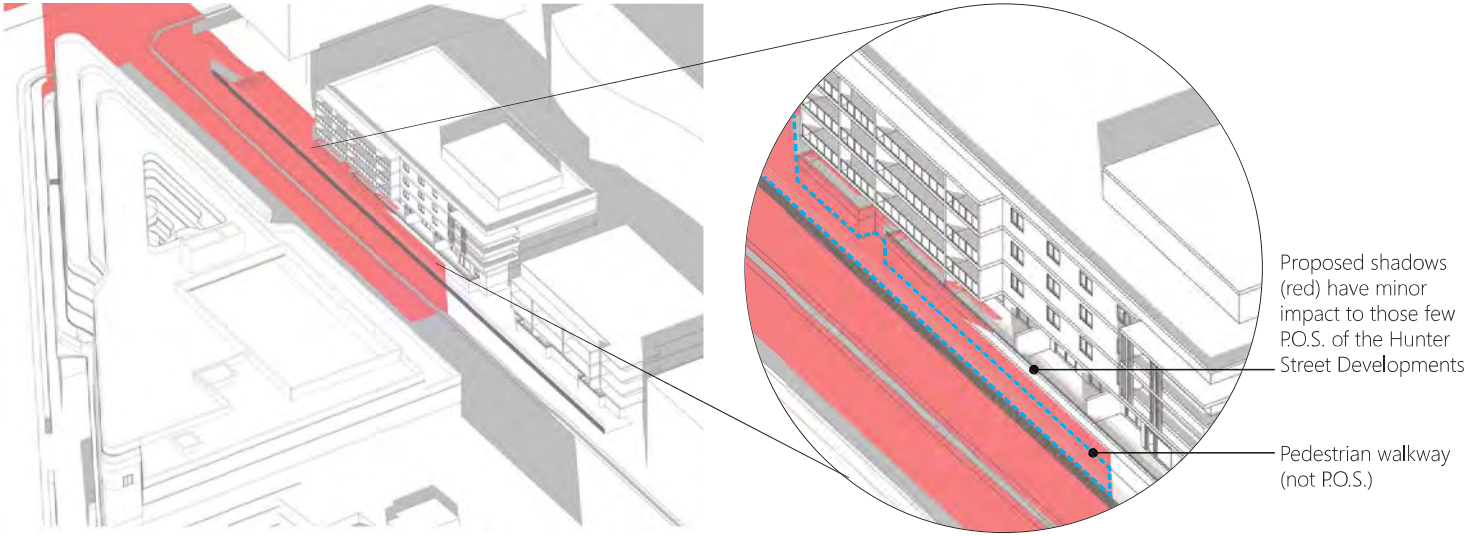
SITE AREA (SQM)	> 3 HRS	> 4 HRS	> 5 HRS	6 HRS
629.26	604.9	545.5	462.1	232.5
	96.1%	86.7%	73.4%	36.9%

Note:
This solar study is taken on winter solstice between 9am to 3pm at a 10 minute interval.

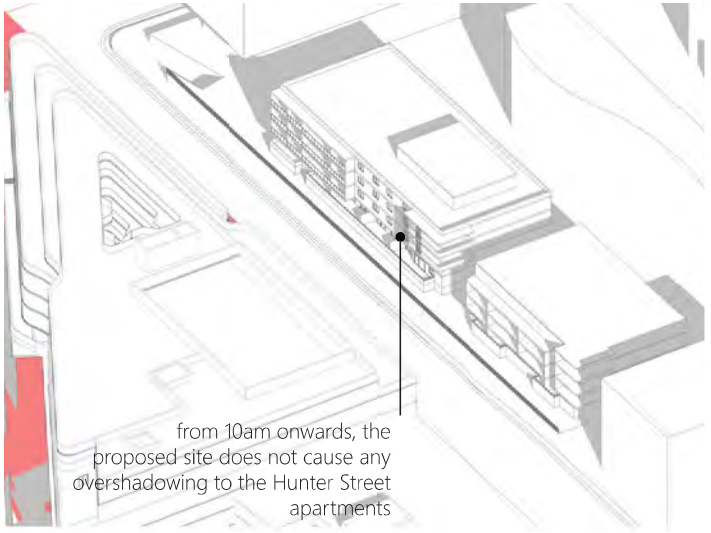
4 Hour Requirement: **50%**
4 Hour Achieved: **86.7%**

