Government of Western Australia
Development Assessment Panels

Metro Outer Joint Development Assessment Panel Agenda

Meeting Date and Time: Tuesday, 27 July 2021; 9:30am
Meeting Number: MOJDAP/108
Meeting Venue: Via Zoom

To connect to the meeting via your computer - https://zoom.us/j/92794230297

To connect to the meeting via teleconference dial the following phone number - 7150 1149
Insert Meeting ID followed by the hash (#) key when prompted - 927 9423 0297

This DAP meeting will be conducted by electronic means open to the public rather than requiring attendance in person.

1 Table of Contents

1. Opening of Meeting, Welcome and Acknowledgement 2
2. Apologies 3
3. Members on Leave of Absence 3
4. Noting of Minutes 3
5. Declarations of Due Consideration 3
6. Disclosure of Interests 3
7. Deputations and Presentations 3
8. Form 1 – Responsible Authority Reports – DAP Applications 4
8.1 Lots 558 & 557 (11) Blundell Street, Dayton 4
8.2 Lots 108, 1304, 8003, and portion of road reserve Rockingham Beach Road, East Rockingham 4
8.3 Lot 1585 and Lot 4552 Rockingham Beach Road, East Rockingham 4
9. Form 2 – Responsible Authority Reports – DAP Amendment or Cancellation of Approval 4
Nil 4
10. State Administrative Tribunal Applications and Supreme Court Appeals ..5
11. General Business 5
12. Meeting Closure 5

Attendance

DAP Members

Mr Ian Birch (Presiding Member)
Ms Sheryl Chaffer (Deputy Presiding Member)
Mr Jason Hick (Third Specialist Member)

Item 8.1
Cr Rod Henderson (Local Government Member, City of Swan)
Mayor Kevin Bailey (Local Government Member, City of Swan)

Item 8.2 & 8.3
Cr Deb Hamblin (Local Government Member, City of Rockingham)
Cr Mark Jones (Local Government Member, City of Rockingham)

Officers in attendance

Item 8.1
Mr Philip Russell (City of Swan)
Ms Amanda Lees (Department of Finance (BMW))

Item 8.2
Mr David Banovic (City of Rockingham)
Mr Mike Ross (City of Rockingham)

Item 8.3
Mr Sam Lissiman (Western Australian Planning Commission)
Mr Aiden O'Brien (Western Australian Planning Commission)

Minute Secretary

Ms Megan Ventris (DAP Secretariat)

Applicants and Submitters

Item 8.1
Mr Matthew le Meur (Christou)
Mr Xavier Byrne (GHD)

Item 8.2 & 8.3
Mr Ross Underwood (Planning Solutions)
Mr Peter Ranzenbacher (CBH)
Ms Alysia Woodward (360 Environmental)
Mr Mark Skinner

Members of the Public / Media

Nil.

1. Opening of Meeting, Welcome and Acknowledgement

The Presiding Member declares the meeting open and acknowledges the traditional owners and pay respects to Elders past and present of the land on which the meeting is being held.

This meeting is being conducted by electronic means open to the public. Members are reminded to announce their name and title prior to speaking.

2. Apologies

Nil.

3. Members on Leave of Absence

Nil.

4. Noting of Minutes

Signed minutes of previous meetings are available on the DAP website.

5. Declarations of Due Consideration

Any member who is not familiar with the substance of any report or other information provided for consideration at the DAP meeting must declare that fact before the meeting considers the matter.

6. Disclosure of Interests

Nil.

7. Deputations and Presentations

7.1 Mr Mark Skinner presenting against the recommendation for the application at Item 8.2 and Item 8.3. The presentation will address the combined risks of development.

7.2 Mr Peter Ranzenbacher (CBH) presenting in support of the recommendation for the application at Item 8.2 and Item 8.3. The presentation will address a detailed overview of the proposed Kwinana.

7.3 Mr Ross Underwood (Planning Solutions) presenting in support of the recommendation for the application at Item 8.2 and Item 8.3. The presentation will provide an introduction and background to the proposed development and briefly address relevant planning requirements.

The Department of Finance (BMW), City of Rockingham and Western Australian Planning Commission may be provided with the opportunity to respond to questions of the panel, as invited by the Presiding Member.

8. Form 1 – Responsible Authority Reports – DAP Applications

8.1 Lots 558 & 557 (11) Blundell Street, Dayton

Development Description:	New government primary school: Dayton Primary School
Applicant:	Department of Finance & CHRISTOU Design Group
Owner:	Department of Education
Responsible Authority:	Department of Finance
DAP File No:	DAP/21/01998

8.2 Lots 108, 1304, 8003, and portion of road reserve Rockingham Beach Road, East Rockingham

Development Description:	Liquid Urea Ammonium Nitrate Fertiliser and Solid Fertiliser Storage and Blending Facility
Applicant:	Planning Solutions
Owner:	Western Australian Land Authority trading as DevelopmentWA, Co-operative Bulk Handling Pty Ltd, Main Roads Western Australia & Water Corporation
Responsible Authority:	City of Rockingham
DAP File No:	DAP/20/01878

8.3 Lot 1585 and Lot 4552 Rockingham Beach Road, East Rockingham

Development Description:	Construction of UAN discharge pipeline and cargo receival equipment.
Applicant:	Planning Solutions
Owner:	DPLH & Fremantle Port Authority
Responsible Authority:	Western Australian Planning Commission
DAP File No:	DAP/21/01879

9. Form 2 – Responsible Authority Reports – DAP Amendment or Cancellation of Approval

Nil.

10. State Administrative Tribunal Applications and Supreme Court Appeals

Current SAT Applications				
File No. & SAT DR No.	**LG Name**	**Property Location**	**Application Description**	**Date Lodged**
DAP/19/01708 DR 138/2020	City of Kwinana	Lot 108 Kwinana Beach Road, Kwinana	Proposed Bulk Liquid Storage for GrainCorp Liquid Terminals	01/07/2020
DAP/01729 DR 176/2020	City of Kalamunda	Lot 130 (74) Warlingham Drive, Lesmurdie	Aged Residential Care Facility	28/8/2020
DAP/20/01764 DR 204/2020	City of Swan	Lot 780 (46) Gaston Road, Bullsbrook	Proposed Stock Feed Grain Mill	8/09/2020
DAP/20/01829 DR 001/2021	City of Swan	Lot 1 (42) Dale Road & Lot 4 (43) Yukich Close, Middle Swan	Aged care and community purpose	08/01/2021
DAP/21/01952 DR 096/2021	City of Rockingham	Lot 265 (40) Talisker Bend, Golden Bay	Mixed commercial development	14/05/2021

11. General Business

In accordance with Section 7.3 of the DAP Standing Orders 2020 only the Presiding Member may publicly comment on the operations or determinations of a DAP and other DAP members should not be approached to make comment.

12. Meeting Closure

Government of **Western Australia**
Development Assessment Panels

Presentation Request Form

Regulation 40(3) and DAP Standing Orders 2020 cl. 3.5

Must be submitted at least 72 hours (3 ordinary days) before the meeting

Presentation Request Guidelines

Persons interested in presenting to a DAP must first consider whether their concern has been adequately addressed in the responsible authority report or other submissions. Your request will be determined by the Presiding Member based on individual merit and likely contribution to assist the DAP's consideration and determination of the application.

Presentations are not to exceed **5 minutes**. It is important to note that the presentation content will be **published on the DAP website** as part of the meeting agenda.

Please complete a separate form for each presenter and submit to daps@dplh.wa.gov.au

Presenter Details

Name	Mark Skinner
Company (if applicable)	Click or tap here to enter text.
Please identify if you have any special requirements:	**YES** ☐ **NO** x If yes, please state any accessibility or special requirements: Click or tap here to enter text.

Meeting Details

DAP Name	Liquid Urea Ammonium Nitrate Fertiliser and Solid Fertiliser Storage and Blending Facility
Meeting Date	27th July 2021
DAP Application Number	DAP/MOJDAP/108
Property Location	Lots 108, 1304, 8003 and Portion of Road Reserve, Rockingham Beach Road, East Rockingham (20.2020.290.1)
Agenda Item Number	8.2 and 8.3

Presentation Details

I have read the contents of the report contained in the Agenda and note that my presentation content will be published as part of the Agenda:	**YES** x
Is the presentation in support of or against the report recommendation)? *(contained within the Agenda)*	**SUPPORT** ☐ **AGAINST** x
Is the presentation in support of or against the proposed development?	**SUPPORT** ☐ **AGAINST** x
Will the presentation require power-point facilities?	**YES** ☐ **NO** x **If yes, please attach**

Government of **Western Australia**
Development Assessment Panels

Presentation Content*

These details may be circulated to the local government and applicant if deemed necessary by the Presiding Member. Handouts or power points will not be accepted on the day.

Brief sentence summary for inclusion on the Agenda	*The presentation will address:* Combined risks of development

In accordance with Clause 3.5.2 of the *DAP Standing Orders*, your presentation request must also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

I have raised concerns about this proposal at Rockingham City Council meetings.
My information is based on the proposal and information provided to me by CBH themselves.
My concerns were dismissed by CBH as "misinformed" or in the case of the traffic volume at first denied by CBH then brushed off as "oh that must be including the smaller trucks."
Traffic:
At the planning meeting CBH stated that they could not possibly have heavy traffic to and from this facility.
In CBH's submission page 8 of the agenda states: "98 vehicle trips in an hour" or 1 trip every 40 seconds." 788 trips a day" or more than 1 trip every 2 minutes 24 hours a day, in the peak times.
This alone poses a major safety hazard for anyone using the beaches in the area or the park and boat ramp along with the high likelihood of accidents involving chemical trucks.
These figures do not include current traffic in the area which includes heavy trucks to and from the CBH grain silos. CBH states that the peak periods are different but the trucks to the grain silos run all year.

Explosive chemicals:
Most importantly UAN.
At planning CBH stated that UAN is 25-30% water and not explosive under any conditions.
In fact you could put fires out with it.
According to CBH's own Safety Data Sheet:

- UAN it can be as low as 10% water.
- Section 5.3 Advice for Fire-fighters it states " If heated to high temperatures, evaporation of the water component can result in a solid/molten residue containing ammonium nitrate. When sensitised or during decomposition, ammonium nitrate may become unstable and/or explosive"

Given that the area is classified as a high bushfire danger area this is a large concern.
I certainly would not want to try putting out any fires with it.
The risk of a spill of UAN is highest when loading trucks or due to a traffic accident/incident.
Spills during loading have the potential to be washed into the evaporation pond where the water can evaporate and leave a residue containing Ammonium Nitrate which is then a dangerous good and highly explosive.
Most of these risks already exist in the Kwinana Industrial Area however, this proposal concentrates them to one small area and one section of public road which is close to parks and recreation areas and considerably closer to the residential area.
I have worked in heavy industry for 47 years and know that in assessing and mitigating risks you must consider what can go wrong. In this case leaks, spills and the risk of fires from both bush fires and accidents are the obvious and most likely scenarios. Each on their own

controllable but combined, as happens in all major disasters, potentially catastrophic.
No information has been given by CBH regarding the mixing of UAN with other chemicals onsite either accidentally or deliberately, however, if Ammonium Nitrate (up to 50% of UAN) is mixed with diesel it creates the explosive used in mine sites and in most terrorist attacks. Ammonium Nitrate is also the chemical involved in the Beirut disaster which killed 220 people and injured 5000. In that case there was 2750 tonnes here we are talking of having 48000T of UAN or 24000T of Ammonium Nitrate nearly **10 times as much**.
I believe that UAN or any compound of Ammonium Nitrate should not be stored within 10Km of residential areas. I realise that it is stored currently in the Kwinana Industrial Area but this new facility will bring it much closer to residences and within 500 meters of the caravan park.
Employment:
CBH have stated that this proposal will create ongoing local employment post construction. Figures given show the onsite job creation but do not take into account the closure of the 3 current sites at which the fertilizer is currently imported and blended. Consolidating the activities into one location is for efficiency and is likely to reduce the overall employment in the area.

Government of **Western Australia**
Development Assessment Panels

Presentation Request Form

Regulation 40(3) and DAP Standing Orders 2020 cl. 3.5

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Please complete a separate form for each presenter and submit to daps@dplh.wa.gov.au

Presenter Details

Name	Peter Ranzenbacher
Company (if applicable)	CBH
Please identify if you have any special requirements:	**YES** ☐ **NO** ☐ If yes, please state any accessibility or special requirements: Click or tap here to enter text.

Meeting Details

DAP Name	Metro Outer JDAP
Meeting Date	27 July 2021
DAP Application Number	DAP/21/01878 and DAP/21/20879
Property Location	Lot 108 Rockingham Beach Road, East Rockingham
Agenda Item Number	8.2 and 8.3

Presentation Details

I have read the contents of the report contained in the Agenda and note that my presentation content will be published as part of the Agenda:	**YES** ☒
Is the presentation in support of or against the report recommendation)? *(contained within the Agenda)*	**SUPPORT** ☒ **AGAINST** ☐
Is the presentation in support of or against the proposed development?	**SUPPORT** ☒ **AGAINST** ☐
Will the presentation require power-point facilities?	**YES** ☒ **NO** ☐ **If yes, please attach**

Government of **Western Australia**
Development Assessment Panels

Presentation Content*

These details may be circulated to the local government and applicant if deemed necessary by the Presiding Member. Handouts or power points will not be accepted on the day.

Brief sentence summary for inclusion on the Agenda	*The presentation will address:* Provide a detailed overview of the proposed Kwinana Fertiliser Plant including planning and environmental approvals and operation.

In accordance with Clause 3.5.2 of the *DAP Standing Orders*, your presentation request must also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

Refer attached presentation.

CREATING AND
RETURNING VALUE
TO GROWERS

KWINANA FERTILISER PLANT

- DRY FERTILISER RECEIVAL, STORAGE, BLENDING & DISTRIBUTION
- UAN SHIP-UNLOADING, STORAGE & DISTRIBUTION

27TH JULY 2021

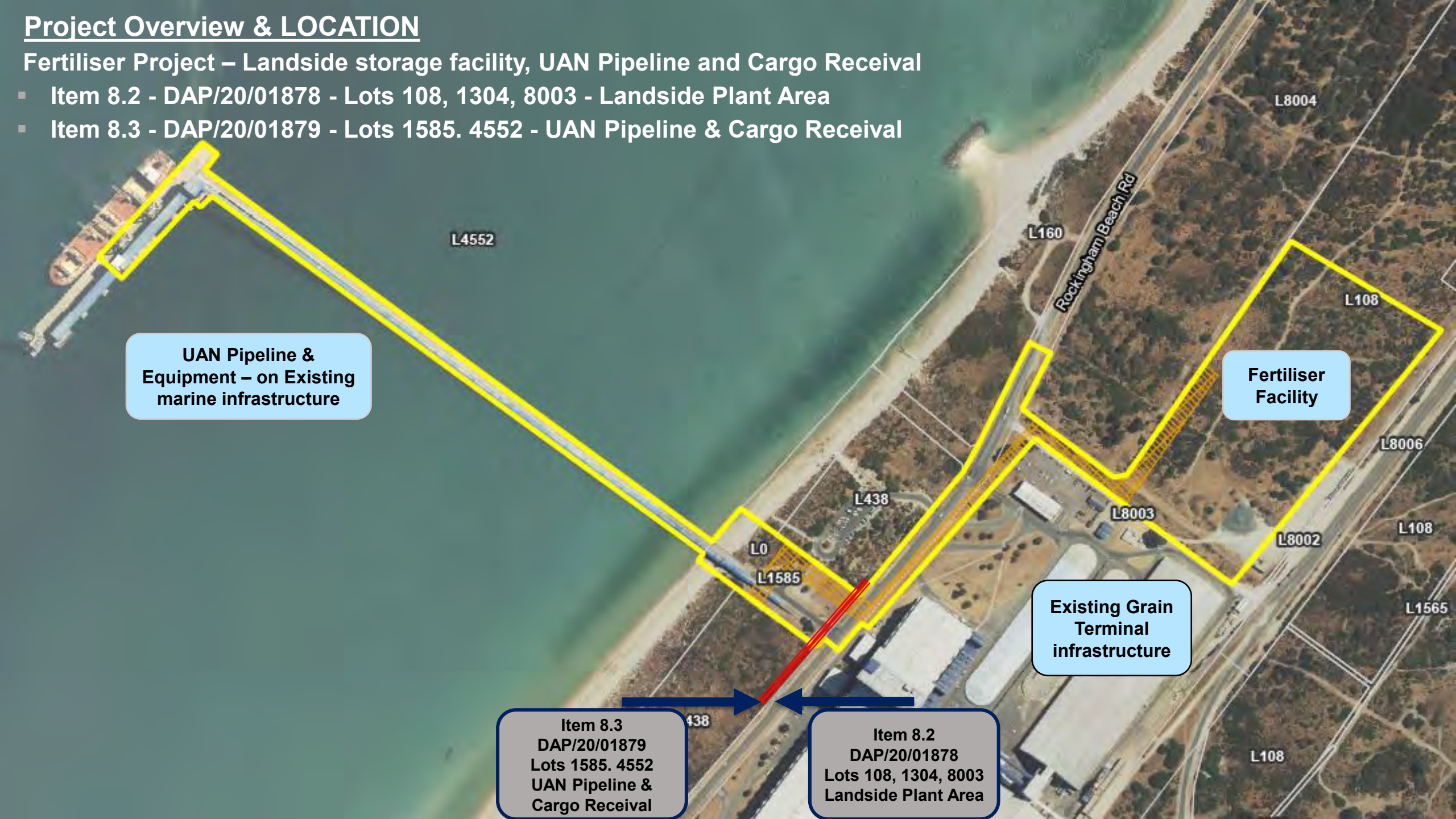
JOINT DEVELOPMENT ASSESSMENT PANEL - BRIEFING

CBHGROUP

Project Overview & LOCATION

Fertiliser Project – Landside storage facility, UAN Pipeline and Cargo Receival

- Item 8.2 - DAP/20/01878 - Lots 108, 1304, 8003 - Landside Plant Area
- Item 8.3 - DAP/20/01879 - Lots 1585. 4552 - UAN Pipeline & Cargo Receival



CBH Kwinana Fertiliser Plant - Overview

- Establishment of a storage facility for both liquid and solid products, which will consolidate other existing operations.
- The plant is NOT a processing facility and no dangerous goods will be stored on the site
- DMIRS confirms that Urea Ammonium Nitrate - UAN is not classified as a dangerous good
- UAN has been manufactured, stored and transported through Kwinana since the early 2000s
- The facility is Strategically located within the Rockingham Industrial Zone, in close proximity to import network for both liquid UAN (via new pipeline on KGT jetty) and granular fertiliser using the existing import network via Kwinana Bulk Jetty
- The project will generate around $200 million in Gross Revenue yearly for WA state – this is generated through
    - Fertiliser imports,
    - Increased Grain Production and resulting exports
    - Operations and logistics
    - Local employment
- Local companies and up to 420 construction people at peak will be used for the construction of the project.
- The development will create 15 – 20 full time jobs, including operators, procurement, sales and security personnel

❑ Facility Overview

- The new facility is located adjacent to the existing CBH Kwinana Grain Terminal, located on Rockingham Beach Road
- Liquid UAN will be imported from Ships at the Grain Terminal Jetty, and transferred to the storage facility via a pipeline, built along the existing Grain Terminal jetty structure
- The facility contains UAN Storage Tanks, Containment Bund and Truck Loading Station.
- Granular fertiliser will be stored inside a Covered Warehouse,
- Plant Infrastructure includes Administration building, Storm water containment, access road and paved site area, landscaping, and utilities.
- Vehicle and truck access is from the north along Rockingham beach road. There is no traffic that will travel south past the grain terminal.

❑ Planning and Approvals

The approvals process has been followed with engagement and submissions to Environmental Protection Authority, Cockburn Sound Management Council, Fremantle Port Authority, Department of Water and Environmental Regulation and City of Rockingham Council

- **The fertiliser facility is in full Compliance with the relevant *Environmental Protection Regulations***
- **The CBH Kwinana Fertiliser Project has been assessed by the Environmental Protection Authority (EPA) under s. 45 of the *Environmental Protection Act 1986* (EP Act)**
- **Compliance with the Department of Water and Environmental Regulation (DWER) regulations for the construction and operation of the facility through the works approval and licensing process, under Part V of the EP Act.**
- **Compliance with the Ministerial Statement approving the development and in compliance with implementation conditions and procedures**

Fertiliser Project - Landside infrastructure Overview



❑ Environmental Factors and Mitigations

- The proposal has considered the sensitivity of the existing marine and land-based environments in all aspects of design, engineering, construction and operations - controls are provided to ensure there is no risk of environmental impact
- Marine Facilities and Pipeline are constructed on the existing Jetty infrastructure, with no impact on the marine environment or beach area – all equipment is located within containment bunds
- Landscaping is provided with suitable Vegetation including native vegetation, and planting of additional Tuarts trees
- Storm Water management with segregated Catchment Areas and Evaporation Containment Pond
- Ground Water Monitoring bores are constructed, and analysis activities are implemented
- The UAN Storage Tanks are located within a Bunded Containment
- The UAN Pipeline is cleaned, dry and isolated from storage tanks when not in use – and is empty for more than 95% of the year

❑ Design features

- Australian Standards are followed for the materials, design, fabrication, testing, inspection, and commissioning
- Stormwater design is in accordance with DWER Code of Practice and approved by City of Rockingham
- Instrumentation and controls include - Automated Shutdown, Pipeline Sectioning Valves, Pressure and Flow instrumentation, over-Pressure protection, spill catchment, and Hose Safety Breakaway Coupling

FERTILISER PROJECT - OFFSHORE INFRASTRUCTURE

No additional marine infrastructure is required in Cockburn Sound

No impact at the beach crossing/dune area



Local Community Impacts

❑ During Construction

- No trucks/heavy vehicles will travel south past the Kwinana Grain Terminal
- Pipeline Road crossings will be carried out using directional drilling so there is no impact on the traffic or road users
- Construction manpower vehicles will be parked away from the site and personnel transport provided
- Merging/slip lane is provided at the intersection between the plant access road and the Rockingham Beach Road
- No major construction activities are planned at night or on weekends
- Controls are in place during construction to eliminate dust

❑ During Operations

- UAN is imported via ships at the existing jetty, Ship unloading takes 3 days only – and the dedicated transfer Pipeline is clean and empty between ships
- UAN is imported via a pipeline from the existing jetty to the new fertiliser plant – no trucks are required
- No trucks/heavy vehicles will travel south past the Kwinana Grain Terminal
- The facility does not produce any products – it is only for storage and distribution
- Fertiliser is stored undercover inside a warehouse – avoids any impact to the surroundings
- Ground Water Monitoring and analysis is in place
- All Trucks will pass through a Wheel Wash station prior to leaving the plant

QUESTIONS



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Development Assessment Panels

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Regulation 40(3) and DAP Standing Orders 2020 cl. 3.5

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Presenter Details

Name	Ross Underwood
Company (if applicable)	Planning Solutions
Please identify if you have any special requirements:	**YES** ☐ **NO** ☐ If yes, please state any accessibility or special requirements: Click or tap here to enter text.

Meeting Details

DAP Name	Metro Outer JDAP
Meeting Date	27 July 2021
DAP Application Number	DAP/21/01878 and DAP/21/20879
Property Location	Lot 108 Rockingham Beach Road, East Rockingham
Agenda Item Number	8.2 and 8.3

Presentation Details

I have read the contents of the report contained in the Agenda and note that my presentation content will be published as part of the Agenda:	**YES** ☒
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Is the presentation in support of or against the proposed development?	**SUPPORT** ☒ **AGAINST** ☐
Will the presentation require power-point facilities?	**YES** ☐ **NO** ☒ **If yes, please attach**

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In accordance with Clause 3.5.2 of the *DAP Standing Orders*, your presentation request must also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

Planning Solutions is the applicant of both applications, on behalf of CBH.

The application is for a fertiliser import, storage, and distribution facility to be operated by CBH, on land adjoining CBH's Kwinana Grain Terminal.

One factor for the location of this development is the proximity to the CBH grain terminal jetty, from which liquid fertiliser is to be piped to the facility for storage and distribution. The other factor is the proximity to the Kwinana Bulk Jetty from which dry fertiliser products will be transported to the facility by road. It consolidates existing operations on Mandurah Road, and allows trucks to transport product directly from the Bulk Jetty to the facility without needing to use Patterson Road (as they currently do).

Heavy vehicles will travel on Rockingham Beach Road to/from the north. This road is under the care and control of Main Roads WA. No heavy vehicles will travel past residential areas.

The use is appropriate to the zoning of the land which is Special Industrial under the MRS and General Industry under TPS2. The East Rockingham Industrial Park Structure Plan identifies the land for 'Port Related Industry', which is apt since the proposal relies on imports transferred from the CBH grain terminal jetty and Kwinana Bulk Jetty.

The City has recommended approval for the landside component (item 8.2) and the DPLH has recommended approval for the waterside component (item 8.3). We are pleased to receive the recommendation and have no issue with the conditions proposed.

Environmental and safety matters are separately addressed through:

- DWER Works Approval (to address environmental matters).
- Minister of Environment approval obtained 15 July 2021 – addresses environmental matters not otherwise covered by the DWER approval.
- Dangerous goods – DMIRS has confirmed the products to be stored (incl. urea ammonium nitrate solution (UAN)) is not a dangerous good requiring licencing. A copy of the DMIRS letter dated 17 November 2020 is included in the agenda.

Peter Ranzenbacher, Project Manager of CBH will provide an overview of the proposal.

BLUNDELL STREET, No. 11 (LOT 557 AND 558), DAYTON – NEW GOVERNMENT PRIMARY SCHOOL: DAYTON PRIMARY SCHOOL

Form 1 – Responsible Authority Report
(Regulation 12)

DAP Name:	Metro Outer Joint Development Assessment Panel	
Local Government Area:	City of Swan	
Applicant:	Daniel Fisher, Department of Finance	
Owner:	Department of Education	
Value of Development:	$19.43 million ☒ Mandatory (Regulation 5) ☐ Opt In (Regulation 6)	
Responsible Authority:	Department of Finance, Statutory Planning and Asset Policy	
Authorising Officer:	Sandra McLeish, General Manager – Department of Finance, Statutory Planning and Asset Policy	
LG Reference:	DA400/2021	
DAP File No:	DAP/21/01998	
Application Received Date:	18 May 2021	
Report Due Date:	29 July 2021	
Application Statutory Process Timeframe:	60 Days	
Attachment(s):	1. Location Plan 2. DA Drawings 3. Finishes Schedule 4. Landscape DA Report 5. Civil DA Report 6. Geotechnical Report 7. Transport Impact Assessment 8. Bushfire Management Plan 9. Acoustic Report 10. Schedule of Accomodation 11. Arborists Report 12. Stormwater Management Plan 13. DoE Lot Amalgamation Status 14. LGA Referral Response 15. DFES Referral Response and BPP Response	
Is the Responsible Authority Recommendation the same as the Officer Recommendation?	☒ Yes ☐ N/A	Complete Responsible Authority Recommendation section
	☐ No	Complete Responsible Authority and Officer Recommendation sections

Responsible Authority Recommendation

That the Metro Outer Joint Development Assessment Panel resolves to:

1. **Accept** that the DAP Application reference DAP/21/01998 is appropriate for consideration as a 'Public Primary School' land use and compatible with the objectives of the Metropolitan Region Scheme.

