

# Development Application

10 Lincoln  
Avenue, Collaroy  
NSW 2097

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DA904	Excavation Calculations
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Project:  
**Lincoln**  
10 Lincoln Ave, Collaroy NSW 2097  
Project number 082\_2017

Client:  
**Schubert**  
Drawing Number:  
**DA101**  
Date 2019.12.05

Drawing:  
**Title Page**  
Scale  
Drawn by: CA Checked by: MB



Alterations and Additions

Certificate number: A350099\_03

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Alterations and Additions Definitions" dated 06/10/2017 published by the Department. This document is available at [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

Secretary  
Date of issue: Thursday, 14, November 2019  
To be valid, this certificate must be lodged within 3 months of the date of issue.



Description of project

Project address	
Project name	Lincoln DA_03
Street address	10 Lincoln Avenue Collaroy 2097
Local Government Area	Northern Beaches Council
Plan type and number	Deposited Plan 16998
Lot number	14
Section number	
Project type	
Dwelling type	Separate dwelling house
Type of alteration and addition	My renovation work is valued at \$50,000 or more, and includes a pool (and/or spa).

Certificate Prepared by (please complete before submitting to Council or PCA)	
Name / Company Name:	CM Studio
ABN (if applicable):	158240996

BASIX Certificate number: A350099\_03

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Pool and Spa	Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
<b>Outdoor swimming pool</b>			
The swimming pool must be outdoors.	✓	✓	✓
The swimming pool must not have a capacity greater than 39.99 kilolitres.	✓	✓	✓
The swimming pool must have a pool cover.		✓	✓
The applicant must install a pool pump timer for the swimming pool.		✓	✓
The applicant must not incorporate any heating system for the swimming pool that is part of this development.		✓	✓

BASIX Certificate number: A350099\_03

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Fixtures and systems	Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
<b>Hot water</b>			
The applicant must install the following hot water system in the development: gas instantaneous.	✓	✓	✓
<b>Lighting</b>			
The applicant must ensure a minimum of 40% of new or altered light fixtures are fitted with fluorescent, compact fluorescent, or light-emitting-diode (LED) lamps.		✓	✓
<b>Fixtures</b>			
The applicant must ensure new or altered showerheads have a flow rate no greater than 9 litres per minute or a 3 star water rating.		✓	✓
The applicant must ensure new or altered toilets have a flow rate no greater than 4 litres per average flush or a minimum 3 star water rating.		✓	✓
The applicant must ensure new or altered taps have a flow rate no greater than 9 litres per minute or minimum 3 star water rating.		✓	

BASIX Certificate number: A350099\_03

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Construction	Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check	
<b>Insulation requirements</b>				
The applicant must construct the new or altered construction (floor(s), walls, and ceilings/roofs) in accordance with the specifications listed in the table below, except that a) additional insulation is not required where the area of new construction is less than 2m2, b) insulation specified is not required for parts of altered construction where insulation already exists.		✓	✓	✓
Construction	Additional insulation required (R-value)	Other specifications		
concrete slab on ground floor.	nil			
floor above existing dwelling or building.	nil			
external wall: framed (weatherboard, fibro, metal clad)	R1.30 (or R1.70 including construction)			
flat ceiling, pitched roof	ceiling: R1.75 (up), roof: foil/sarking	light (solar absorptance < 0.475)		
raked ceiling, pitched/skillion roof: framed	ceiling: R1.76 (up), roof: foil/sarking	light (solar absorptance < 0.475)		
flat ceiling, flat roof: framed	ceiling: R1.82 (up), roof: foil/sarking	light (solar absorptance < 0.475)		

BASIX Certificate number: A350099\_03

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Glazing requirements	Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
<b>Windows and glazed doors</b>			
The applicant must install the windows, glazed doors and shading devices, in accordance with the specifications listed in the table below. Relevant overshadowing specifications must be satisfied for each window and glazed door.	✓	✓	✓
The following requirements must also be satisfied in relation to each window and glazed door:		✓	✓
Each window or glazed door with standard aluminium or timber frames and single clear or toned glass may either match the description, or, have a U-value and a Solar Heat Gain Coefficient (SHGC) no greater than that listed in the table below. Total system U-values and SHGCs must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions.		✓	✓
Each window or glazed door with improved frames, or pyrolytic low-e glass, or clear/air gap/clear glazing, or toned/air gap/clear glazing must have a U-value and a Solar Heat Gain Coefficient (SHGC) no greater than that listed in the table below. Total system U-values and SHGCs must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. The description is provided for information only. Alternative systems with complying U-value and SHGC may be substituted.		✓	✓
For projections described in millimetres, the leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 mm above the head of the window or glazed door and no more than 2400 mm above the sill.	✓	✓	✓
For projections described as a ratio, the ratio of the projection from the wall to the height above the window or glazed door sill must be at least that shown in the table below.	✓	✓	✓
Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35.		✓	✓
External louvers and blinds must fully shade the window or glazed door beside which they are situated when fully drawn or closed.		✓	✓
Pergolas with fixed battens must have battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm.		✓	✓
Overshadowing buildings or vegetation must be of the height and distance from the centre and the base of the window and glazed door, as specified in the 'overshadowing' column in the table below.	✓	✓	✓
<b>Windows and glazed doors glazing requirements</b>			

BASIX Certificate number: A350099\_03

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Glazing requirements						Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
Window / door no.	Orientation	Area of glass inc. frame (m2)	Overshadowing Height (m)	Distance (m)	Shading device	Frame and glass type		
WG.01	S	8	0	0	none	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)		
WG.02	W	2.5	0	0	external louvre/blind (adjustable)	standard aluminium, single pyrolytic low-e, (U-value: 5.7, SHGC: 0.47)		
WG.03	S	19	0	0	none	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)		
WG.04	E	2.5	0	0	external louvre/blind (adjustable)	standard aluminium, single pyrolytic low-e, (U-value: 5.7, SHGC: 0.47)		
WG.05	S	5	0	0	none	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)		
WG.06	E	6.5	4	2.4	none	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)		
WG.07	E	2.6	5	2.8	none	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)		
WG.08	E	2.6	5	2.5	none	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)		
WG.09	E	8	4	2.4	none	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)		
WG.10	N	7	0	0	eave/verandah/pergola/balcony >=450 mm	standard aluminium, single pyrolytic low-e, (U-value: 5.7, SHGC: 0.47)		
WG.11	W	17	0	0	eave/verandah/pergola/balcony >=750 mm	standard aluminium, single pyrolytic low-e, (U-value: 5.7, SHGC: 0.47)		
WG.12	N	20	0	0	eave/verandah/pergola/balcony >=450 mm	standard aluminium, single pyrolytic low-e, (U-value: 5.7, SHGC: 0.47)		
WL1.01	S	2.5	0	0	none	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)		

BASIX Certificate number: A350099\_03

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Glazing requirements						Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
Window / door no.	Orientation	Area of glass inc. frame (m2)	Overshadowing Height (m)	Distance (m)	Shading device	Frame and glass type		
WL1.02	S	5.5	0	0	none	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)		
WL1.03	S	5.5	0	0	none	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)		
WL1.04	S	5.5	0	0	none	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)		
WL1.05	N	5	0	0	projection/height above sill ratio >=0.23	standard aluminium, single pyrolytic low-e, (U-value: 5.7, SHGC: 0.47)		
WL1.06	N	2	0	0	projection/height above sill ratio >=0.23	standard aluminium, single pyrolytic low-e, (U-value: 5.7, SHGC: 0.47)		
WL1.07	N	2	0	0	projection/height above sill ratio >=0.23	standard aluminium, single pyrolytic low-e, (U-value: 5.7, SHGC: 0.47)		
WL1.08	N	5	0	0	projection/height above sill ratio >=0.23	standard aluminium, single pyrolytic low-e, (U-value: 5.7, SHGC: 0.47)		
WL1.09	E	3	0	0	awning (adjustable) >=900 mm	standard aluminium, single pyrolytic low-e, (U-value: 5.7, SHGC: 0.47)		
<b>Skylights</b>								
The applicant must install the skylights in accordance with the specifications listed in the table below.						✓	✓	✓
The following requirements must also be satisfied in relation to each skylight:							✓	✓
Each skylight may either match the description, or, have a U-value and a Solar Heat Gain Coefficient (SHGC) no greater than that listed in the table below.							✓	✓
<b>Skylights glazing requirements</b>								

BASIX Certificate number: A350099\_03

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Glazing requirements				Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
Skylight number	Area of glazing inc. frame (m2)	Shading device	Frame and glass type			
S1	1.99	no shading	timber, low-E internal/argon fill/clear external, (or U-value: 2.5, SHGC: 0.456)			
S2	1.99	no shading	timber, low-E internal/argon fill/clear external, (or U-value: 2.5, SHGC: 0.456)			
<b>Legend</b>						
In these commitments, "applicant" means the person carrying out the development.						
Commitments identified with a "✓" in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).						
Commitments identified with a "✓" in the "Show on CC/CDC plans & specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.						
Commitments identified with a "✓" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled, before a final occupation certificate for the development may be issued.						

