

# Appendix F

Architectural plans

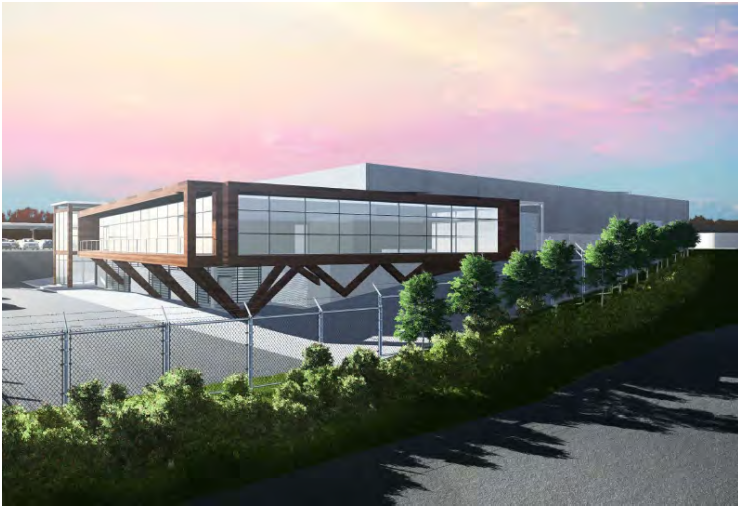
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# Preliminary Design

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## Design Precedents

The four images to the right depict industrial projects designed by GHDWoodhead. From each of these, inspiration has been drawn to inform the design of the facility, whether that may be form, materiality or colour scheme



NSW - PORTERS CREEK



NZ - LINTON MILITARY CAMP



UAE - WAREHOUSE 421



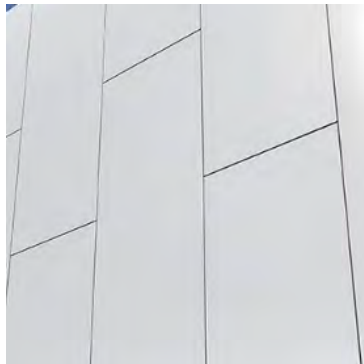
NSW - ALBURY MULTI - USER DEPOT



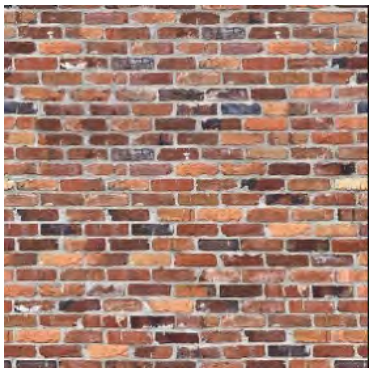
Preliminary Design

Facade Inspiration

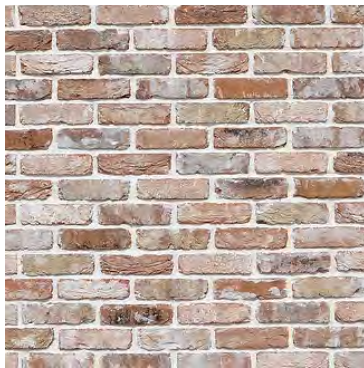
To reflect the industrial nature of the project, as well as its surrounding businesses, brick has been selected as the main material for the facade. Local suppliers offer high quality recycled brick, with the usage of such material further capturing the vision of the Moss Vale Plasrefine recycling facility. Its rustic qualities suit the countryside feel of the area, overlooking fields and farmland.



Solid aluminium cladding



Recycled brick



Recycled brick

MATERIAL PALETTE



Large windows to allow maximum light penetration into deep office spaces



Combination of modern and old materiality



Black facade detailing against natural tones



Brick pattern to create visual interest



Preliminary Design

Facade Inspiration

Simplistic monochromaticity will ensure the buildings are not overly conspicuous from a distance. A dual colour scheme with darker accents towards the base of the buildings will allow them to come across as more grounded and less imposing, thus appearing more welcoming to occupants, visitors and passers-by.

In certain areas of the facade membranes, translucency can be integrated to lighten the visual weight of the enormous warehouses and improve their aesthetic appeal. Larger windows will also assist in the blurring of height perception of the buildings.

COLOUR & MATERIAL PALETTE



Corrugated aluminium cladding



Dark Grey



Charcoal accents



Polycarbonate sheets as a skin, for diffused lighting in warehouse spaces



Monochromatic warehouse design inspiration, dual materiality for visual interest



Roof shape ideas - elegant and practical



Translucency creates a “softer” visual profile



Strategically placed windows can blur the perception of the building’s height



Preliminary Design

Interior Design Inspiration

Bringing the industrial and natural aesthetic of the external facades indoors, the images to the right depict exposed, ‘raw’ surfaces that reflect the function of the site. Keeping with the theme of sustainability that this plastics recycling facility encapsulates, exposed surfaces reduce the amount of materials required for construction (dematerialise) while also leading to reduced project costs.

Opportunities to bring greenery and recycled material indoors and within the site are plentiful due to its size, and highly recommended for both aesthetic beauty and the improvement of indoor environmental conditions. The image of the stairs and metal fencing below inspires the design of the staircases and voids in the administration and multi-use buildings.

The usage of glass curtain walls for the interior spaces allows for a sense of connection to the remainder of the building and increases the penetration of natural light, yet provides sufficient privacy, especially with the installation of sheer curtains.



Materiality for spaces overlooking lower floors



Colour palette for training and meeting rooms



Inspiration for breakout and training rooms



Exposed services for central spaces for industrial feel, hidden services in offices