2. **Approve** DAP Application reference DAP/21/01998 and accompanying plans (Dayton Primary School Development Application', being drawing numbers A0-1101 O, A0-1102 F, date stamped 9 July 2021, and DA0-0000 A, DA0-3000 A, DA0-3001 A, DA0-4000 A, DA1-2101 A, DA1-2103 A, DA1-3100 A, DA2-2101 A, DA2-2103 A, DA2-3100 A, DA3-2101 A, DA3-2103 A, DA3-3100 A, DA4-2101 A, DA4-2103 A, DA4-3100 A, DA5-2101 A, DA5-2103 A, DA5-3100 A, DA6-2101 A, DA6-2103 A, DA6-3100 A, date stamped 'SPAP RECEIVED 11 May 2021, prepared by Christou Architecture, landscape plans titled 'Dayton Primary School, being drawing numbers L01G, L03H stamped SPAP RECEIVED 9 July 2021 and L02C, date stamped SPAP RECEIVED 11 May 2021, all prepared by Four Landscape Studio, accompanying civil drawings titled 'Dayton Primary School' being drawing numbers DPSC10P7C, DPSC10S5B, DPSC40P7A, DPSC50P7C prepared by Stantec all date stamped 'SPAP RECEIVED 11 May 2021, earthworks and drainage plans titled 'Dayton Primary School' being drawing numbers C10, C11, C12, C13, C14, C15, C16, C17, C18, prepared by Stantec all date stamped SPAP RECEIVED 12 July 2021) in accordance with the provisions of Clause 24 of the Metropolitan Region Scheme, subject to the following conditions:

Conditions

1. This approval is valid for a period of two (2) years only, after which time the approval shall lapse and be of no further effect.

2. Prior to the occupation of the school, a total of six (6) accessible parking bays are to be provided on-site to the satisfaction of the Western Australian Planning Commission.

3. All on-site car parking and associated vehicle access areas shown on the approved plans shall be constructed, drained, sealed, marked and sign-posted prior to occupation of the proposed development and thereafter maintained to the satisfaction of the Western Australian Planning Commission.

4. Prior to occupation of the completed development, a minimum of 94 bicycle parking bays shall be provided within the bicycle parking areas shown on the approved plans.

5. Prior to occupation of the development, the school is to prepare and implement a Traffic and Parking Management Plan consistent with the findings of the Dayton Primary School Transport Impact Assessment prepared by Transcore (dated March 2021), in consultation with the City of Swan and to the satisfaction of the Western Australian Planning Commission. The Traffic and Parking Management Plan is to include a Kiss and Drive Operational Plan to ensure that the proposed Kiss and Drive facility is appropriately managed by staff or parent volunteers during peak drop-off and pick-up times.

6. The school is to be become an active member in the Department of Transport's 'Your Move' program, which seeks to reduce car dependence and promote alternative modes of transport including walking, cycling and public transport, to the satisfaction of the Western Australian Planning Commission.

7. Landscaping, as specified in the approved landscaping plans, shall be installed prior to occupation of the proposed development and thereafter maintained to the satisfaction of the Western Australian Planning Commission.

8. All works shall be carried out in accordance with the Geotechnical Report prepared by Douglas Partners dated March 2021 to the satisfaction of the Western Australian Planning Commission.

9. Prior to occupation of the proposed primary school, the Dayton Primary School Bushfire Management Plan (prepared by Bushfire Prone Planning dated 2 March 2021) shall be updated in accordance with the advice from the Department of Fire and Emergency Services dated 21 June 2021, to the satisfaction of the Western Australian Planning Commission.

10. Prior to the commencement of development, a Bushfire Emergency Evacuation Plan is to be prepared in consultation with the Department of Fire and Emergency Services and to the satisfaction of the Western Australian Planning Commission.

11. The site is within a bushfire prone area as designated by the Fire and Emergency Services Commissioner and is subject to a Bushfire Management Plan. Prior to occupation of the development, a Notification is to be placed on the Certificate of Title advising of the bushfire prone status and the applicable Bushfire Management Plan.

12. The development is to be carried out in accordance with the requirements under the Department of Education Principal's Guide to Bushfire document and the applicable Bushfire Management Plan, to the satisfaction of the Western Australian Planning Commission.

13. Prior to the commencement of site works, a Construction Management Plan shall be prepared in consultation with the City of Swan and to the satisfaction of the Western Australian Planning Commission. The requirements of the Construction Management Plan shall be observed at all times during the construction process.

14. The applicant is to ensure there is minimal disruption to car parking areas by construction activities during the operational hours of the school.

15. The development shall either be connected to the reticulated sewerage system of the Water Corporation or a suitable alternative approved by the Western Australian Planning Commission before commencement of any use.

16. Any damage or removal of a City of Swan asset within the road reserve (roads, signage, verge etc.) shall be made good at the cost of the applicant to the specification of the City of Swan and the satisfaction of the Western Australian Planning Commission.

17. All stormwater produced is to be disposed of on-site to the specification of the City of Swan and the satisfaction of the Western Australian Planning Commission.

18. Prior to the installation of any signage, a signage plan indicating the location and design of any proposed signage (including traffic directional signage) shall be prepared to the specification of the City of Swan and the satisfaction of the Western Australian Planning Commission.

19. All piped and wired services, plant, equipment and storage areas shall be screened from public view, and in the case of roof mounted plant, screened or located so as to minimise visual impact, to the satisfaction of the Western Australian Planning Commission.

20. Prior to the commencement of site works, a Dust Management Plan shall be prepared in consultation with the City of Swan and to the satisfaction of the Western Australian Planning Commission. Once approved, the Dust Management Plan is to be implemented in its entirety.

21. The school shall prepare and distribute a Parent Education Program to provide traffic management and car parking advice to parents, including:

    a) Promoting, and identifying the procedures for the use of available parking facilities, including the on-site kiss and drive area;
    b) Promoting the use of alternative modes of transport including walking, cycling and public transport; and
    c) Reminding parents of the need to comply with all relevant parking restrictions and to be mindful of not obstructing access to adjoining residential properties.

22. The access points for the proposed development shall be designed to connect seamlessly with abutting roads and public footpath infrastructure, to the specification of the City of Swan and the satisfaction of the Western Australian Planning Commission.

Advice Notes

1. The playground shall comply with the requirements of AS4685 – Playground Equipment and Surfacing, and AS4422 – Playground Surfacing; Specifications, Requirements and Test Method. The applicant is encouraged to liaise with Kidsafe WA in this regard.

2. The applicant is specifically reminded of its obligation to comply with the *Aboriginal Heritage Act 1972*.

3. The proposed works fall within a site that has identified moderate to low Acid Sulfate soils risk. In line with standard self-assessment tools developed by the Department of Planning, Lands and Heritage all construction and development on site shall recognise the risk and monitor any potential exposure of soils.

4. The development is to be constructed in accordance with the corresponding construction standards for the relevant Bushfire Attack Level, as outlined in Australian Standard AS3959.

5. This approval does not include the works within the adjoining road reserves, as indicated on the approved plans. Separate approval is required from the City of Swan for all works within the road reserve. This includes the new vehicle crossovers for which separate approval is required under the Local Government (Uniform Local Provisions) Regulations 1996.

6. The applicant is specifically reminded of its obligation to comply with the *Environmental Protection (Noise) Regulations 1997*.

7. Lighting shall comply with Australian Standard 4282-1997 "Control of the obtrusive effects of outdoor lighting" or its equivalent and the City's Environment, Animals and Nuisance Local Laws.

8. The applicant is reminded of its obligations under the *Building Act 2011*.

9. All development must comply with the provisions of the Health Regulations, National Construction Code, Public Building Regulations and all other relevant Acts, Regulations and Local Laws. This includes the provision of access and facilities for people with disabilities in accordance with the National Construction Code.

Details: outline of development application

Region Scheme	Metropolitan Region Scheme
Region Scheme - Zone/Reserve	Urban
Local Planning Scheme	City of Swan Local Planning Scheme No. 17
Local Planning Scheme - Zone/Reserve	Special Use (SU11)
Structure Plan/Precinct Plan	West Swan East District Structure Plan Dayton Local Structure Plan 2B
Structure Plan/Precinct Plan - Land Use Designation	Primary School Public Purposes Reserve - Primary School
Use Class and permissibility:	n/a – as per structure plan
Lot Size:	Lot 557 – 2.8344 ha Lot 558 – 2.8341 ha
Existing Land Use:	Lot 557 – single house and outbuildings Lot 558 – vacant / cleared
State Heritage Register	No
Local Heritage	☒ N/A ☐ Heritage List ☐ Heritage Area
Design Review	☐ N/A ☐ Local Design Review Panel ☐ State Design Review Panel ☒ Other
Bushfire Prone Area	Yes
Swan River Trust Area	No

Proposal:

The application proposes the construction of a new primary school on the subject site to accommodate up to 870 students (810 fulltime equivalent students (FTE) from Kindergarten through to Year 6).

The proposed school has been designed in accordance with the Department of Education Primary Schools Brief for a standard pattern primary school, which sets out accommodation and design requirements for new public primary schools.

As illustrated in the proposed development plans (refer Attachment 2), the proposed development involves the construction of:

- administration block (including staff and conference areas)
- a kindergarten / pre-primary teaching block (TB1) comprising 5 classrooms;
- 3 x general teaching blocks (TB2, TB3 and TB4) comprising 12 classrooms;
- an art and science teaching block (TB5) comprising 4 classrooms;
- a library / staff block;
- covered assembly block which includes a canteen, music and storeroom areas;
- provision for twelve (12) transportable classrooms (2 x kindy and pre-primary classrooms and 10 x general classrooms) to be contained within the defined transportable zones;
- a 118 m x 84 m junior football oval, which includes goal posts and a cricket pitch.
- adjacent to the football oval are two (2) cricket practice nets;
- two (2) basketball / netball courts overlain at angles with two (2) tennis courts;
- a total of 212 bays including 36 kiss and ride bays and 5 ACROD / accessible parking bays distributed in the form of:
    - 171 on-site parking areas
    - 36 street parking along Cranleigh Street and Arthur Street
- two (2) dedicated bicycle parking areas comprising 32 racks to accommodate up to 64 bicycles
- hard and soft landscaping including play areas;
- three (3) courtyard areas including a lower school, middle school and upper school area;
- a fire pumps and tank area;
- potable water pumps and tanks enclosure.
- fencing comprising a mix of 2.1 m high garrison perimeter fencing, 3.6 m high chainmesh fencing and 1.2 m high chainmesh fencing. The proposed fencing provides for security and surveillance, whilst facilitating a visual connection to the adjoining sporting / recreation reserve.

The school will be delivered as a standard pattern primary school. It will have capacity to accommodate 540 students within the permanent buildings and an additional 330 students within 12 transportable buildings. The transportable buildings will be constructed in the future commensurate with demand for additional facilities. Fully developed, the school will have the capacity to accommodate 870 full-time equivalent students.

The proposed fencing has been assessed against the existing metropolitan primary schools security fencing guidelines (the Guidelines) and is consistent with the Guidelines.

All proposed buildings are single-storey. All buildings will be constructed primarily of face brick with feature band and stack bond panels with Colorbond roof sheeting

featuring coloured polycarbonate sheet infills, as depicted in the coloured elevation drawings included at Attachment 3.

It is recommended that an advice note be included in relation to compliance with relevant Australian Standards with respect to playground construction (Recommended Advice Note 1).

Proposed Land Use	Educational Establishment
Proposed Net Lettable Area	5.66 ha
Proposed No. Storeys	One storey
Proposed No. Dwellings	N/A

Background:

The submission of this application follows an extensive amalgamation process in which the Department of Education is seeking to merge Lots 557 and 558 into a single lot large enough to contain a primary school. The amalgamation of these lots will form the subject site and will not only allow for the construction of the school but also provides approximately 1.03 ha for a future educare site. As of 19 April 2021, the amalgamation application was currently undergoing external agency referrals with the survey concurrently being undertaken (Attachment 13). The amalgamation of these lots is expected to be completed prior to the construction of the school.

Site Context

The subject site comprises a total area of 5.66 ha and is located within the City of Swan, the subject site is situated approximately 15.9 km north east of the Perth CBD and 5.4 km north west of the Midland strategic metropolitan centre.

The subject site is bordered by Arthur Street to the west, Lot 559 (no. 226) Arthur Street and Lot 556 (no. 17) Blundell Street to the north, Blundell Street to the east and Cranleigh Street to the south (Attachment 1). Approximately 1.03 ha of the subject site is excluded from the subject proposal and as such, does not form part of this project scope. This unused portion of land and demolition of an existing single house shall form a separate application prepared by the Department of Education.

Legislation and Policy:

Legislation

Planning and Development Act 2005
Planning and Development (Local Planning Schemes) Regulations 2015
Planning and Development (Development Assessment Panels) Regulations 2011

State Government Policies

Development Control Policy 2.4 – School Sites
State Planning Policy 2.4 – Basic Raw Materials
State Planning Policy 3.7 – Planning in Bushfire Prone Areas

Structure Plans/Activity Centre Plans

West Swan East District Structure Plan
Dayton Local Structure Plan 2B

Local Policies

POL-TP-127 Building and Development Standards – Other Zones

Consultation:

Referrals/consultation with Government/Service Agencies

The application was referred to the City of Swan and the Department of Fire and Emergency Services for a period of 42 days, between 11 May 2021 and 8 July 2021 as required under the WAPC's notice of delegation.

City of Swan

The City of Swan supports the proposal subject to a number of conditions and advice notes. These are discussed in further detail below.

Department of Fire and Emergency Services

DFES supports the proposal subject to a number of recommendations. The comments received by DFES are discussed in further detail below.

Department of Finance, Building Management and Works – Internal Design Review

The proposed development has undergone an internal design review process by the Department of Finance, Building and Technical Services (BaTS) team, having regard for the Department of Education Primary Schools Brief. This review did not identify any areas of design concern.

Planning Assessment:

Zoning and Use Permissibility

The subject site is zoned 'Urban' under the Metropolitan Region Scheme and 'Special Use' (SU11) under the City of Swan Local Planning Scheme No. 17 (LPS No. 17).

Development of land zoned 'Special Use' is subject to the provisions of Schedule 4 of LPS No. 17 in addition to a Council endorsed Structure Plan. In this instance, the West Swan East District Structure Plan and Dayton Local Structure Plan 2B are applicable and designate the subject site for primary school purposes. To this end, the proposal is considered to be consistent with the local planning framework established under Part 5A of LPS No. 17.

Metropolitan Region Scheme

Clause 30 of the MRS requires the WAPC to have regard to the following factors when determining a Development Application on land zoned 'Urban':

- *The purpose for which the land is zoned or reserved under the Scheme*

Development of a new government public primary school is consistent with the Urban zoning of the site under the MRS.

- *The orderly and proper planning of the locality*

The proposal is consistent with the intended use of the site for a primary school, and the orderly and proper planning of the locality and the 'Special Use' zoning of the subject site under the provisions of LPS No. 17.

Furthermore, the proposal is consistent with the intended use of the subject site for a primary school as identified under the West Swan East District Structure Plan and Dayton Local Structure Plan 2B.

- *The preservation of amenities of the locality*

The proposed development has been sited and designed in a manner that sensitively integrates with the surrounding locality, and will ensure the preservation of amenities of the locality.

West Swan East District Structure Plan

The West Swan East District Structure Plan applies to approximately 250 hectares of land north east of the Reid Highway and Lord Street intersection in West Swan. The Structure Plan outlines that there will be two schools located within the area, this being in the location of the subject proposal and an existing small private Montessori primary school located to the north-west on Arthur Street.

The proposed school is in accordance with the design philosophy and objectives of the Structure Plan for the school site on the basis that it adjoins the district open space and is readily accessible from the surrounding local street network.

Dayton Local Structure Plan 2B

The Dayton Local Structure Plan 2B applies to approximately 54.18 hectares of land east of Henley Brook Avenue in Dayton. The Structure Plan outlines that there will be one school located within the area, this being the location of the proposed school. The proposed school meets the intent and vision of the Structure Plan in terms of its siting, catchment and location adjacent to the sporting/recreation reserve.

City of Swan Local Planning Policy POL-TP-127 Building and Development Standards – Other Zones

This policy prescribes building and development standards to ensure that the development of land within the Special Use Zone is consistent with the principles of proper and orderly planning and furthers the objectives of the relevant zone. Specifically, the policy prescribes development standards pertaining plot ratio, site coverage, setbacks, landscaping and building height.

Public works are not subject to Local Planning Schemes and related requirements, however due regard has been given to the policy. The proposed development is generally compliant with the policy provisions as summarised under Table 1 below.

Table 1: POL-TP-127 Development Assessment

Provision	Requirement	Proposed	Compliant
Min. effective frontage	60m	309m	Yes
Front Setback (Cranleigh St)	20m	Min 6.5m to teaching block 3 and 4	No
Side Setback (east)	9m	134m to assembly building to new boundary	Yes
Side Setback (Arthur St)	3m[1]	29m to admin building	Yes
Rear Setback (north)	20m	n/a	Yes
Max. plot ratio	0.3 : 1	0.1	Yes
Max site coverage	0.3	0.1	Yes
Max building height (storeys)	3	1	Yes
Other requirements and/or variations	minimum of 50% of the site shall be required for open space.	>50%	Yes

[1]cl.2.4 - where a lot has a frontage to two streets, the Council shall determine which of the two streets is the secondary street, and the setback to the secondary street may be reduced to 3 metres.

Where variations are proposed to the front setback requirement, these variations are supported in this instance on the following basis:

- The architectural form and façade finish of teaching blocks 3 and 4 are of a high standard comprising a well-articulated façade and use of major openings which will add interest to the Cranleigh Street streetscape.
- There is extensive landscaping proposed along the entire Cranleigh Street façade (refer landscape master plan – Attachment 2) which will soften the built form elements.
- The overall Cranleigh Street setback averages well in excess of 20m.

<u>Western Australian Planning Commission Development Control Policy 2.4 – School Sites</u>

The proposed public primary school has been assessed against the provisions of Development Control Policy 2.4 – School Sites (DCP 2.4) as follows:

- *Site Requirements*

At 4.63 ha, the size of the site exceeds the 4.0 ha minimum site size requirement established under DCP 2.4 and as such, is compliant with the siting requirements of DCP 2.4.

- *Site Selection and Planning*

Part 3.4.1 of DCP 2.4 outlines the need to ensure that the area to be occupied by buildings is level, in order to produce a satisfactory relationship between buildings and any adjoining hard-surfaced play area.

The existing topography of the subject site features a minor slope with the natural ground level ranging between AHD 22.0 m to AHD 27.0 m.

During the preliminary geotechnical report (Attachment 6) it was discovered that the site had a high natural groundwater level. To address this issue the applicant proposes to increase the level of the school to cater for the necessary stormwater and drainage requirements and to undertake remedial works to ensure that a stable foundation is provided for the school. The proposed earthworks are shown in Attachment 2.

Notwithstanding the need to increase levels across the site, proposed levels across the school in terms of building finished floor levels and finished ground levels are generally consistent; only ranging in height between FFL 20.8 to the north to FFL 21.2 to the south. To this end, overall building levels and accessibility in and around the entire school campus is considered to be appropriate.

- *Relationship to Nearby Land Uses*

The proposed primary school site will be surrounded primarily by residential land uses to the south, east and west (as shown in Attachment 2).

The positioning and siting of the proposed school buildings and outdoor play areas provide good physical and visual connections to the corridors of landscaping that run throughout the school. As noted above, setbacks are also entirely compliant and where a departure to proposed, the building design and landscaping are considered to mitigate any adverse impacts to the streetscape.

Based on the above, the proposed development is considered compatible with the existing and proposed surrounding land uses.

- *Access Considerations*

The school will effectively maintain two (2) road frontages, Cranleigh Street and Arthur Street.

Upon completion of the proposed development, vehicle access will be provided via four (4) crossovers along the two street frontages of the subject site. All crossovers will be two-way, allowing access and egress from all areas. No access issues have been identified in the supporting Traffic Impact Assessment (TIA) prepared by Transcore – refer Attachment 7.

<u>Traffic Considerations</u>

Car Parking

In order to promote a consistent approach across the metropolitan region, the provision of parking at new public primary schools is assessed against the guidelines contained within the Department of Education Primary Schools Brief (the Brief). It is noted that the City does not specifically provide carparking requirements for public primary schools (only private primary schools) under their local planning policy (POL-TP-129

Vehicle Parking Standards). As such, assessment has solely been based of the requirements as set out by the Department of Education which are detailed under Table 2 below.

Table 2: Parking Assessment

Provision	Bays Required[1]	Proposed	Compliant
Kindergarten • 8 bays as a minimum • 7 additional bays as a Department of Education directive.	15	15	Yes
Primary and Pre-Primary • 14 pick-up/drop-off bays per 100 students, with a minimum of 60 bays • 10 staff bays per 100 students, with a minimum of 46 on-site bays (including 3 visitor bays)	101 drop-off / pick-up bays 72 bays for staff and visitors	192	Yes
Accessible Bays • 1 bay for every 30 on-site bays. Additional Non-Compulsory Parking • 4 bays for canteen staff; • 6 bays for the dental therapy clinic; and, • Additional accessible bays as required.	6 bays	5 bays	No
Total	188 bays	212 bays (176 on-site bays 36 street bays)	Yes
[1]Based on 870 FTE students			

Based on the above, parking provided is entirely compliant with the Brief with the exception of the number of accessible bays of which there is a shortfall of 1 bay. It is recognised that in order to address this shortfall, there are surplus bays that can be converted to an accessible bay. To this end, a condition is recommended requiring the applicant provide a total of six (6) accessible bays on-site prior to occupation (Recommended Condition 2).

Additionally, a condition is recommended requiring that all car parking and associated vehicle access areas shown on the approved plans shall be constructed, drained, sealed and marked prior to occupation of the proposed buildings, and thereafter maintained to the satisfaction of the Western Australian Planning Commission (Recommended Condition 3).

Bicycle Parking

The Brief stipulates that a standard pattern primary school for 540 students is to have two bicycle parking facilities, catering for a total of 48 student bicycles. For other cases,

bicycle parking provision should be provided in accordance with advice from the Roads and Traffic Authority (now Roads and Maritime Services) of New South Wales *Guide to Traffic Generating Developments* which specify the following:

- 1 rack or bay for every 25 to 35 staff; and
- 1 rack or bay for every 10 children.

On the basis of the accommodated 870 FTE students and 60 staff members, this would require 89 bicycle racks.

The City does not identify specific parking requirements for bicycles and as such further assessment on the matter will solely be based of the requirements as set out by the Department of Education.

The proposed school provides two bicycle parking areas catering for a total of 94 bicycle bays, which meets the Department of Education's requirements. The City of Swan has not raised any concerns in relation to the provision of bicycle parking.

A condition is recommended requiring that a minimum of 94 bicycle parking bays is to be provided within bicycle parking areas shown on the approved plans (Recommended Condition 4).

Traffic Generation

The TIA indicates that the proposed primary school is not expected to have an unacceptable impact on the surrounding road network by way of traffic generation. However, as is general practice for new primary school sites, a condition is recommended requiring that a Parking Management Plan be prepared (Recommended Condition 5). This will allow the school to monitor traffic generation, car parking and bicycle demand. It is recommended that the Traffic and Parking Management Plan include a Kiss and Drive Operational Plan to ensure that the proposed kiss and drive facility is appropriately managed by staff or parent volunteers during peak drop-off and pick-up times.

An additional condition is recommended requiring the school to be become an active member in the Department of Transport's 'Your Move' program, which seeks to reduce car dependence and promote alternative modes of transport including walking, cycling and public transport (Recommended Condition 6).

Landscaping

As noted in the Landscape DA report (Attachment 4) and Arborists Report (Attachment 11), majority of the existing trees on site are located along the boundary of the lots and as such, are proposed to be retained for the most part. Nevertheless, the removal of some existing trees will be required, details of which are addressed in the Landscaping Masterplan (refer Attachment 2). A condition is recommended requiring the applicant to carry out all landscaping works in accordance with the submitted Landscaping Masterplan (Recommended Condition 7).

Heritage Considerations

A desktop search of European heritage indicates that the site has no known European heritage significance.

The southern portion of proposed development is however located on a site that has been identified as containing a site of Aboriginal heritage value (Bennett Brook: 3840). Under the *Aboriginal Heritage Act 1972* while the site is registered, it has not been classified as a protected area with any additional provisions imposed. Based on this consultation with the State Heritage Office is not considered necessary and the proposed works on site are considered acceptable. Nevertheless, the development is still required to comply with all relevant Acts and Legislation, including the *Aboriginal Heritage Act 1972*. This will be reiterated in an advice note (Advice Note 2).

Environmental Considerations

The proposed works fall within a site that has identified moderate to low acid sulphate soils risk. In line with standard self-assessment tools developed by the Department of Planning, Lands and Heritage all construction and development on site shall recognise the risk and monitor any potential exposure of soils. Should Acid Sulfate Soils be identified on site during construction, construction shall only continue in line with the Generic Acid Sulphate Soils and Dewatering Management Plan which provides agreement for development to occur on these sites subject to the construction occurring in accordance with the agreed Management Plan (this is in line with the agreement reached between the Department of Treasury and Finance (DTF), the Department of Environment and Conservation (DEC) and the Department of Water (DOW) on 4 August 2010).

It is recommended that an advice note be included to advise the applicant of the requirements for moderate-low Acid Sulfate Soils risk areas (Recommended Advice Note 3).

Contamination

A desktop search of the Department of Water and Environmental Regulation Contaminated Sites Database indicates that the subject site is not a registered contaminated site.

Public Drinking Water Source Areas

A desktop search of environmental factors indicates that the subject site is not registered as a public drinking water source area.

Geomorphic Wetlands

The proposed development is located on a site that contains a Multiple Use Dampland (Dampland 8818). As previously mentioned however, a geotechnical report (Attachment 6) was undertaken which identified that while there is a higher-than-average groundwater level on site, this will not significantly impact the overall development. Furthermore, this has been incorporated into the final design where concrete foundations are to be raised to reduce the potential risk of flooding. Given this, the proposed works will not impact the Dampland values or the amenity of the locality.

Regardless of this fact it is recommended that a condition be included requiring works to be carried out in accordance with the geotechnical report prepared by Douglas Partners (Recommended Condition 8).

Bushfire

A desktop search of the State Map of Bush Fire Prone Areas indicates that the site is located within a bushfire prone area. Accordingly, the applicant has submitted a Bushfire Attack Level (BAL) Assessment indicating a BAL rating of BAL-29 for the proposed primary school. The applicant has also submitted a Bushfire Management Plan for the site; Dayton Primary School Bushfire Management Plan (prepared by Bushfire Prone Planning dated 02/03/2021).