BASIX Certificate number: A350099\_03

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Project:

Lincoln

10 Lincoln Ave, Collaroy NSW 2097

Project number

082\_2017

Client:

Schubert

Drawing Number:

DA102

Date

2019.12.05

Drawing:

BASIX Commitments

Scale

Drawn by:

CA

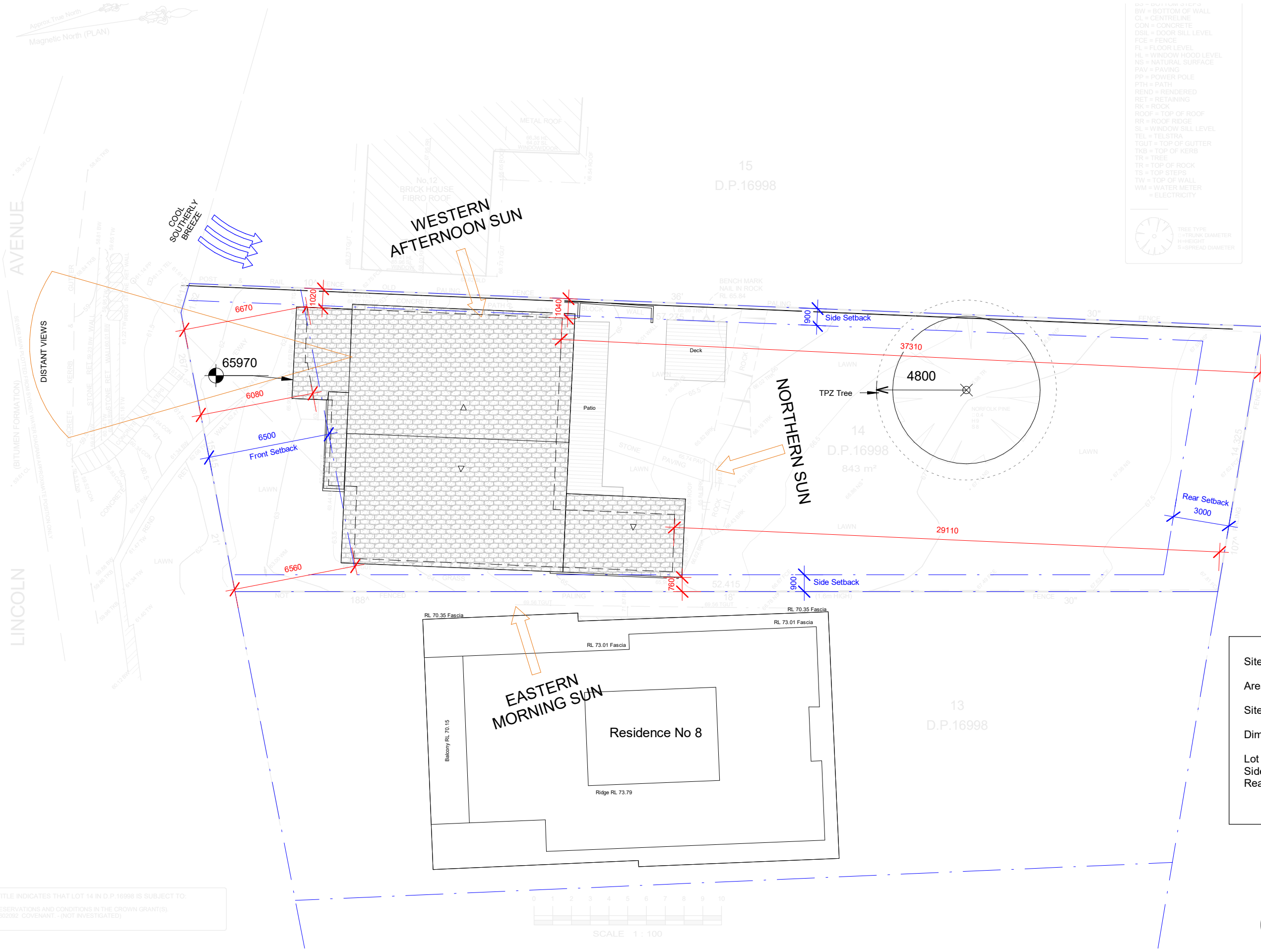
Checked by:

MB



Approx True North  
Magnetic North (PLAN)

WT = WALL TOPS  
CL = BOTTOM OF WALL  
CL = CENTRELINE  
CON = CONCRETE  
DSIL = DOOR SILL LEVEL  
FCE = FENCE  
FL = FLOOR LEVEL  
HL = WINDOW HOOD LEVEL  
NS = NATURAL SURFACE  
PAV = PAVING  
PP = POWER POLE  
PTH = PATH  
REND = RENDERED  
RET = RETAINING  
RK = ROCK  
ROOF = TOP OF ROOF  
RR = ROOF RIDGE  
SL = WINDOW SILL LEVEL  
TEL = TELSTRA  
TGUT = TOP OF GUTTER  
TKB = TOP OF KERB  
TR = TREE  
TR = TOP OF ROCK  
TS = TOP OF STEPS  
TW = TOP OF WALL  
WM = WATER METER  
= ELECTRICITY



TITLE INDICATES THAT LOT 14 IN D.P.16998 IS SUBJECT TO:  
- RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S).  
- DB02092 COVENANT - (NOT INVESTIGATED)

Site Data  
Areas  
Site Area - 843m²  
Dimensions  
Lot Width - 16.09m  
Side Setbacks - 900mm  
Rear Setbacks - 3000mm



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Project:  
**Lincoln**  
10 Lincoln Ave, Collaroy NSW 2097  
Project number 082\_2017

Client:  
**Schubert**  
Drawing Number:  
**DA201**  
Date 2019.12.05

Drawing:  
**Existing Site and Site Analysis**  
Scale 1 : 200  
Drawn by: CA Checked by: MB

Approx True North  
Magnetic North (PLAN)

BS = BUTTRESS  
BW = BOTTOM OF WALL  
CL = CENTRELINE  
CON = CONCRETE  
DSIL = DOOR SILL LEVEL  
FCE = FENCE  
FL = FLOOR LEVEL  
HL = WINDOW HOOD LEVEL  
NS = NATURAL SURFACE  
PAV = PAVING  
PP = POWER POLE  
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TKB = TOP OF KERB  
TR = TREE  
TS = TOP OF ROCK  
TW = TOP OF WALL  
WM = WATER METER  
= ELECTRICITY



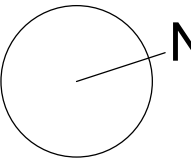
AVENUE

LINCOLN

TITLE INDICATES THAT LOT 14 IN D.P.16998 IS SUBJECT TO:  
- RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)  
- D602092 COVENANT - (NOT INVESTIGATED)



SCALE 1 : 100



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Project:  
**Lincoln**  
10 Lincoln Ave, Collaroy NSW 2097