Material and colour palette for central staircase



Sheer curtains for offices



Curtain walls for interior spaces

Preliminary Design

Administration Building

FLOOR PLAN - GROUND FLOOR





Administration Building

FLOOR PLAN - LEVEL 1



Administration Building

FLOOR PLAN - LEVEL 2



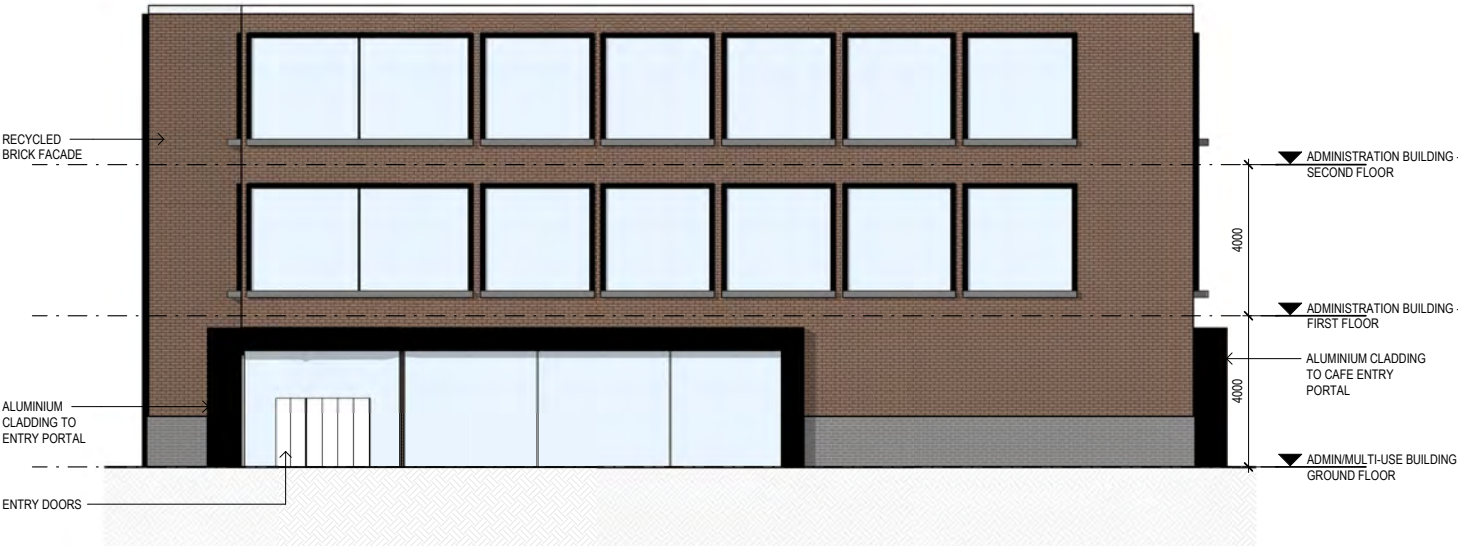


Preliminary Design

Administration Building



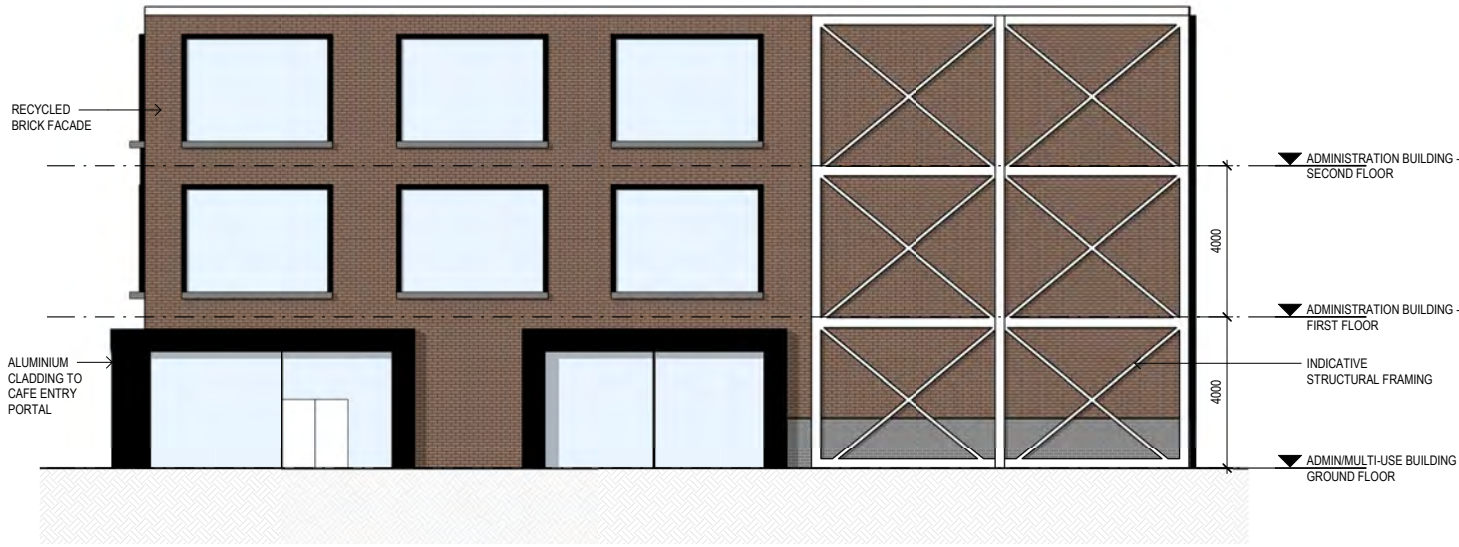
NORTH ELEVATION



EAST ELEVATION



SOUTH ELEVATION



WEST ELEVATION



Preliminary Design

Administration Building

3D VIEWS



Southeastern angle of building showing main entrance



Southern facade with fire stairs



Space between admin building and Building 2 warehouse



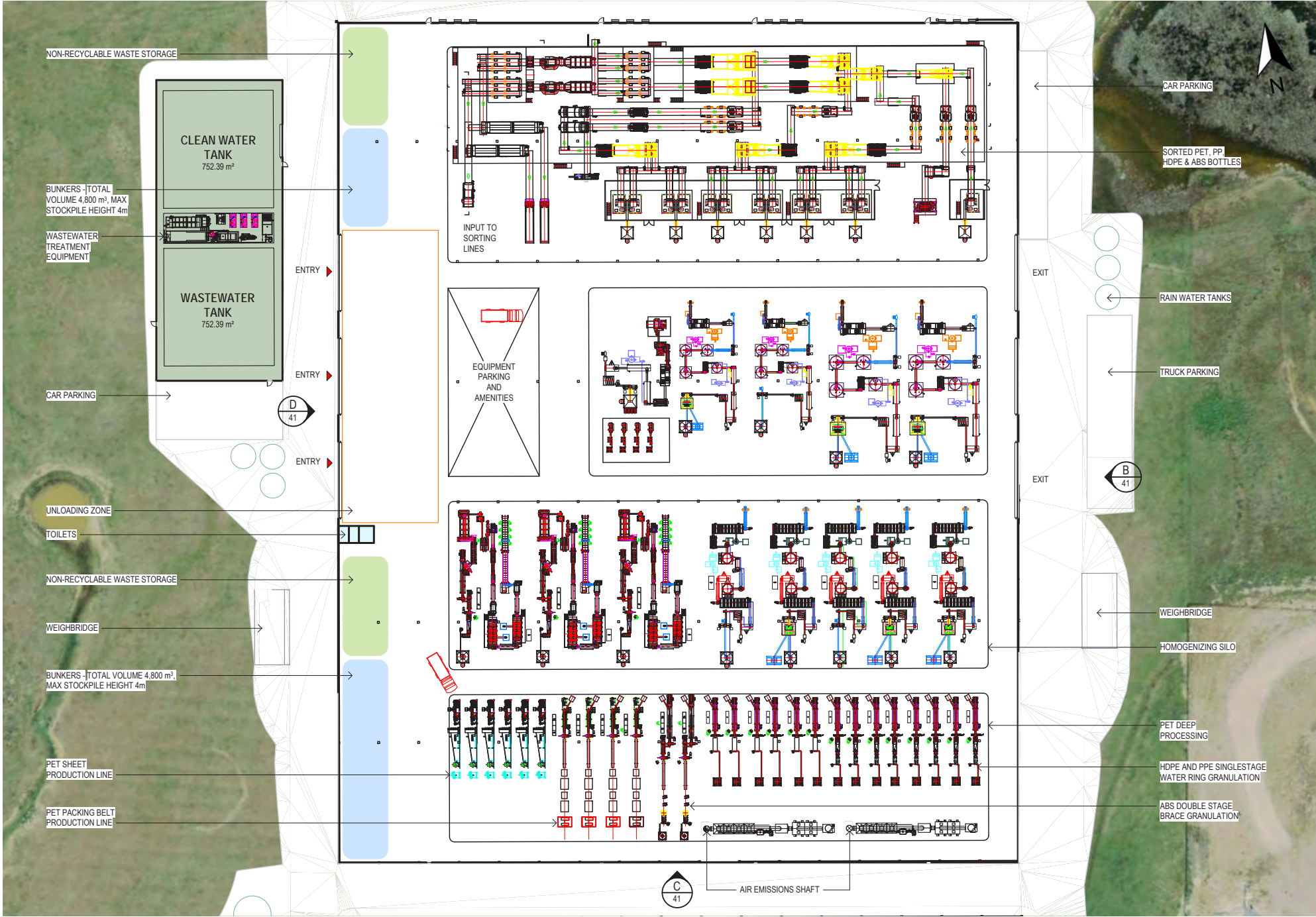
Northern facade showing materiality complementing adjacent warehouse