The Department of Fire and Emergency Services (DFES) has provided the following general advice in relation to the proposed development:

> *It is the responsibility of the proponent to ensure the proposal complies with relevant planning policies and building regulations where necessary. This advice does not exempt the applicant/proponent from obtaining approvals that apply to the proposal including planning, building, health or any other approvals required by a relevant authority under written laws.*

Based on the above, DFES has advised that the application is supported subject to a series of modifications. The comments received from DFES and the applicant's response are outlined below:

Table 3: DFES Comments and Applicant Response

1. Policy Measure 6.5 (a) (ii) Preparation of a BAL Contour Map			
Issue	**Assessment**	**Action**	**Applicant's Response**
Vegetation Classification	Vegetation Plot 3 on the adjoining lot to the north (Lot 600 Arthur Street, Dayton) cannot be substantiated as and Class B Woodland with the limited information and photographic evidence available and the potential for revegetation has not been considered. The BMP should detail specifically how the Class B Woodland classification was derived as opposed to Class A Forest.	Modification to the BMP is required. The decision maker to be satisfied with the vegetation classification.	Vegetation has been classified or excluded in accordance with AS3959-2018 in conjunction with the Guidelines for Planning in Bushfire Prone Areas and the State Planning Policy 3.7 Planning in Bushfire Prone Areas. The BMP clearly states how the classification of Area 3 has been determined. It provides detailed descriptions and has been substantiated by a site assessment and supported by georeferenced photographs that also include dates and times taken. Area 3 on the adjoining lot to the north is not located

	If unsubstantiated, the vegetation classification should be revised to consider the vegetation at maturity as per AS3959, or the resultant BAL ratings may be inaccurate.		within a Bush Forever Site nor have other Environmental Sensitivities been identified. In addition, there is no evidence to indicate revegetation through plantings or natural native vegetation re-establishment within Area 3 on the adjoining lot to the north. Action: No further action.
2. Policy Measure 6.5 (c) Compliance with the Bushfire Protection Criteria			
Issue	**Assessment**	**Action**	**Applicant's Response**
Location and Siting & Design	A1.1 & A2.1 – not demonstrated The BAL ratings cannot be validated for the reason(s) outlined in the above table.	Modification of the BMP required. The decision maker to be satisfied that Elements 1 and 2 can be achieved.	BAL ratings are validated as outlined in the above table.
3. Policy Measure 6.6.1 Vulnerable Land Uses			
Issue	**Assessment**	**Action**	**Applicant's Response**
Bushfire Emergency Evacuation Plan (BEEP)	The referral has not included a '*Bushfire Emergency Evacuation Plan*' for the purposes of addressing the policy requirements. Consideration should be given to the Guidelines Section 5.5.2 'Developing a Bushfire Emergency Evacuation Plan'. This contains detail regarding what should be included in a BEEP and will ensure the appropriate content is detailed when finalising the BEEP	Comment only.	The BMP makes reference to the requirement of a BEEP for proposed occupants. It is a requirement that prior to operation of the school and the first bushfire season that the school prepares or has prepared a Stand-Alone Bushfire Plan (Bushfire Emergency Plan).

	to the satisfaction of the City.		

Based on the applicant's responses provide above, the proposed development is considered to meet the necessary bushfire standards and therefore capable of approval.

Nevertheless, on the basis of the above, conditions requiring the above amendments to the BMP are recommended (Condition 9). Furthermore, Condition 10 will be included to ensure that the applicant prepares an appropriate Bushire Emergency Evacuation Plan (BEEP) prior to construction. It is noted that, in its referral response, DFES has advised that, as the modifications will not affect the development design, they can be undertaken without further referral to DFES.

In addition to the above, it is recommended that a condition is included to advise that the site is within a bushfire prone area and is subject to a Bushfire Management Plan (Condition 11). Prior to occupation of the development, a Notification is to be placed on the Certificate of Title advising of the bushfire prone area designation and the Bushfire Management Plan (Condition 11). Further, a condition is recommended that will require the development to be carried out in accordance with the requirements under the Department of Education Principal's Guide to Bushfire document and the applicable Bushfire Management Plan (Condition 12).

The applicant has confirmed that the development will be constructed in accordance with the relevant BAL requirements as outlined in Australian Standard AS3959. Nevertheless, it is recommended that an advice note also be included to advise the applicant that development is to be constructed in accordance with the corresponding construction standards for the relevant Bushfire Attack Level, as outlined in Australian Standard AS3959 (Advice Note 4).

City of Swan Recommendation

The application was referred to the City for comment with a response received indicating its support for the proposal subject to nineteen (19) conditions and eight (8) advice notes (Attachment 14). These are discussed below.

Recommended Conditions

1. *A site management plan must be submitted and approved by the City prior to any works commencing on the site. The site management plan is to address the following concerns: noise from carrying out work and from the construction site and trucks; hours of operation; light; dust; protection of existing roads, paths, services; site security; drainage; vibration management; fill; excavation and traffic management that relates to any works to take place on the site. Once approved, the site management plan must be implemented in its entirety.*

It is recommended that the standard construction management plan condition be included as Condition 13.

2. *All vehicle access onto the site, including any widening and modifications shall be to the specification and the satisfaction of the City of Swan.*

It is recommended that the standard works within road reserve advice note be included as Advice Note 5.

3. *A minimum of 212 parking bays with 5 accessible bays to be provided on and around the school site (inclusive of the proposed on-street bays around the subject lot). All car parking and associated vehicle access areas are to be constructed in accordance with relevant Australian Standards prior to the occupation of the proposed development. Disabled bays to comply with Australian Standard 2890.6:2009. The car parking bays are to be clearly sign-posted and designated with appropriate line marking in accordance with Australian Standards.*

As previously discussed, Condition 3 which discusses the appropriate construction standards for carparks and associated areas is considered sufficient in addressing this.

4. *No on-street bays around the subject lot is permitted to be used as kiss and drop off bays for the exclusive use of the school.*

Amended plans were submitted by the applicant on 18 June 2021 which has relocated the kiss and drive bays from on-street to a designated area in the southern carpark, in order to avoid non-compliance with this condition. Based on this amendment, the City's condition is not considered necessary. Furthermore, any relevant kiss and drive signage in road reserves will require the separate approval of the City.

5. *All car parking areas and associated vehicle access areas shall be constructed, sealed, drained and marked, prior to the occupation of the proposed development and thereafter, maintained.*

As previously discussed, Condition 3 is considered sufficient in addressing this.

6. *Car parking and associated vehicle access areas shall be available for vehicles, and shall not be used for the purpose of storage or obstructed during school hours.*

The City's recommended condition is considered reasonable and the standard disruption to car parking areas condition will be included as Condition 14.

7. *A minimum of 60 bicycle parking bays shall be provided on site for standard pattern 540 student primary school capacity, along with appropriate end-of-trip facilities for school staff. Additional parking facility will be necessary when the planned future transportable classrooms are added.*

As previously discussed, Condition 4 is considered sufficient in addressing this.

8. *All proposed crossovers and works within the road reserve shall be to the specification and the satisfaction of the City of Swan.*

Similar to the advice provided in relation to the second condition recommended by the City, the inclusion of a separate condition is not considered necessary.

9. *The proposed development has to be designed to connect with existing roads abutting the subject land so that the access point connects seamlessly.*

10. *The development shall be connected to the reticulated sewerage system of the Water Corporation before commencement of any use.*

It is recommended that the standard connection to sewerage condition be included to address this (Recommended Condition 15).

11. *The landowner, applicant or developer is to ascertain the location and depth of any services that may interfere this development. Any adjustment to the services must be approved by relevant service authorities.*

It is recommended that the standard protection of infrastructure advice note be included with amended wording to address any submerged infrastructure.

12. *Any damage or removal of a City of Swan asset within the road reserve or the adjoining public open space (roads, signage, verge etc.) shall be made good at the cost of the applicant to the specification and the satisfaction of the City of Swan.*

It is recommended that the standard damage to City infrastructure condition be included to address this (Recommended Condition 16).

13. *All stormwater produced is to be disposed of to the satisfaction of the City Swan.*

It is recommended that the standard stormwater condition be included to address this (Recommended Condition 17).

14. *Landscaping as specified in the approved landscape plans within the subject lot must be implemented prior to the occupation or use of the development, and maintained thereafter, to the satisfaction of the City. Any species that fails to establish within the first three growing seasons following implementation must be replaced in consultation with the City.*

As previously discussed, Condition 7 is considered sufficient in addressing this.

15. *Prior to occupation of the development, a signage plan indicating the location and design of any proposed signage (including traffic directional signage) shall be prepared to the satisfaction of the City of Swan.*

The City's recommended condition is considered reasonable and the standard signage for entry statements condition will be included with amended wording to address any future signage (Recommended Condition 18).

16. *All piped and wired services, plant, equipment and storage areas shall be screened from public view, and in the case of roof mounted plant, screened or located so as to minimise visual impact.*

The City's recommended condition is considered reasonable and the standard piped and wired services condition will be included to address this (Recommended Condition 19).

17. *All site works shall be contained on the proposed development site and not encroach onto any adjoining road reserve or public open space without prior approval.*

The proposed development is clearly indicated within the lot boundaries on the plans submitted. The standard approval wording requires development to commence in accordance with the approved plans. It is therefore not considered necessary to include as a separate condition of approval.

18. *Soil on the site must be stabilised at all times to prevent erosion and dust blowing, and appropriate measures must be implemented by the landowner within the time and in the manner directed by the City in the event that sand or dust is blown or drifts from the lot.*

While Condition 13 (CMP) will be included, this condition will only partially address the City's recommended condition. As such, the Standard Dust Management Plan condition will be also included as Condition 20 to address this.

19. *Prior to occupation of the proposed development, any bulk bin area is to be screened.*

As previously discussed, Condition 19 is considered sufficient in addressing this.

Recommended Advice Notes

a) *This approval does not include the works within the adjoining road reserves, as indicated on the approved plans. Separate approval is required from the City of Swan for all works within the road reserve. This includes the new vehicle crossovers for which separate approval is required under the Local Government (Uniform Local Provisions) Regulations 1996.*

As previously discussed Advice Note 5 is considered sufficient in addressing this.

b) *Noise from works associated with the development must not exceed the levels within the Environmental Protection (Noise) Regulations 1997.*

It is recommended that the standard compliance with noise regulations advice note be included to address this (Recommended advice note 6).

c) *All external lighting shall comply with requirements of AS 4282 - Control of Obtrusive Effects of Outdoor Lighting.*

It is recommended that the standard compliance with AS 4282 advice note be included to address this (Recommended Advice Note 7).

d) *You are advised that it is the responsibility of the applicant to obtain any other necessary approvals, consents and licenses that may be required under any other law and to commence and carry out development in accordance with all relevant laws.*

This is covered by the standard approval wording and does not need to be included as a separate advice note.

e) *Take notice that it is the responsibility of the applicant to advise the landowner(s) and/or builder(s) of the need to satisfy the requirements of the conditions of the planning approval for the subject lot, prior to or on lodgement of Building Applications. The City will not issue a Building Permit until all the conditions of planning approval and any other requirements pertaining to this planning approval have been met (including payment of fees and charges).*

This is covered by the standard approval wording and does not need to be included as a separate advice note.

f) *This approval is not an authority to ignore any constraint to development on the land, which may exist through contract or on title, such as an easement or restrictive covenant. It is the responsibility of the applicant and not the City to investigate any such constraints before commencing development. This approval will not necessarily have regard to any such constraint to development, regardless of whether or not it has been drawn to the City's attention.*

It is not considered that any of the above are specific planning related concerns and relate instead to legal encumbrances on the land. It is the responsibility of the Department of Finance, Statutory Planning and Asset Policy to assess the appropriateness of the proposed development based on planning considerations. The ability of the applicant to undertake the works, having regard to any legal encumbrances on the land, is not in this instance considered a relevant planning concern. As such, the City's advice note has not been recommended.

g) *All development must comply with the provisions of the Health Regulations, National Construction Code, Public Building Regulations and all other relevant Acts, Regulations and Local Laws. This includes the provision of access and facilities for people with disabilities in accordance with the National Construction Code.*

This is covered by the standard approval wording and does not need to be included as a separate advice note.

h) *Development may be carried out only in accordance with the terms of the application as approved herein and any approved plan.*

This is covered by the standard approval wording and does not need to be included as a separate advice note.

Additional Standard Conditions and Advice Notes:

In addition to the conditions and advice notes recommended by the City of Swan, the following additional standard conditions are recommended to form part of the determination:

- The school shall prepare and distribute a Parent Education Program to provide traffic management and car parking advice to parents, including:
  a) Promoting, and identifying the procedures for the use of available parking facilities, including the on-site kiss and drive area;
  b) Promoting the use of alternative modes of transport including walking, cycling and public transport; and
  c) Reminding parents of the need to comply with all relevant parking restrictions and to be mindful of not obstructing access to adjoining residential properties (Recommended Condition 21).

- The access points for the proposed development shall be designed to connect seamlessly with abutting roads and public footpath infrastructure, to the specification of the City of Armadale and the satisfaction of the Western Australian Planning Commission (Recommended Condition 22)

Standard advice notes are recommended to:

- Remind the applicant of their obligations under the *Building Act 2011* (Advice Note 8).

- Remind the applicant that all development must comply with the provisions of the Health Regulations, National Construction Code, Public Building Regulations and all other relevant Acts, Regulations and Local Laws. This includes the provision of access and facilities for people with disabilities in accordance with the National Construction Code (Recommended Advice Note 9).

Conclusion:

The application is considered capable of support for the following reasons:

- The proposed development of Dayton Primary School is consistent with the intent of the zone and the West Swan East District Structure Plan and Dayton Local Structure Plan 2B;
- The proposed development has adequately demonstrated compliance with the provisions of LPS No. 17 and specifically, Special Use zone (SU17) provisions;
- The proposed development is generally consistent with the relevant Local and State Government Planning policies.

Alternatives

N/A

Dayton Primary School – Location Plan



REFERENCE
20606-1F

N

57 DP403909
56 DP403909
55 DP403909
54 DP403909
53 DP403909
52 DP403909
51 DP403909
49 DP403909
16 DP402406
15 DP402406
14 DP402406
13 DP402406
12 DP402406
11 DP402406
10 DP402406
9 DP402406

559 P3698
2.0m High Cyclone Security Fence
1.3m High Post & Wire Fence
189.08

558 P3698
2.8398 ha

1.3m High Post & Wire Fence
149.89

1.3m High Post & Wire Fence
189.1

ARTHUR STREET
AURUM PARADE
CRANLEIGH STREET
KABIANA WAY

Concrete Footpath
Parking Bay
Parking Bays
Open Drainage Sumps
Thick Reed Beds

JOINS SHEET 2

SYMBOL LEGEND

- NATURAL SURFACE LEVEL
- BITUMEN LEVEL
- SURVEY CONTROL MARK
- POWER POLE
- LIGHT POLE
- STOP VALVE
- HYDRANT
- RETIC CONTROL VALVE
- TELSTRA PIT
- NBN PIT
- SIGN
- PHOTO POSITION/DIRECTION
- TREE AT SCALE

LINETYPE LEGEND

- BOUNDARY
- CONTOUR (INTERVALS OF 0.25m)
- WALL
- FENCE
- CONCRETE EDGE
- BRICK PAVING
- FOOTPATH
- KERB
- ROAD CENTRELINE
- TOP OF BANK
- BOTTOM OF BANK
- OVERHEAD POWER LINES
- SEWER PIPE (WATER CORPORATION)
- WATER PIPE (WATER CORPORATION)

SPAP RECEIVED 8 JULY 2021

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PHOTO TAKEN AT (9)


PHOTO TAKEN AT (10)


PHOTO TAKEN AT (11)


PHOTO TAKEN AT (12)

SHEET 1 OF 4

No.	DETAILS	DATE	DRAWN	CHECKED
0	APPROVED & ISSUED TO CLIENT	21/01/2021	J.HUMPHREYS	J.DEMIRIS

REVISIONS

FEATURE SURVEY OF PROPOSED "DAYTON PRIMARY SCHOOL"
ARTHUR STREET, CRANLEIGH STREET & BLUNDELL STREET, DAYTON
LOTS 557 & 558 ON PLAN 3698

Client: CHRISTOU DESIGN GROUP PTY LTD

DATUM
HORIZONTAL - PCG 94
VERTICAL - AHD

SCALE 1 : 300
0 3 6 9 12 15
All distances in metres unless stated otherwise

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EXISTING BOUNDARY DIMENSIONS AND LOT AREAS HAVE BEEN TAKEN FROM LANDGATE RECORD

FIELD INSPECTION IS RECOMMENDED FOR LOCATION OF SERVICES PRIOR TO ANY EXCAVATION

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Licensed Surveyors | Land Development & Strata Consultants | Engineering Surveyors
Email : admin@brownmcallister.com.au Tel: (08) 9386 9688
Address: 12B Pepler Avenue, Salter Point, Western Australia, 6152

SHEET	A1
SURVEYED	M.WALL - 19/01/2021
FIELD NOTES	
DRAWN	J.HUMPHREYS - 21/01/2021
CHECKED	
REFERENCE	20606-1F

REFERENCE 20606-1F

LINETYPE LEGEND

- BOUNDARY
- CONTOUR (INTERVALS OF 0.25m)
- WALL
- FENCE
- CONCRETE EDGE
- FOOTPATH
- KERB
- ROAD CENTRELINE
- TOP OF BANK
- BOTTOM OF BANK
- SEWER PIPE (WATER CORPORATION)
- WATER PIPE (WATER CORPORATION)

SYMBOL LEGEND

- NATURAL SURFACE LEVEL
- BITUMEN LEVEL
- SURVEY CONTROL MARK
- POWER POLE
- POWER METER
- STOP VALVE
- STORM WATER GRATE
- UNKNOWN PIT
- PHOTO POSITION/DIRECTION
- TREE AT SCALE

PHOTO TAKEN AT 6



PHOTO TAKEN AT 7



PHOTO TAKEN AT 8



559
P3698

556
P3698

2.0m High Cyclone Security Fence

2.0m High Cyclone Security Fence

1.3m High Post & Wire Fence

189.08

189.12

558
P3698
2.8328 ha

557
P3698
2.8328 ha

1.3m High Post & Wire Fence

149.87

JOINS SHEET 1

JOINS SHEET 3

N

Parking Bays

Concrete Footpath

Open Drainage Sumps
Thick Reed Beds

SYNANDRA WAY

SPAP RECEIVED 8 JULY 2021

FEATHERFLOWER AVENUE

TENELLA ROAD

189.1

CRANLEIGH STREET

556
DP407598

1201
DP401776

1225
DP401776

1224
DP401776

1223
DP401776

1222
DP401776

1221
DP401776

1220
DP401776

1219
DP401776

1295
DP401798

1141
DP400413

1140
DP400413

1139
DP400413

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SHEET 2 OF 4

No.	DETAILS	DATE	DRAWN	CHECKED
0	APPROVED & ISSUED TO CLIENT	21/01/2021	J.HUMPHREYS	J.DEMIRIS

REVISIONS

FEATURE SURVEY OF PROPOSED "DAYTON PRIMARY SCHOOL"
ARTHUR STREET, CRANLEIGH STREET & BLUNDELL STREET, DAYTON
LOTS 557 & 558 ON PLAN 3698

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REFERENCE	20606-1F

REFERENCE
20606-1F

556
P3698

189.12

Limestone Driveway

Garden Bed

Grass

Water Tank

Water Tank

Grass

SINGLE STOREY BRICK & TILE DWELLING

Garden Bed

Shed

Limestone Retaining Wall

Garage

Grass

Grass

Garden Bed

Limestone Driveway

Brick Paving

Garden Bed

Limestone Retaining Wall

2.0m High Cyclone Security Fence

90°1'15"

149.89

1.3m High Post & Wire Fence

Concrete Footpath

2656
DP408862

2657
DP408862

2658
DP410853

2659
DP410853

2660
DP410853

2661
DP410853

2662
DP410853

2663
DP410853

BLUNDELL STREET

ALABASTER ROAD

2723
DP410853

2724
DP410853

2725
DP410853

2726
DP410853

JOINS SHEET 2

557
P3698
2.8328 ha

1.3m High Post & Wire Fence

189.1

90°1'15"

Concrete Post & Panel Wall

CRANLEIGH STREET

556
DP407598

Parking Bays

Parking Bays

Concrete Footpath

Open Drainage Sumps
Incl. Reed Beds

SPAP RECEIVED 8 JULY 2021

9501
DP417686

SAM ROSA PLACE

TENELLA

119
DP400413

118
DP400413

1139
DP400413

1138
DP400413

ROAD

LINETYPE LEGEND

- BOUNDARY
- CONTOUR (INTERVALS OF 0.25m)
- BUILDING/ STRUCTURE
- ROOF/ EAVE LINE
- WALL
- FENCE
- CONCRETE EDGE
- BRICK PAVING
- FOOTPATH
- KERB
- ROAD CENTRELINE
- GRASS EDGE
- TOP OF BANK
- BOTTOM OF BANK
- OVERHEAD POWER LINES
- SEWER PIPE (WATER CORPORATION)
- WATER PIPE (WATER CORPORATION)

SYMBOL LEGEND

- NATURAL SURFACE LEVEL
- FLOOR LEVEL
- BITUMEN LEVEL
- TOP OF WALL
- SURVEY CONTROL MARK
- POWER POLE
- POWER METER
- STOP VALVE
- STORM WATER GRATE
- WATER METER
- TAP
- TELSTRA PIT
- SIGN
- MAIL BOX
- PHOTO POSITION/DIRECTION
- TREE AT SCALE

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PHOTO TAKEN AT 1

PHOTO TAKEN AT 2

PHOTO TAKEN AT 3

PHOTO TAKEN AT 4



PHOTO TAKEN AT 5

SHEET 3 OF 4

No.	DETAILS	DATE	DRAWN	CHECKED
0	APPROVED & ISSUED TO CLIENT	21/01/2021	J.HUMPHREYS	J.DEMIRIS

REVISIONS

FEATURE SURVEY OF PROPOSED "DAYTON PRIMARY SCHOOL"
ARTHUR STREET, CRANLEIGH STREET & BLUNDELL STREET, DAYTON
LOTS 557 & 558 ON PLAN 3698

Client: CHRISTOU DESIGN GROUP PTY LTD

DATUM
HORIZONTAL - PCG 94
VERTICAL - AHD

SCALE 1 : 300
0 3 6 9 12 15
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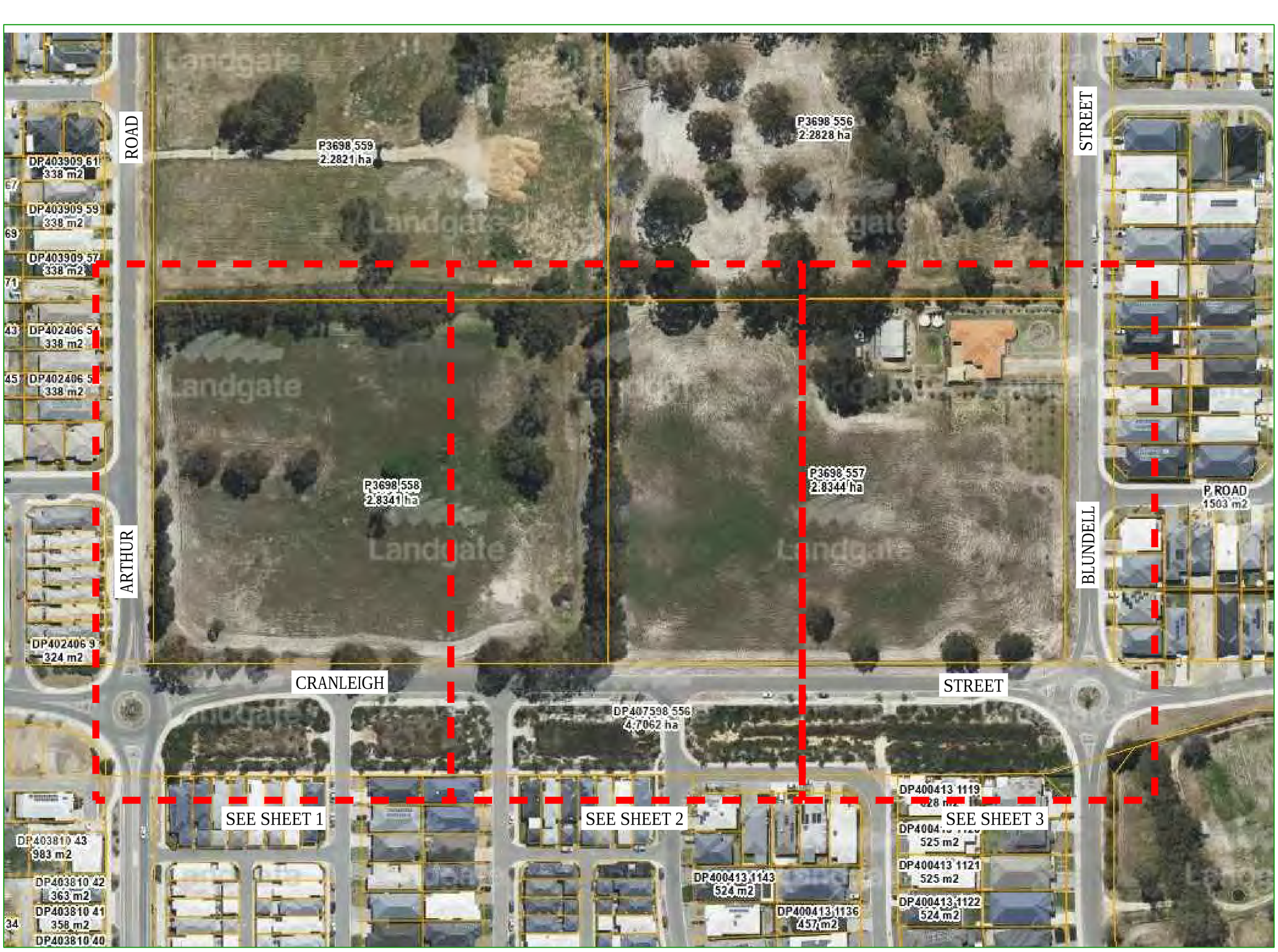
SURVEYED	M.WALL - 19/01/2021
FIELD NOTES	
DRAWN	J.HUMPHREYS - 21/01/2021
CHECKED	
REFERENCE	20606-1F

REFERENCE
20606-1F

N



KEY SHEET

SPAP RECEIVED 8 JULY 2021

SHEET 4 OF 4

No.	DETAILS	DATE	DRAWN	CHECKED
0	APPROVED & ISSUED TO CLIENT	21/01/2021	J.HUMPHREYS	J.DEMIRIS

REVISIONS

LOCATION PLAN OF PROPOSED "DAYTON PRIMARY SCHOOL"
ARTHUR STREET, CRANLEIGH STREET & BLUNDELL STREET, DAYTON
LOTS 557 & 558 ON PLAN 3698

Client: CHRISTOU DESIGN GROUP PTY LTD

DATUM
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VERTICAL - AHD

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AERIAL PHOTOGRAPHY OCTOBER 2020
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FIELD NOTES	
DRAWN	J.HUMPHREYS - 21/01/2021
CHECKED	
REFERENCE	20606-1F

DOCUMENT TRANSMITTAL

CHRISTOU
ARCHITECTURE / URBAN DESIGN / INTERIOR DESIGN

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CLAREMONT WA 6010
T / +61 8 9285 6888
F / +61 8 9285 6893
E / studio@christou.com.au
ABN 87 152 933 885
ACN 152 933 885

15030

DAYTON PRIMARY SCHOOL

LOT 557, 11 BLUNDELL STREET DAYTON & LOT 558 ON PLAN 3698

DISTRIBUTION: **H-HARD COPY / P-PDF / D-DWG / B-BIM MODEL**

Client	Department of Finance	P	P	P	P	P	P			P								
Planning	City of Swan						P			P								

SENT BY:

C - COURIER M - MAIL	E - EMAIL	E	E	E	E	E	E	E	E	E								

REASON FOR ISSUE

A - APPROVAL P - PRELIMINARY I - INFORMATION R - REQUESTED	T - TENDER C - CONSTRUCTION AB - AS BUILT	P	P	P	P	A	P	I	I	A								
ISSUED BY		CDG	CDG	CDG	CDG	CDG	CDG	CDG	CDG	CDG								