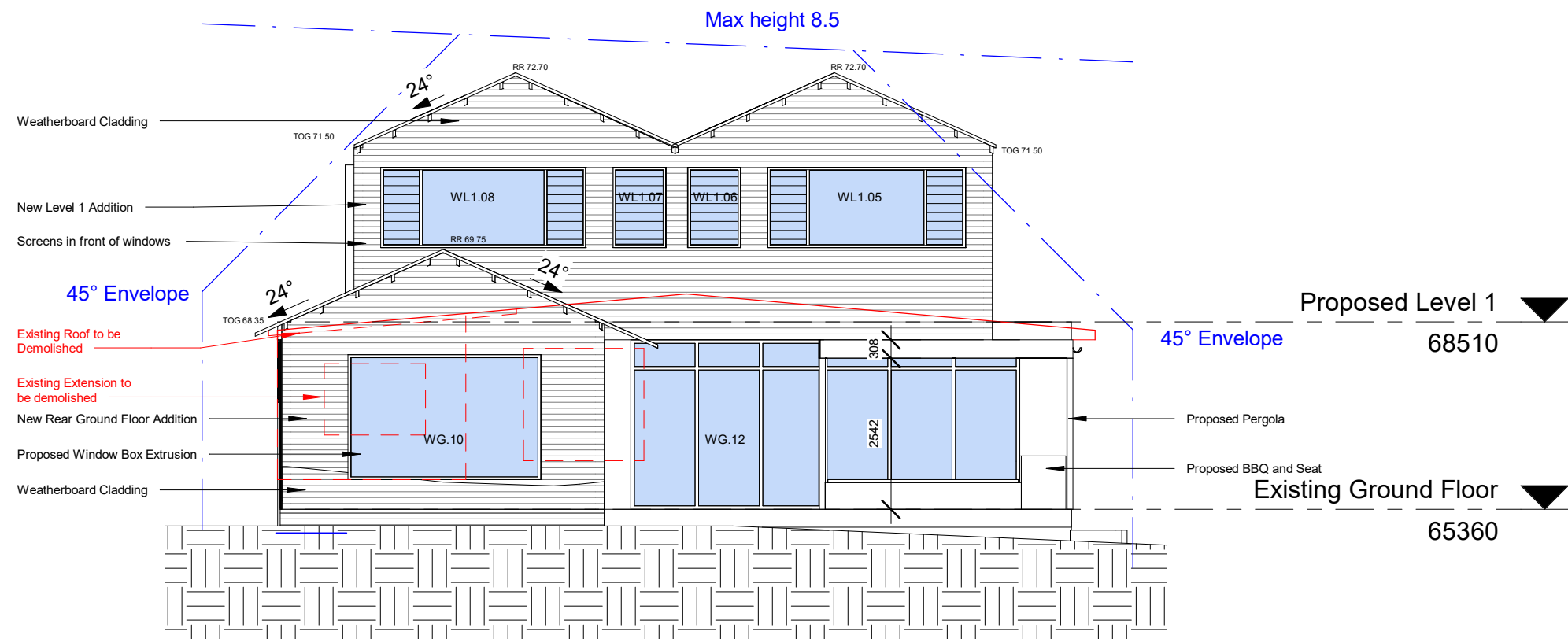
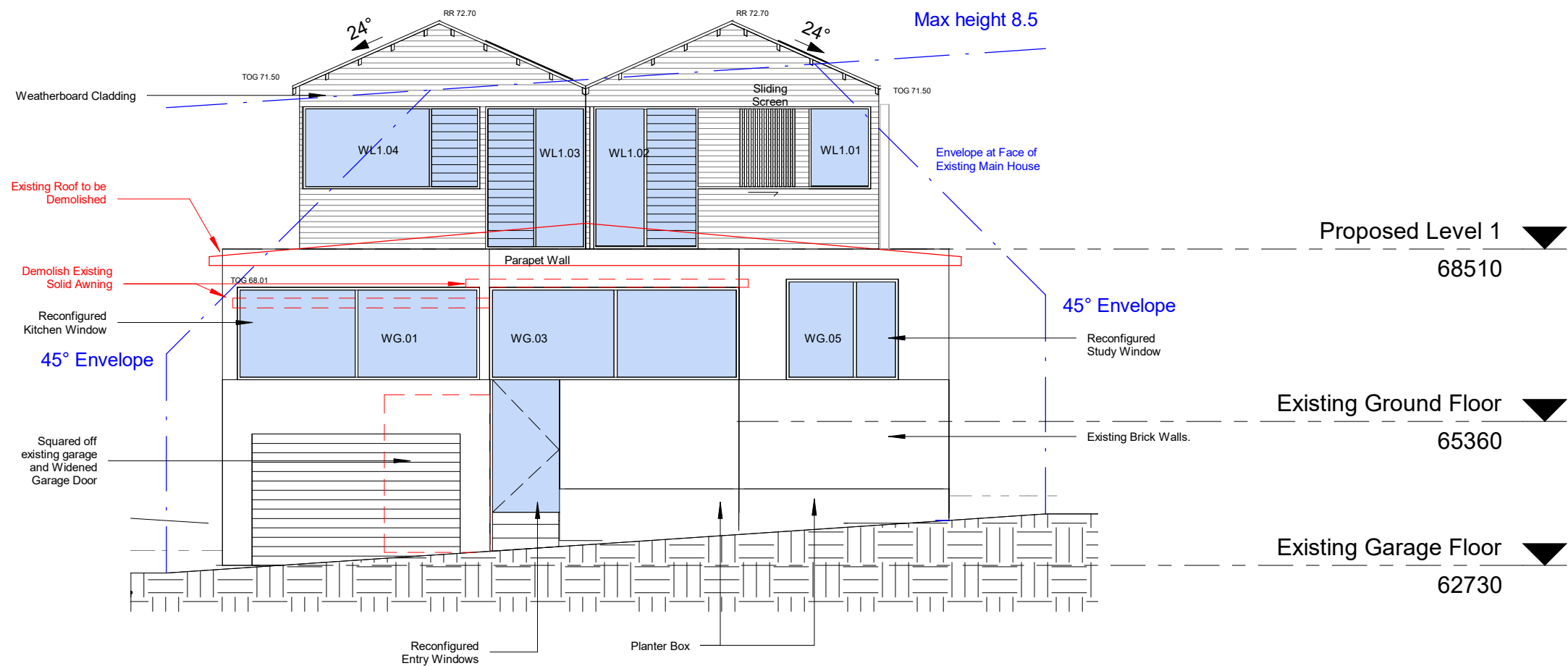
Project number 082\_2017

Client:  
**Schubert**  
Drawing Number:  
**DA401**

Date 2019.12.05

Drawing:  
**Proposed Site Plan**  
Scale 1 : 200  
Drawn by: CA Checked by: MB





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Project:

Lincoln

10 Lincoln Ave, Collaroy NSW 2097

Project number

082\_2017

Client:

Schubert

Drawing Number:

DA501

Date

2019.12.05

Drawing:

Front + Rear Elevations

Scale

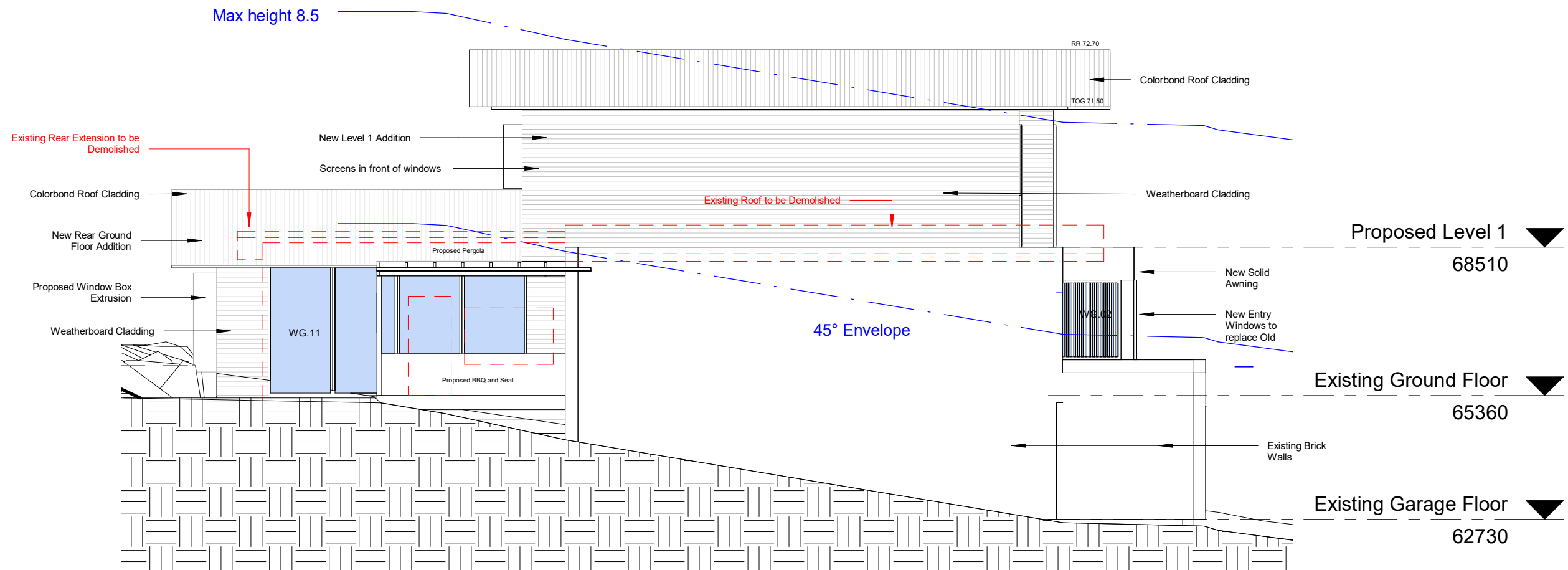
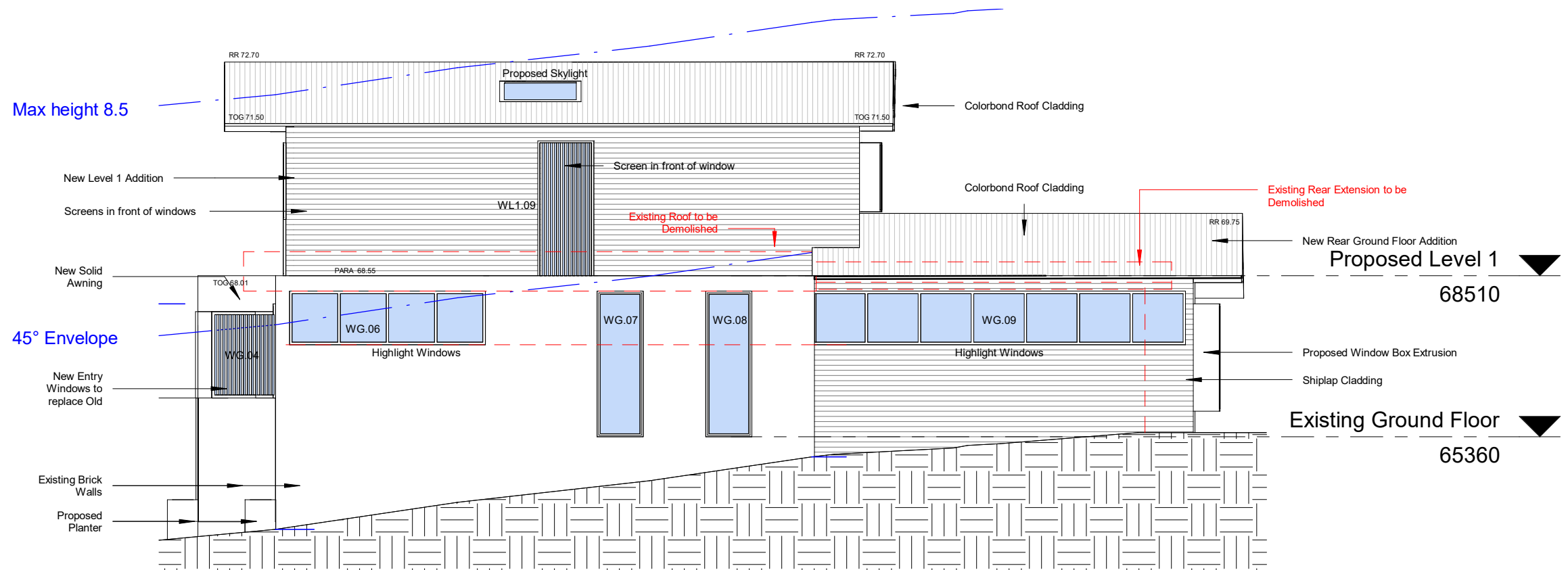
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Drawn by:

CA

Checked by:

MB



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Project:

Lincoln

10 Lincoln Ave, Collaroy NSW 2097

Project number

082\_2017

Client:

Schubert

Drawing Number:

DA502

Date

2019.12.05

Drawing:

Side Elevations

Scale

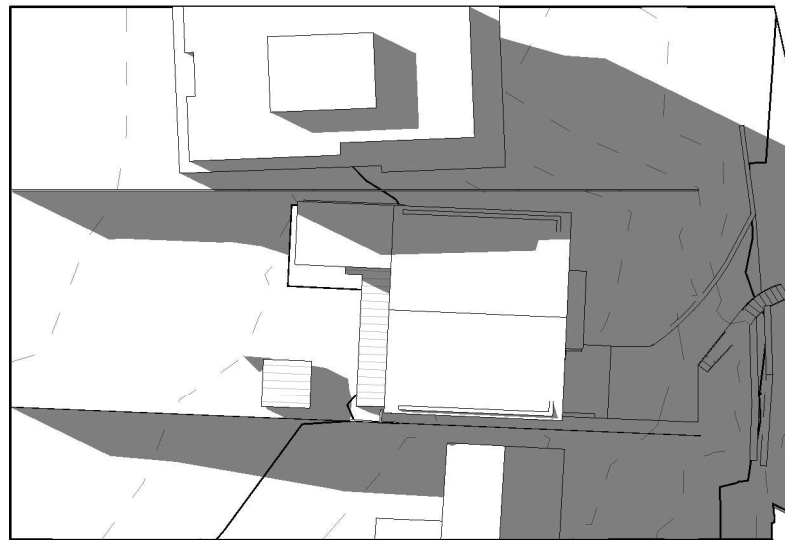
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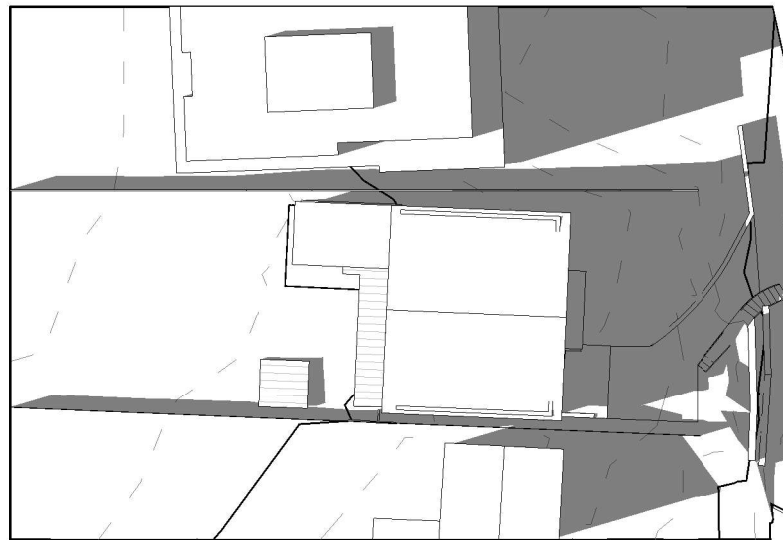
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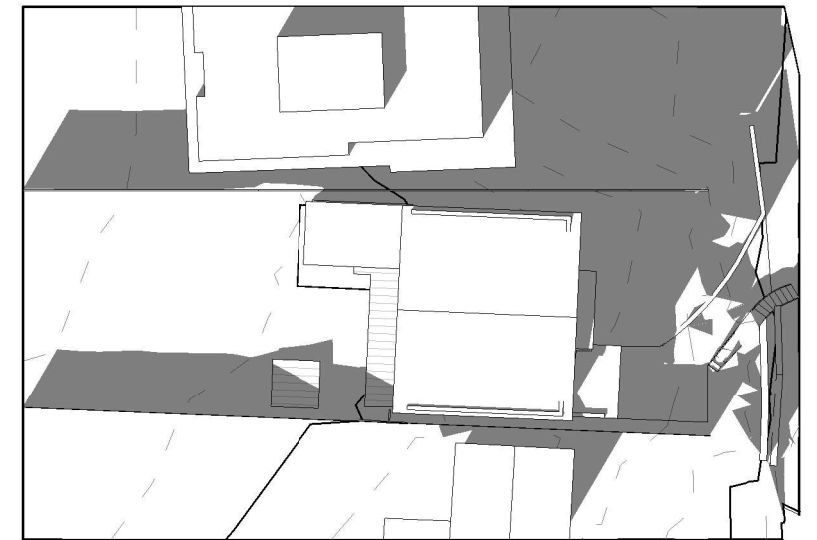
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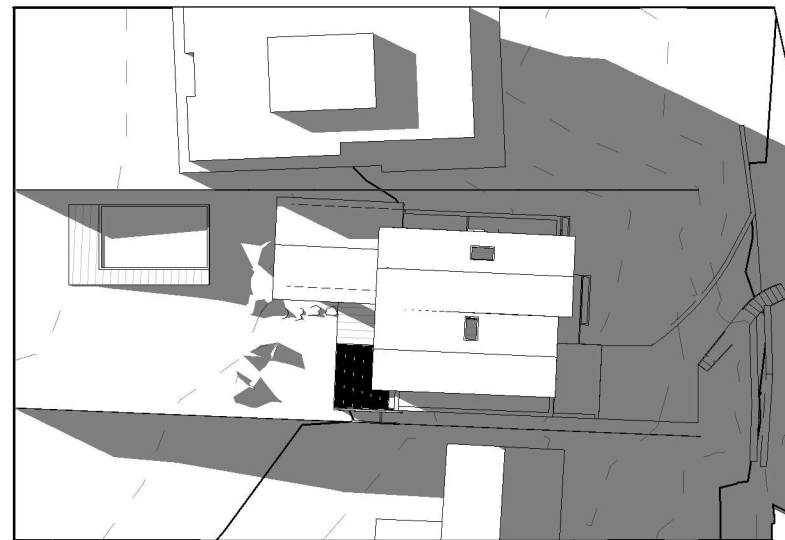
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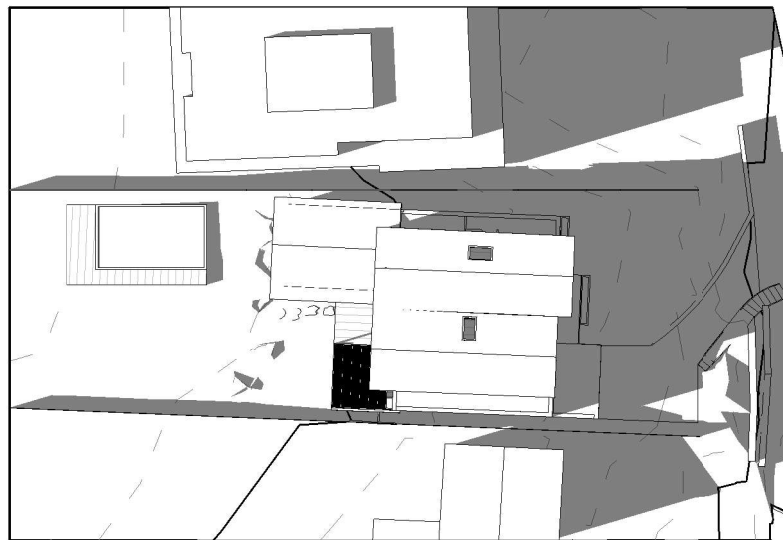
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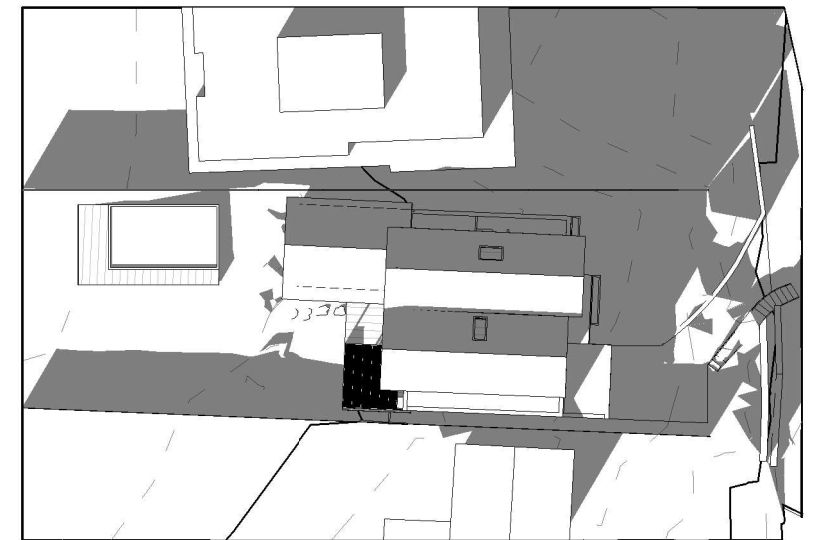
3 Solar Existing W 1500