Preliminary Design

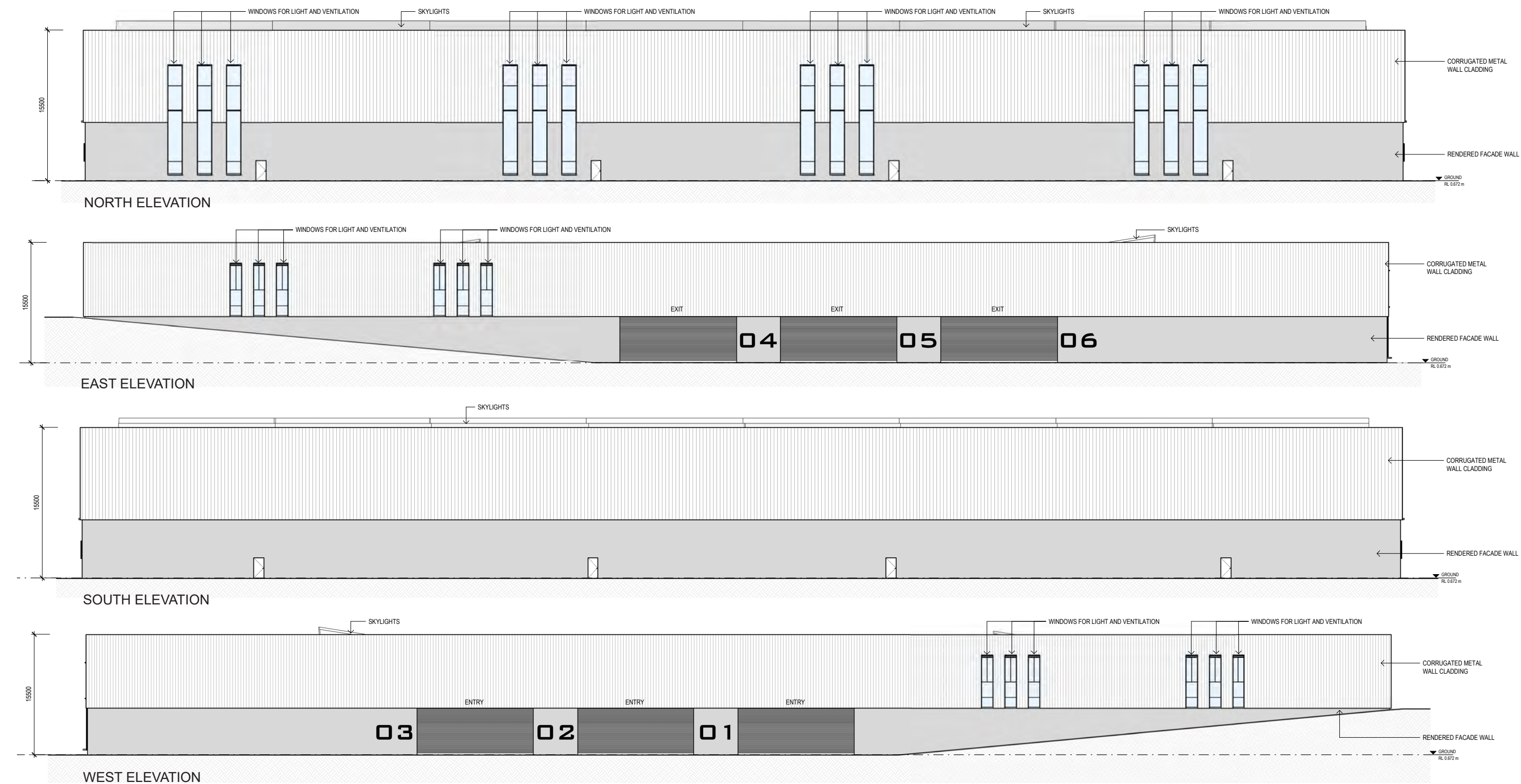
Building 1

FLOOR PLAN - GROUND FLOOR



Preliminary Design

Building 1





Building 1

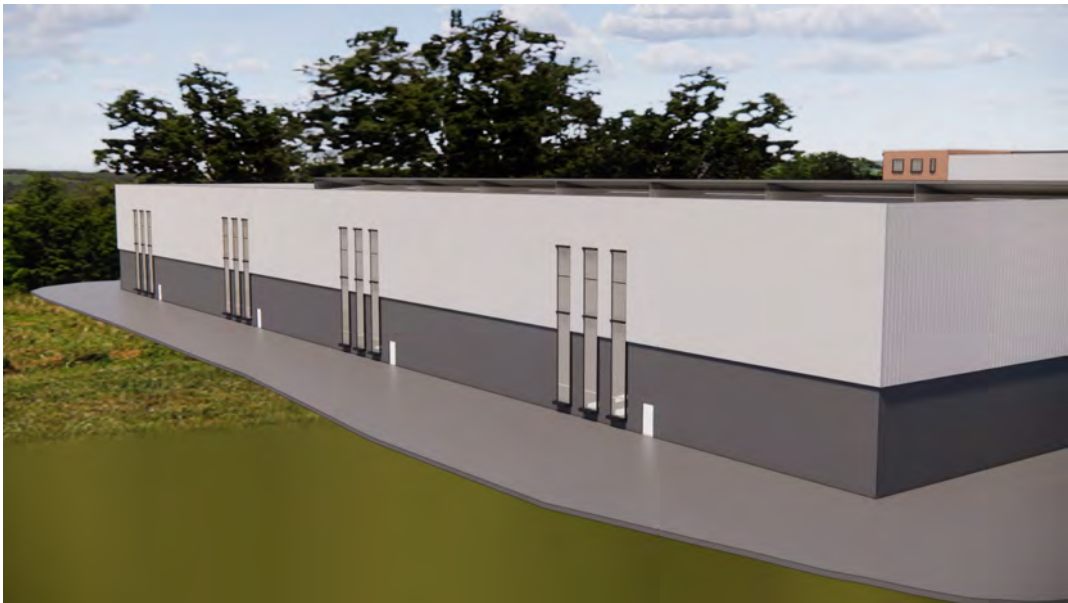
3D VIEWS



Western facade facing wastewater treatment building



Space between wastewater treatment building and warehouse



Northern facade displaying scale of windows

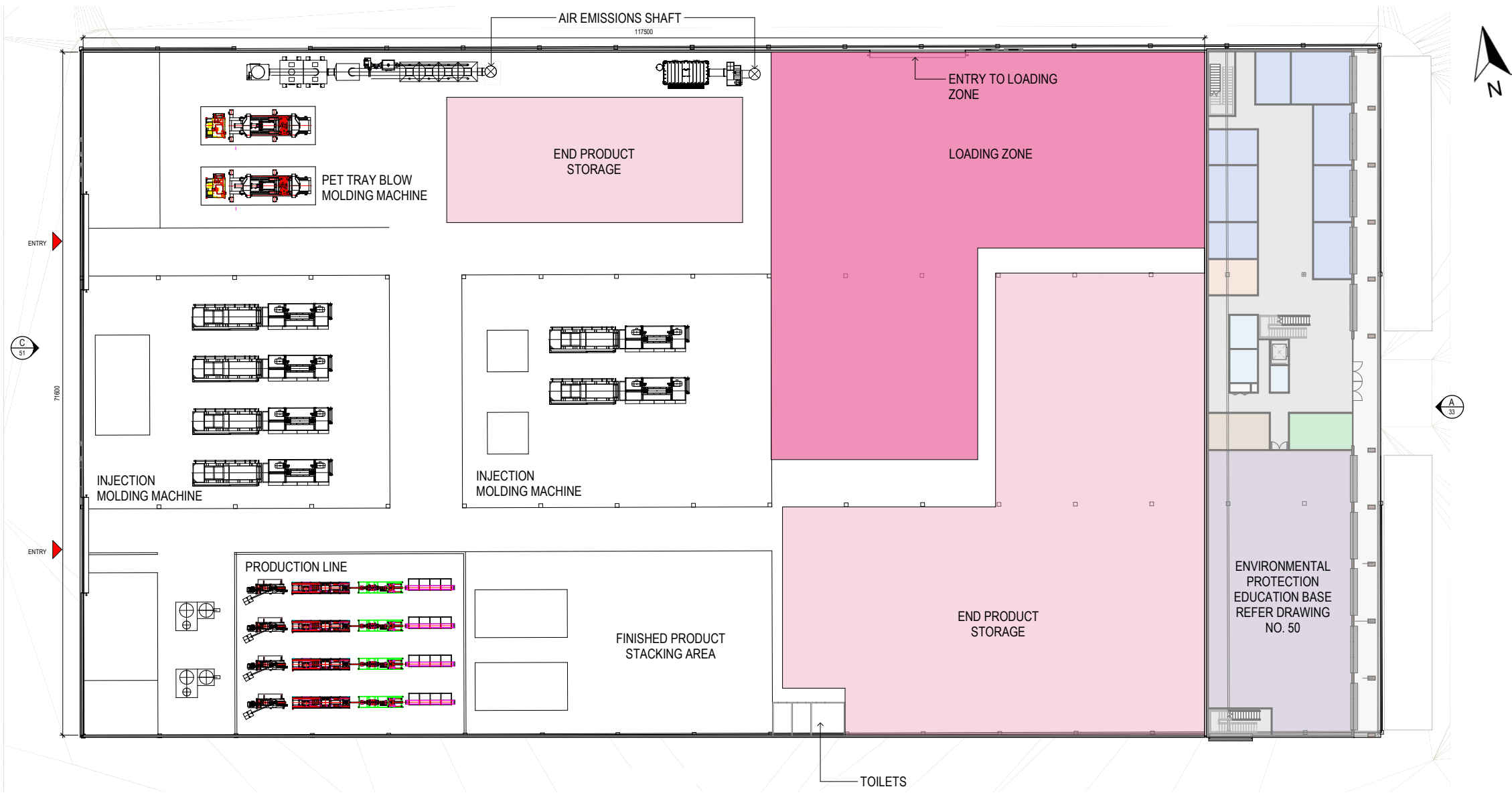


North eastern angle showing skylights on roof

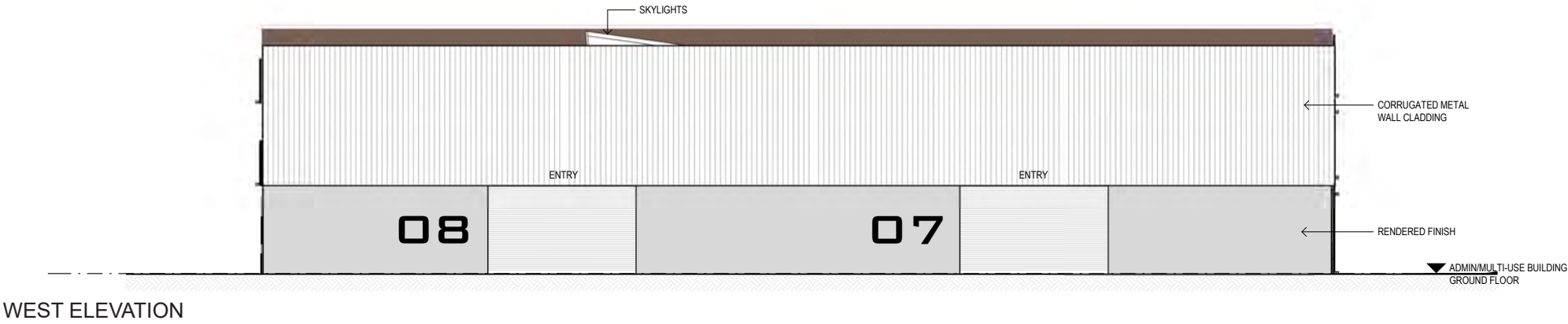
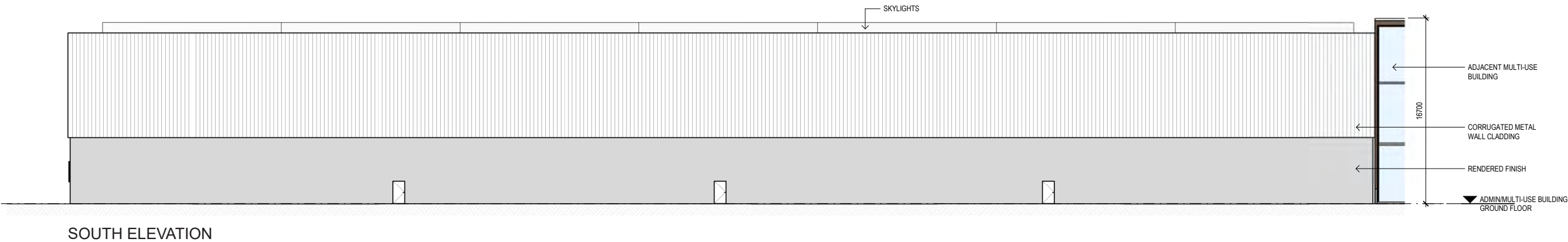
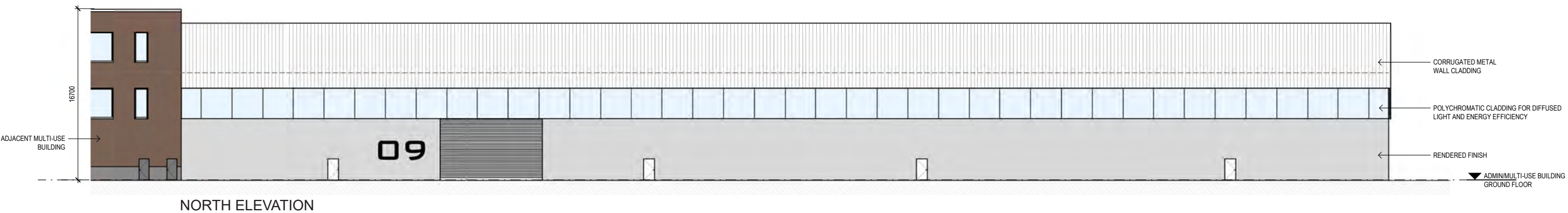
Preliminary Design