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DATE OF ISSUE

DOCUMENT																			
			Day	19	19	26	05	18	25	20	21	04							
			Month	02	02	02	03	03	03	04	04	05							
			Year	21	21	21	21	21	21	21	21	21							
			Current Revision																
A0-0000	GENERAL	TITLE SHEET / DRAWINGS SCHEDULE	F	A	B	C	D	E			F								
A0-0001	GENERAL	LEGENDS AND NOTES																	
A0-1100	SITE PLANS	EXISTING SITE INFORMATION																	
A0-1101	SITE PLANS	OVERALL SITE PLAN	G	A	B	C	D	E	F		G								
A0-1102	SITE PLANS	SITE FENCING PLAN	B					A			B								
A0-3000	SITE ELEVATIONS	NORTH & EAST	A					A											
A0-3001	SITE ELEVATIONS	SOUTH & WEST	A					A											
A0-4000	SITE SECTIONS	SHEET 1	A					A											
A0-5100	TYPICAL DETAILS	TYPICAL - SHEET 1																	
A0-5101	TYPICAL DETAILS	TYPICAL - SHEET 2																	
A0-5102	TYPICAL DETAILS	TYPICAL - SHEET 2																	
A0-5103	TYPICAL DETAILS	TYPICAL - SHEET 2																	
A0-5150	TYPICAL DETAILS	WALL TYPES - SHEET 1																	
A0-5151	TYPICAL DETAILS	WALL TYPES - SHEET 2																	
A0-5200	CONSTUCTION DETAILS	SHEET 1																	
A0-5201	CONSTUCTION DETAILS	SHEET 2																	
A0-7100	SITE FACILITIES LAYOUT SHEET	SPORTING COURTS																	
A0-7101	SITE FACILITIES LAYOUT SHEET	SPORTING COURTS DETAILS																	
A0-7102	SITE FACILITIES LAYOUT SHEET	TANKS, VALVES & BINS ENCLOSURES									D								
A0-7103	SITE FACILITIES LAYOUT SHEET	BIKE PARKING																	
A0-7104	SITE FACILITIES LAYOUT SHEET	SAND PITS																	
A0-8000	DOOR SCHEDULE	DOOR SCHEDULE																	
A0-8050	DOOR SCHEDULE	DOOR DETAILS																	
A0-8300	FINISHES SCHEDULE	FINISHES SCHEDULE	A					A											
A0-8400	JOINERY SCHEDULE	JOINERY SCHEDULE																	
A0-8700	FF&E SCHEDULE	FURNITURE																	
A0-8710	FF&E SCHEDULE	SANITARYWARE & ECCESSORIES																	
A0-8720	FF&E SCHEDULE	FIXTURES & EQUIPMENT																	
A0-8790	FF&E SCHEDULE	SIGNAGE																	
A0-RP01	DOCUMENT	SCHEMATIC DESIGN REPORT	A					A											
A0-RP02	DOCUMENT	DD REPORT	A					A											
A0-RVT01	BIM	20056-AR-DPS-SITE-R20	F	A	B	C	D	E		F									
A0-SP01	DOCUMENT	ARCHITECTURAL SPECIFICATIONS																	
A1-2101	GA FLOOR PLANS	LEVEL GROUND	D	A		B		C			D								
A1-2103	GA FLOOR PLANS	LEVEL ROOF	D	A		B		C			D								
A1-2201	REFLECTED CEILING PLANS	LEVEL GROUND	D	A		B		C			D								
A1-3100	GA BUILDING ELEVATIONS	GA BUILDING ELEVATIONS	D	A		B		C			D								
A1-4100	GA BUILDING SECTIONS	GA BUILDING SECTIONS	D	A		B		C			D								
A1-7100	ROOM LAYOUT SHEET	G01, G02 & G03	A								A								
A1-7101	ROOM LAYOUT SHEET	G04, G05, G06 & G07	A								A								
A1-7102	ROOM LAYOUT SHEET	G08, G09, G10 & G11	A								A								
A1-7103	ROOM LAYOUT SHEET	G12, G13 & G14	A								A								
A1-7104	ROOM LAYOUT SHEET	G15, G16, G17 & G19	A								A								
A1-7500	JOINERY	JOINERY CODE - JOINERY DETAILS																	
A1-7501	JOINERY	JOINERY CODE - JOINERY DETAILS																	
A1-7700	INTERIOR DETAILS	INTERIOR DETAILS - SHEET 1																	
A1-7701	INTERIOR DETAILS	INTERIOR DETAILS - SHEET 2																	
A1-8100	LOUVRES / WINDOWS SCHEDULE	WINDOWS & DOORS GRAPHIC SCHEDULE																	

SPAP RECEIVED 11 MAY 2021

ENCLOSED ARE COPIES OF DOCUMENTS AS LISTED BELOW **DATE OF ISSUE**

DOCUMENT			Day	19	19	26	05	18	25	20	21	04								
			Month	02	02	02	03	03	03	04	04	05								
			Year	21	21	21	21	21	21	21	21	21								
			Current Revision																	
A1-RVT01	BIM	20056-AR-DPS-ADMIN-R20	D	A		B		C		D										
A2-2101	GA FLOOR PLANS	LEVEL GROUND	D	A		B		C			D									
A2-2103	GA FLOOR PLANS	LEVEL ROOF	D	A		B		C			D									
A2-2201	REFLECTED CEILING PLANS	LEVEL GROUND	D	A		B		C			D									
A2-3100	GA BUILDING ELEVATIONS	GA BUILDING ELEVATIONS	D	A		B		C			D									
A2-4100	GA BUILDING SECTIONS	GA BUILDING SECTIONS	D	A		B		C			D									
A2-5200	CONSTUCTION DETAILS	SHEET 1																		
A2-5201	CONSTUCTION DETAILS	SHEET 2																		
A2-5202	CONSTUCTION DETAILS	SHEET 3																		
A2-5203	CONSTUCTION DETAILS	SHEET 4																		
A2-7100	ROOM LAYOUT SHEET	G01, G02 & G03 - PLAN	A								A									
A2-7101	ROOM LAYOUT SHEET	G01, G02, G03, G04 & G05 - INTERNAL ELEVATIONS	A								A									
A2-7102	ROOM LAYOUT SHEET	G04 & G05	A								A									
A2-7103	ROOM LAYOUT SHEET	G06, G08, G09 & G10	A								A									
A2-7500	JOINERY	JOINERY CODE - JOINERY DETAILS																		
A2-7501	JOINERY	JOINERY CODE - JOINERY DETAILS																		
A2-7700	INTERIOR DETAILS	INTERIOR DETAILS - SHEET 1																		
A2-7701	INTERIOR DETAILS	INTERIOR DETAILS - SHEET 2																		
A2-8100	LOUVRES / WINDOWS SCHEDULE	WINDOWS & DOORS GRAPHIC SCHEDULE																		
A2-RVT01	BIM	20056-AR-DPS-LIBSTF-R20	D	A		B		C		D										
A3-2101	GA FLOOR PLANS	LEVEL GROUND	D	A		B		C			D									
A3-2103	GA FLOOR PLANS	LEVEL ROOF	D	A		B		C			D									
A3-2201	REFLECTED CEILING PLANS	LEVEL GROUND	D	A		B		C			D									
A3-3100	GA BUILDING ELEVATIONS	GA BUILDING ELEVATIONS	D	A		B		C			D									
A3-4100	GA BUILDING SECTIONS	GA BUILDING SECTIONS	D	A		B		C			D									
A3-5200	CONSTUCTION DETAILS	SHEET 1																		
A3-5201	CONSTUCTION DETAILS	SHEET 2																		
A3-5202	CONSTUCTION DETAILS	SHEET 3																		
A3-5203	CONSTUCTION DETAILS	SHEET 4																		
A3-7100	ROOM LAYOUT SHEET	G01	A								A									
A3-7101	ROOM LAYOUT SHEET	G01 - RCP	A								A									
A3-7102	ROOM LAYOUT SHEET	G01 - INTERNAL ELEVATIONS	A								A									
A3-7103	ROOM LAYOUT SHEET	G02, G03 & G04	A								A									
A3-7104	ROOM LAYOUT SHEET	G05, G06, G07 & G08	A								A									
A3-7105	ROOM LAYOUT SHEET	G11, G13, G15, G17 & G19 - G22	A								A									
A3-7500	JOINERY	JOINERY CODE - JOINERY DETAILS																		
A3-7501	JOINERY	JOINERY CODE - JOINERY DETAILS																		
A3-7700	INTERIOR DETAILS	INTERIOR DETAILS - SHEET 1																		
A3-7701	INTERIOR DETAILS	INTERIOR DETAILS - SHEET 2																		
A3-8100	LOUVRES / WINDOWS SCHEDULE	WINDOWS & DOORS GRAPHIC SCHEDULE																		
A3-RVT01	BIM	20056-AR-DPS-CCA-R20	D	A		B		C		D										
A4-2101	GA FLOOR PLANS	LEVEL GROUND	D	A		B		C			D									
A4-2103	GA FLOOR PLANS	LEVEL ROOF	D	A		B		C			D									
A4-2201	REFLECTED CEILING PLANS	LEVEL GROUND	D	A		B		C			D									
A4-3100	GA BUILDING ELEVATIONS	SHEET 1	D	A		B		C			D									
A4-3101	GA BUILDING ELEVATIONS	SHEET 2	A								A									
A4-4100	GA BUILDING SECTIONS	GA BUILDING SECTIONS	D	A		B		C			D									
A4-5200	CONSTUCTION DETAILS	SHEET 1																		
A4-5201	CONSTUCTION DETAILS	SHEET 2																		
A4-5202	CONSTUCTION DETAILS	SHEET 3																		
A4-5203	CONSTUCTION DETAILS	SHEET 4																		
A4-7100	ROOM LAYOUT SHEET	G01 - G03	A								A									
A4-7101	ROOM LAYOUT SHEET	G04, G05 & G06	A								A									
A4-7102	ROOM LAYOUT SHEET	G07	A								A									
A4-7103	ROOM LAYOUT SHEET	G10, G11, G12 & G13	A								A									
A4-7104	ROOM LAYOUT SHEET	G14, G15, G16 & G18	A								A									
A4-7105	ROOM LAYOUT SHEET	G19	A								A									
A4-7106	ROOM LAYOUT SHEET	G20	A								A									
A4-7107	ROOM LAYOUT SHEET	G21, G22, G23 & G24	A								A									
A4-7108	ROOM LAYOUT SHEET	G25	A								A									
A4-7109	ROOM LAYOUT SHEET	G26	A								A									
A4-7500	JOINERY	JOINERY CODE - JOINERY DETAILS																		
A4-7501	JOINERY	JOINERY CODE - JOINERY DETAILS																		
A4-7700	INTERIOR DETAILS	INTERIOR DETAILS - SHEET 1																		
A4-7701	INTERIOR DETAILS	INTERIOR DETAILS - SHEET 2																		
A4-8100	LOUVRES / WINDOWS SCHEDULE	WINDOWS & DOORS GRAPHIC SCHEDULE																		
A4-RVT01	BIM	20056-AR-DPS-TB1-R20	D	A		B		C		D										
A5-2101	GA FLOOR PLANS	LEVEL GROUND	D	A		B		C			D									
A5-2103	GA FLOOR PLANS	LEVEL ROOF	D	A		B		C			D									
A5-2201	REFLECTED CEILING PLANS	LEVEL GROUND	D	A		B		C			D									
A5-3100	GA BUILDING ELEVATIONS	GA BUILDING ELEVATIONS	D	A		B		C			D									
A5-4100	GA BUILDING SECTIONS	GA BUILDING SECTIONS	D	A		B		C			D									
A5-5200	CONSTUCTION DETAILS	SHEET 1																		
A5-5201	CONSTUCTION DETAILS	SHEET 2																		

SPAP RECEIVED 11 MAY 2021

ENCLOSED ARE COPIES OF DOCUMENTS AS LISTED BELOW **DATE OF ISSUE**

DOCUMENT			Day	19	19	26	05	18	25	20	21	04								
			Month	02	02	02	03	03	03	04	04	05								
			Year	21	21	21	21	21	21	21	21	21								
			Current Revision																	
A5-5202	CONSTUCTION DETAILS	SHEET 3																		
A5-5203	CONSTUCTION DETAILS	SHEET 4																		
A5-7100	ROOM LAYOUT SHEET	G01, G04, G05 & G06	A								A									
A5-7101	ROOM LAYOUT SHEET	G02 & G03	A								A									
A5-7102	ROOM LAYOUT SHEET	G07 & G08	A								A									
A5-7109	ROOM LAYOUT SHEET	G09-G16	A								A									
A5-7500	JOINERY	JOINERY CODE - JOINERY DETAILS																		
A5-7501	JOINERY	JOINERY CODE - JOINERY DETAILS																		
A5-7700	INTERIOR DETAILS	INTERIOR DETAILS - SHEET 1																		
A5-7701	INTERIOR DETAILS	INTERIOR DETAILS - SHEET 2																		
A5-8100	LOUVRES / WINDOWS SCHEDULE	WINDOWS & DOORS GRAPHIC SCHEDULE																		
A5-RVT01	BIM	20056-AR-DPS-TB234-R20	D	A		B		C		D										
A6-2101	GA FLOOR PLANS	LEVEL GROUND	D	A		B		C			D									
A6-2103	GA FLOOR PLANS	LEVEL ROOF	D	A		B		C			D									
A6-2201	REFLECTED CEILING PLANS	LEVEL GROUND	D	A		B		C			D									
A6-3100	GA BUILDING ELEVATIONS	GA BUILDING ELEVATIONS	D	A		B		C			D									
A6-4100	GA BUILDING SECTIONS	GA BUILDING SECTIONS	D	A		B		C			D									
A6-5200	CONSTUCTION DETAILS	SHEET 1																		
A6-5201	CONSTUCTION DETAILS	SHEET 2																		
A6-5202	CONSTUCTION DETAILS	SHEET 3																		
A6-5203	CONSTUCTION DETAILS	SHEET 4																		
A6-7100	ROOM LAYOUT SHEET	G01, G03, G11, G13 & G19	A								A									
A6-7101	ROOM LAYOUT SHEET	G04 & G05	A								A									
A6-7102	ROOM LAYOUT SHEET	G06, G07 & G09	A								A									
A6-7103	ROOM LAYOUT SHEET	G10 & G14	A								A									
A6-7104	ROOM LAYOUT SHEET	G15, G16, G17 & G18	A								A									
A6-7107	ROOM LAYOUT SHEET	ROOM NUMBER																		
A6-7500	JOINERY	JOINERY CODE - JOINERY DETAILS																		
A6-7501	JOINERY	JOINERY CODE - JOINERY DETAILS																		
A6-7700	INTERIOR DETAILS	INTERIOR DETAILS - SHEET 1																		
A6-7701	INTERIOR DETAILS	INTERIOR DETAILS - SHEET 2																		
A6-8100	LOUVRES / WINDOWS SCHEDULE	WINDOWS & DOORS GRAPHIC SCHEDULE																		
A6-RVT01	BIM	20056-AR-DPS-TB5-R20	D	A		B		C		D										
DA0-0000	GENERAL	TITLE SHEET	A									A								
DA0-1101	SITE PLANS	SITE PLAN	A									A								
DA0-1102	SITE PLANS	SITE FENCING PLAN	A									A								
DA0-3000	OVERALL ELEVATIONS	NORTH & EAST	A									A								
DA0-3001	OVERALL ELEVATIONS	SOUTH & WEST	A									A								
DA0-4000	SITE SECTIONS	SHEET 1	A									A								
DA0-8300	FINISHES SCHEDULE	FINISHES SCHEDULE	A									A								
DA0-RP01	DOCUMENT	DA REPORT	A									A								
DA1-2101	GA FLOOR PLANS	LEVEL GROUND	A									A								
DA1-2103	GA FLOOR PLANS	LEVEL ROOF	A									A								
DA1-3100	GA BUILDING ELEVATIONS	BUILDING ELEVATIONS	A									A								
DA2-2101	GA FLOOR PLANS	LEVEL GROUND	A									A								
DA2-2103	GA FLOOR PLANS	LEVEL ROOF	A									A								
DA2-3100	GA BUILDING ELEVATIONS	BUILDING ELEVATIONS	A									A								
DA3-2101	GA FLOOR PLANS	LEVEL GROUND	A									A								
DA3-2103	GA FLOOR PLANS	LEVEL ROOF	A									A								
DA3-3100	GA BUILDING ELEVATIONS	BUILDING ELEVATIONS	A									A								
DA4-2101	GA FLOOR PLANS	LEVEL GROUND	A									A								
DA4-2103	GA FLOOR PLANS	LEVEL ROOF	A									A								
DA4-3100	GA BUILDING ELEVATIONS	BUILDING ELEVATIONS	A									A								
DA5-2101	GA FLOOR PLANS	LEVEL GROUND	A									A								
DA5-2103	GA FLOOR PLANS	LEVEL ROOF	A									A								
DA5-3100	GA BUILDING ELEVATIONS	BUILDING ELEVATIONS	A									A								
DA6-2101	GA FLOOR PLANS	LEVEL GROUND	A									A								
DA6-2103	GA FLOOR PLANS	LEVEL ROOF	A									A								
DA6-3100	GA BUILDING ELEVATIONS	BUILDING ELEVATIONS	A									A								

SPAP RECEIVED 11 MAY 2021

SHEET NUMBER	DRAWING SERIES	SHEET NAME	REVISION DATE	REVISION
DA0-0000	GENERAL	TITLE SHEET	04/05/2021	A
DA0-1101	SITE PLANS	SITE PLAN	04/05/2021	A
DA0-1102	SITE PLANS	SITE FENCING PLAN	04/05/2021	A
DA0-3000	OVERALL ELEVATIONS	NORTH & EAST	04/05/2021	A
DA0-3001	OVERALL ELEVATIONS	SOUTH & WEST	04/05/2021	A
DA0-4000	SITE SECTIONS	SHEET 1	04/05/2021	A
DA0-B300	FINISHES SCHEDULE	FINISHES SCHEDULE	04/05/2021	A
DA0-RP01	DOCUMENT	DA REPORT	04/05/2021	A
1 - ADMIN				
DA1-2101	GA FLOOR PLANS	LEVEL GROUND	04/05/2021	A
DA1-2103	GA FLOOR PLANS	LEVEL ROOF	04/05/2021	A
DA1-3100	GA BUILDING ELEVATIONS	BUILDING ELEVATIONS	04/05/2021	A
2 - STAFF & LIBRARY				
DA2-2101	GA FLOOR PLANS	LEVEL GROUND	04/05/2021	A
DA2-2103	GA FLOOR PLANS	LEVEL ROOF	04/05/2021	A
DA2-3100	GA BUILDING ELEVATIONS	BUILDING ELEVATIONS	04/05/2021	A
3 - CCA				
DA3-2101	GA FLOOR PLANS	LEVEL GROUND	04/05/2021	A
DA3-2103	GA FLOOR PLANS	LEVEL ROOF	04/05/2021	A
DA3-3100	GA BUILDING ELEVATIONS	BUILDING ELEVATIONS	04/05/2021	A
4 - TB1				
DA4-2101	GA FLOOR PLANS	LEVEL GROUND	04/05/2021	A
DA4-2103	GA FLOOR PLANS	LEVEL ROOF	04/05/2021	A
DA4-3100	GA BUILDING ELEVATIONS	BUILDING ELEVATIONS	04/05/2021	A
5 - TB2				
DA5-2101	GA FLOOR PLANS	LEVEL GROUND	04/05/2021	A
DA5-2103	GA FLOOR PLANS	LEVEL ROOF	04/05/2021	A
DA5-3100	GA BUILDING ELEVATIONS	BUILDING ELEVATIONS	04/05/2021	A
6 - TB5				
DA6-2101	GA FLOOR PLANS	LEVEL GROUND	04/05/2021	A
DA6-2103	GA FLOOR PLANS	LEVEL ROOF	04/05/2021	A
DA6-3100	GA BUILDING ELEVATIONS	BUILDING ELEVATIONS	04/05/2021	A
Grand total: 26				

DAYTON PRIMARY SCHOOL
DEVELOMENT APPLICATION

SPAP RECEIVED 11 MAY 2021

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY
A	04/05/2021	DEVELOPMENT APPLICATION	MLM

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Government of **Western Australia**
Department of **Finance**
Buildings and Contracts

ARCHITECTURAL

DEPARTMENT OF FINANCE

DAYTON PRIMARY SCHOOL

LOT 557, 11 BLUNDELL STREET DAYTON & LOT 558 ON PLAN 3698

GENERAL

TITLE SHEET

DRAWN CDG	DESIGNED CDG	REDUCTION	
CHECKED MLM	PRINCIPAL	0 NTSM	
APPROVED SS			
SCALE @ A1	DATE 04/05/2021	DRAWING No. DA0-0000	REV. A
PROJECT No 15030	DF FILE No 2021/01713		

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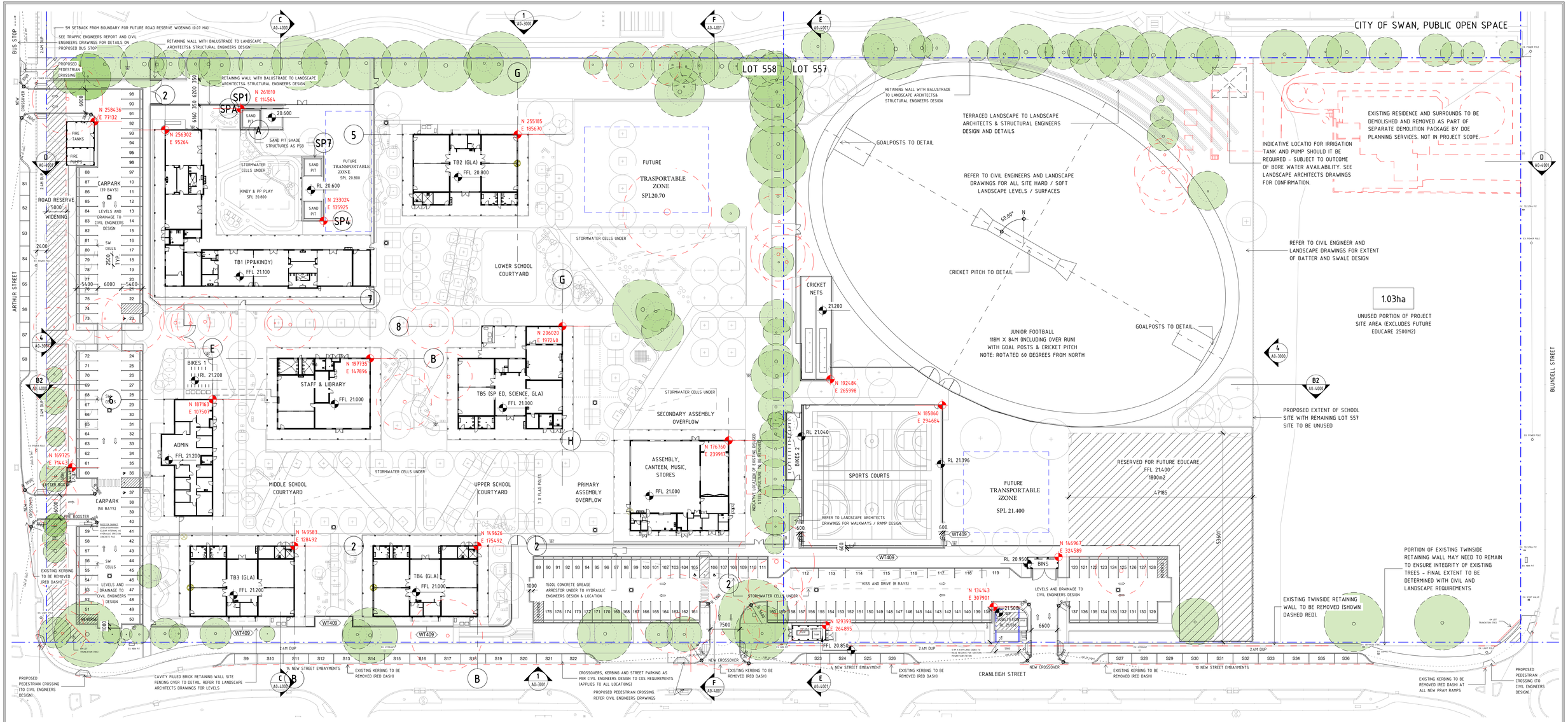
DO NOT AMEND MANUALLY

DPSDA0-0000M0



GENERAL NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES
2. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS
3. LARGE SCALE DRAWINGS SHALL TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS
4. THE CONTRACTOR SHALL CARRY OUT THE WORK IN ACCORDANCE WITH THE SPECIFICATION, THE B.C.A. AND LOCAL AUTHORITY REQUIREMENTS
5. ALL MATERIALS SHALL BE NEW & CONFORM TO WHAT IS SHOWN ON THE DRAWINGS AND IN THE SPECIFICATION
6. THE CONTRACTOR SHALL CHECK & VERIFY ALL DIMENSIONS ON THE SITE, PRIOR TO THE COMMENCEMENT OF ANY BUILDING WORK
7. THE CONTRACTOR SHALL VISIT THE SITE & NOTE ALL VISIBLE SITE CONDITIONS & ACCESS REQUIREMENTS
8. REFER TO LANDSCAPE DRAWINGS FOR ALL HARD LANDSCAPE, SOFT LANDSCAPE, LANDSCAPE STRUCTURE, EXTERNAL STAIRS, HANDRAILS, WALKWAYS & TGSI.
9. REFER TO CIVIL DRAWINGS FOR SITE LEVELS, DRAINAGE REQUIREMENT, FALL DIRECTIONS, ROAD CONSTRUCTION INCLUDING KERBING, PRAM RAMP & WOMBAT CROSSINGS.
10. REFER TO ALL OTHER SERVICES DRAWINGS FOR SITE SERVICES.
11. REFER TO CIVIL DRAWINGS AND SPECIFICATION FOR ALL LINE-MARKING REQUIREMENT.
12. ALL ACCESSIBLE CAR BAYS SHALL COMPLY WITH NCC 2019 AND AS2890.6.
13. ALL NECESSARY TEMPORARY CONSTRUCTION FENCE SHALL BE PROVIDED BY THE CONTRACTOR.
14. EXISTING STREET PARKING BAYS SHALL REMAIN UNOBSTRUCTED FOR THE DURATION OF THE CONSTRUCTION.
16. EXISTING ROAD NETWORK SHALL REMAIN OPEN FOR THE DURATION OF THE CONSTRUCTION.
17. BUILDING SET-OUT TO BE CONFIRMED ON SITE BY A LICENSED SURVEYOR.

PARKING SCHEDULE

TYPE	
STREET	36 BAYS
OFF-STREET	171 BAYS (INCLUDING 8 x 'DROP OFF')
ACCESSIBLE (D)	5 BAYS
TOTAL	212 BAYS

BRIEF (INCLUDES FUTURE PROVISIONS OF 870 STUDENTS)
CARS: 206 BAYS + 5 ACCESSIBLE (211 TOTAL REQ.)
CYCLES: 32 RACKS (64 BIKES)

LEGEND

	EXISTING TREE TO REMAIN - REFER LANDSCAPE ARCHITECTS DRAWINGS & SPECIFICATION
	EXISTING TREE ROOT PROTECTION ZONE - REFER LANDSCAPE ARCHITECTS DRAWINGS & SPECIFICATION
	EXISTING TREE REMOVED - REFER LANDSCAPE ARCHITECTS DRAWINGS & SPECIFICATION
N 000000 E 000000	BUILDING SETOUT (TO NORTHINGS & EASTINGS) ON BUILDING BLOCK GRID INTERSECTION.