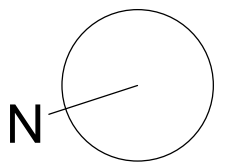
4 Solar Proposed W 0900



5 Solar Proposed W 1200



6 Solar Proposed W 1500



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Project:

Lincoln

10 Lincoln Ave, Collaroy NSW 2097

Project number

082\_2017

Client:

Schubert

Drawing Number:

DA701

Date

2019.12.05

Drawing:

Shadow Diagrams

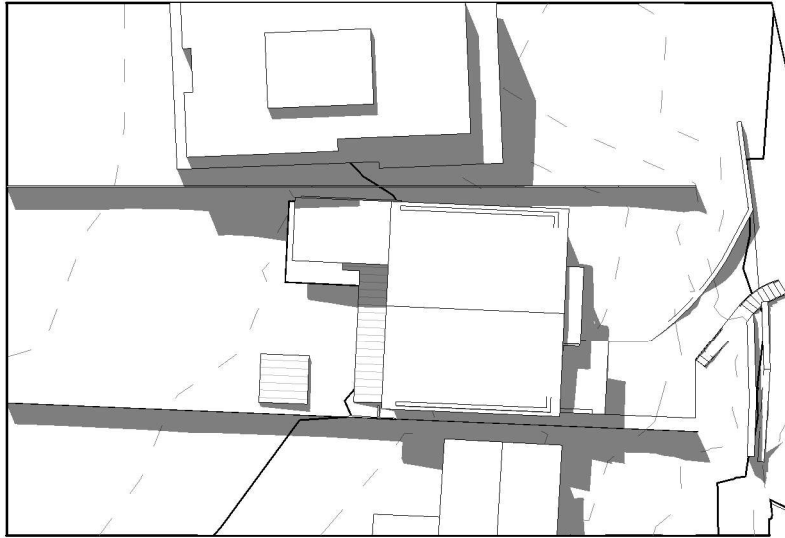
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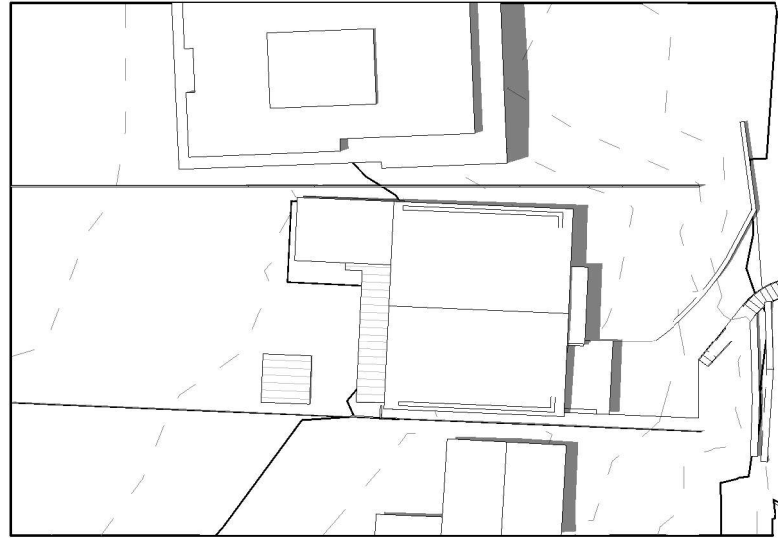
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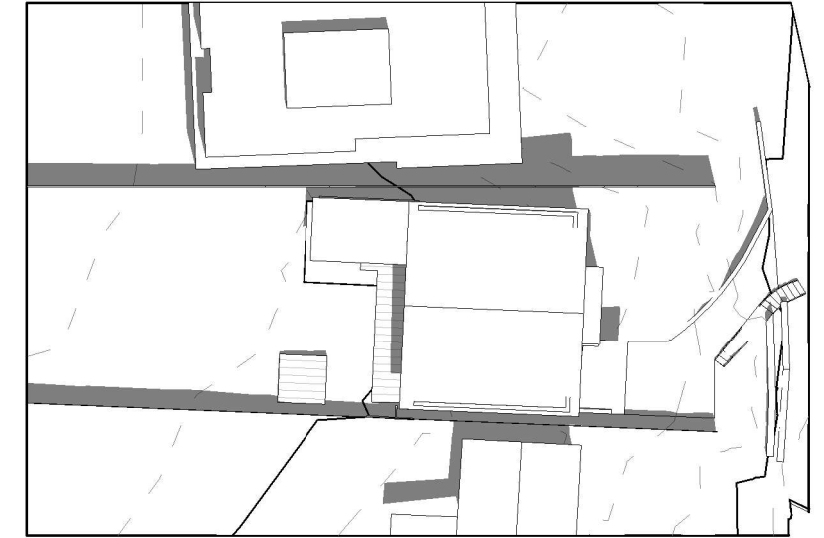
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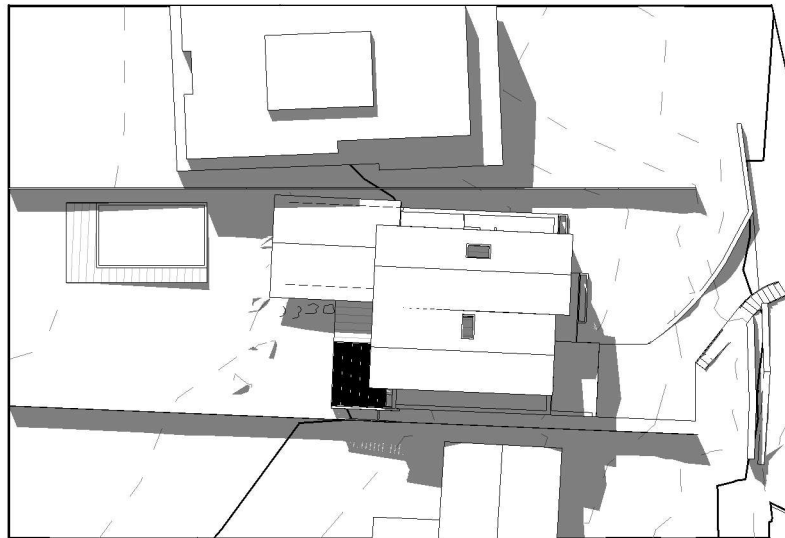
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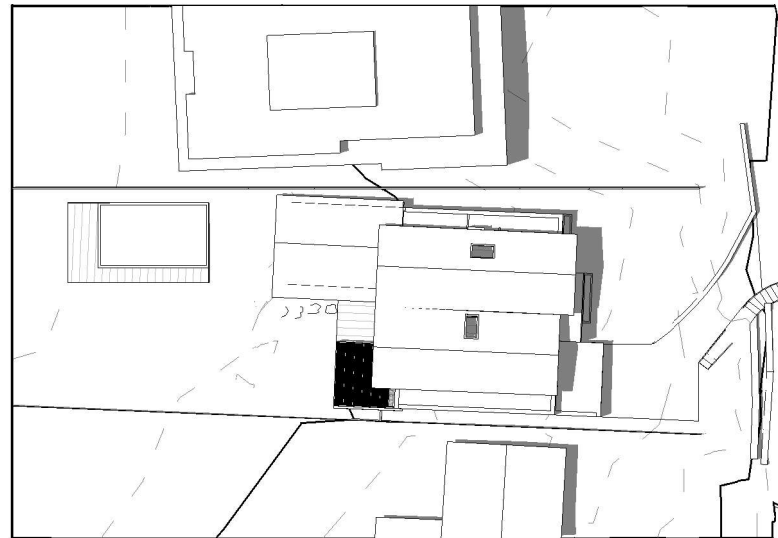
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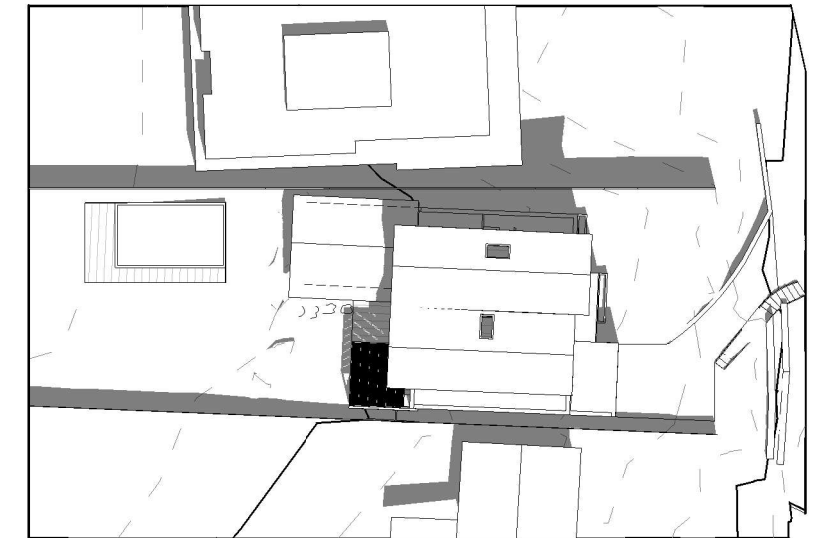
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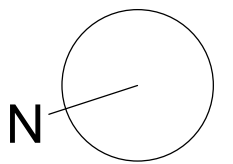
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5 Solar Proposed S 1200