Building 2

FLOOR PLAN - GROUND FLOOR



Building 2





Building 2

3D VIEWS



Space between two large warehouses



Ground level facade detail design ideas altering perception of building height



Southwestern corner displaying clean material and design lines



Connection of eastern side of warehouse to multi-use building

Preliminary Design

Multi-Use Building

FLOOR PLAN - GROUND FLOOR





Multi-Use Building

FLOOR PLAN - LEVEL 1



Preliminary Design

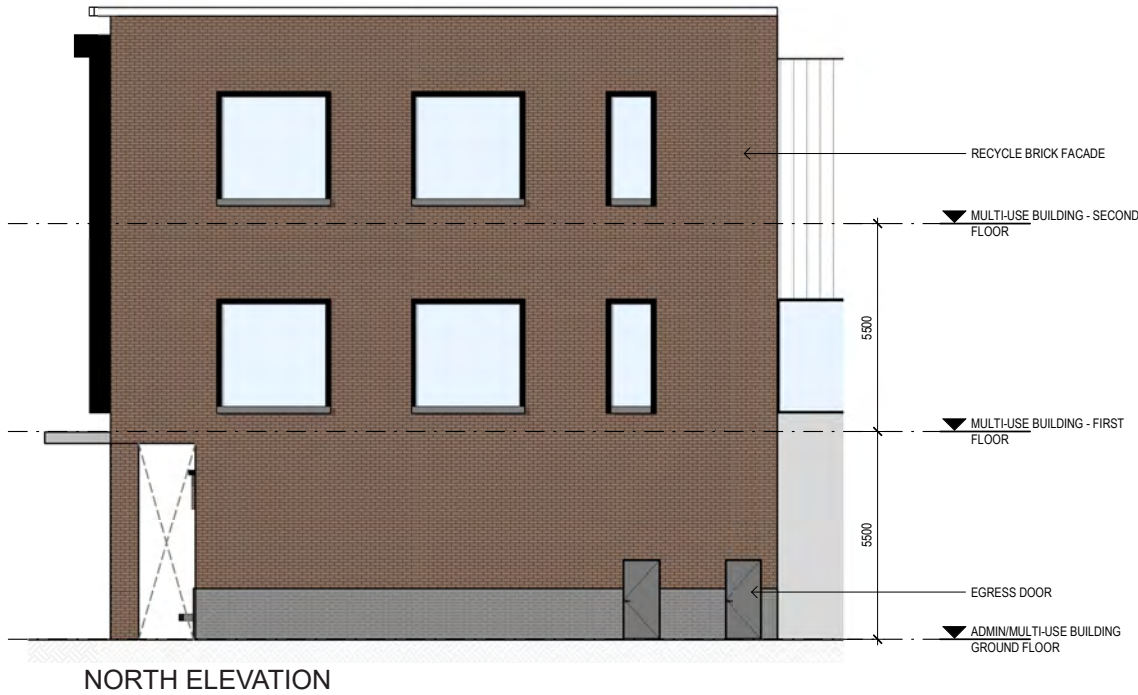
Multi-Use Building

FLOOR PLAN - LEVEL 2





Multi-Use Building





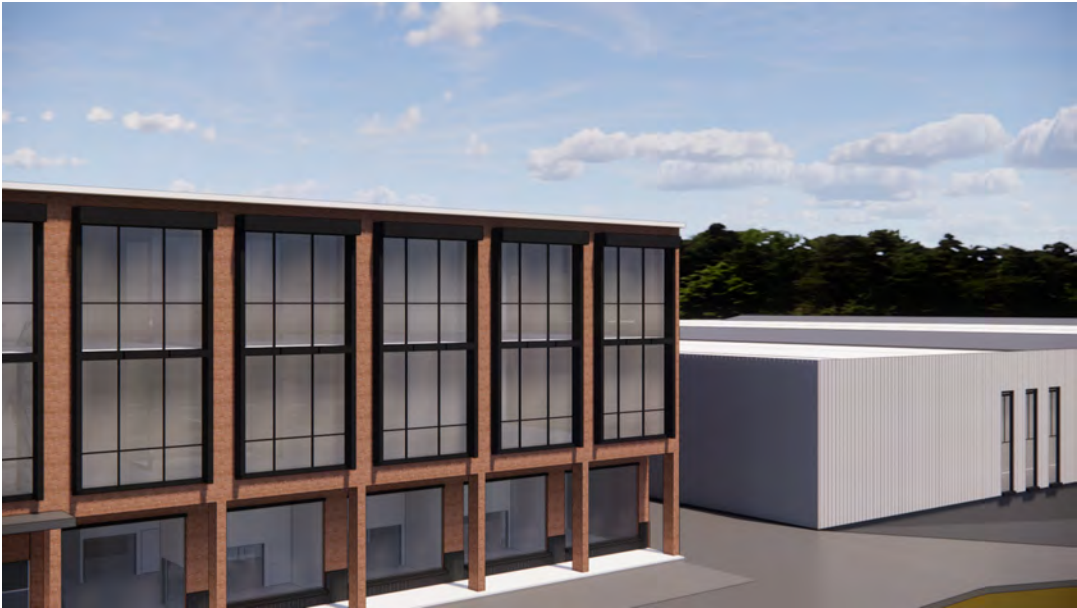
Preliminary Design

Multi-Use Building

3D VIEWS



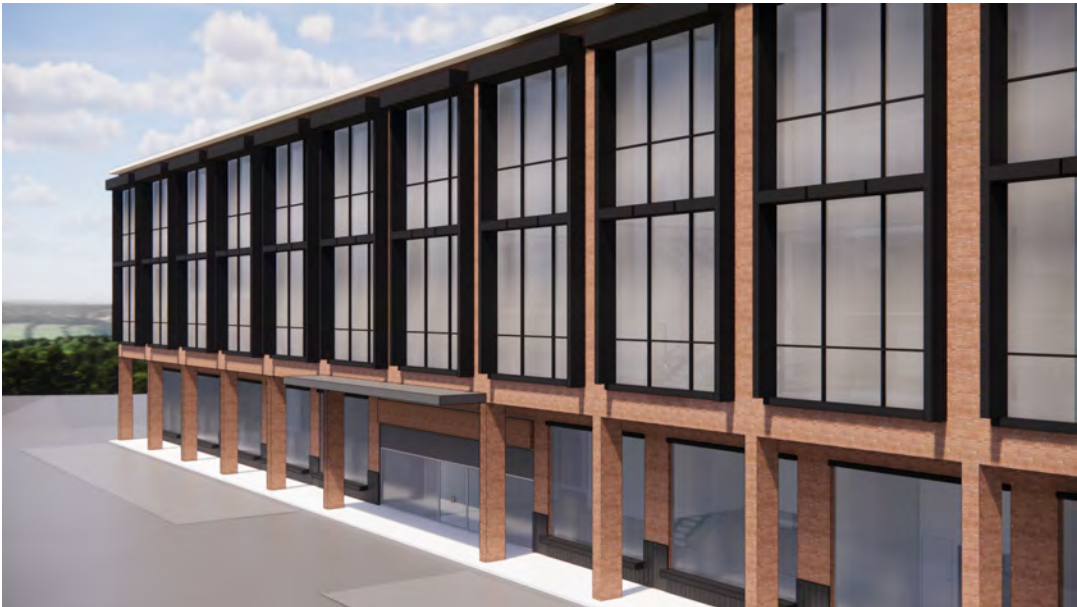
Main entrance



Connection with adjacent warehouse



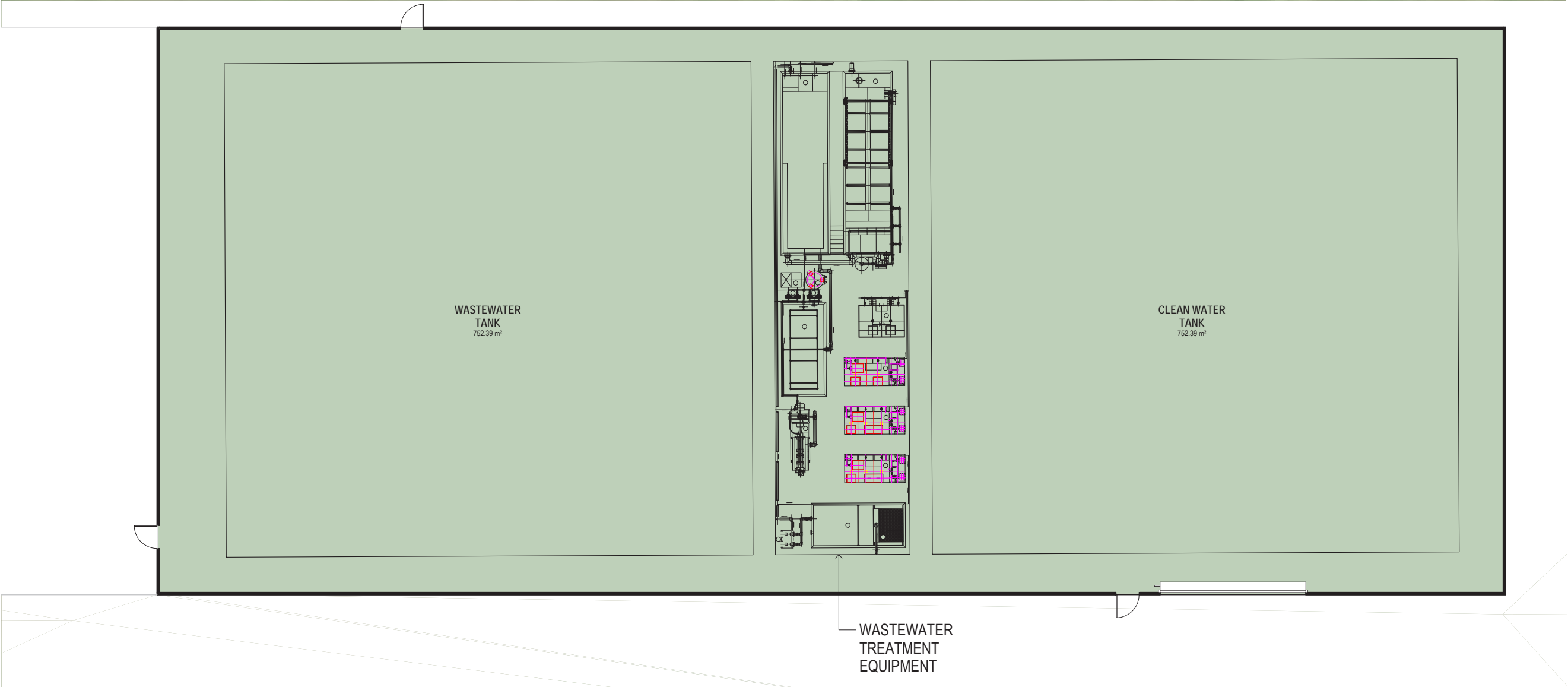
Northeastern view depicting transition to Building 2