DEMOLITION NOTES

1. REFER TO LANDSCAPE, CIVIL AND OTHER SERVICES DRAWINGS FOR RELEVANT DEMOLITION WORKS.
2. ALL DEMOLITION WORKS AND MADE GOOD WORKS TO BE UNDERTAKEN WITHIN LOT BOUNDARIES.
3. EXCEPT TREES THAT ARE TO BE REMOVED, ALL OTHER STREET TREES SHALL BE RETAINED AND PROVIDED WITH ADEQUATE PROTECTION WHERE APPLICABLE.
4. ALL EXISTING SITE FENCING TO BE REMOVED.
5. ALL DEBRIS TO BE REMOVED IN TOTAL FROM SITE AND AREA TO BE LEFT WITH CLEAN SOIL GROUND FINISH ALL READY FOR NEW SCOPE OF WORKS.
6. EXISTING DISUSED METAL STRUCTURE AS SHOWN INDICATIVELY ON SITE PLAN TO BE REMOVED.
7. EXISTING RESIDENCE AND SURROUNDS TO BE DEMOLISHED AND REMOVED AS PART OF SEPARATE DEMOLITION PACKAGE BY DOE PLANNING SERVICES. NOT IN PROJECT SCOPE.

SPAP RECEIVED JULY 2021

REV	DATE	DESCRIPTION	BY
O	25/06/2021	100% CONTRACT DOCUMENTATION	MLM
N	21/06/2021	100% DOCUMENTATION (FOR COORDINATION)	MLM
M	18/06/2021	MASTERPLAN UPDATE (PARKING)	MLM
L	11/06/2021	TB5 MECH ENCLOSURE, TB234 ROOF UPDATES	MLM
K	08/06/2021	UPDATED BLOCK LEVELS	MLM
J	04/06/2021	50% DOCUMENTATION	MLM
I	25/05/2021	ISSUED FOR COORDINATION	MLM
H	12/05/2021	DESIGN DEVELOPMENT	MLM
G	21/04/2021	ISSUED FOR COORDINATION	MLM
F	25/03/2021	ISSUED FOR COMMENT	MLM

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ARCHITECTURAL
DEPARTMENT OF FINANCE
DAYTON PRIMARY SCHOOL
LOT 557, 11 BLUNDELL STREET DAYTON & LOT 558 ON PLAN 3698
SITE PLANS
OVERALL SITE PLAN

DRAWN CDG		DESIGNED CDG	REDUCTION 0 12.5M
CHECKED MLM		PRINCIPAL	
APPROVED MLM/SS			
SCALE 1 : 500 @ A1		DATE 25/06/2021	DRAWING No. A0-1101 REV. 0
PROJECT No 15030		DF FILE No 2021/01713	

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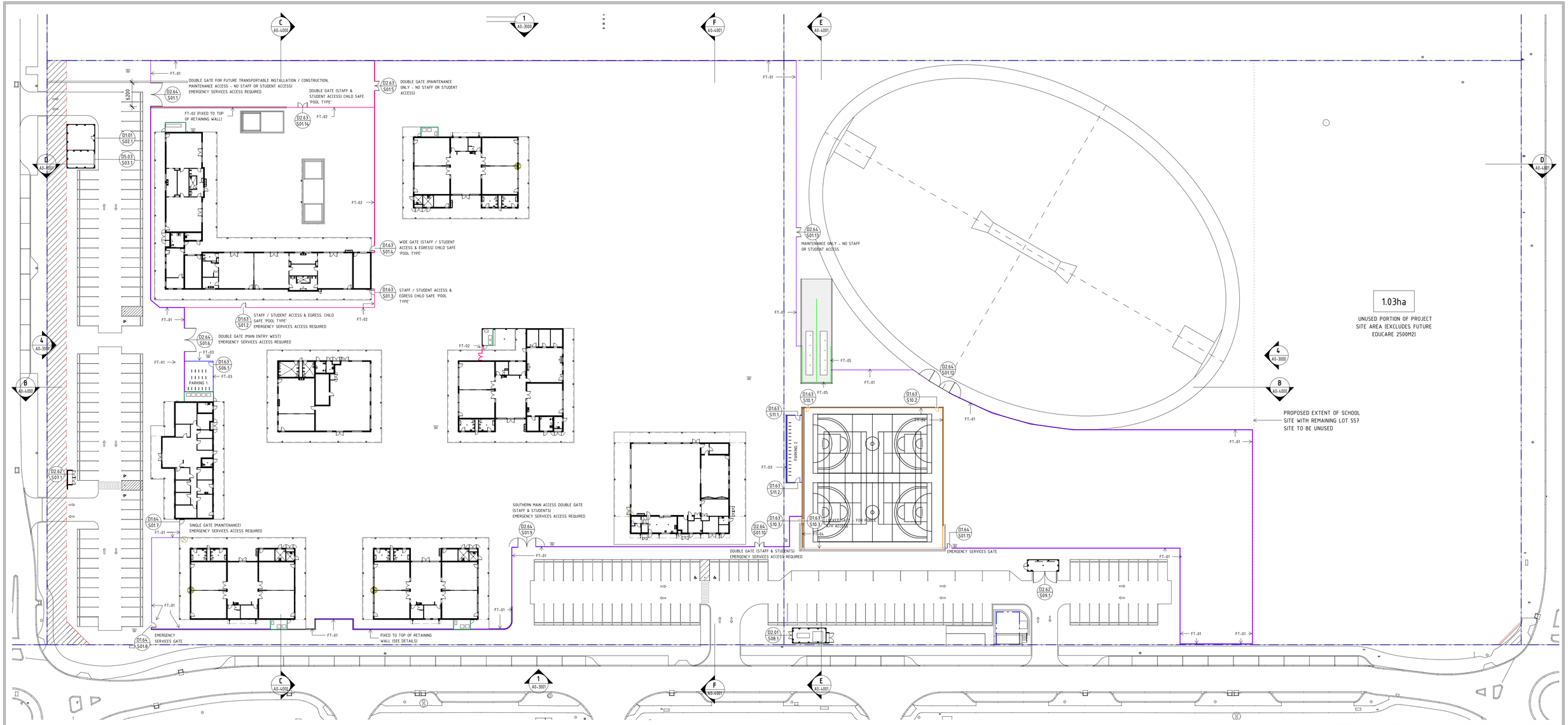
DPSA0-1101A7



GENERAL NOTES

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3. LARGE SCALE DRAWINGS SHALL TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS
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5. ALL MATERIALS SHALL BE NEW & CONFORM TO WHAT IS SHOWN ON THE DRAWINGS AND IN THE SPECIFICATION
6. THE CONTRACTOR SHALL CHECK & VERIFY ALL DIMENSIONS ON THE SITE, PRIOR TO THE COMMENCEMENT OF ANY BUILDING WORK
7. THE CONTRACTOR SHALL VISIT THE SITE & NOTE ALL VISIBLE SITE CONDITIONS & ACCESS REQUIREMENTS
8. REFER TO LANDSCAPE DRAWINGS FOR ALL EXTERNAL BALUSTRADE DETAILS.
9. NO HINGES TO BE FIXED DIRECTLY TO BRICK STRUCTURES
10. STEEL POSTS AND CONCRETE FOOTINGS REQUIRED FOR ALL FENCING.

FENCING TYPE LEGEND

FT-01	2100MM HIGH GARRISON FENCE (SITE PERIMETER) - HOT DIPPED GALV. FINISH
FT-02	1200MM HIGH CHAIN MESH FENCE (KINDY/PP, TBS COURTYARD) - ALL TUBES, POSTS, FITTINGS AND GATES TO BE GALVANISED PRIOR TO BLACK POWDER COATING. MESH TO GALVANISED THEN FINISHED WITH BLACK PVC COATING. - ALL GATES TO BE 'POOL TYPE' TO PREVENT EGRESS AND ACCESS BY CHILDREN
FT-03	1800MM HIGH CHAIN MESH FENCE (BIKE STORE) - ALL TUBES, POSTS, FITTINGS AND GATES TO BE GALVANISED PRIOR TO BLACK POWDER COATING. MESH TO GALVANISED THEN FINISHED WITH BLACK PVC COATING.
FT-04	3660MM H CHAINMESH FENCE (SPORTS COURTS) - REFER TO A0-7100 SERIES & SPEC. FOR DETAILS. ALL TUBES, POSTS, FITTINGS AND GATES TO BE GALVANISED PRIOR TO BLACK POWDER COATING. MESH TO GALVANISED THEN FINISHED WITH BLACK PVC COATING.
FT-05	CRICKET NETS - REFER TO A0-7100 SERIES & SPEC. FOR DETAILS. ALL TUBES, POSTS, FITTINGS AND GATES TO BE GALVANISED PRIOR TO BLACK POWDER COATING. MESH TO GALVANISED THEN FINISHED WITH BLACK PVC COATING.
	2100MM EXPANDED MESH ENCLOSURE - REFER TO A0-7100 SERIES ON INDIVIDUAL BLOCKS & SPEC FOR DETAILS.
	BALUSTRADE REFER TO L.ARCH. / STRUCTURAL ENGINEERS DWGS. FOR BALUSTRADE DETAIL FIXED ON TOP OF THE BRICK RETAINING WALL (WHERE APPLICABLE).

SPAP RECEIVED 9 JULY 2021

REV	DATE	DESCRIPTION	BY
F	25/06/2021	100% CONTRACT DOCUMENTATION	MLM
E	21/06/2021	100% DOCUMENTATION (FOR COORDINATION)	MLM
D	04/06/2021	50% DOCUMENTATION	MLM
C	12/05/2021	DESIGN DEVELOPMENT	MLM
B	21/04/2021	ISSUED FOR COORDINATION	MLM
A	19/03/2021	ISSUED FOR APPROVAL	MLM

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DEPARTMENT OF FINANCE

DAYTON PRIMARY SCHOOL

LOT 557, 11 BLUNDELL STREET DAYTON & LOT 558 ON PLAN 3698

SITE PLANS

SITE FENCING PLAN

DRAWN CDG		DESIGNED CDG	REDUCTION 0 12.5M
CHECKED MLM		PRINCIPAL	
APPROVED MLM/SS			
SCALE 1 : 500 @ A1		DATE 25/06/2021	DRAWING No. A0-1102 REV. F
PROJECT No 15030		DF FILE No 2021/01713	

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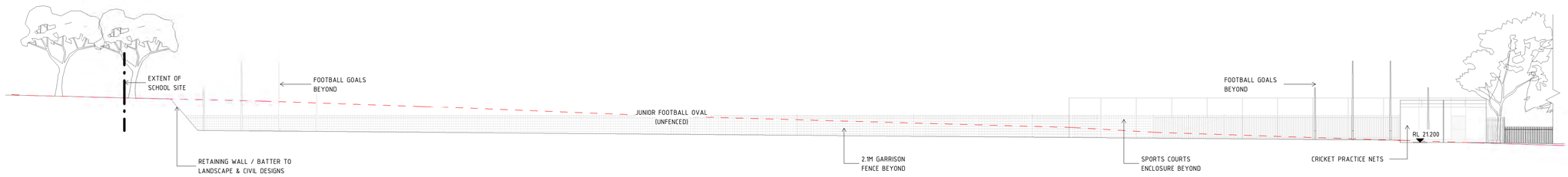
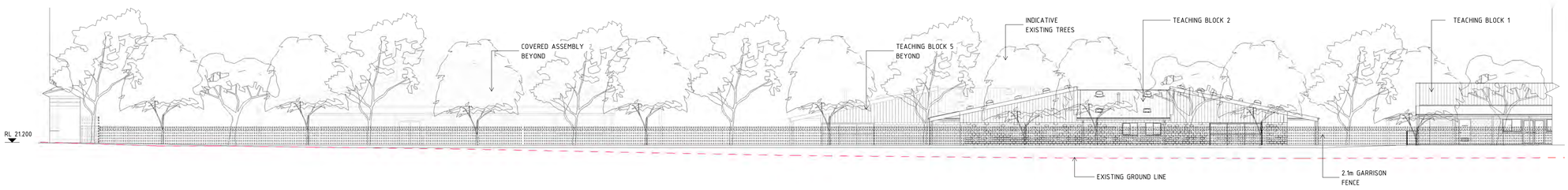


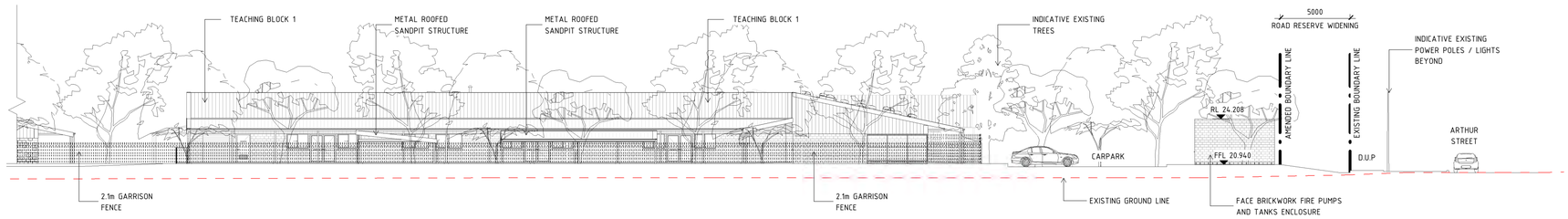
1 DA0-1101 **DA SITE ELEVATION - NORTH - 1**

SCALE 1 : 200



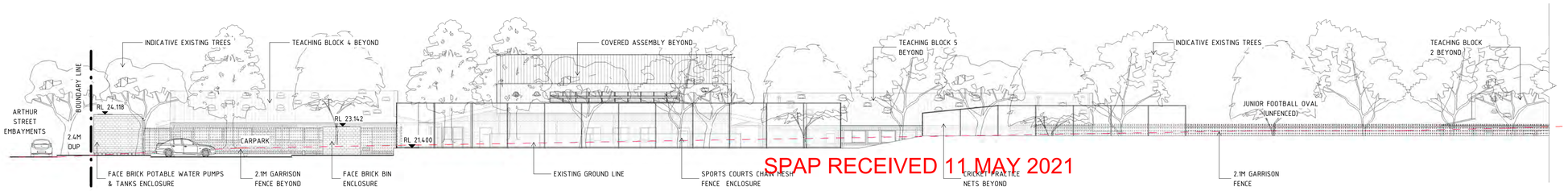
2 **DA SITE ELEVATION - NORTH - 2**

SCALE 1 : 200



3 **DA SITE ELEVATION - NORTH - 3**

SCALE 1 : 200



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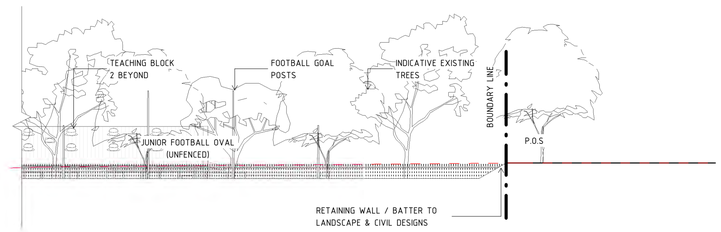
4 DA0-1101 **DA SITE ELEVATION - EAST - 1**

SCALE 1 : 200



5 **DA SITE ELEVATION - EAST - 2**

SCALE 1 : 200

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REV	DATE	DESCRIPTION	BY
A	04/05/2021	DEVELOPMENT APPLICATION	MLM

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DAYTON PRIMARY SCHOOL

LOT 557, 11 BLUNDELL STREET DAYTON & LOT 558 ON PLAN 3698

OVERALL ELEVATIONS

NORTH & EAST

DRAWN CDG		DESIGNED CDG	REDUCTION 0 5M
CHECKED MLM		PRINCIPAL	
APPROVED SS			
SCALE 1 : 200 @ A1		DATE 04/05/2021	DRAWING No. DA0-3000 REV. A
PROJECT No 15030		DF FILE No 2021/01713	

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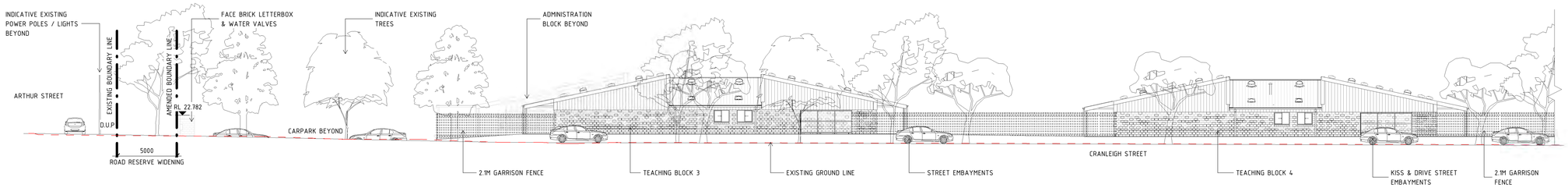
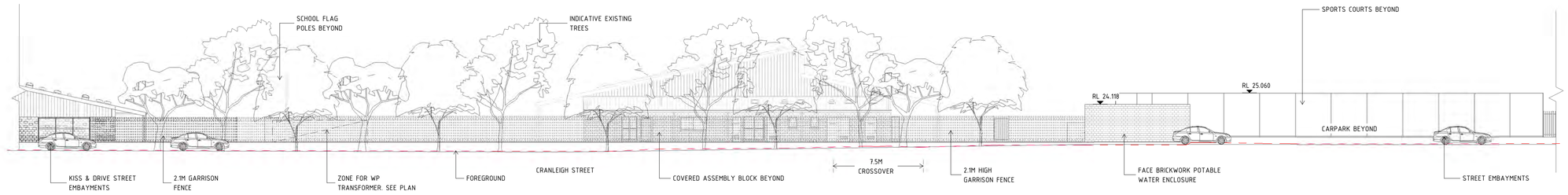
DPSDA0-3000E6



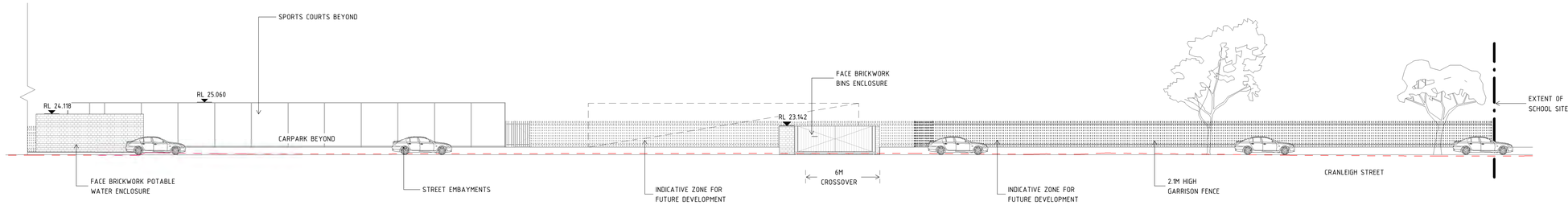
1 DA0-1101 **DA SITE ELEVATION - SOUTH - 1**

SCALE 1 : 200



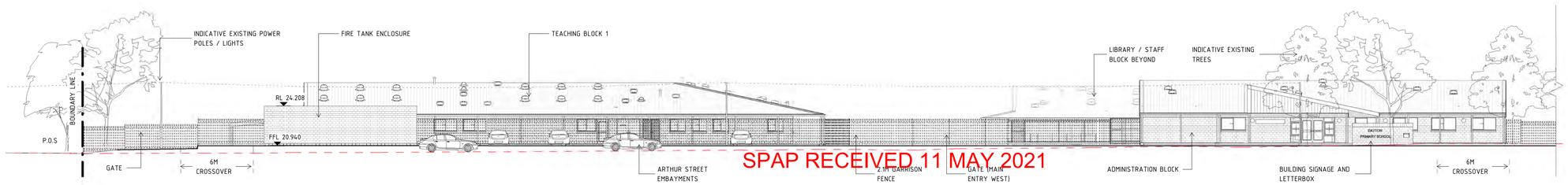
2 **DA SITE ELEVATION - SOUTH - 2**

SCALE 1 : 200



3 **DA SITE ELEVATION - SOUTH - 3**

SCALE 1 : 200



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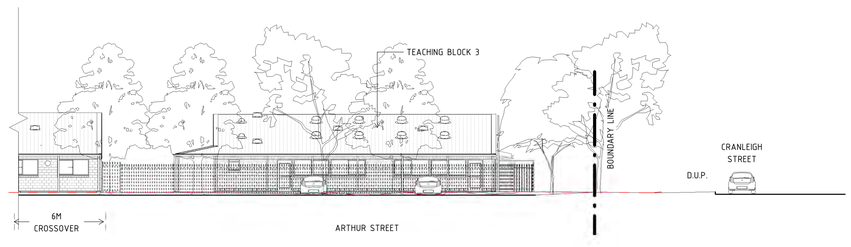
4 DA0-1101 **DA SITE ELEVATION - WEST - 1**

SCALE 1 : 200



5 **DA SITE ELEVATION - WEST - 2**

SCALE 1 : 200

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A	04/05/2021	DEVELOPMENT APPLICATION	MLM

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OVERALL ELEVATIONS

SOUTH & WEST

DRAWN CDG	DESIGNED CDG	REDUCTION	
CHECKED MLM	PRINCIPAL	0 5M	
APPROVED SS			
SCALE 1 : 200 @ A1	DATE 04/05/2021	DRAWING No. DA0-3001	REV. A
PROJECT No 15030	DF FILE No 2021/01713		

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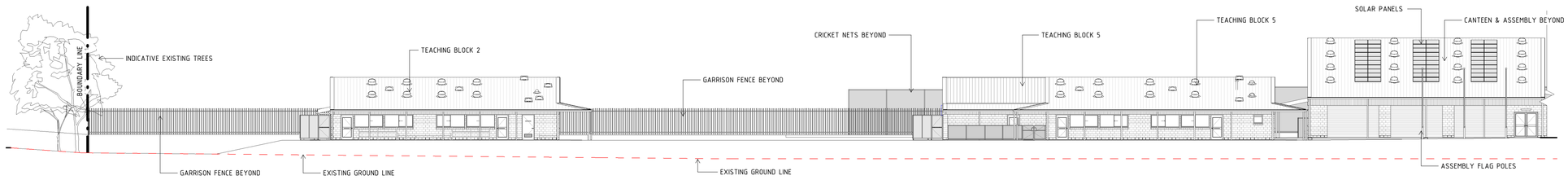
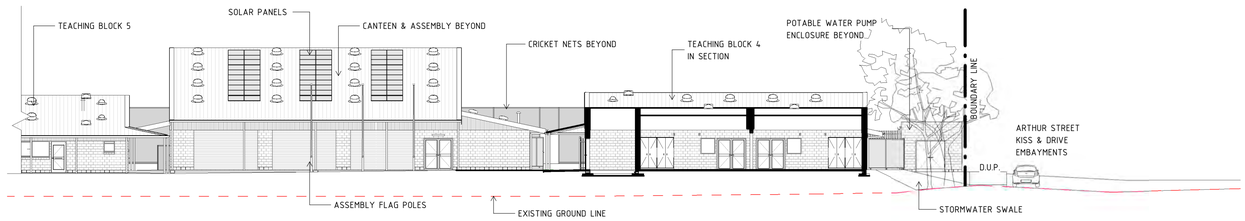


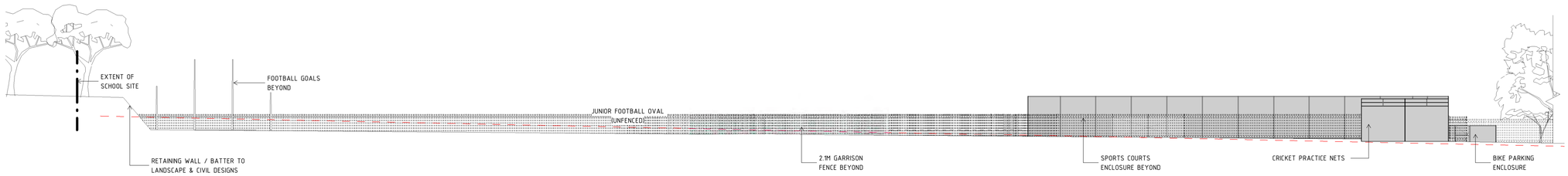
1 DA0-1101 **DA SITE SECTION AA - 1**

SCALE 1 : 200



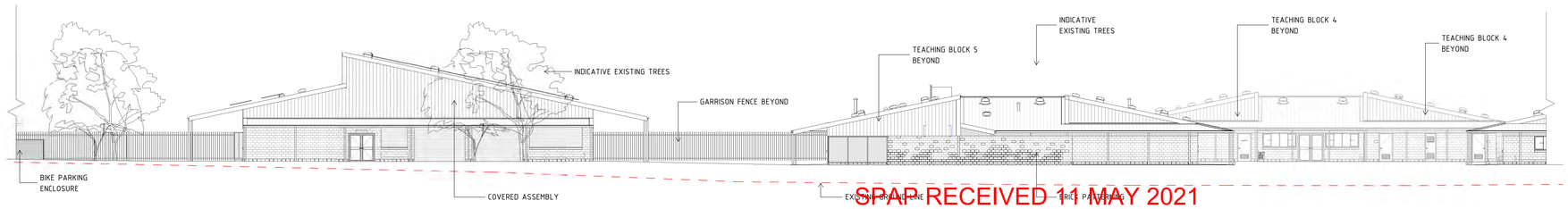
2 **DA SITE SECTION AA - 2**

SCALE 1 : 200



3 DA0-1101 **DA SITE SECTION BB - 1**

SCALE 1 : 200



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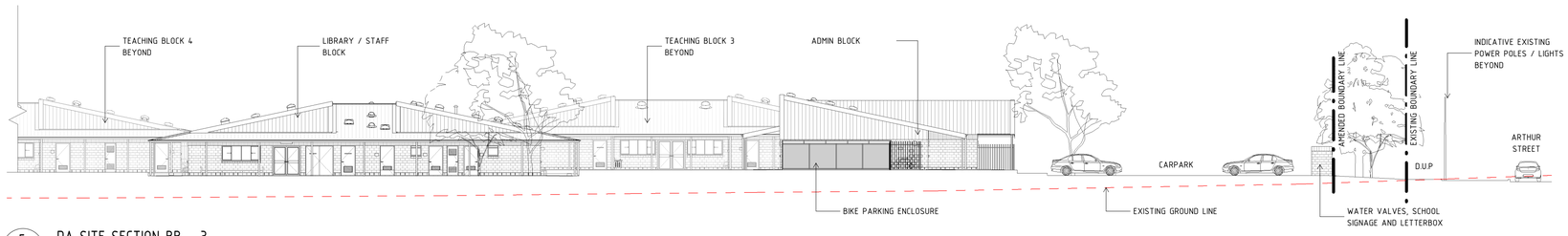
4 **DA SITE SECTION BB - 2**

SCALE 1 : 200



5 **DA SITE SECTION BB - 3**

SCALE 1 : 200

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SITE SECTIONS

SHEET 1

DRAWN CDG		DESIGNED CDG	REDUCTION 0 5M
CHECKED MLM		PRINCIPAL	
APPROVED SS			
SCALE 1 : 200 @ A1		DATE 04/05/2021	DRAWING No. DA0-4000 REV. A
PROJECT No 15030		DF FILE No 2021/01713	