APPENDIX

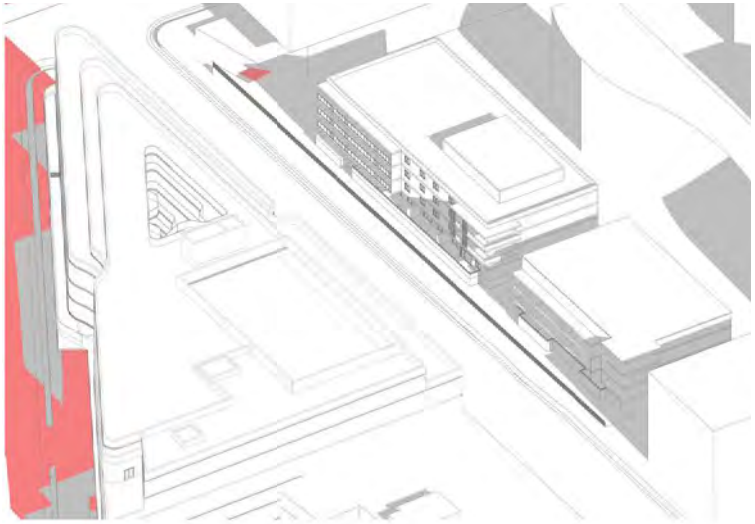
EXISTING HUNTER STREET APARTMENTS - SOLAR ACCESS



9AM



10AM



11AM

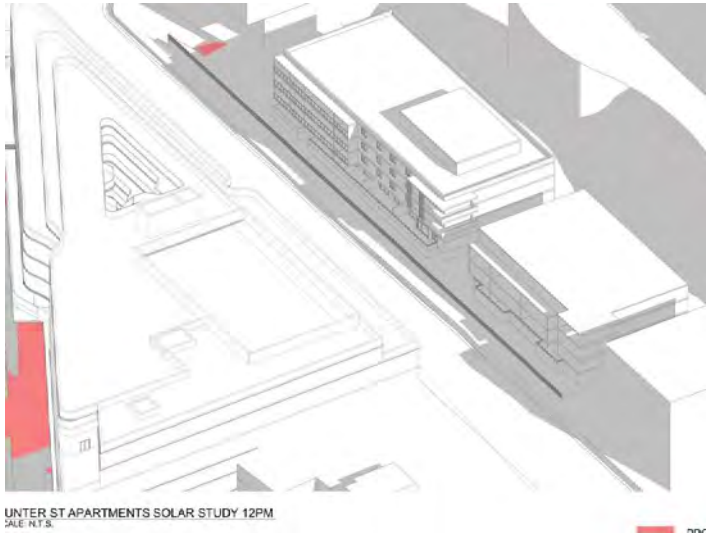
The existing developments along Hunter Street are residential apartment blocks. The proposed built form does not cause any additional overshadowing to the apartment living rooms during winter solstice from 9am to 3pm. There is minor overshadowing to three balconies, which only occurs at 9am.