Eastern facade window and column detailing

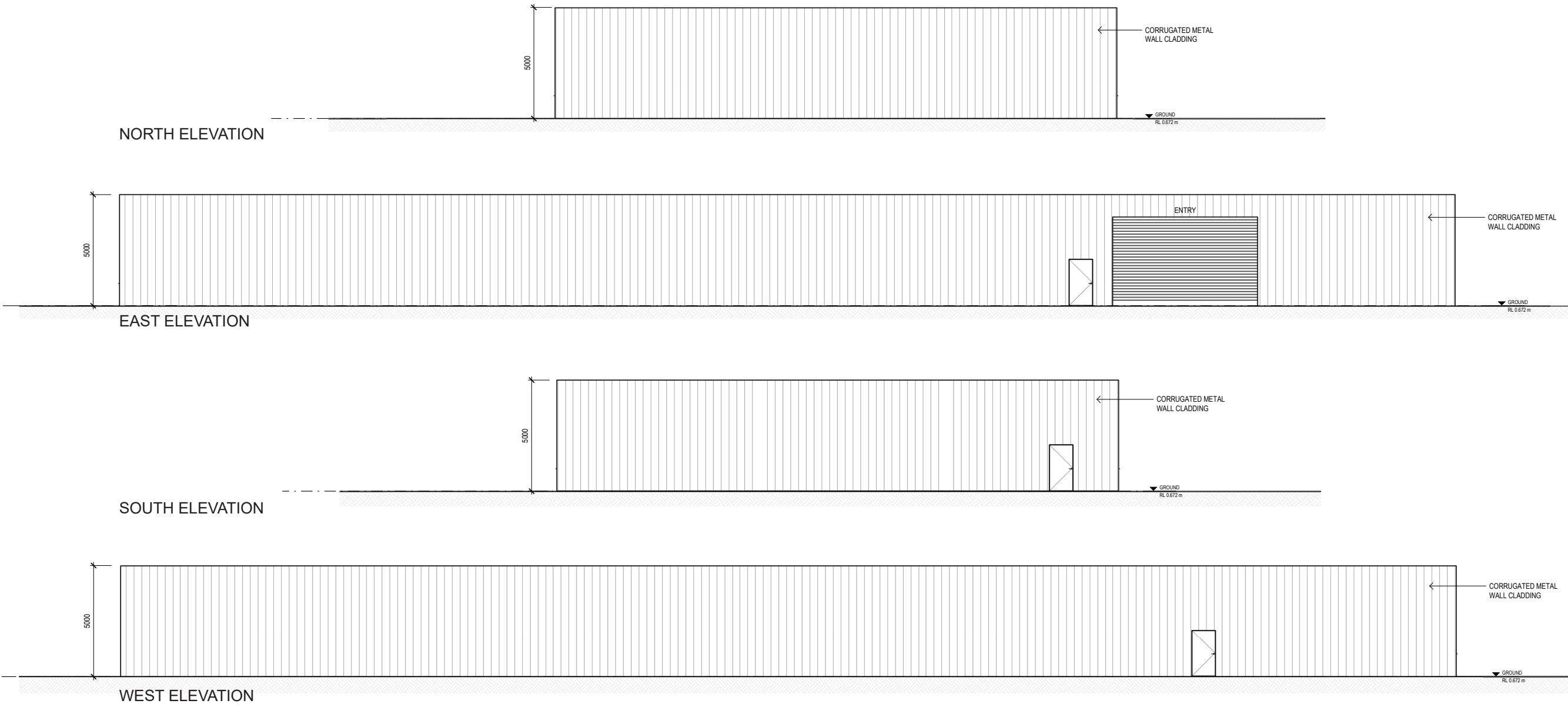
Wastewater Treatment Building

FLOOR PLAN - GROUND FLOOR





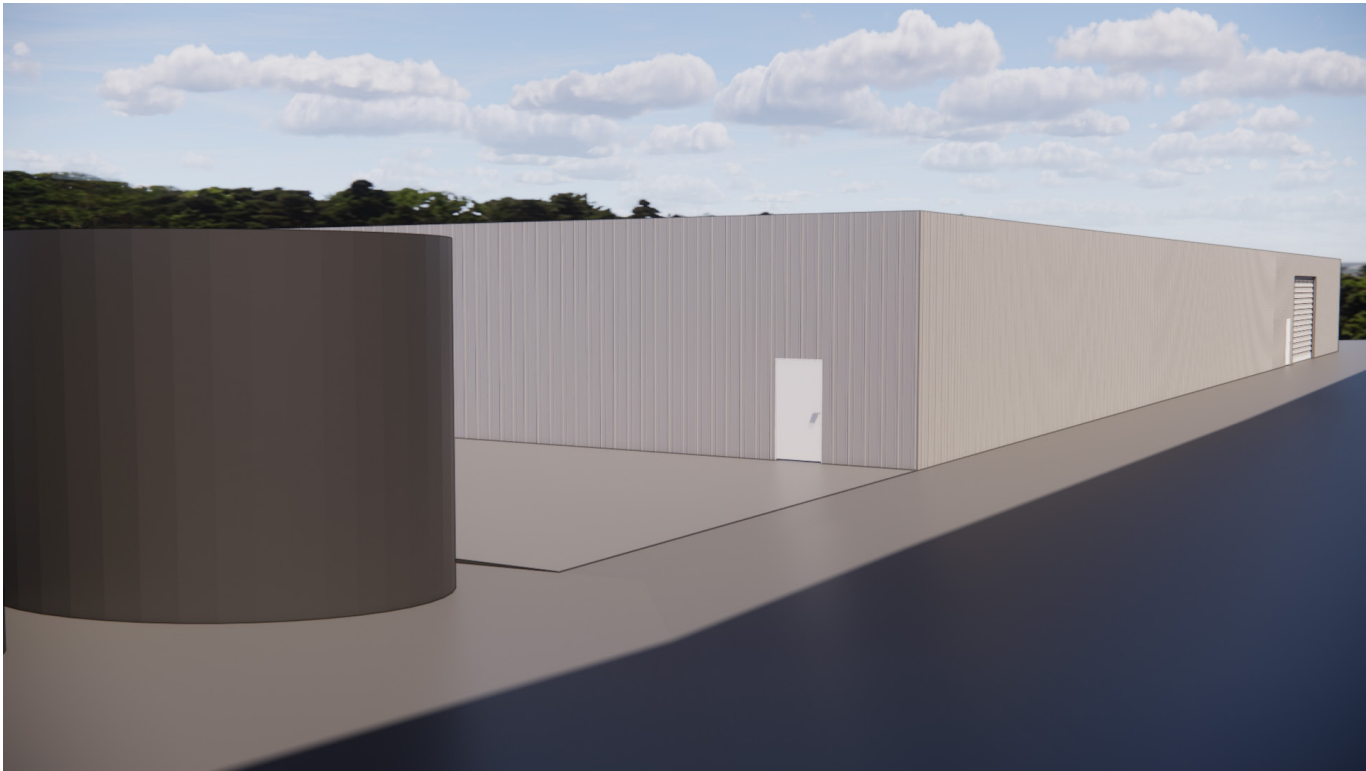
Wastewater Treatment Building



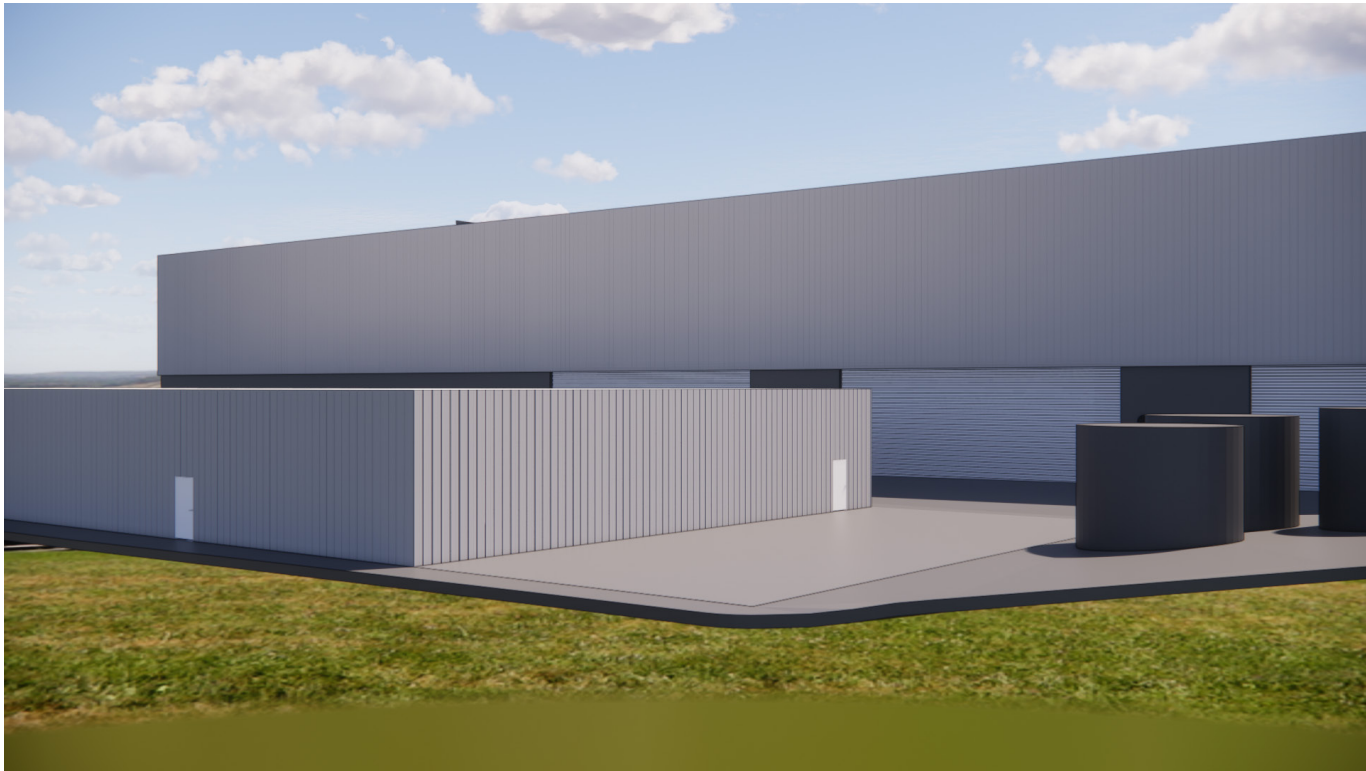
**Preliminary Design**

**Wastewater Treatment Building**

3D VIEWS



Minimalistic yet functional form tying with surrounding buildings



Scale and material palette of wastewater building in comparison to adjacent warehouse