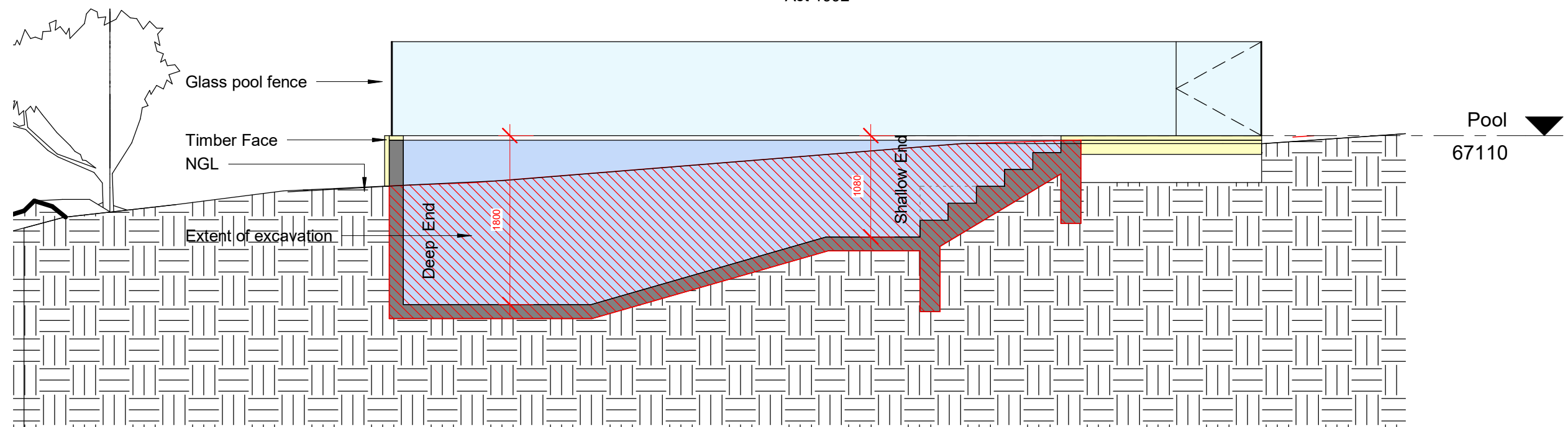
6 Solar Proposed S 1500







Pool Fence and Gate to  
Comply with AS  
1926.1-2012  
and Swimming Pools  
Act 1992



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Project:

Lincoln

10 Lincoln Ave, Collaroy NSW 2097

Project number

082\_2017

Client:

Schubert

Drawing Number:

DA802

Date

2019.12.05

Drawing:

Pool Sections

Scale

1 : 50

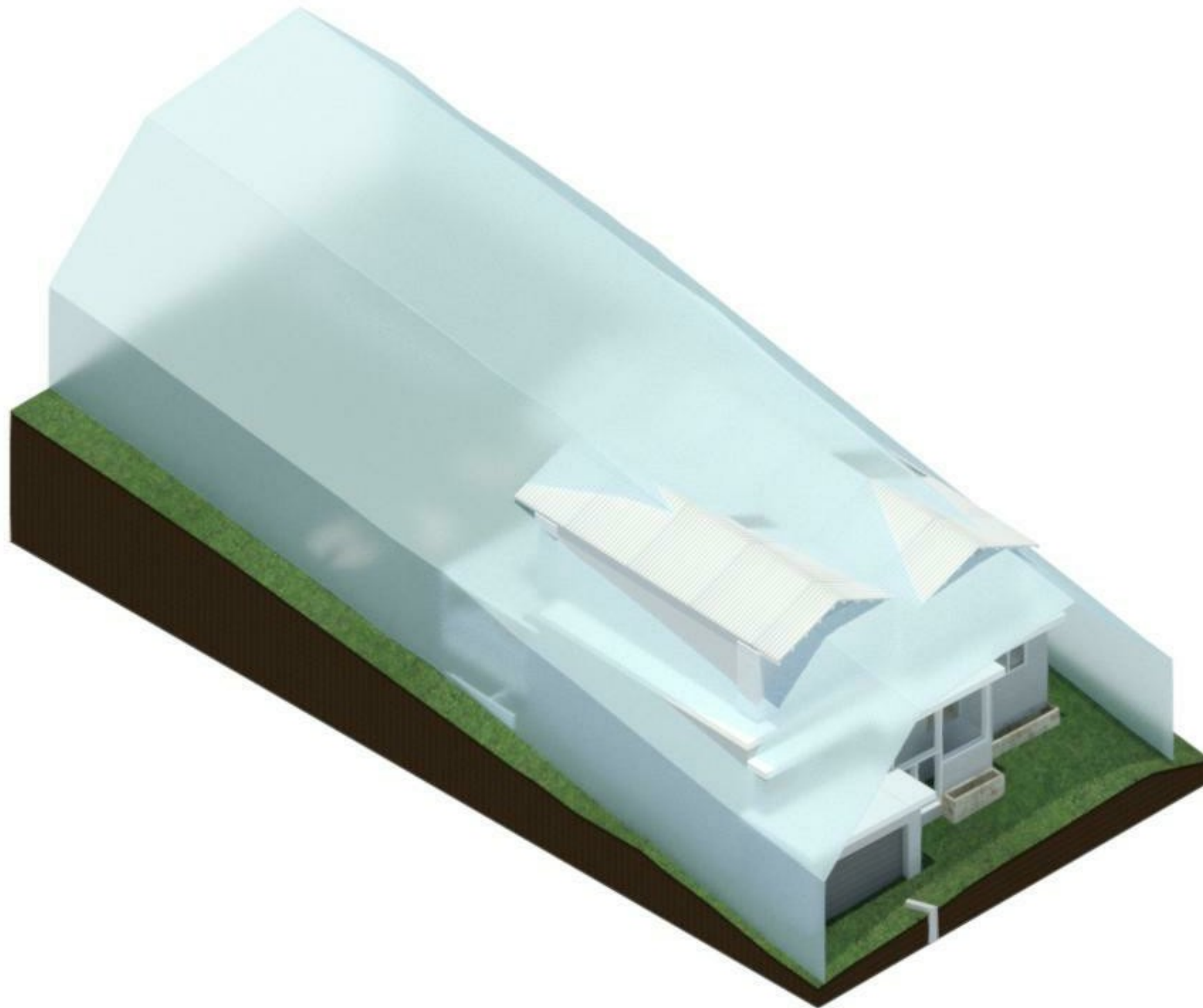
Drawn by:

CA

Checked by:

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Project:

**Lincoln**

10 Lincoln Ave, Collaroy NSW 2097

Project number

082\_2017

Client:

**Schubert**

Drawing Number:

**DA901**

Date

2019.12.05

Drawing:

**Envelope Diagrams**

Scale

1 : 1

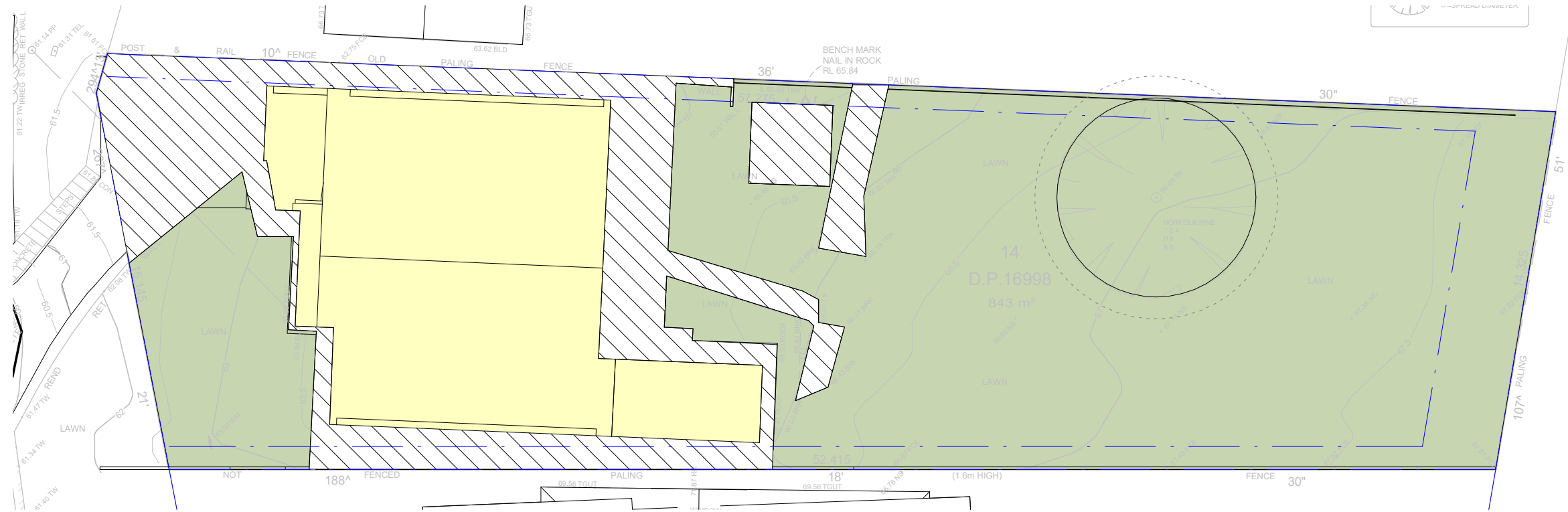
Drawn by:

CA

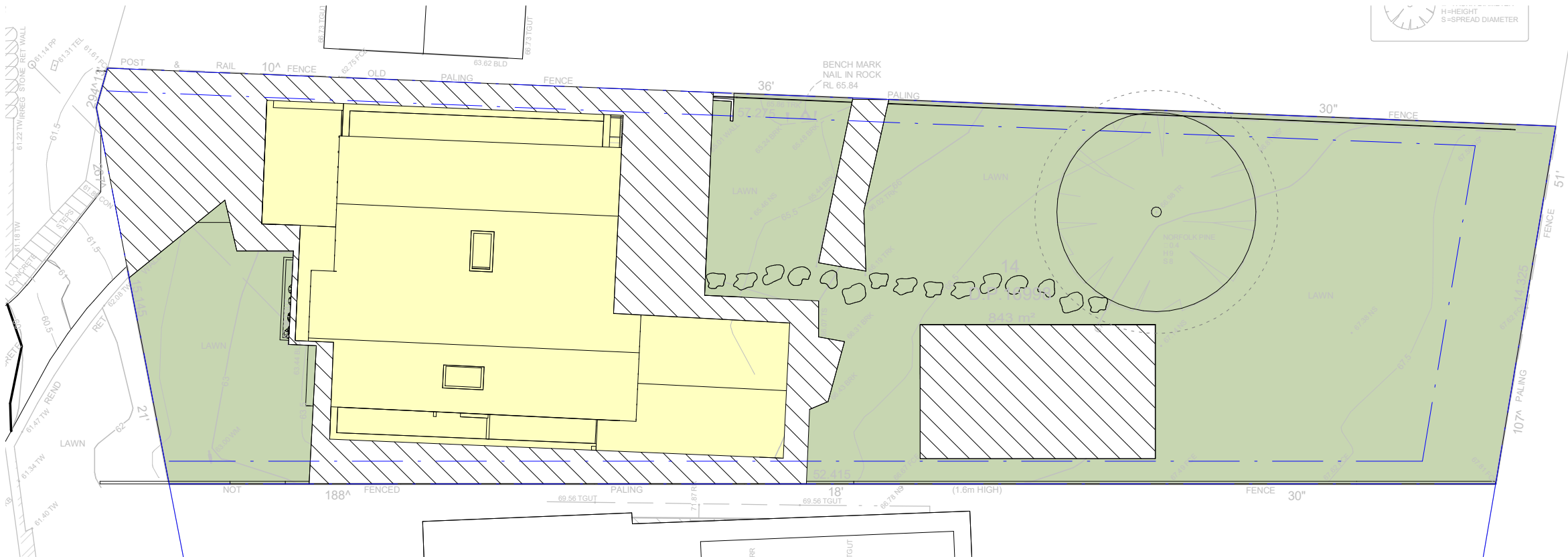
Checked by:

MB





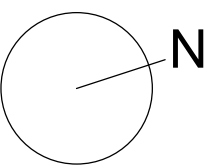
- Building Footprint
- Impervious Landscape
- Permeable Landscape



## Calculations

### Landscape Calculations

Site Area - 843m<sup>2</sup>  
 Existing Landscape Area - 512m<sup>2</sup>  
 Minimum Landscape Area (40%) - 337.2m<sup>2</sup>  
 Proposed Landscape Area - 443m<sup>2</sup>



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Project:

**Lincoln**

10 Lincoln Ave, Collaroy NSW 2097

Project number

**082\_2017**

Client:

**Schubert**

Drawing Number:

**DA902**

Date

**2019.12.05**

Drawing:

**Landscape Calculations**

Scale

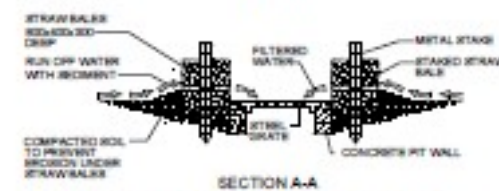
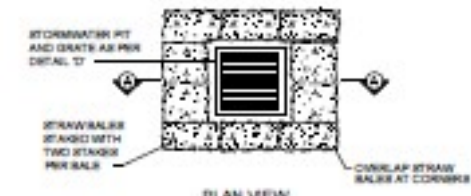
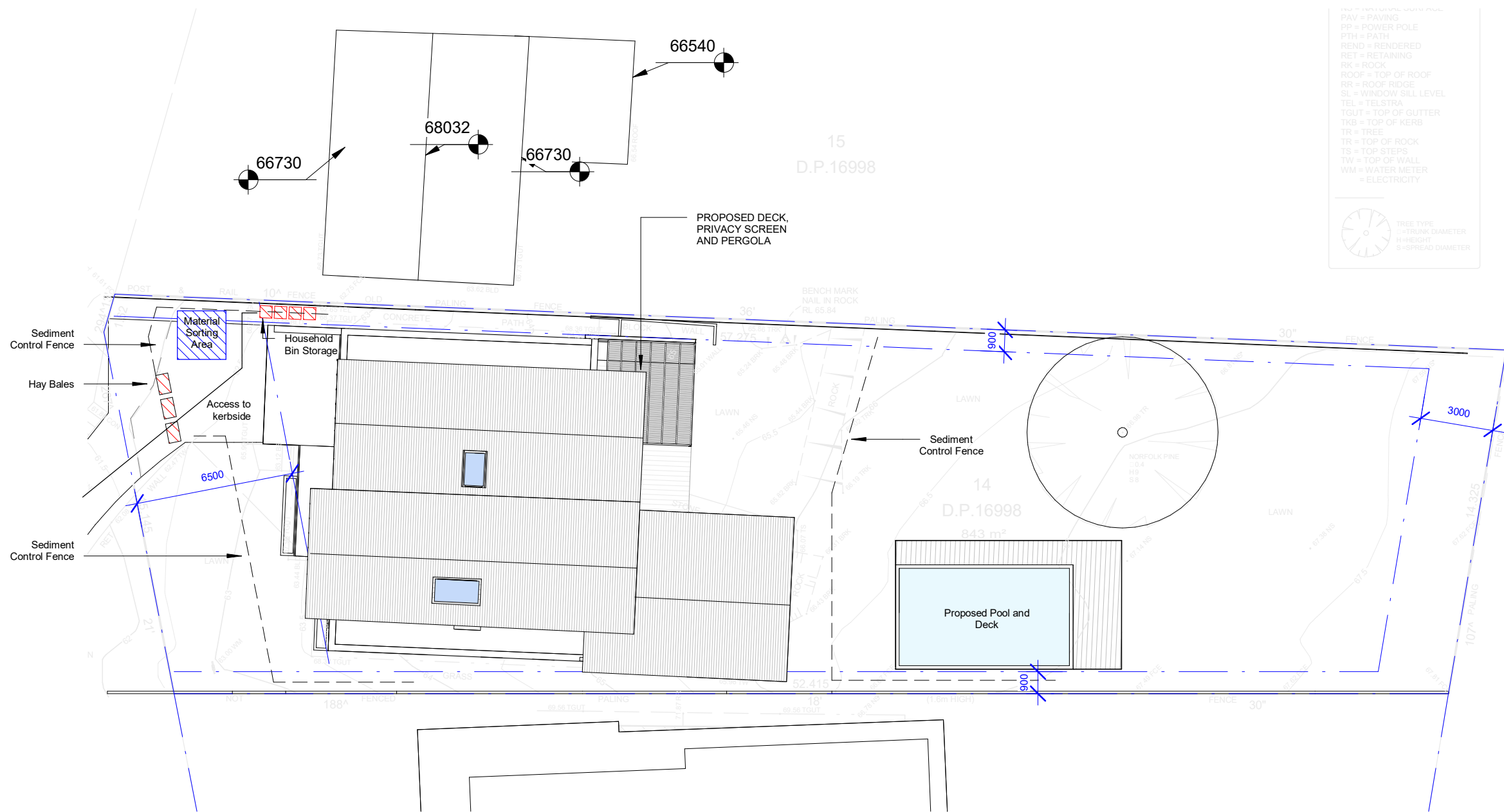
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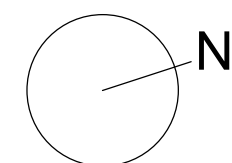
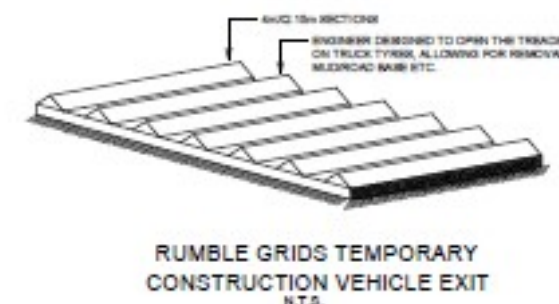
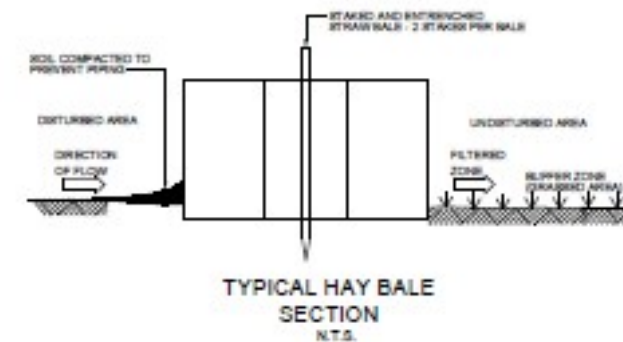
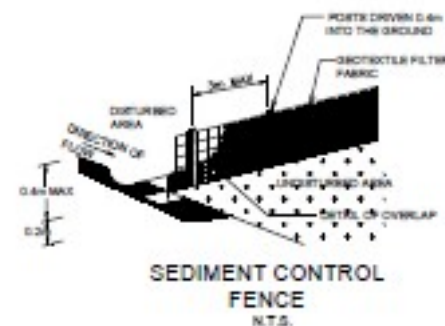
**CA**

Checked by:

**MB**



STORMWATER PIT WITH STRAW BALE SEDIMENT BARRIER  
N.T.S.



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Project:

Lincoln

10 Lincoln Ave, Collaroy NSW 2097

Project number

082\_2017

Client:

Schubert

Drawing Number:

DA903

Date

2019.12.05

Drawing:

Site Waste and Erosion Management

Scale

1 : 200

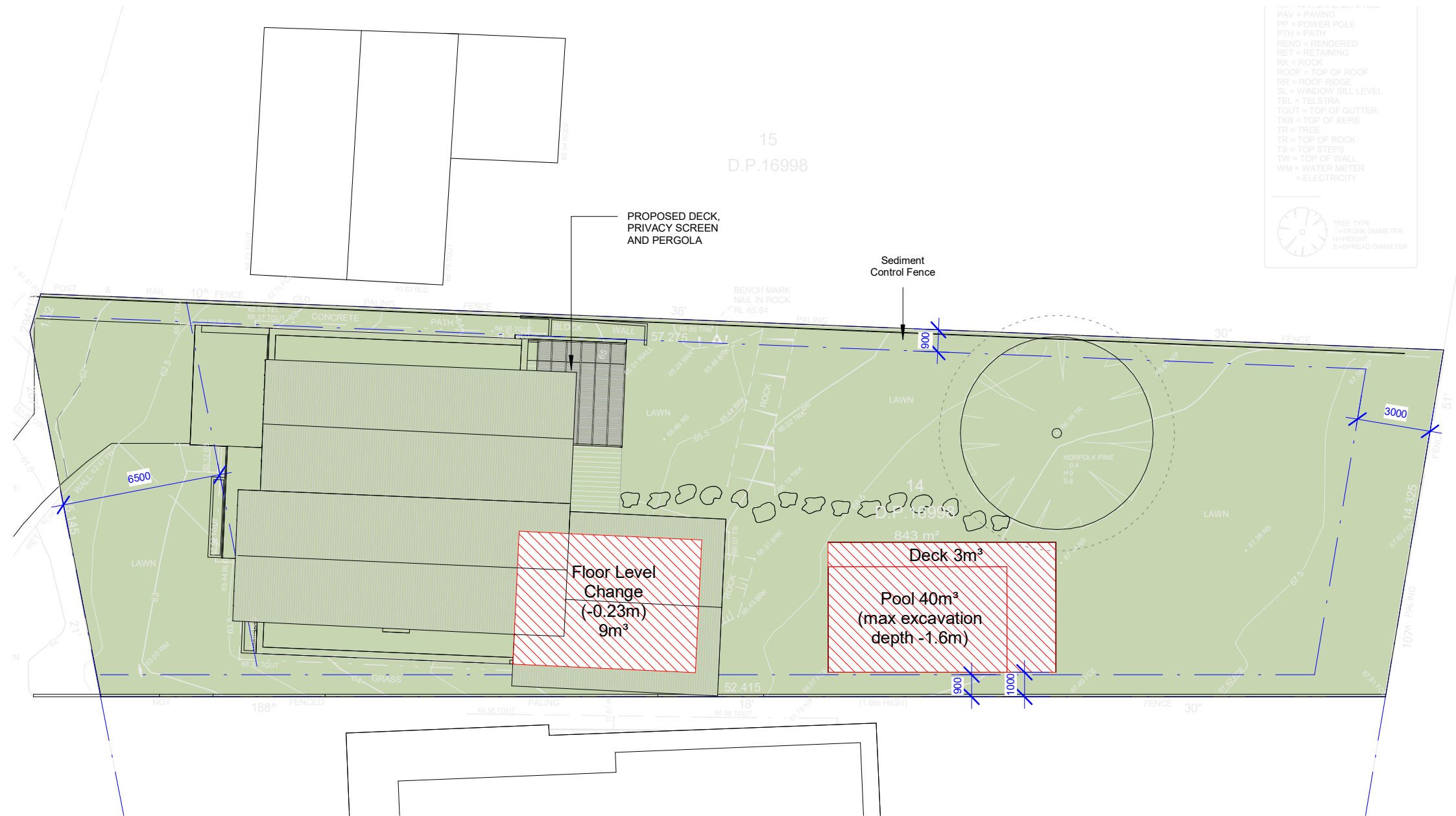
Drawn by:

CA

Checked by:

MB

cm



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Project:

**Lincoln**

10 Lincoln Ave, Collaroy NSW 2097

Project number

**082\_2017**

Client:

**Schubert**

Drawing Number:

**DA904**

Date

**2019.12.05**

Drawing:

**Excavation Calculations**

Scale

**1 : 200**

Drawn by:

**CA**

Checked by:

**MB**





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Project:

**Lincoln**

10 Lincoln Ave, Collaroy NSW 2097

Project number

082\_2017

Client:

**Schubert**

Drawing Number:

**DA905**

Date

2019.12.05

Drawing:

**Materials and Finishes**

Scale

1 : 1

Drawn by:

CA

Checked by:

MB