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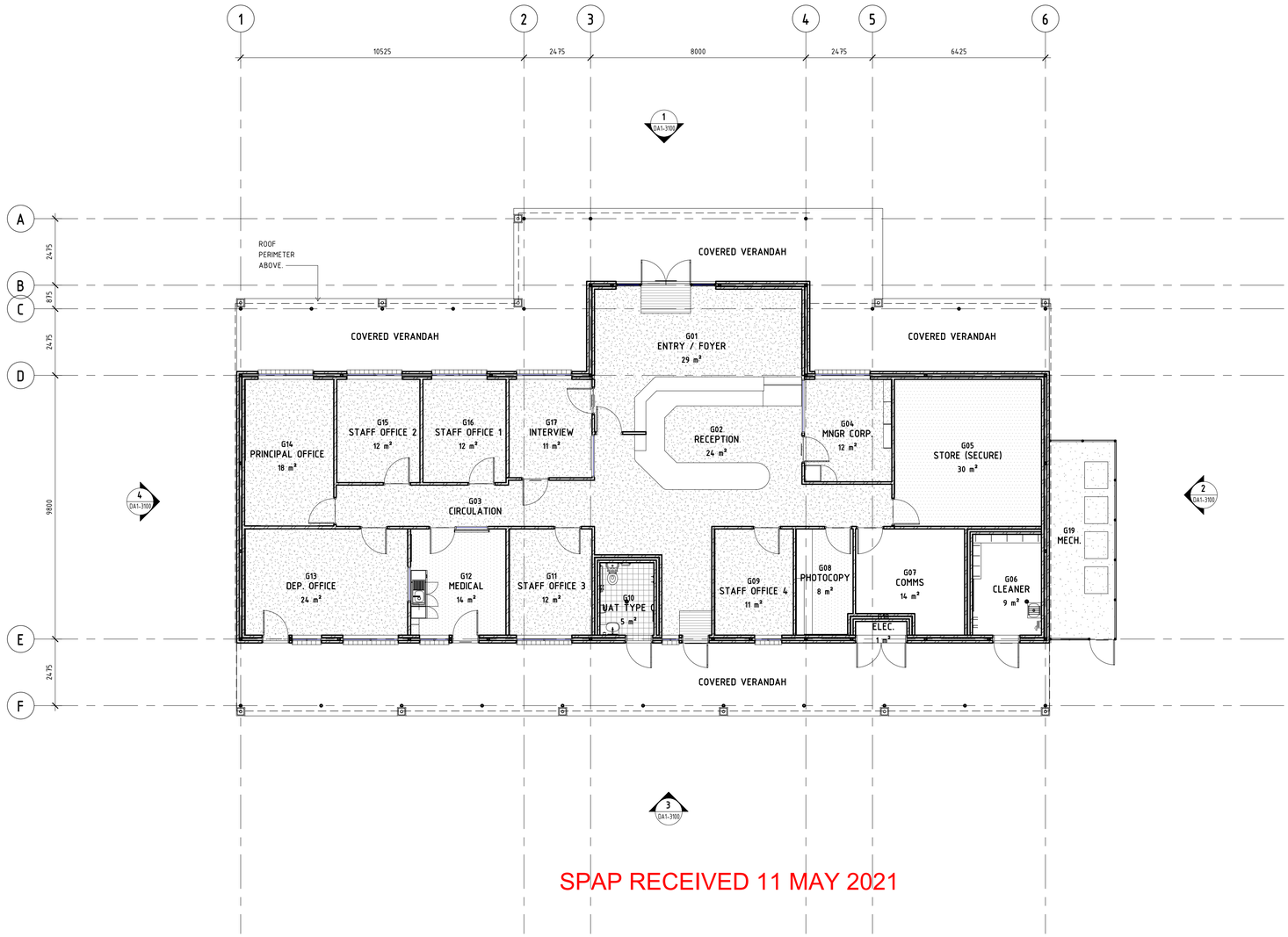

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1 LEVEL GROUND - DA

SCALE 1 : 100

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LOT 557, 11 BLUNDELL STREET DAYTON & LOT 558 ON PLAN 3698

GA FLOOR PLANS

LEVEL GROUND

DRAWN CDG		DESIGNED CDG	REDUCTION 0 2.5M
CHECKED MLM		PRINCIPAL	
APPROVED SS			
SCALE As indicated @ A1		DATE 04/05/2021	DRAWING No. DA1-2101 REV. A
PROJECT No 15030		DF FILE No 2021/01713	

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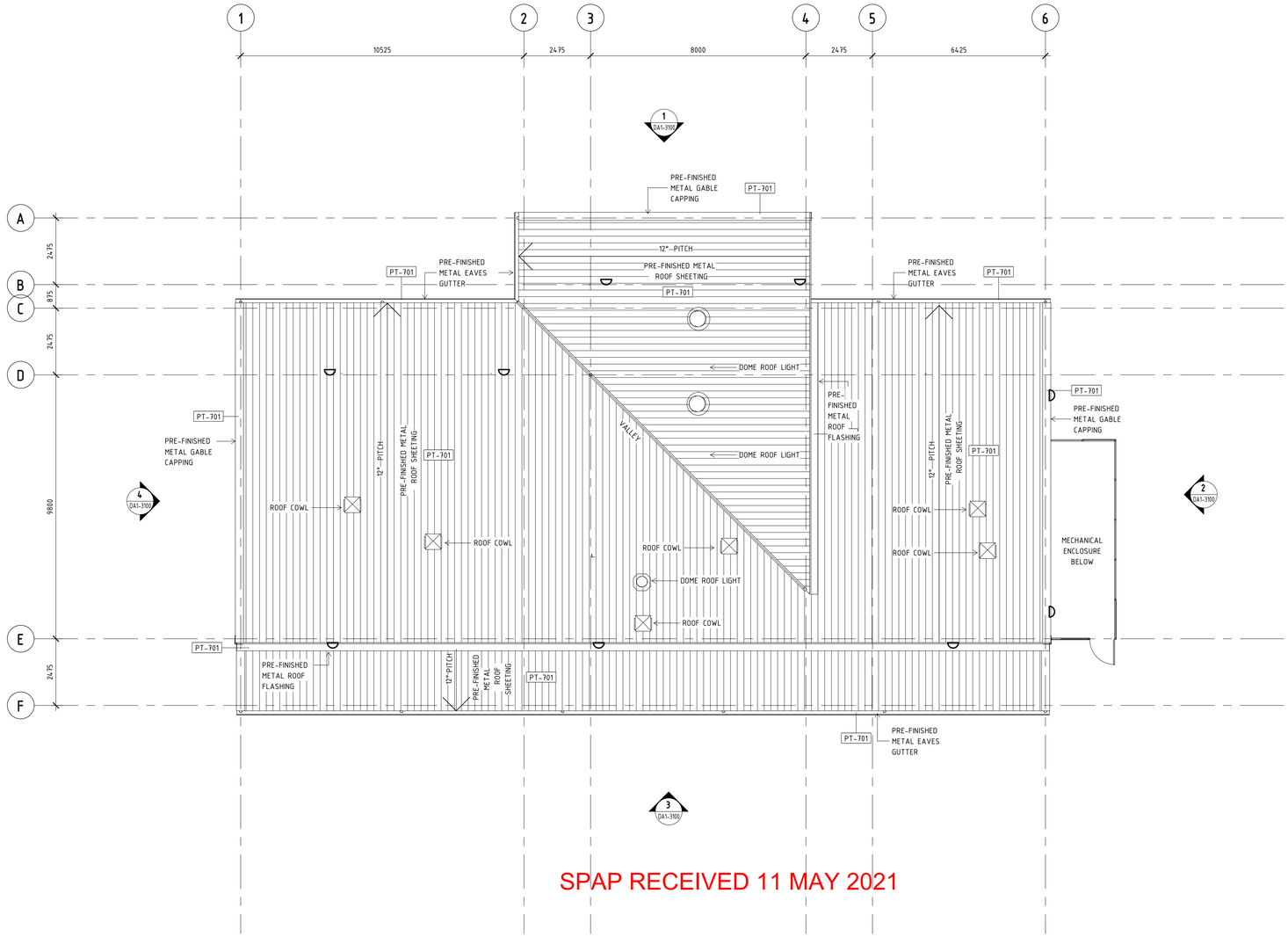
NOTE: TO BE READ IN CONJUNCTION WITH FINISHES SCHEDULE DA0-8300



1 LEVEL ROOF - DA
SCALE 1 : 100

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GA FLOOR PLANS

LEVEL ROOF

DRAWN CDG		DESIGNED CDG	REDUCTION 0 2.5M
CHECKED MLM		PRINCIPAL	
APPROVED SS			
SCALE As indicated @ A1		DATE 04/05/2021	DRAWING No. DA1-2103 REV. A
PROJECT No 15030		DF FILE No 2021/01713	

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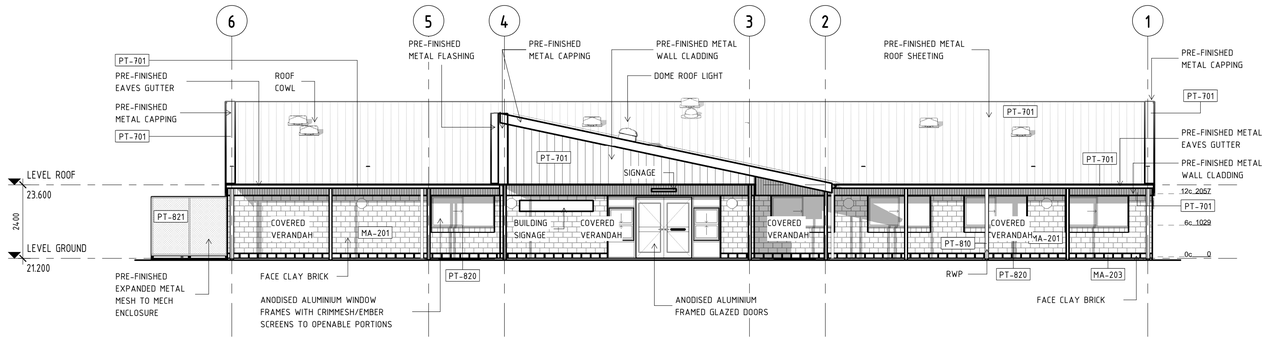
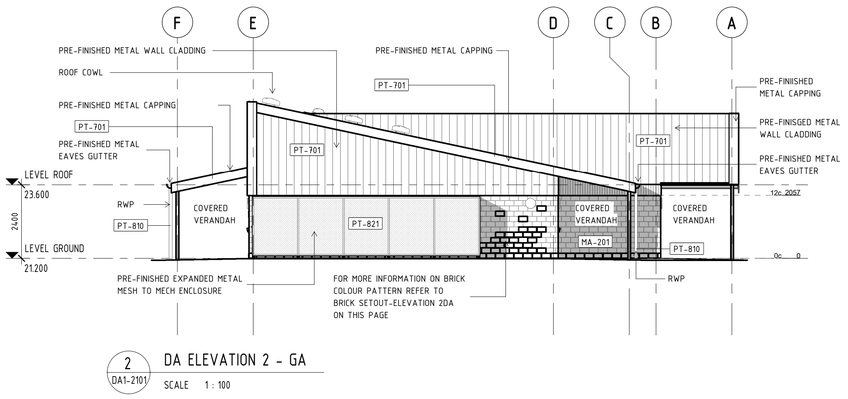
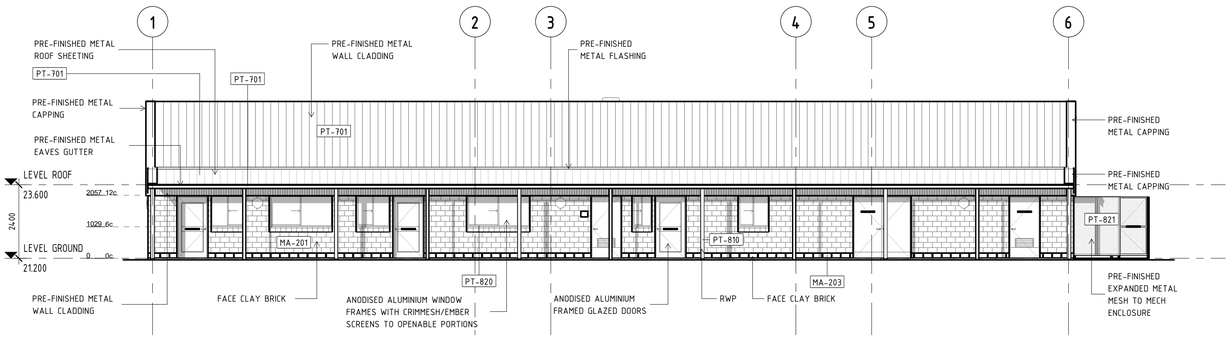
NOTE: TO BE READ IN CONJUNCTION WITH FINISHES
SCHEDULE DA0-8300



1 DA1-2101 DA ELEVATION 1 - GA
SCALE 1 : 100



2 DA1-2101 DA ELEVATION 2 - GA
SCALE 1 : 100



3 DA1-2101 DA ELEVATION 3 - GA
SCALE 1 : 100

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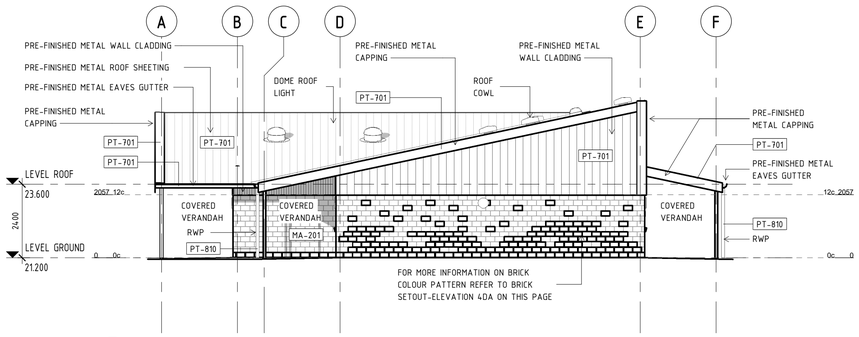
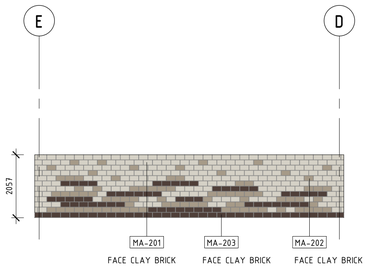
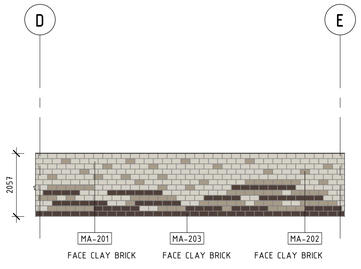


4 DA1-2101 DA ELEVATION 4 - GA
SCALE 1 : 100



5 BRICK SETOUT - ELEVATION 2 DA
SCALE 1 : 100



6 BRICK SETOUT - ELEVATION 4 DA
SCALE 1 : 100

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REV	DATE	DESCRIPTION	BY
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DAYTON PRIMARY SCHOOL - ADMIN
LOT 557, 11 BLUNDELL STREET DAYTON & LOT 558 ON PLAN 3698
GA BUILDING ELEVATIONS
BUILDING ELEVATIONS

DRAWN	CDG	DESIGNED	CDG
CHECKED	MLM	PRINCIPAL	
APPROVED	SS		
SCALE	As indicated @ A1	DATE	04/05/2021
PROJECT No	15030	DF FILE No	2021/01713

REDUCTION 0 2.5M
DRAWING No. DA1-3100 REV. A

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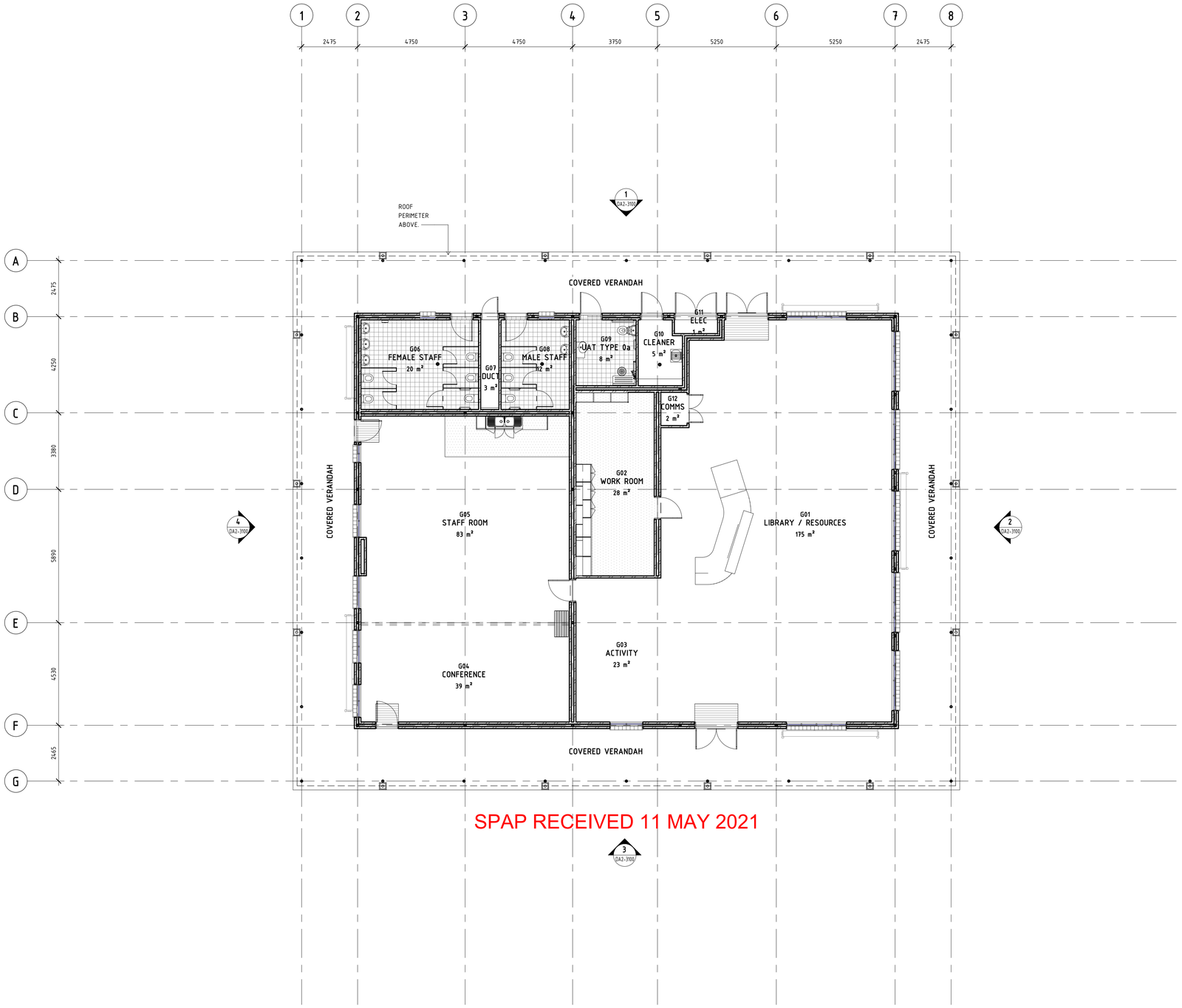

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LOT 557, 11 BLUNDELL STREET DAYTON & LOT 558 ON PLAN 3698

GA FLOOR PLANS

LEVEL GROUND

DRAWN CDG		DESIGNED CDG	REDUCTION 0 2.5M
CHECKED MLM		PRINCIPAL	
APPROVED SS			
SCALE As indicated @ A1		DATE 04/05/2021	DRAWING No. DA2-2101 REV. A
PROJECT No 15030		DF FILE No 2021/01713	

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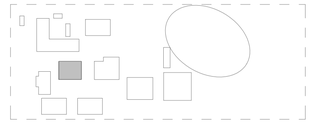
NOTE: TO BE READ IN CONJUNCTION WITH EXTERIOR FINISHES SCHEDULE DA0-8300



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GA FLOOR PLANS

LEVEL ROOF

DRAWN CDG		DESIGNED CDG	REDUCTION 0 2.5M
CHECKED MLM		PRINCIPAL	
APPROVED SS			
SCALE As indicated @ A1		DATE 04/05/2021	DRAWING No. DA2-2103 REV. A
PROJECT No 15030		DF FILE No 2021/01713	

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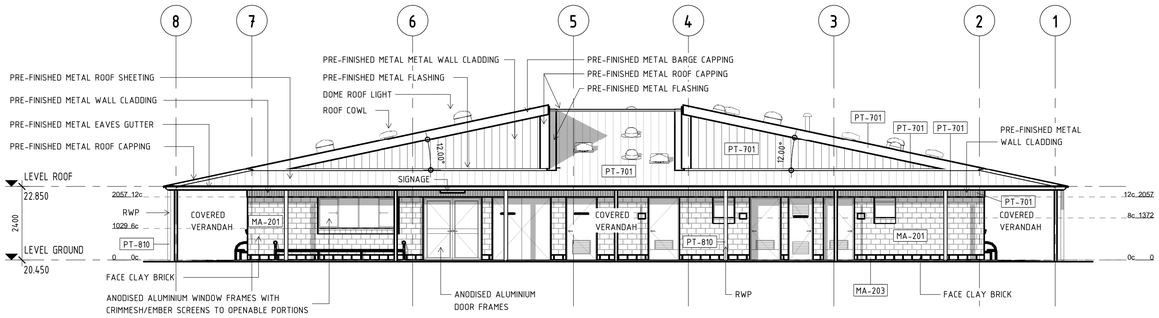
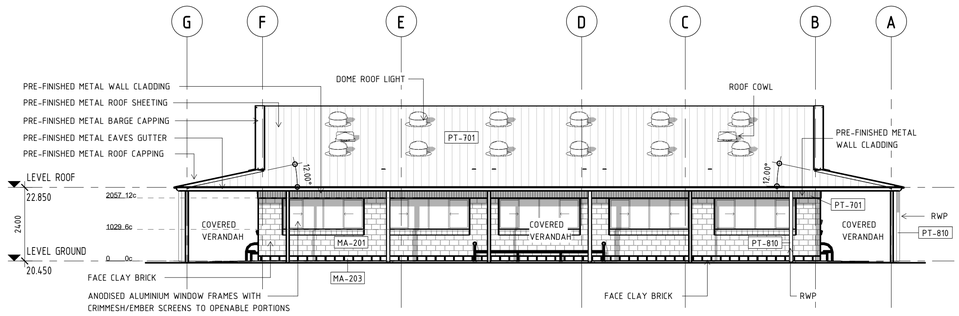
NOTE: TO BE READ IN CONJUNCTION WITH EXTERIOR
FINISHES SCHEDULE DA0-8300



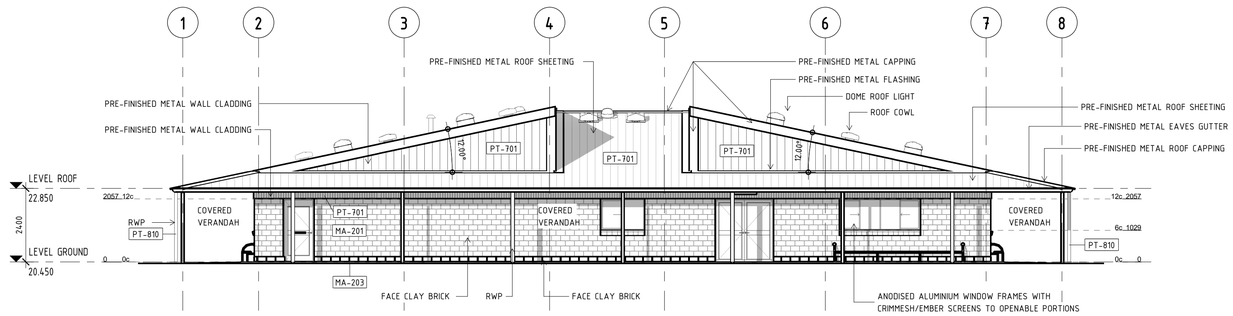
1 DA2-2101 **DA ELEVATION 1 - GA**

SCALE 1 : 100



2 DA2-2101 **DA ELEVATION 2 - GA**

SCALE 1 : 100



3 DA2-2101 **DA ELEVATION 3 - GA**

SCALE 1 : 100

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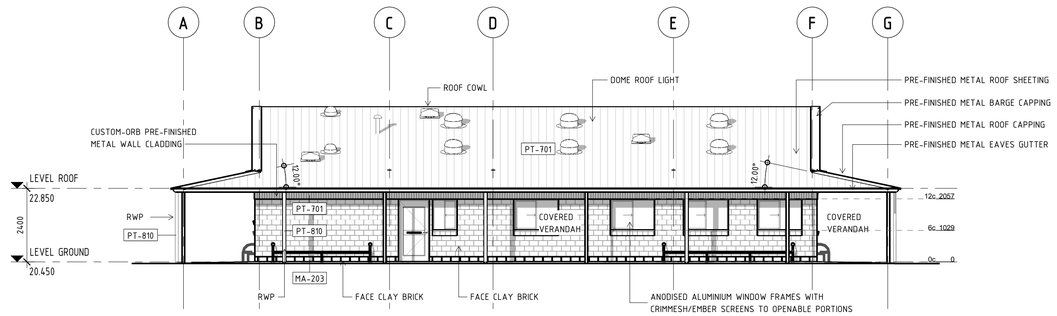

4 DA2-2101 **DA ELEVATION 4 - GA**

SCALE 1 : 100

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A	04/05/2021	DEVELOPMENT APPLICATION	MLM

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GA BUILDING ELEVATIONS

BUILDING ELEVATIONS

DRAWN CDG	DESIGNED CDG	REDUCTION 0 2.5M	
CHECKED MLM	PRINCIPAL		
APPROVED SS			
SCALE As indicated @ A1	DATE 04/05/2021	DRAWING No. DA2-3100	REV. A
PROJECT No 15030	DF FILE No 2021/01713		

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1 LEVEL GROUND - DA

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GA FLOOR PLANS

LEVEL GROUND

DRAWN CDG		DESIGNED CDG	REDUCTION 0 2.5M
CHECKED MLM		PRINCIPAL	
APPROVED SS			
SCALE As indicated @ A1		DATE 04/05/2021	DRAWING No. DA3-2101 REV. A
PROJECT No 15030		DF FILE No 2021/01713	