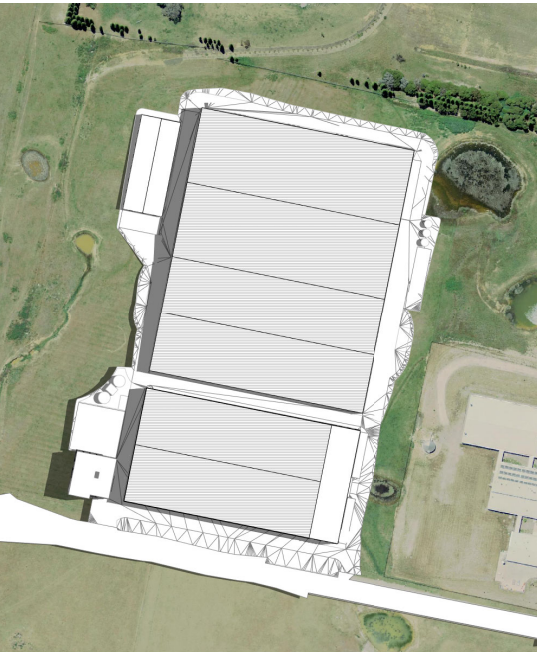
# Shadow Analysis

A shadow analysis carried out during the summer and winter solstices displays, respectively, solar exposure on the longest and shortest days of the year.

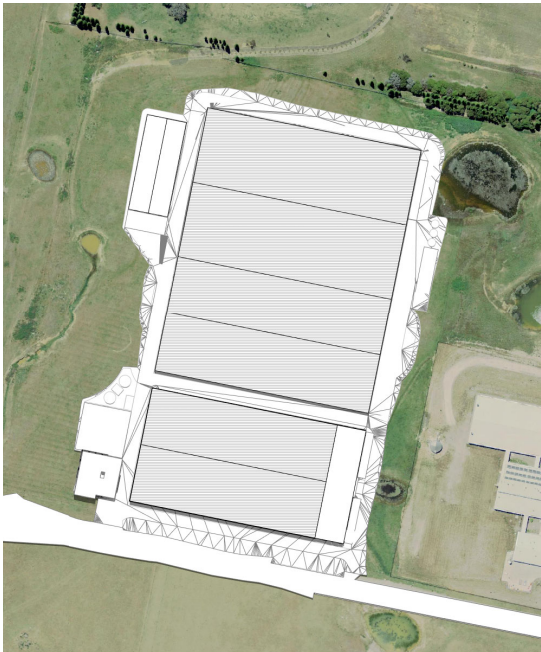
The top three images captured at 9AM, 12PM and 3PM on December 22 show that there is minimal overshadowing from adjacent buildings. Shading devices on the northern, eastern and western facades would be crucial to maintain optimal indoor thermal comfort in summer.

The bottom three images captured at 9AM, 12PM and 3PM on June 21 show that in the morning, there is little sunlight reaching the administration building. This suggests that passive and/or active heating strategies should be employed to ensure thermal comfort in winter.

The ample roof areas and high levels of solar exposure will most likely allow site operations to be run predominantly on energy from solar panels hosted on the roofs.



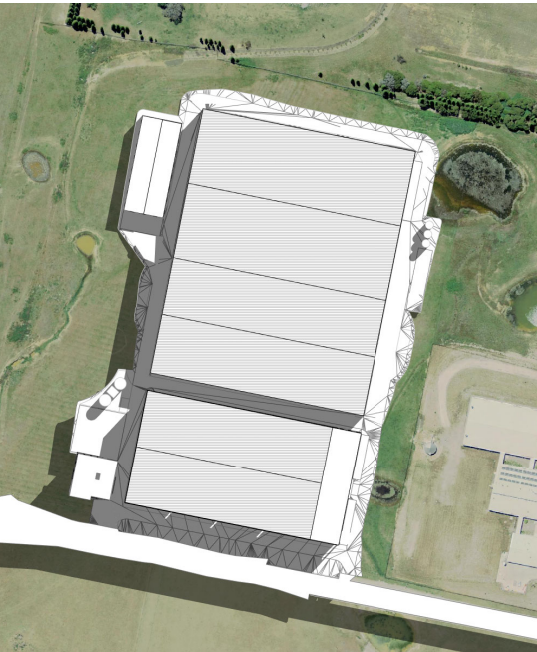
SUMMER SOLSTICE - 9AM



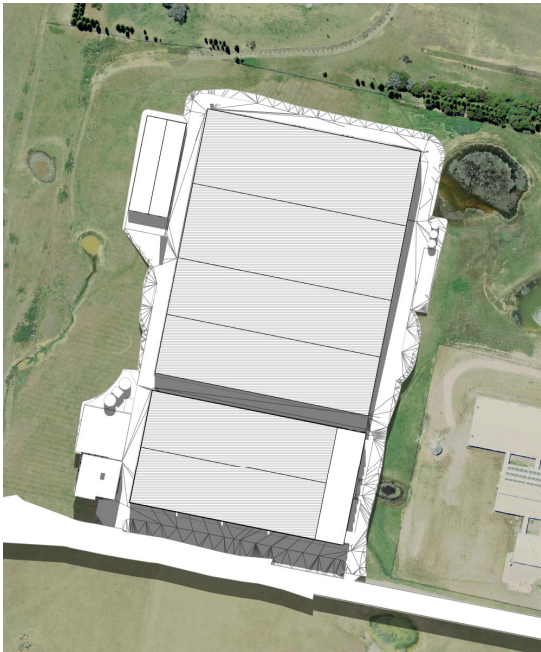
SUMMER SOLSTICE - 12PM



SUMMER SOLSTICE - 3PM



WINTER SOLSTICE - 9AM



WINTER SOLSTICE - 12PM



WINTER SOLSTICE - 3PM





Light Spill Assessment

A lighting calculation has been carried out for the highlighted roadways and parking areas. AZ/NZS 1158.3.1 2020 has been utilised as the basis for the lighting performance and design requirements. Refer to Appendix for the preliminary lighting layout and lighting calculation report.

Lighting Spill Assessment

The lights on the roadways and parking areas have no potential to impact the neighbouring developments. The nearest building structures are approximately 70m away from the east side of Building 1.

AZ/NZS 4282 Table 3.1 and Table 3.2 have been utilised to assess the impact of light spill on the surrounding areas. Refer below Obtrusive Light Compliance report.

Obtrusive Light - Compliance Report

AS/NZS 4282:2019, A2 - Low District Brightness, Non-Curfew L1  
Filename: Moss vale external lighting\_Obtrusive Calcs  
7/7/2022 10:23:15 AM

Illuminance

Maximum Allowable Value: 5 Lux

Calculations Tested (4):

Calculation Label	Test Results	Max. Illum.
Project Site - North Side 2	PASS	0.4
Project Site - East Side 2	PASS	0.1
Project Site - South Side 2	PASS	0.2
Project Site - West Side 2	PASS	0.0