Existing Shadows
Proposed Shadows

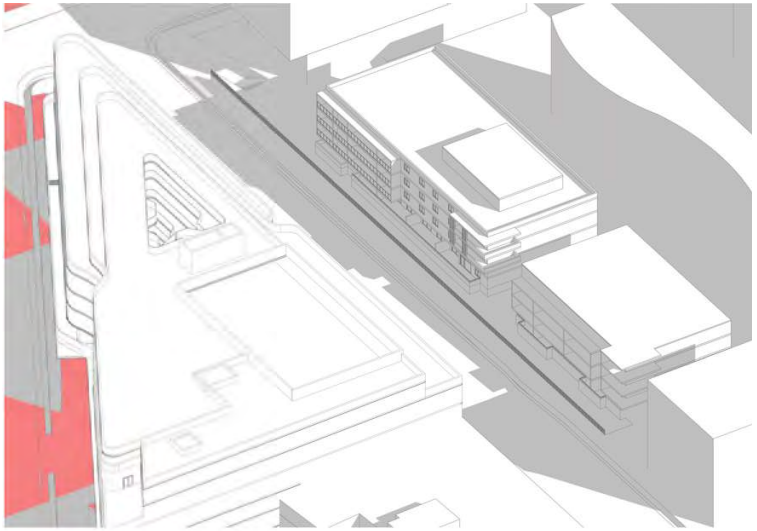
HUNTER STREET APARTMENTS

APPENDIX

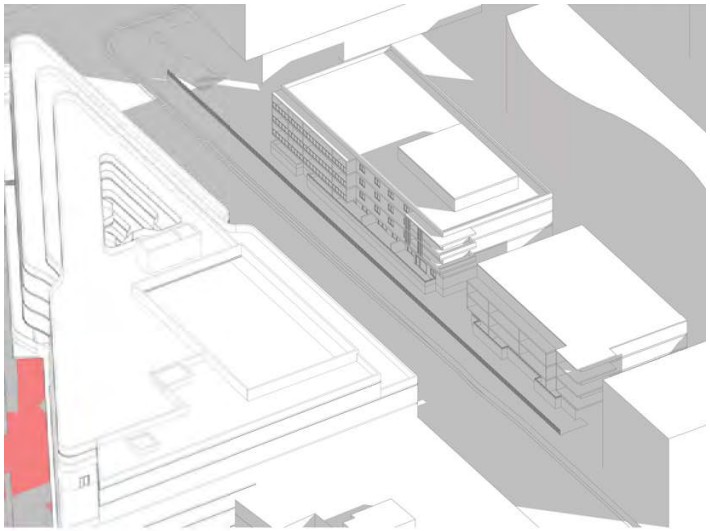
EXISTING HUNTER STREET APARTMENTS - SOLAR ACCESS



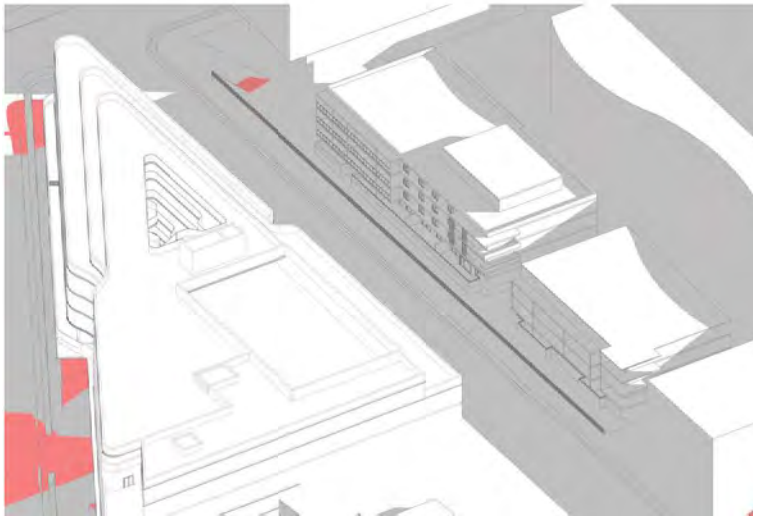
12PM



1PM



2PM



3PM

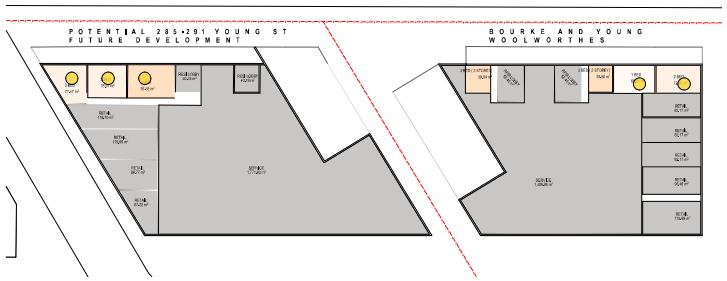
The existing developments along Hunter Street are residential apartment blocks. The proposed built form does not cause any additional overshadowing to the apartment living rooms during winter solstice from 9am to 3pm. There is minor overshadowing to three balconies, which only occurs at 9am.