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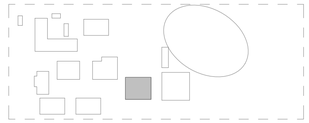
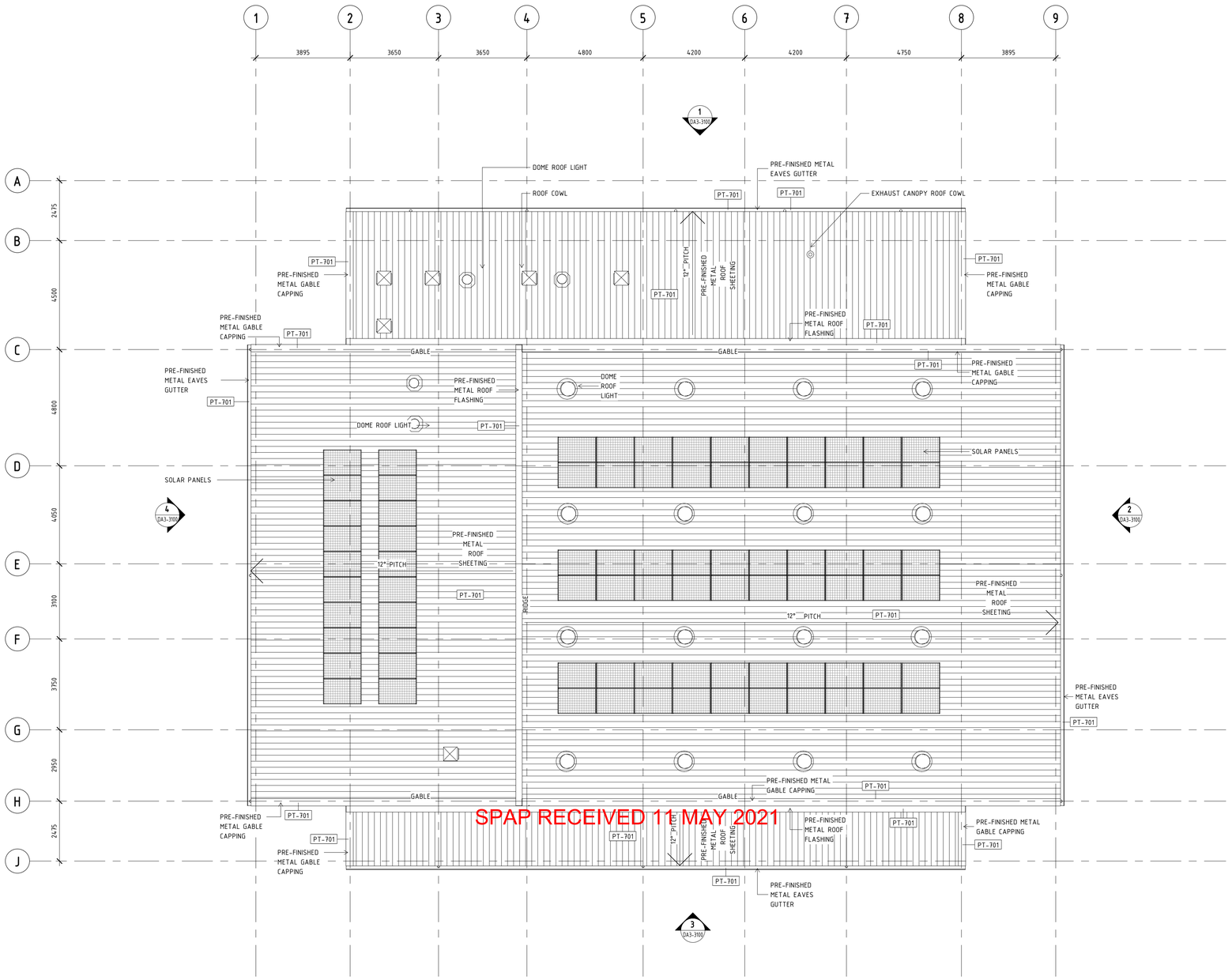
DPSDA3-2101P5

N

NOTE: TO BE READ IN CONJUNCTION WITH EXTERIOR
FINISHES SCHEDULE DA0-8300





1 LEVEL ROOF - DA
SCALE 1 : 100

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REV	DATE	DESCRIPTION	BY
A	04/05/2021	DEVELOPMENT APPROVAL	MLM

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ARCHITECTURAL

DEPARTMENT OF FINANCE

DAYTON PRIMARY SCHOOL - CCA

LOT 557, 11 BLUNDELL STREET DAYTON & LOT 558 ON PLAN 3698

GA FLOOR PLANS

LEVEL ROOF

DRAWN CDG		DESIGNED CDG	REDUCTION 0 2.5M
CHECKED MLM		PRINCIPAL	
APPROVED SS			
SCALE As indicated @ A1		DATE 04/05/2021	DRAWING No. DA3-2103 REV. A
PROJECT No 15030		DF FILE No 2021/01713	

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DPSDA3-2103R5

N

NOTE: TO BE READ IN CONJUNCTION WITH
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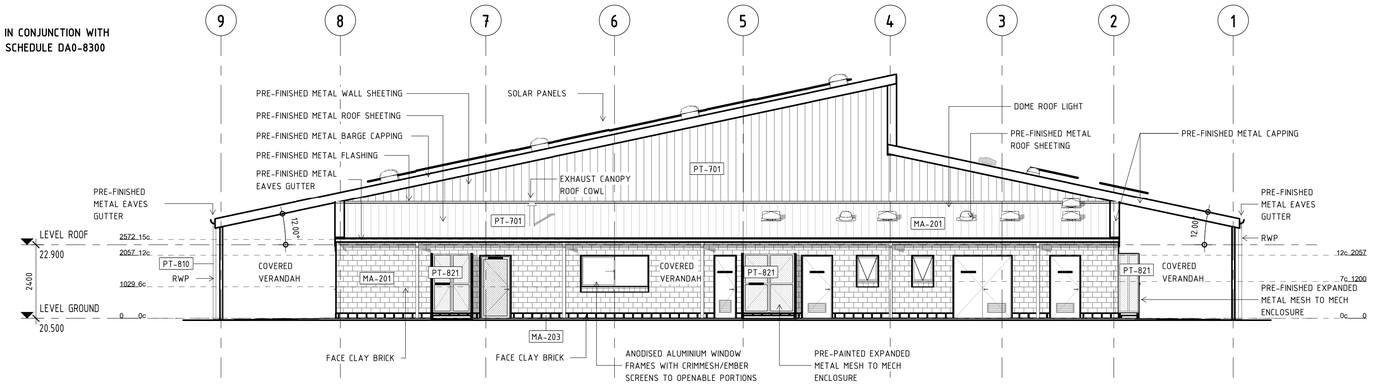
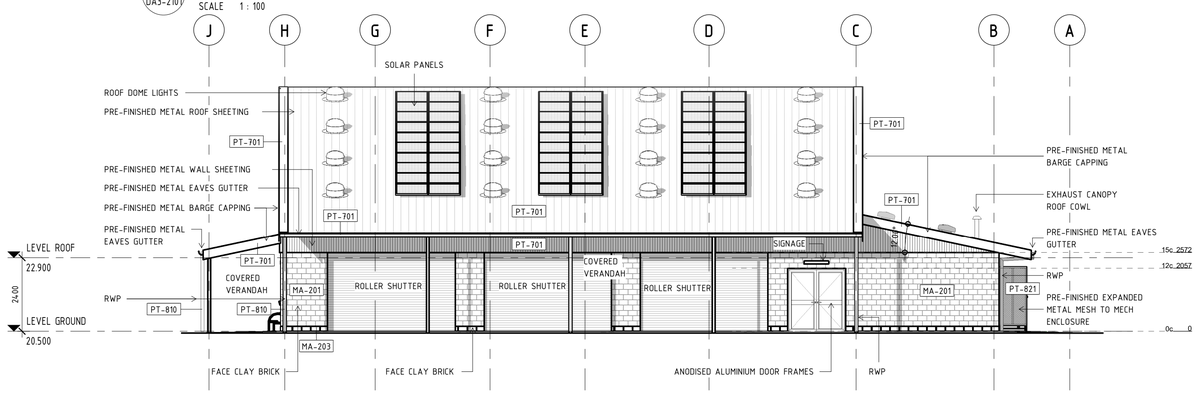


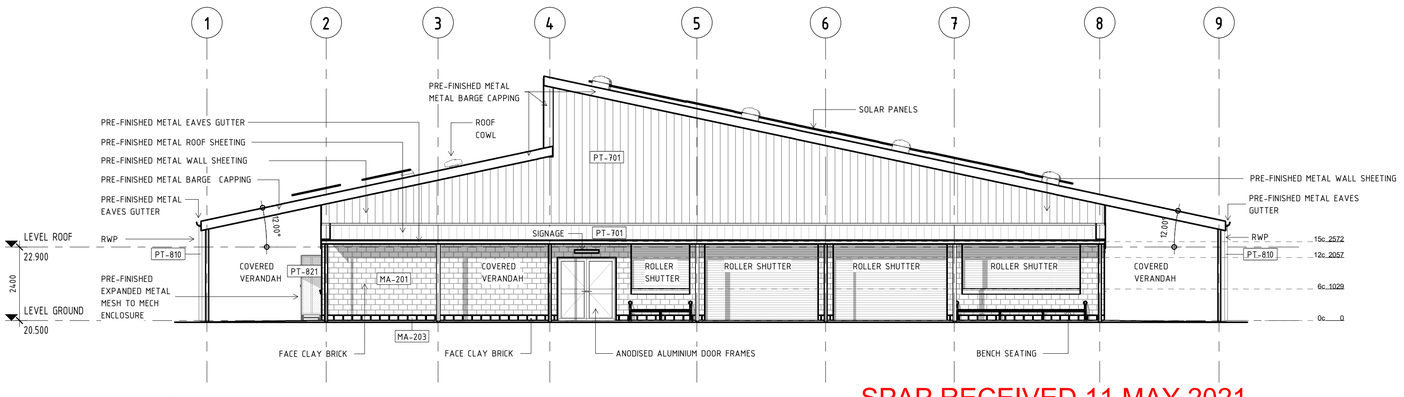
1 DA3-2101 DA ELEVATION 1 - GA

SCALE 1 : 100



2 DA3-2101 DA ELEVATION 2 - GA

SCALE 1 : 100



3 DA3-2101 DA ELEVATION 3 - GA

SCALE 1 : 100

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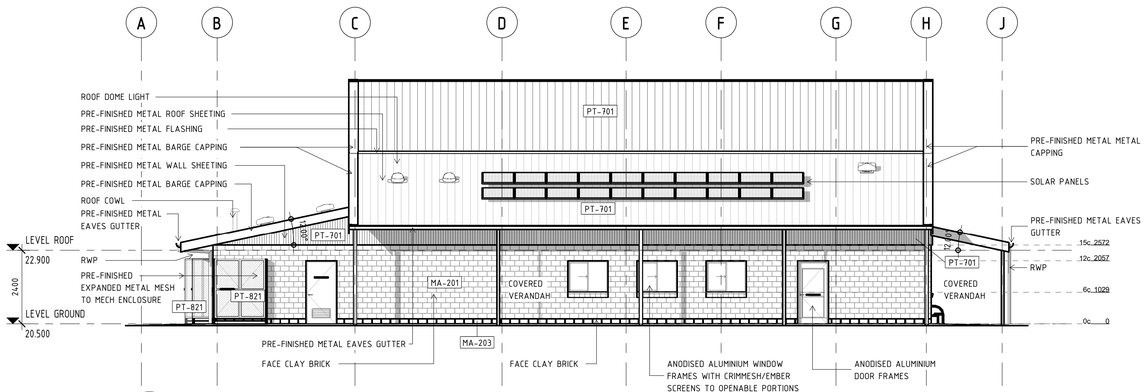

4 DA3-2101 DA ELEVATION 4 - GA

SCALE 1 : 100

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A	04/05/2021	DEVELOPMENT APPROVAL	MLM

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DEPARTMENT OF FINANCE

DAYTON PRIMARY SCHOOL - CCA

LOT 557, 11 BLUNDELL STREET DAYTON & LOT 558 ON PLAN 3698

GA BUILDING ELEVATIONS

BUILDING ELEVATIONS

DRAWN CDG		DESIGNED CDG	REDUCTION 0 2.5M
CHECKED MLM		PRINCIPAL	
APPROVED SS			
SCALE As indicated @ A1		DATE 04/05/2021	DRAWING No. DA3-3100 REV. A
PROJECT No 15030		DF FILE No 2021/01713	

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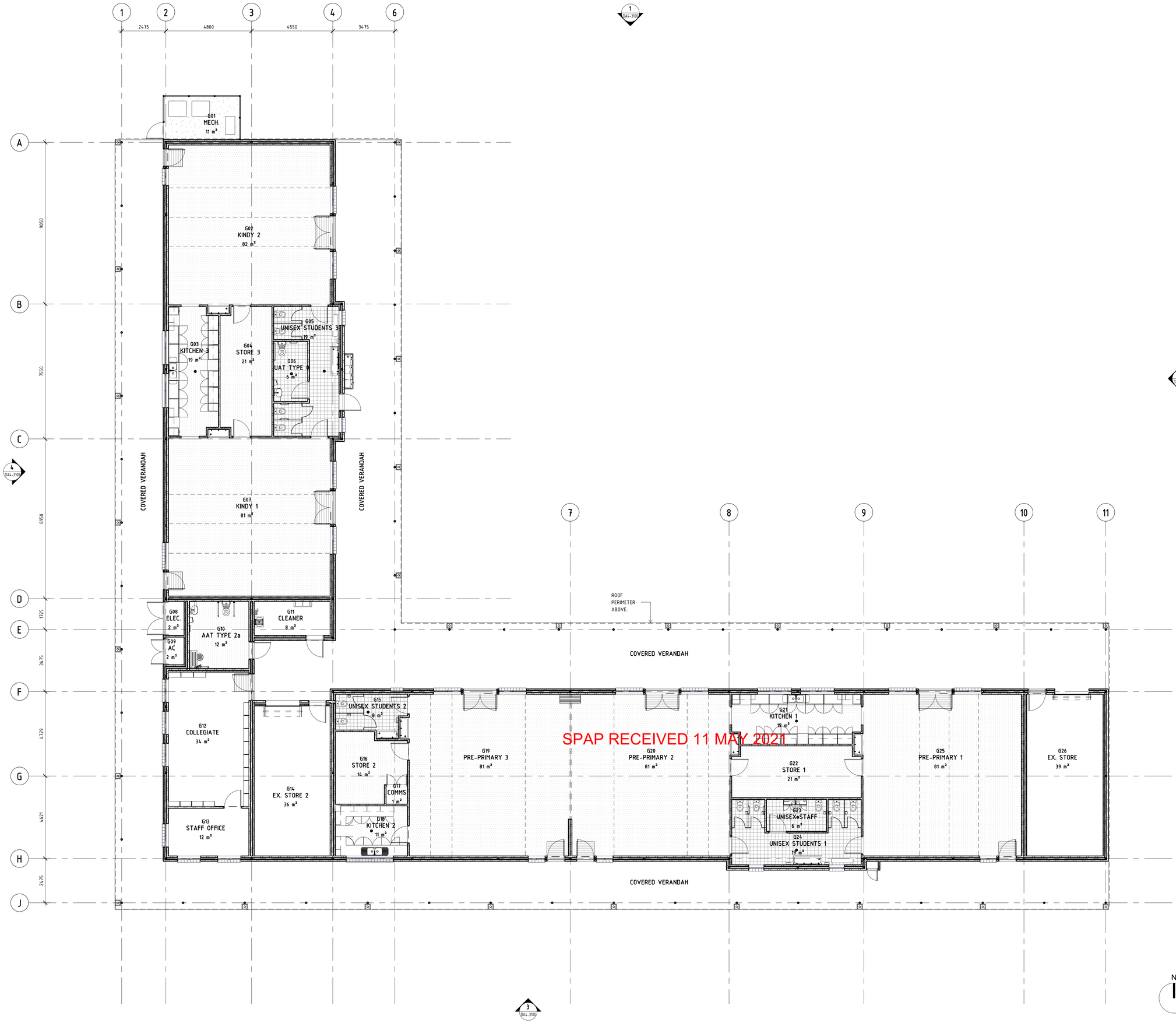

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DAYTON PRIMARY SCHOOL - TB1

LOT 557, 11 BLUNDELL STREET DAYTON & LOT 558 ON PLAN 3698

GA FLOOR PLANS

LEVEL GROUND

DRAWN CDG	DESIGNED CDG	REDUCTION 0 2.5M	
CHECKED MLM	PRINCIPAL		
APPROVED SS			
SCALE As indicated @ A1	DATE 04/05/2021	DRAWING No. DA4-2101	REV. A
PROJECT No 15030	DF FILE No 2021/01713		

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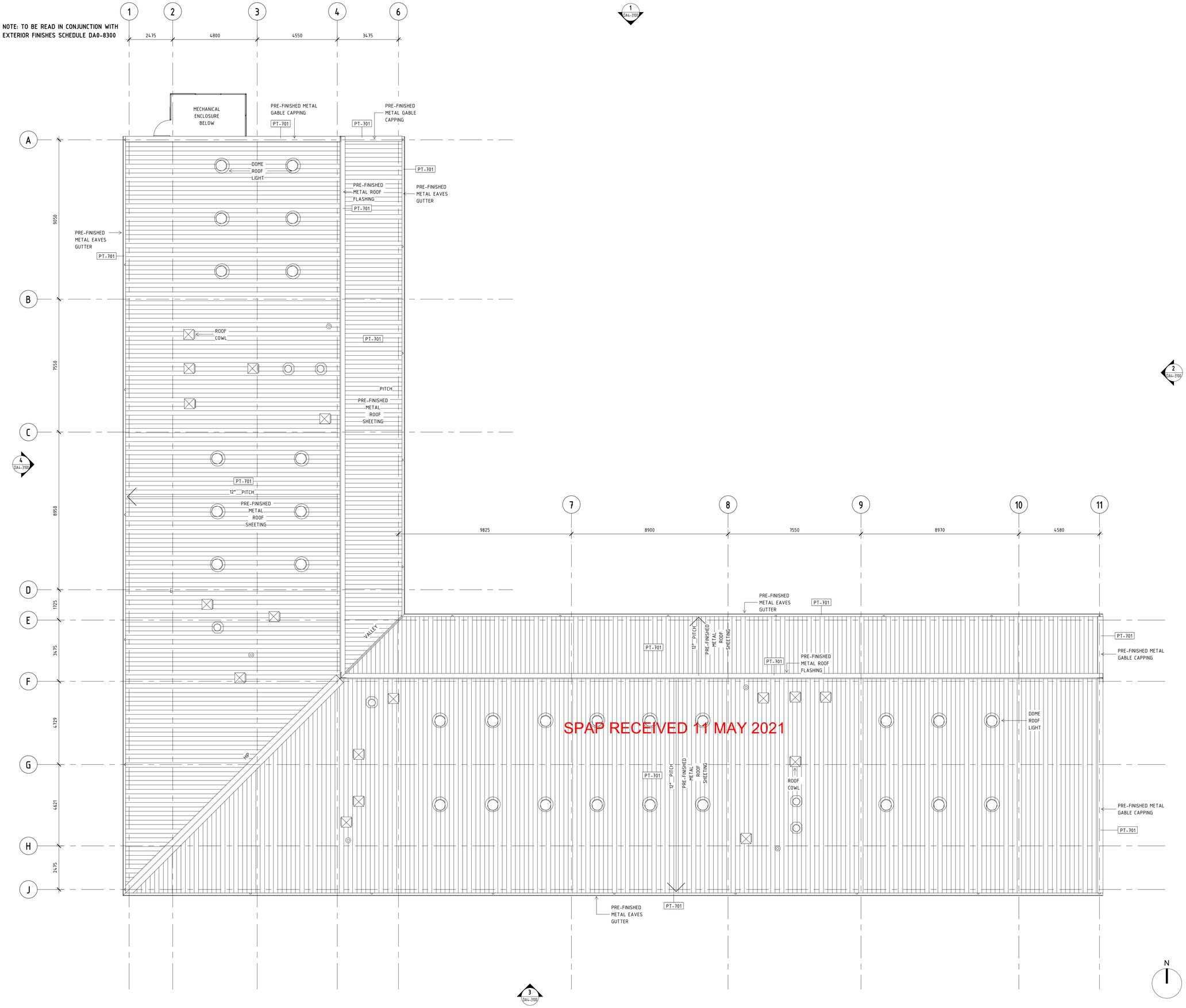
NOTE: TO BE READ IN CONJUNCTION WITH EXTERIOR FINISHES SCHEDULE DA0-8300



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DAYTON PRIMARY SCHOOL - TB1

LOT 557, 11 BLUNDELL STREET DAYTON & LOT 558 ON PLAN 3698

GA FLOOR PLANS

LEVEL ROOF

DRAWN CDG	DESIGNED CDG	REDUCTION 0 2.5M	
CHECKED MLM	PRINCIPAL		
APPROVED SS			
SCALE As indicated @ A1	DATE 04/05/2021	DRAWING No. DA4-2103	REV. A
PROJECT No 15030	DF FILE No 2021/01713		

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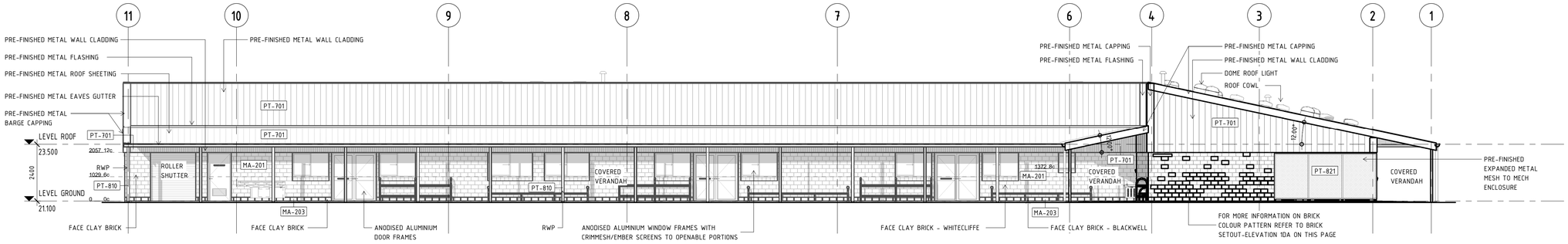
DPSDA4-2103R5



1 DA4-2101 **DA ELEVATION 1 - GA**

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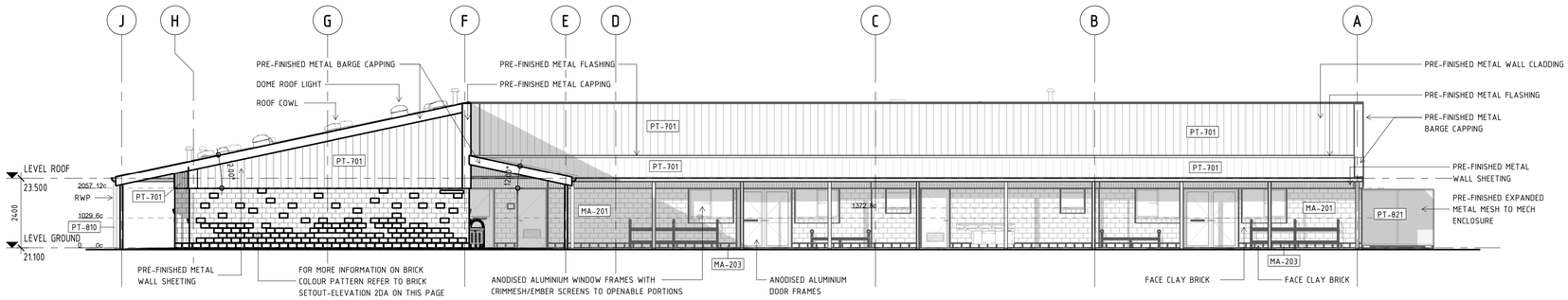
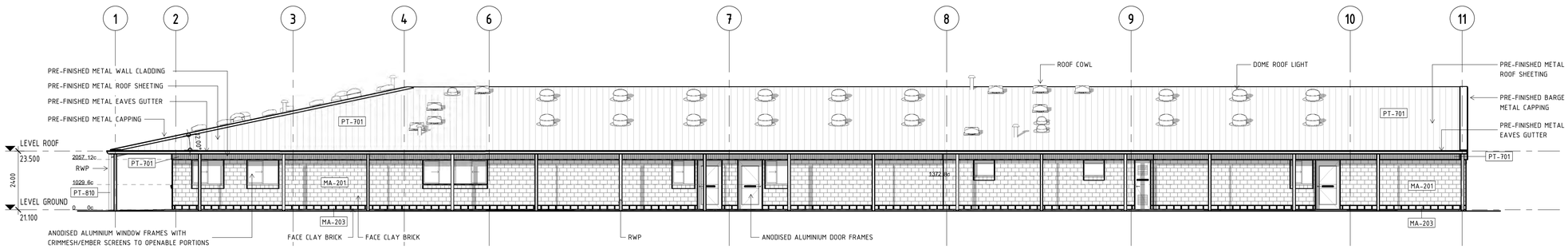


2 DA4-2101 **DA ELEVATION 2 - GA**

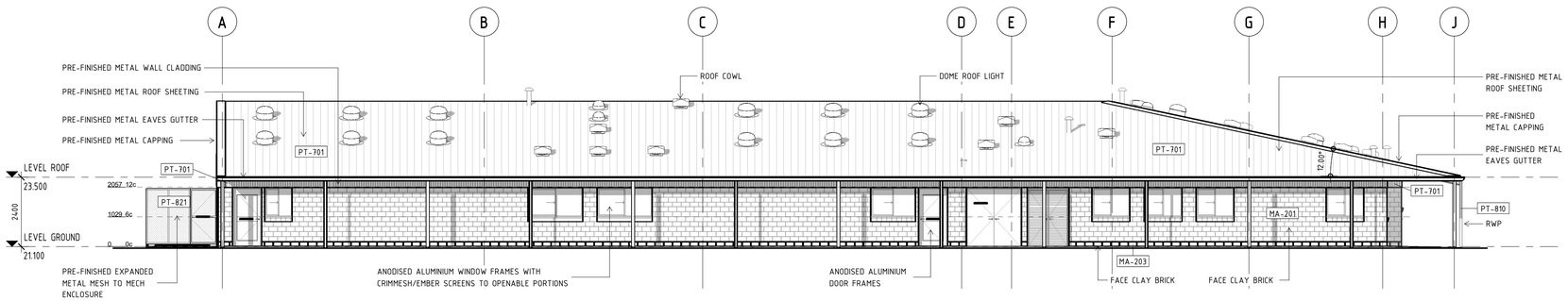
SCALE 1 : 100



3 DA4-2101 **DA ELEVATION 3 - GA**

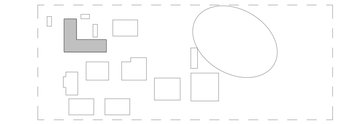
SCALE 1 : 100

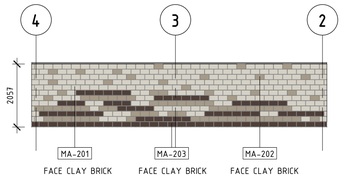
SPAP RECEIVED 11 MAY 2021



4 DA4-2101 **DA ELEVATION 4 - GA**

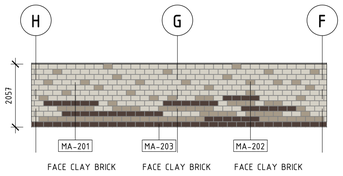
SCALE 1 : 100





5 **BRICK SETOUT - ELEVATION 1 DA**

SCALE 1 : 100



6 **BRICK SETOUT - ELEVATION 2 DA**

SCALE 1 : 100

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A	04/05/2021	DEVELOPMENT APPLICATION	MLM

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DAYTON PRIMARY SCHOOL - TB1

LOT 557, 11 BLUNDELL STREET DAYTON & LOT 558 ON PLAN 3698

GA BUILDING ELEVATIONS

BUILDING ELEVATIONS

DRAWN CDG	DESIGNED CDG	REDUCTION 0 2.5M	
CHECKED MLM	PRINCIPAL		
APPROVED SS			
SCALE As indicated @ A1	DATE 04/05/2021	DRAWING No. DA4-3100	REV. A
PROJECT No 15030	DF FILE No 2021/01713		