Luminous Intensity (Cd) At Vertical Planes

Maximum Allowable Value: 7500 Cd

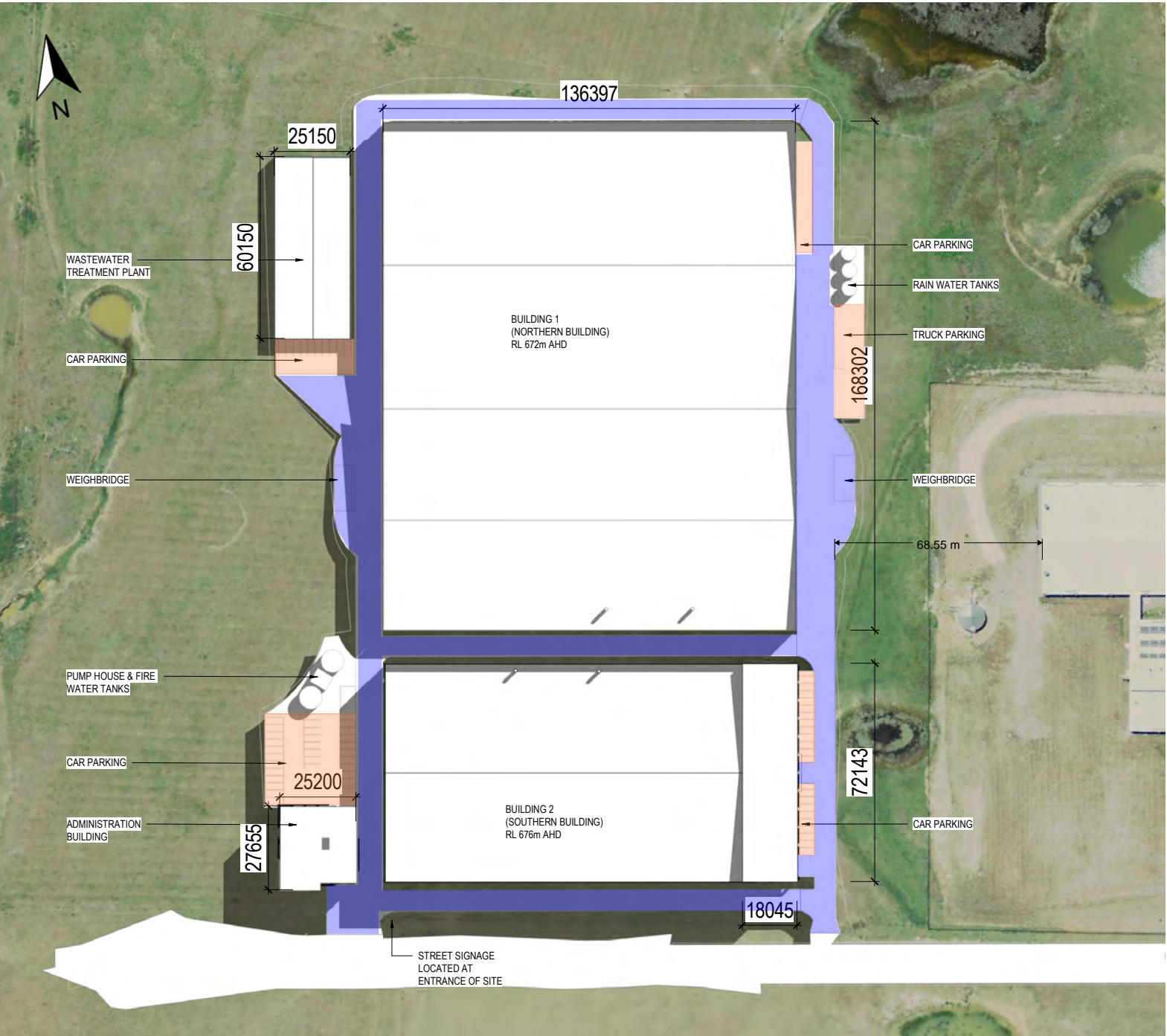
Calculations Tested (4):

Calculation Label	Test Results
Project Site - North Side	PASS
Project Site - East Side	PASS
Project Site - South Side	PASS
Project Site - West Side	PASS

Upward Waste Light Ratio (UWLR)