Existing Shadows
Proposed Shadows

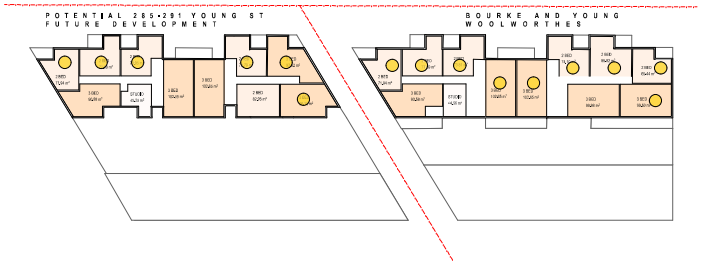
HUNTER STREET APARTMENTS

APPENDIX

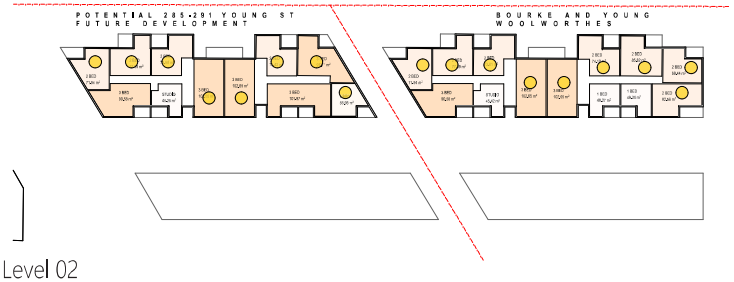
FUTURE YOUNG STREET DEVELOPMENT - SOLAR ACCESS PLANS



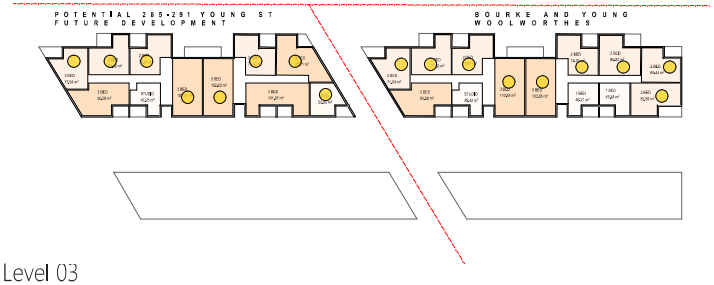
Ground



Level 01

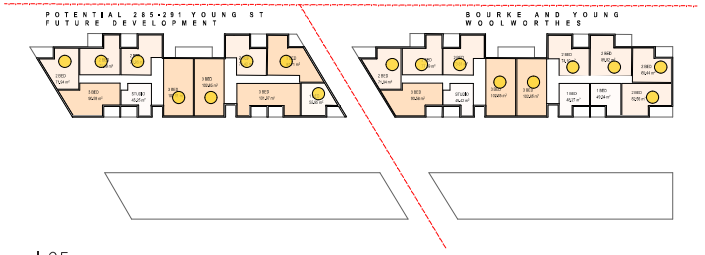


Level 02

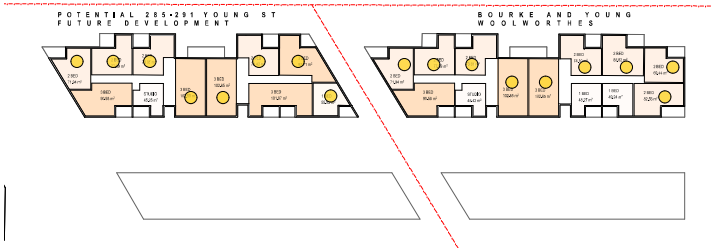


Level 03

Level 04



Level 05



Level 06

City of Sydney has asked that any changes to the building height control for the site must ensure that in the event of redevelopment, the future Bourke and Young Street Development as well as any potential residential development on 285-291 Young Street can achieve at least 70% solar access to the apartments in accordance with the Apartment Design Guide.

This Study analyses any solar impact from the Concept Reference Scheme to those sites. Through this study, both of these sites are able to achieve 71% solar access to their apartments during Winter Solstice.

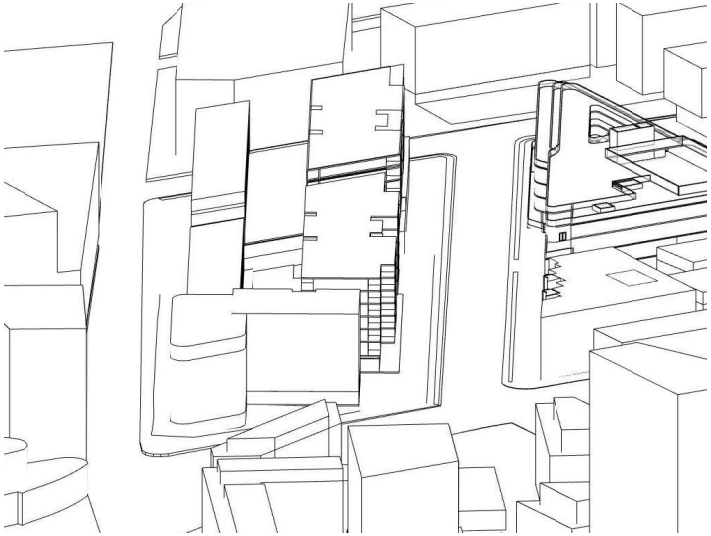
BOURKE AND YOUNG WOOLWORTH SOLAR COUNT			
STORY	NO. OF APT	2H SOLAR ACCESS	
LEVEL 06	13	9	69%
LEVEL 05	13	9	69%
LEVEL 04	13	9	69%
LEVEL 03	13	9	69%
LEVEL 02	13	9	69%
LEVEL 01	12	9	75%
LEVEL GL	2	2	100%
	79	56	71%

YOUNG ST FUTURE BLDG SOLAR COUNT			
STORY	NO. OF APT	2H SOLAR ACCESS	
LEVEL 06	11	8	73%
LEVEL 05	11	8	73%
LEVEL 04	11	8	73%
LEVEL 03	11	8	73%
LEVEL 02	11	8	73%
LEVEL 01	11	6	55%
LEVEL GL	3	3	100%
	69	49	71%

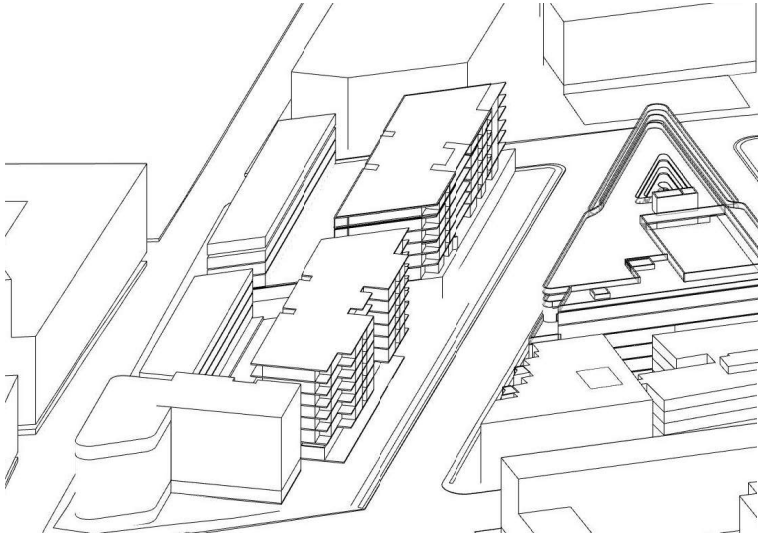
Apartment achieving 2 hours solar access during winter solstice

APPENDIX

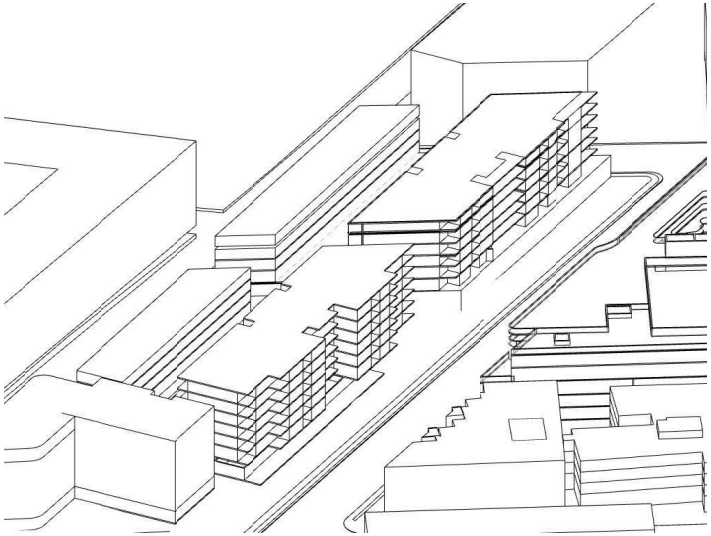
FUTURE YOUNG ST DEVELOPMENT - SUN EYE VIEWS



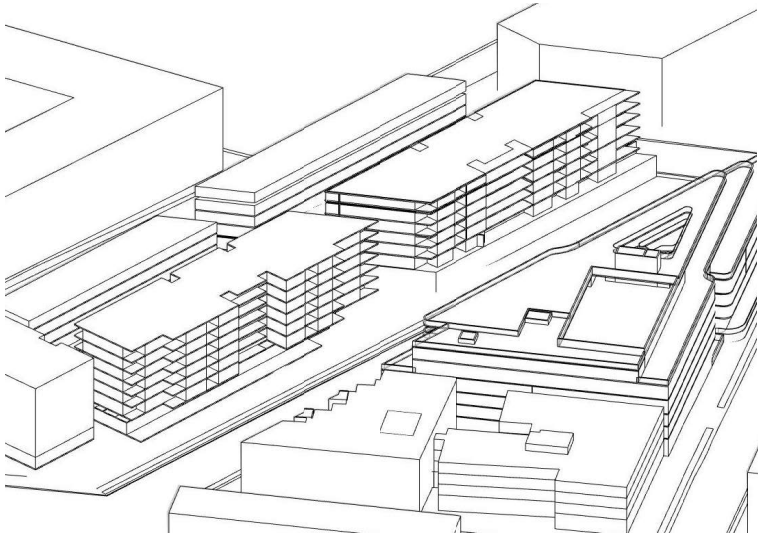
9AM



10AM



11AM



12PM

City of Sydney has asked that any changes to the building height control for the site must ensure that in the event of redevelopment, the future Bourke and Young Street Development as well as any potential residential development on 285-291 Young Street can achieve at least 70% solar access to the apartments in accordance with the Apartment Design Guide.