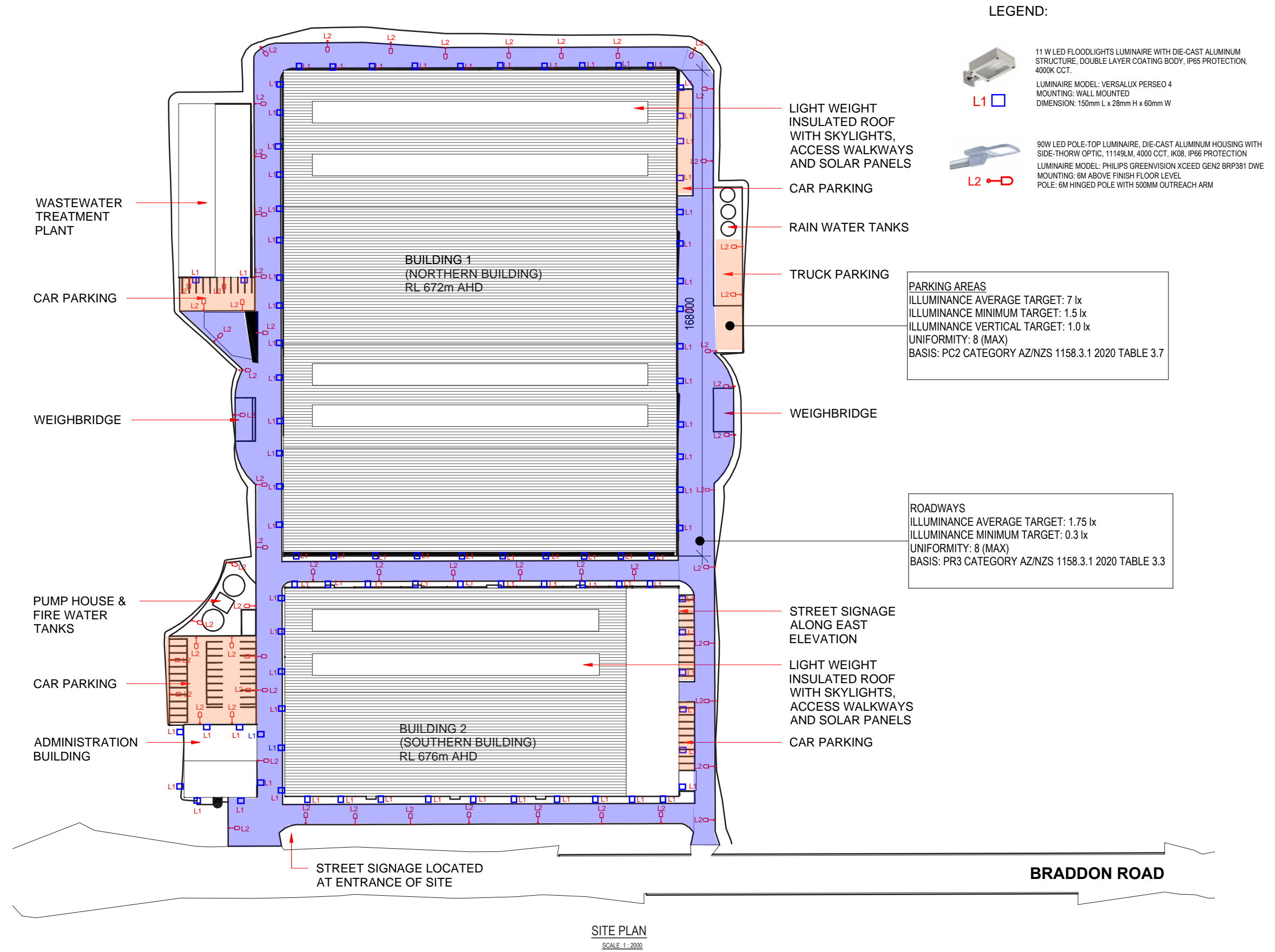
Maximum Allowable Value: 1.0 %

Calculated UWLR: 0.0 %  
Test Results: PASS



Light Spill Assessment

Light Spill Analysis



PAPER SIZE ISO A4  
SCALE 1:2000

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MOSS VALE PLASTICS RECYCLING  
AND REPROCESSING FACILITY

ELECTRICAL SITE PLAN



Job Number 12524108

Revision

Date 06/22/22

Figure 18

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Admin_path_down_Eh	Illuminance	Lux	7.80	18.4	1.6	4.88	11.50
Admin_path_East_Ev_North	Illuminance	Lux	21.99	38.3	3.1	7.09	12.35
Admin_path_East_Ev_South	Illuminance	Lux	14.80	39.8	0.1	148.00	398.00
Admin_path_Left-eh	Illuminance	Lux	8.44	82.6	1.2	7.03	68.83
Admin_path_North_Ev_East	Illuminance	Lux	57.20	77.6	7.1	8.06	10.93
Admin_path_North_Ev_West	Illuminance	Lux	54.85	76.6	7.3	7.51	10.49
Admin_path_right_Eh	Illuminance	Lux	30.12	44.3	9.9	3.04	4.47
Admin_path_South_Ev_East	Illuminance	Lux	1.89	3.5	0.5	3.78	7.00
Admin_path_South_Ev_West	Illuminance	Lux	2.92	11.4	0.0	N.A.	N.A.
Admin_path_Top_Eh	Illuminance	Lux	108.50	135.3	79.7	1.36	1.70
Admin_path_West_Ev_North	Illuminance	Lux	7.35	25.7	0.3	24.50	85.67
Admin_path_West_Ev_South	Illuminance	Lux	0.73	2.1	0.0	N.A.	N.A.
BLD1_Path_East_eh	Illuminance	Lux	6.02	44.6	2.0	3.01	22.30
Bld1_path_East_Ev_North	Illuminance	Lux	1.83	19.0	0.4	4.58	47.50
Bld1_path_East_Ev_South	Illuminance	Lux	2.34	37.7	0.4	5.85	94.25
BLD1_Path_North_eh	Illuminance	Lux	7.33	15.0	1.7	4.31	8.82
Bld1_path_north_Ev_East	Illuminance	Lux	3.60	5.3	1.7	2.12	3.12
Bld1_path_north_Ev_West	Illuminance	Lux	1.96	3.3	0.1	19.60	33.00
BLD1_Path_South_eh	Illuminance	Lux	7.35	12.1	2.2	3.34	5.50
Bld1_path_South_Ev_East	Illuminance	Lux	2.27	4.3	0.1	22.70	43.00
Bld1_path_South_Ev_West	Illuminance	Lux	2.58	4.6	0.3	8.60	15.33
BLD1_Path_West_eh	Illuminance	Lux	7.05	18.2	2.5	2.82	7.28
Bld1_path_West_Ev_North	Illuminance	Lux	2.24	5.0	0.3	7.47	16.67
Bld1_path_West_Ev_South	Illuminance	Lux	2.65	9.2	1.0	2.65	9.20
BLD2_Path_East_eh	Illuminance	Lux	3.63	6.0	1.5	2.42	4.00
Bld2_path_East_Ev_North	Illuminance	Lux	1.41	2.9	0.5	2.82	5.80
Bld2_path_East_Ev_South	Illuminance	Lux	1.41	2.9	0.3	4.70	9.67
BLD2_Path_North_eh	Illuminance	Lux	23.52	43.9	2.0	11.76	21.95
Bld2_path_North_Ev_East	Illuminance	Lux	12.76	30.8	0.1	127.60	308.00
Bld2_path_North_Ev_West	Illuminance	Lux	11.04	26.9	0.3	36.80	89.67
BLD2_Path_South_eh	Illuminance	Lux	7.62	11.0	2.8	2.72	3.93
Bld2_path_South_Ev_East	Illuminance	Lux	2.92	4.9	0.1	29.20	49.00
Bld2_path_South_Ev_West	Illuminance	Lux	2.85	4.7	0.1	28.50	47.00
BLD2_Path_West_eh	Illuminance	Lux	8.53	22.1	1.0	8.53	22.10
Bld2_path_West_Ev_North	Illuminance	Lux	2.01	4.1	0.6	3.35	6.83
Bld2_path_West_Ev_South	Illuminance	Lux	3.23	13.3	0.1	32.30	133.00
CarPark-Admin-eV_1	Illuminance	Lux	23.22	72.7	3.0	7.74	24.23
CarPark-Admin-eV_2	Illuminance	Lux	13.01	102.6	1.0	13.01	102.60
CarPark-Admin_eh	Illuminance	Lux	58.76	157.3	3.3	17.81	47.67
CarPark-bld1-east-eV_N	Illuminance	Lux	3.78	19.9	2.3	1.64	8.65
CarPark-bld1-east-eV_S	Illuminance	Lux	2.55	3.6	1.3	1.96	2.77
CarPark-bld1-east_eh	Illuminance	Lux	10.22	47.1	3.0	3.41	15.70
CarPark-bld2_East_eh	Illuminance	Lux	7.41	17.0	2.5	2.96	6.80
CarPark-bld2-east-eV_N	Illuminance	Lux	3.31	5.1	2.2	1.50	2.32
CarPark-bld2-east-eV_S	Illuminance	Lux	2.15	3.1	1.0	2.15	3.10
CarPark-WTP-eV_south	Illuminance	Lux	68.47	83.5	36.6	1.87	2.28
Carpark-WTP_eh	Illuminance	Lux	69.35	152.7	4.8	14.45	31.81
CarPark-WTP_North	Illuminance	Lux	15.95	59.5	1.0	15.95	59.50
Road-bl-b2	Illuminance	Lux	26.16	59.4	2.9	9.02	20.48
Road-bld1-east	Illuminance	Lux	22.55	57.7	1.5	15.03	38.47
Road-bld1-north	Illuminance	Lux	26.56	46.3	3.9	6.81	11.87
Road-bld1west	Illuminance	Lux	30.15	85.1	0.7	43.07	121.57
Road-bld2-east	Illuminance	Lux	29.74	56.1	13.5	2.20	4.16
Road-Bld2-West	Illuminance	Lux	28.85	131.8	1.8	16.03	73.22
Road-bld2_South	Illuminance	Lux	24.51	46.6	0.5	49.02	93.20
Road_bld1-bld2-eV-East	Illuminance	Lux	22.66	43.7	0.2	113.30	218.50
Road_bld1-bld2-eV-West	Illuminance	Lux	16.91	28.0	0.4	42.28	70.00
Road_bld1-East_eV-North	Illuminance	Lux	8.92	18.6	0.4	22.30	46.50
Road_bld1-East_eV-South	Illuminance	Lux	19.03	38.4	0.6	31.72	64.00
Road_bld1-North-Ev_East	Illuminance	Lux	17.08	29.3	6.2	2.75	4.73
Road_bld1-North-Ev_West	Illuminance	Lux	19.71	39.4	0.1	197.10	394.00
Road_bld1-West_eV-North	Illuminance	Lux	17.07	35.9	0.4	42.68	89.75
Road_bld1-West_eV-South	Illuminance	Lux	24.14	53.7	1.3	18.57	41.31
Road_bld2_East_Ev_North	Illuminance	Lux	27.36	56.0	5.2	5.26	10.77
Road_bld2_East_Ev_South	Illuminance	Lux	21.15	38.3	4.4	4.81	8.70
Road_bld2_South_Ev_east	Illuminance	Lux	24.22	41.6	0.2	121.10	208.00
Road_bld2_South_Ev_west	Illuminance	Lux	22.77	39.2	0.2	113.85	196.00
Road_bld2_West_Ev_North	Illuminance	Lux	5.21	15.0	0.9	5.79	16.67
Road_bld2_West_Ev_South	Illuminance	Lux	6.02	28.2	0.3	20.07	94.00
Truck parking	Illuminance	Lux	15.55	42.4	2.3	6.76	18.43
weighbridge-West	Illuminance	Lux	14.25	43.5	0.9	15.83	48.33
weighbridge_East	Illuminance	Lux	17.55	46.4	2.3	7.63	20.17

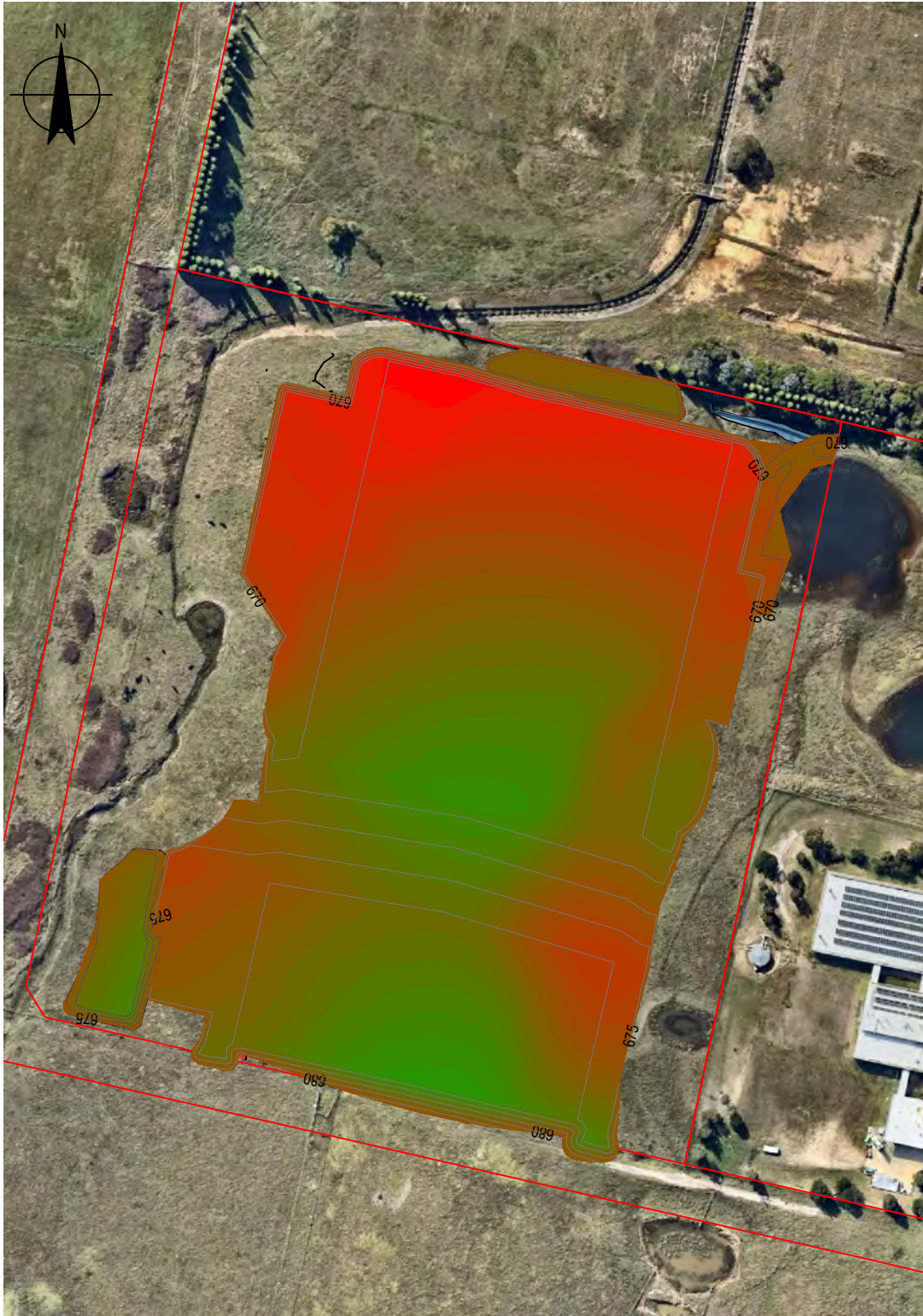
Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Description	LLF	Luminaire Lumens	Luminaire Watts
	75	POLE TOP LUIMINAIRE	Single	PHILIPS GEN 2	0.588	11149	90
	105	WALL LIGHT	Single	VERSALUX	0.588	580	11

PLASREFINE RECYCLING PTY LTD  
MOSS VALE PLASTICS RECYLCING  
AND REPROCESSING FACILITY

Job Number | 12524108  
Revision  
Date | 06/22/22

LIGHTING CALCULATIONS





## LEGEND

- LOT BOUNDARY
- DESIGN CONTOURS

### CUT

- 5.0 to - 4.5 m
- 4.5 to - 4.0 m
- 4.0 to - 3.5 m
- 3.5 to - 3.0 m
- 3.0 to - 2.5 m
- 2.5 to - 2.0 m
- 2.0 to - 1.5 m
- 1.5 to - 1.0 m
- 1.0 to - 0.5 m
- 0.5 to 0.0 m

### FILL

- 0.0 to 0.5 m
- 0.5 to 1.0 m
- 1.0 to 1.5 m
- 1.5 to 2.0 m
- 2.0 to 2.5 m
- 2.5 to 3.0 m
- 3.0 to 3.5 m
- 3.5 to 4.0 m
- 4.0 to 4.5 m
- 4.5 to 5.0 m



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SCALE 1:2500 AT ORIGINAL SIZE

## PLASREFINE RECYCLING PTY LTD MOSS VALE PLASTICS RECYCLING AND REPROCESSING FACILITY CUT AND FILL PLAN

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Scale  
1:2500

Project no.  
12524108

Status code

Figure no.

1