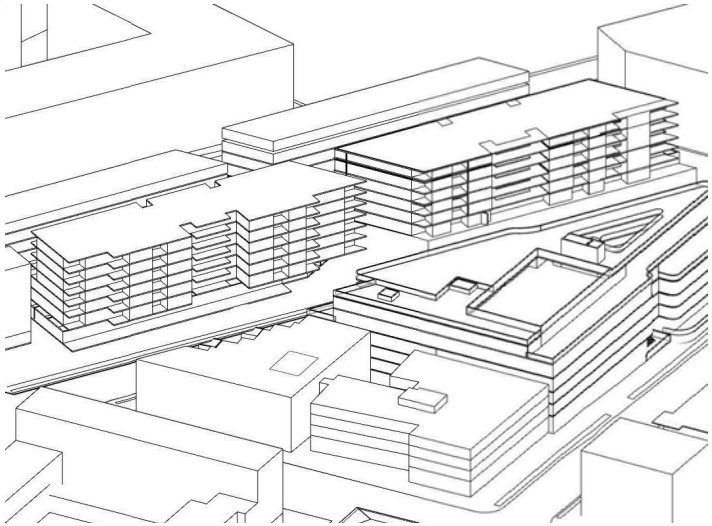
This Study analyses any solar impact from the Concept Reference Scheme to those sites. Through this study, both of these sites are able to achieve 71% solar access to their apartments during Winter Solstice.

BOURKE AND YOUNG WOOLWORTH SOLAR COUNT			
STORY	**NO. OF APT**	**2H SOLAR ACCESS**	
LEVEL 06	13	9	69%
LEVEL 05	13	9	69%
LEVEL 04	13	9	69%
LEVEL 03	13	9	69%
LEVEL 02	13	9	69%
LEVEL 01	12	9	75%
LEVEL GL	2	2	100%
	79	56	71%

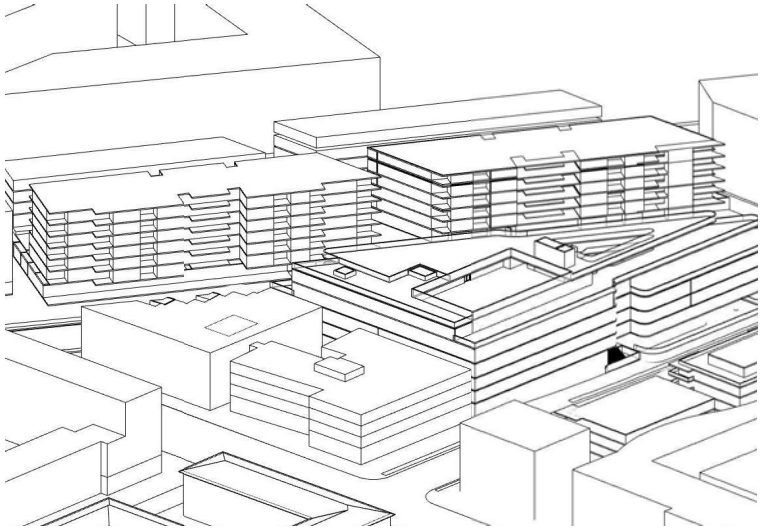
YOUNG ST FUTURE BLDG SOLAR COUNT			
STORY	**NO. OF APT**	**2H SOLAR ACCESS**	
LEVEL 06	11	8	73%
LEVEL 05	11	8	73%
LEVEL 04	11	8	73%
LEVEL 03	11	8	73%
LEVEL 02	11	8	73%
LEVEL 01	11	6	55%
LEVEL GL	3	3	100%
	69	49	71%

APPENDIX

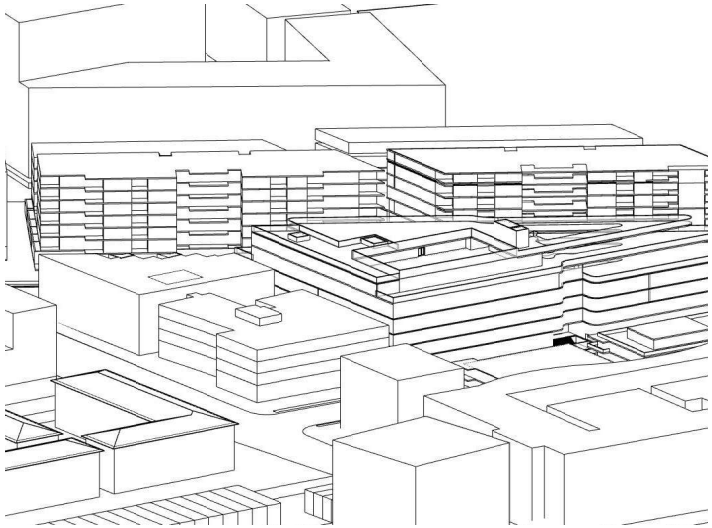
FUTURE YOUNG STREET DEVELOPMENT - SUN EYE VIEWS



1PM



2PM



3PM

The future Woolworths development on Young Street features residential apartments. The proposed design ensures that there is no impact to that site achieving 2 hours of solar access to 70% of the apartments during winter.

Similarly, if the site at 285-291 Young Street is redeveloped as a residential building, it will achieve 2 hours of solar access to 70% of the apartments during winter.

BOURKE AND YOUNG WOOLWORTH SOLAR COUNT			
STORY	**NO. OF APT**	**2H SOLAR ACCESS**	
LEVEL 06	13	9	69%
LEVEL 05	13	9	69%
LEVEL 04	13	9	69%
LEVEL 03	13	9	69%
LEVEL 02	13	9	69%
LEVEL 01	12	9	75%
LEVEL GL	2	2	100%
	79	56	71%

YOUNG ST FUTURE BLDG SOLAR COUNT			
STORY	**NO. OF APT**	**2H SOLAR ACCESS**	
LEVEL 06	11	8	73%
LEVEL 05	11	8	73%
LEVEL 04	11	8	73%
LEVEL 03	11	8	73%
LEVEL 02	11	8	73%
LEVEL 01	11	6	55%
LEVEL GL	3	3	100%
	69	49	71%

APPENDIX

SITE OPTIONS SUMMARY

OPTION 01
AS SHOWN IN COUNCIL MEETING 30/11/22

Height	32.5m
Levels	8 storeys
Basement	1 storey
Total GFA	17,159sqm (includ. circulation)
Total FSR	3.8:1 (includ. circulation)
School Open Space	1,857 sqm
	2.3sqm/student

OPTION 02
AS SHOWN IN COUNCIL MEETING 27/06/23

Height	27m
Levels	6 storeys
Basement	1 storey
Total GFA	13,919sqm (includ. circulation)
Total FSR	3.02:1 (includ. circulation)
School Open Space	3,494sqm
	3.16sqm/student

Key Changes
- floors and height reduced
- GFA reduced
- school open space increased
- commercial program removed

OPTION 03
AS SHOWN IN COUNCIL MEETING 05/12/23

Height	27m
Levels	6 storeys
Basement	1 storey
Total GFA	13,544sqm (includ. circulation)
Total FSR	2.94:1 (includ. circulation)
School Open Space	4,975sqm
	6.2sqm/student

Key Changes
- GFA reduced to increase school open space
- film school area reduced, school area increased

OPTION 04
CURRENT REFERENCE SCHEME

Height	27m (w. minor enroachment)
Levels	6 storeys
Basement	1 storey
Total GFA	13,544sqm (includ. circulation)
Total FSR	2.94:1 (includ. circulation)
School Open Space	4,975sqm
	6.2sqm/student

Key Changes
- Lift access to Level 06 added as per discussions in Council Meeting (05/12/2023)
- Basement footprint reduced to mitigate TPZ encroachment from indicative batter zones

APPENDIX

SCHEDULE

LEVEL	G.F.A (m2) EXC SCHOOL. CIRCULATION	G.F.A (m2) INCLUD. CIRCULATION	CARS Provided
L6			
L5	1433.89	1490.99	
L4	1562.55	1733.93	
L3	2469.39	2953.70	
L2	2468.95	2976.15	
L1	2118.20	2506.71	
G	1387.91	1739.42	
B1	142.64	142.64	55.00
TOTAL	11440.89	13543.54	55.00

SITE AREA	4611 m^2
FSR ALLOWED (+0.5 BONUS)	2.0 :1
GFA ALLOWABLE	9222 m^2

GFA PROPOSED (EXCL. SCHOOL CIRCULATION)	11440.89 m^2
FSR PROPOSED (EXCL. CIRCULATION)	2.48 :1

GFA PROPOSED (INCL. SCHOOL CIRCULATION)	13543.54 m^2
FSR PROPOSED (INCL. SCHOOL CIRCULATION)	2.94 :1

EDUCATION

	TOTAL SCHOOL G.F.A. (m2) INCLUDING CORRIDOR	GLS/CLASS ROOM	PRIMARY GLS NO.	SECONDARY GLS NO.	SPECIALIST	SPECIALIST NO.	ADMIN/ STAFF	AMENITIES	CANTEEN	AUDITORIUM	BASKETBALL COURT	LIBRARY	CIRCULATION SPACE	SCHOOL OUTDOOR SPACE (ACTIVE)	SCHOOL OUTDOOR SPACE (PASSIVE)
		NLA (m2)	NO.	NO.	NLA (m2)	NO.	NLA (m2)	NLA (m2)	NLA (m2)	NLA (m2)	NLA (m2)	NLA (m2)	NLA (m2)	(m2)	(m2)
6														1220.68	
5	1130.73							100.23			757.22		57.10	1280.74	
4	1287.56	185.76		3.00	665.47	5.00	32.01	59.81					171.38	1258.72	
3	2323.00	794.24		13.00	525.46	4.00	32.01	59.81				281.87	484.31		153.91
2	2491.38	925.68		15.00	524.34	4.00	32.01	59.81				281.87	507.20		153.91
1	1697.87	742.08	12.00				29.94	48.54		108.00		281.87	388.51		153.91
G	1535.35	121.16	2.00				297.67			512.15			351.51	753.44	
B1	142.64														
	10608.53	2768.92	14.00	31.00	1715.27	13.00	423.64	328.20	0.00	620.15	757.22	845.61	1960.01	4513.58	461.73
		TARGET GLS	14	31	TARGET SPECIALIST	13						870SQM TARGET		TOTAL OUTDOOR	4975.31
														TOTAL OUTDOOR PER STUDENT	6.2
															10/STUDENT REQ.

FILM SCHOOL

	TOTAL G.F.A. (m2)	AMENITIES	CAFE	FILM SCHOOL CORRIDOR / LOBBY	FILM SCHOOL	FILM SCHOOL OUTDOOR SPACE	BREAKOUT ROOM	REHEARSAL/ KIDS SPACES	COMMERCIAL KITCHEN	STORAGE
		NLA (m2)	NLA (m2)	NLA (m2)	NLA (m2)	NLA (m2)	NLA (m2)	NLA (m2)	NLA (m2)	NLA (m2)
L6										
L5	360.26	28.65		78.33	230.38					
L4	446.37			219.55	212.26	59.32				
L3	630.70			217.77	387.38					
L2	484.77	28.61		145.69	277.81					
L1	808.84			163.96			72.28	318.83	131.87	66.02
G	204.07		38.42	165.87						
B1										
	2935.01	57.26	38.42	991.17	1107.83	59.32	72.28	318.83	131.87	66.02

YEAR	GLS	SPECIALIST	NO. STUDENT
K	2	0	40
1	2		40
2	2		40
3	2		40
4	2		40
5	2		40
6	2		40
7	31	13	90
8			90
9			90
10			90
11			80
12			80
TOTAL	45	13	800

plus
architecture

Suite 602, L6, 150 Karangahape Road
AUCKLAND 1010
New Zealand

Tel +64 9 281 3800
auckland@plusarchitecture.com.au

Ground Floor, 102 Adelaide Street
BRISBANE QLD 4000
Australia

Tel +61 7 3067 3599
brisbane@plusarchitecture.com.au

Level 1, 60 Cashel Street
CHRISTCHURCH 8013
New Zealand

Tel +64 3 337 9481
christchurch@plusarchitecture.com.au

Suite 5, 18 Tedder Avenue
MAIN BEACH QLD 4217
Australia

Tel +61 7 5610 1913
goldcoast@plusarchitecture.com.au

5/107 Elizabeth Street
MELBOURNE VIC 3004
Australia

Tel +61 3 8696 3999
melbourne@plusarchitecture.com.au

160 Beaufort Street
PERTH WA 6000
Australia

Tel +61 8 6500 6490
perth@plusarchitecture.com.au

Level 4, 222 Clarence Street
SYDNEY NSW 2000
Australia

Tel +61 2 8823 7000
sydney@plusarchitecture.com.au

NOMINATED ARCHITECT (NSW)

Amit Julka 10002
Rido Pin 11286