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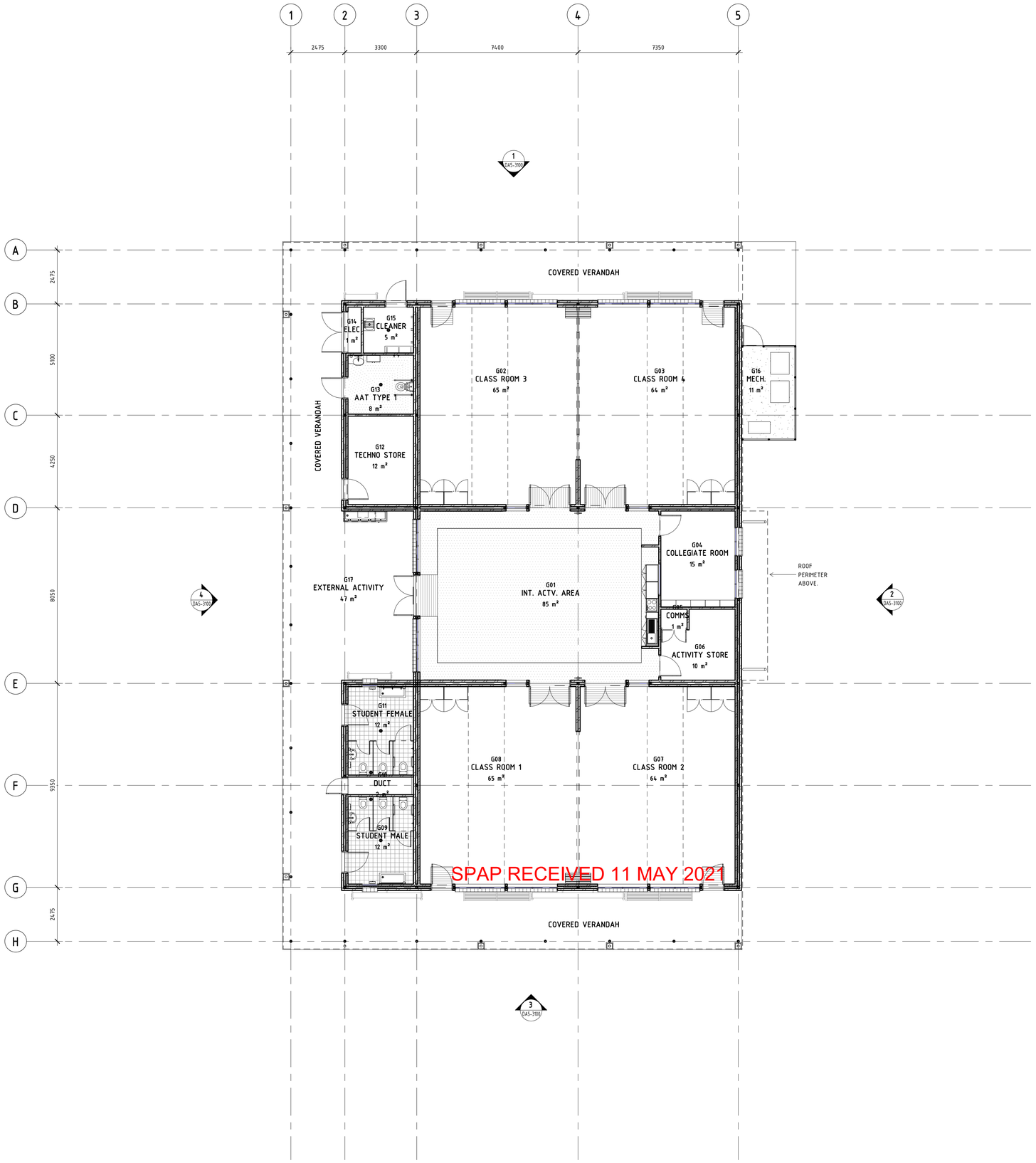
NOTE: TO BE READ IN CONJUNCTION WITH EXTERIOR FINISHES SCHEDULE DA0-8300



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DAYTON PRIMARY SCHOOL - TB234

LOT 557, 11 BLUNDELL STREET DAYTON & LOT 558 ON PLAN 3698

GA FLOOR PLANS

LEVEL GROUND

DRAWN CDG		DESIGNED CDG	REDUCTION 0 2.5M
CHECKED MLM		PRINCIPAL	
APPROVED SS			
SCALE As indicated @ A1		DATE 04/05/2021	DRAWING No. DA5-2101 REV. A
PROJECT No 15030		DF FILE No 2021/01713	

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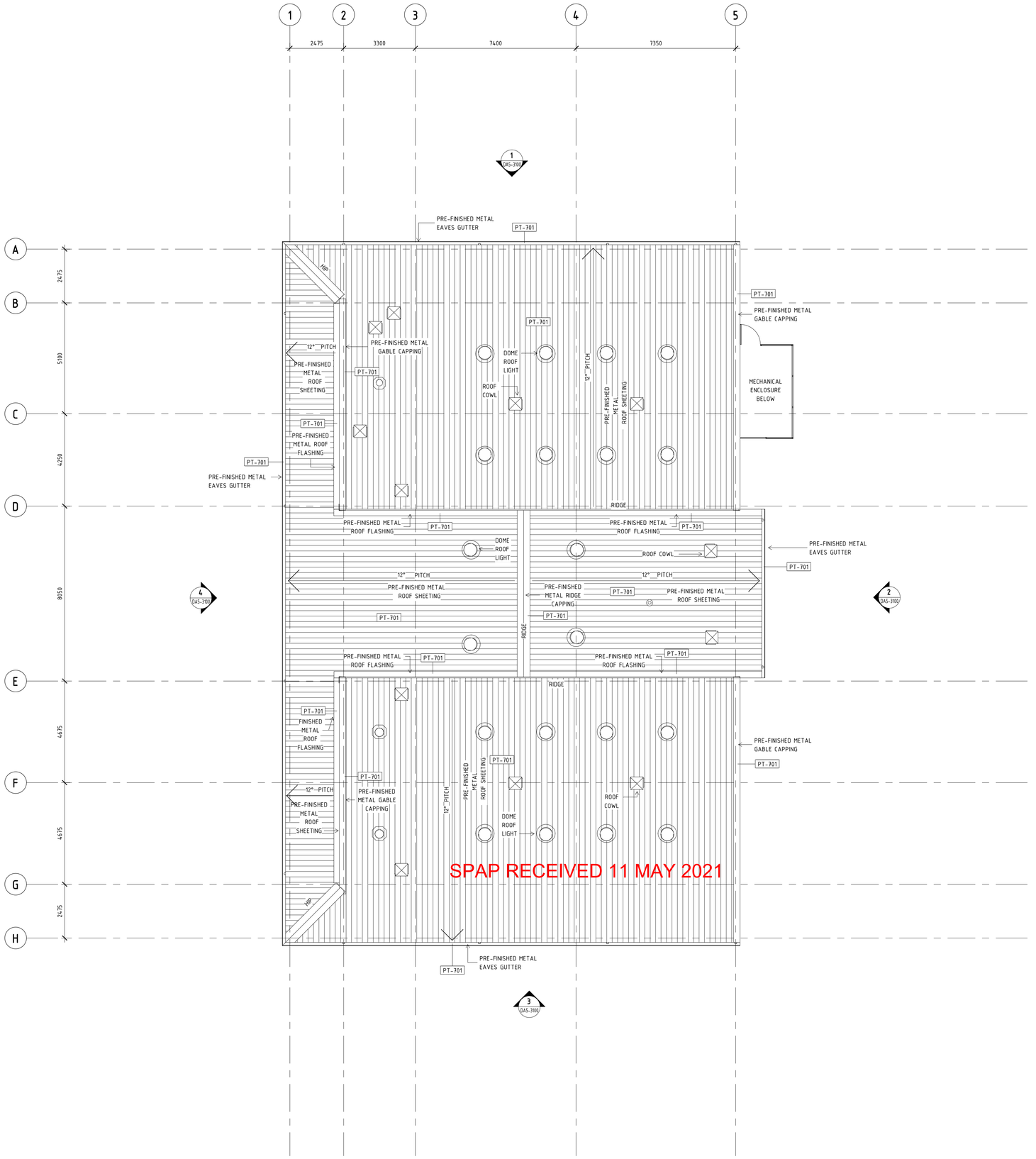
DPSDA5-2101P5

NOTE: TO BE READ IN CONJUNCTION WITH EXTERIOR FINISHES SCHEDULE DA0-8300



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DAYTON PRIMARY SCHOOL - TB234

LOT 557, 11 BLUNDELL STREET DAYTON & LOT 558 ON PLAN 3698

GA FLOOR PLANS

LEVEL ROOF

DRAWN CDG		DESIGNED CDG	REDUCTION 0 2.5M
CHECKED MLM		PRINCIPAL	
APPROVED SS			
SCALE As indicated @ A1		DATE 04/05/2021	DRAWING No. DA5-2103 REV. A
PROJECT No 15030		DF FILE No 2021/01713	

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NOTE: TO BE READ IN CONJUNCTION WITH
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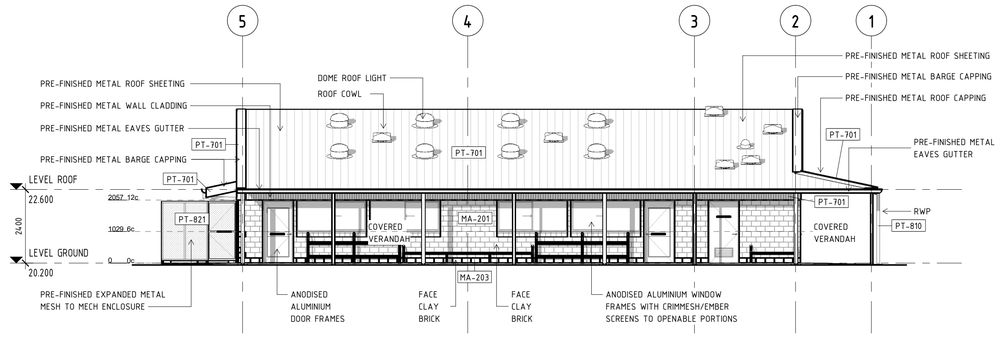

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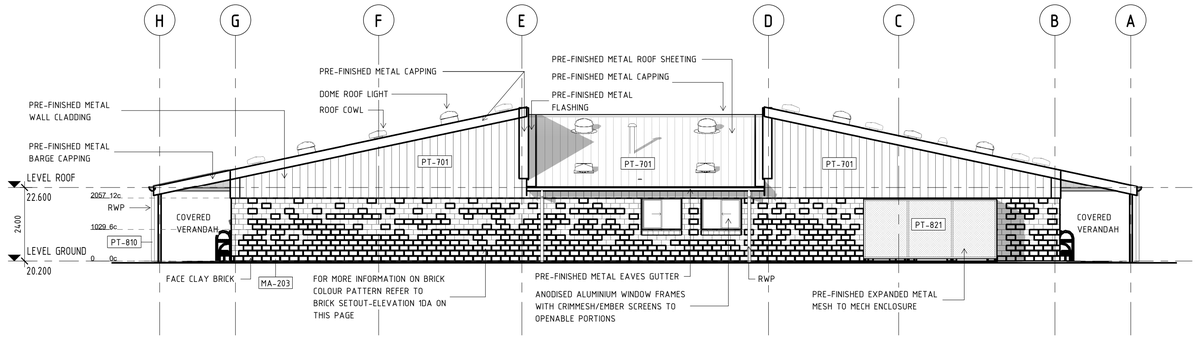
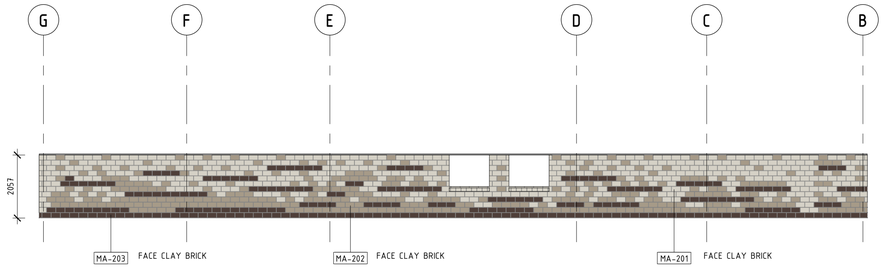


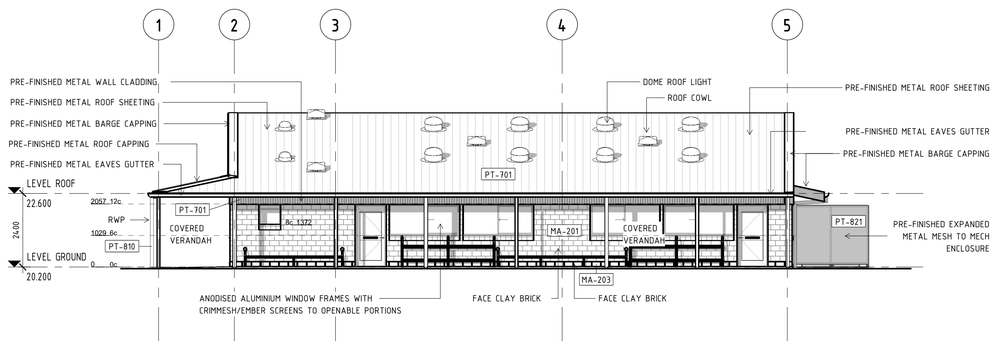
2 DA5-2101 **DA ELEVATION 2 - GA**

SCALE 1 : 100



5 **BRICK SETOUT - ELEVATION 1 DA**

SCALE 1 : 100



3 DA5-2101 **DA ELEVATION 3 - GA**

SCALE 1 : 100

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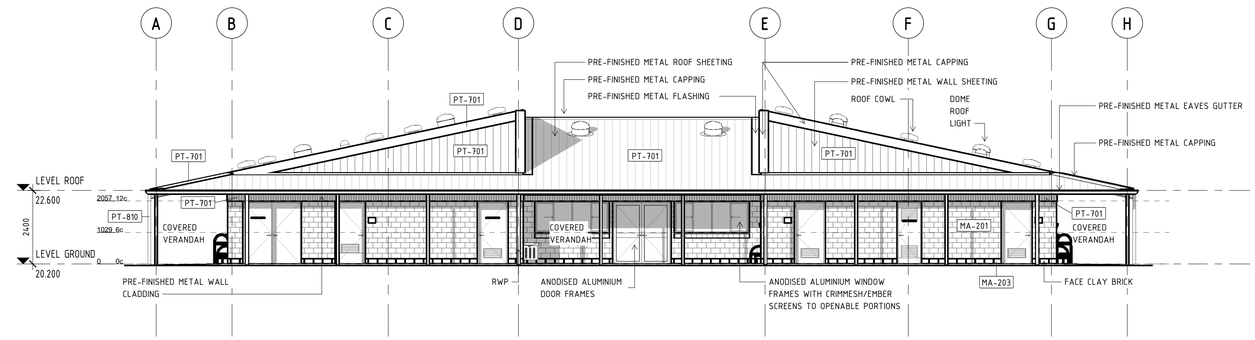

4 DA5-2101 **DA ELEVATION 4 - GA**

SCALE 1 : 100

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DAYTON PRIMARY SCHOOL - TB234

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GA BUILDING ELEVATIONS

BUILDING ELEVATIONS

DRAWN CDG		DESIGNED CDG	REDUCTION 0 2.5M
CHECKED MLM		PRINCIPAL	
APPROVED SS			
SCALE As indicated @ A1		DATE 04/05/2021	DRAWING No. DA5-3100 REV. A
PROJECT No 15030		DF FILE No 2021/01713	

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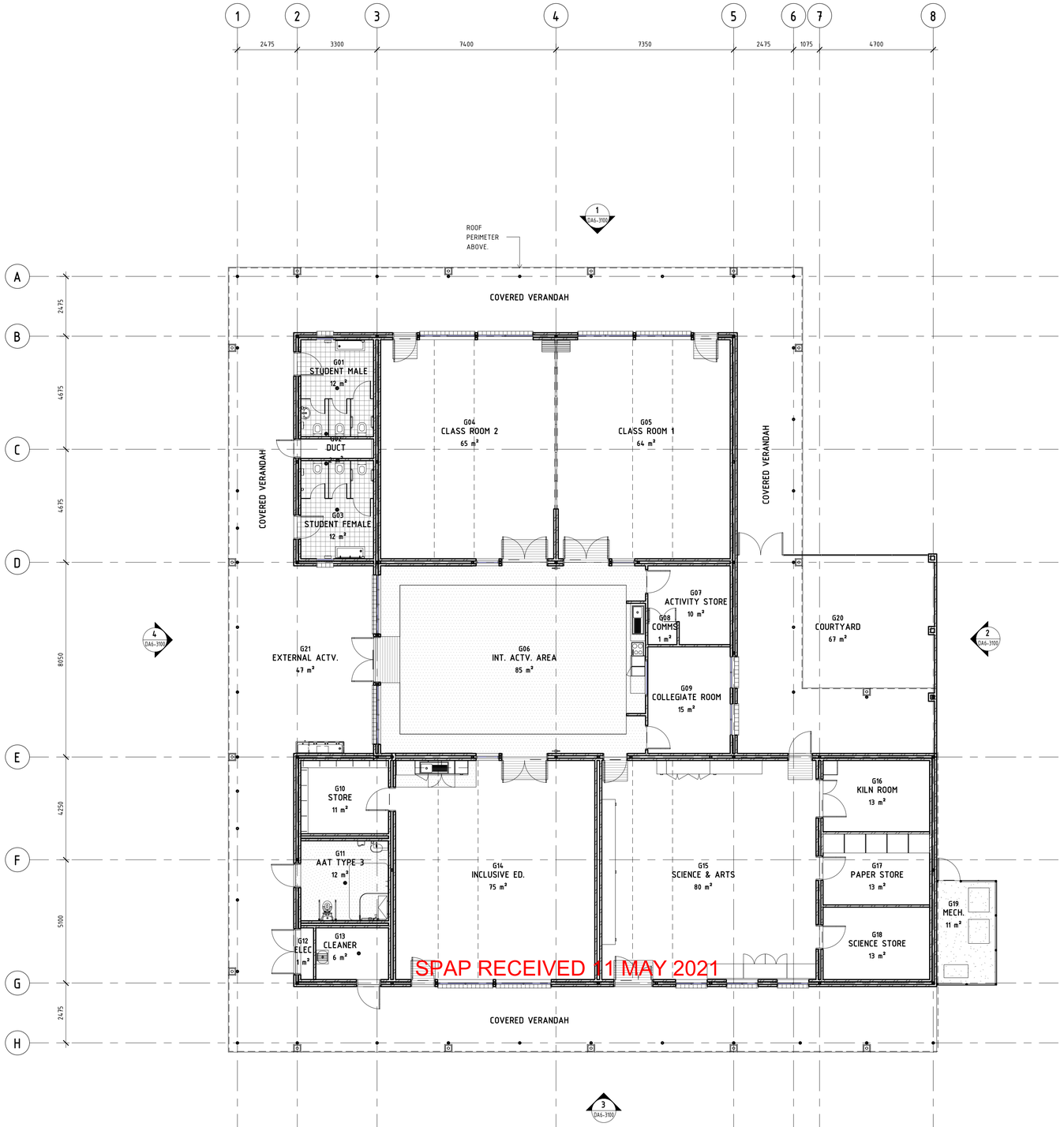

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DAYTON PRIMARY SCHOOL - TB5

LOT 557, 11 BLUNDELL STREET DAYTON & LOT 558 ON PLAN 3698

GA FLOOR PLANS

LEVEL GROUND

DRAWN CDG		DESIGNED CDG	REDUCTION 0 2.5M
CHECKED MLM		PRINCIPAL	
APPROVED SS			
SCALE As indicated @ A1		DATE 04/05/2021	DRAWING No. DA6-2101 REV. A
PROJECT No 15030		DF FILE No 2021/01713	

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DPSDA6-2101P5

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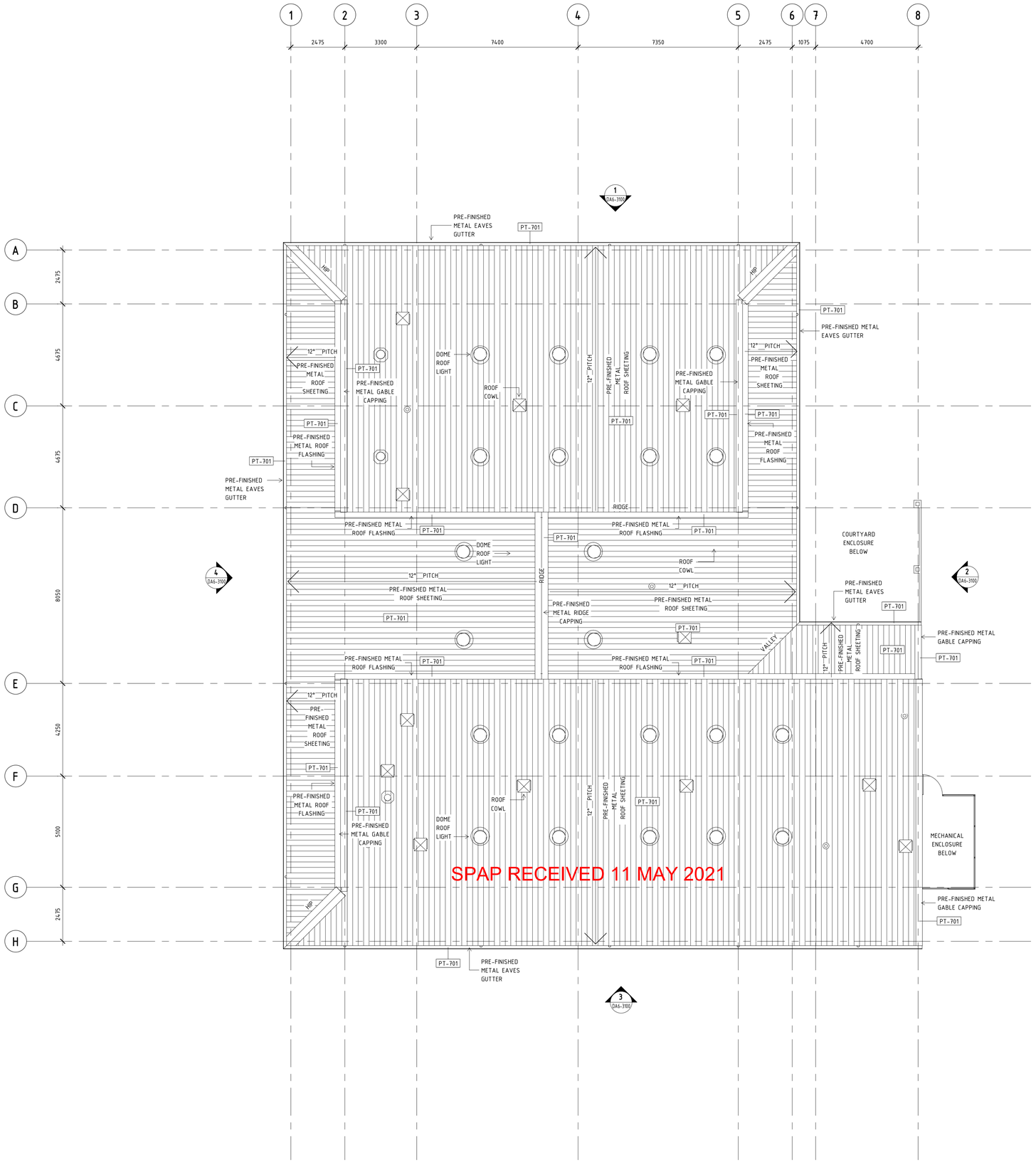

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DAYTON PRIMARY SCHOOL - TB5

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GA FLOOR PLANS

LEVEL ROOF

DRAWN CDG		DESIGNED CDG	REDUCTION 0 2.5M
CHECKED MLM		PRINCIPAL	
APPROVED SS			
SCALE As indicated @ A1		DATE 04/05/2021	DRAWING No. DA6-2103 REV. A
PROJECT No 15030		DF FILE No 2021/01713	

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DPSDA6-2103R5

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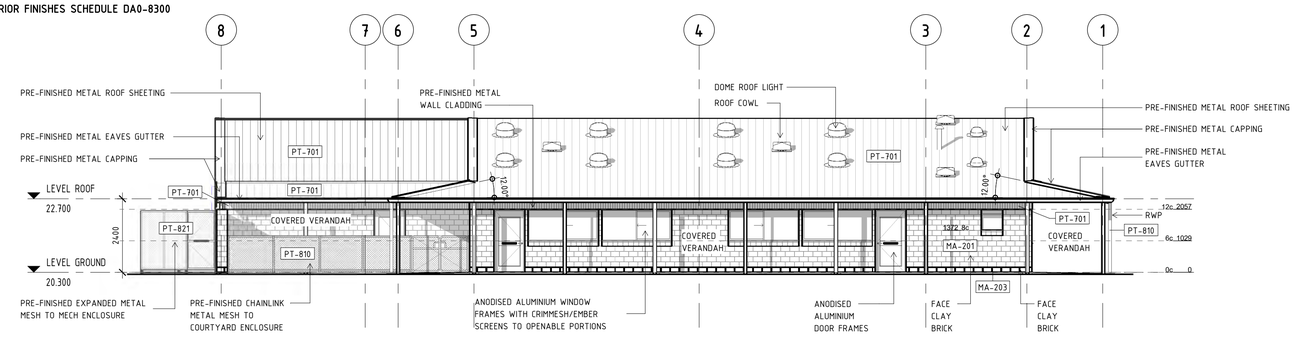
EXTERIOR FINISHES SCHEDULE DA0-8300



1 DA6-2101 **DA ELEVATION 1 - GA**

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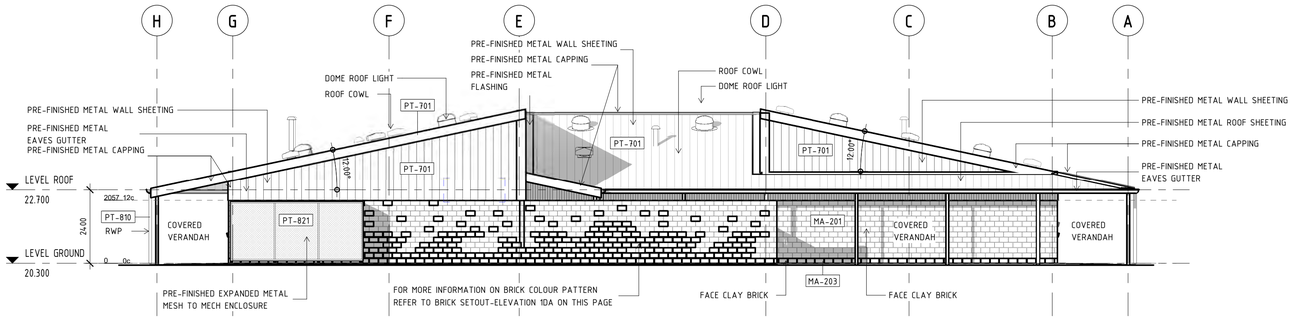
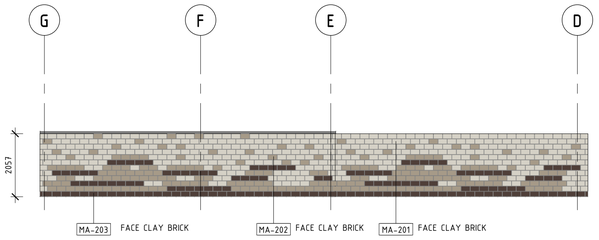


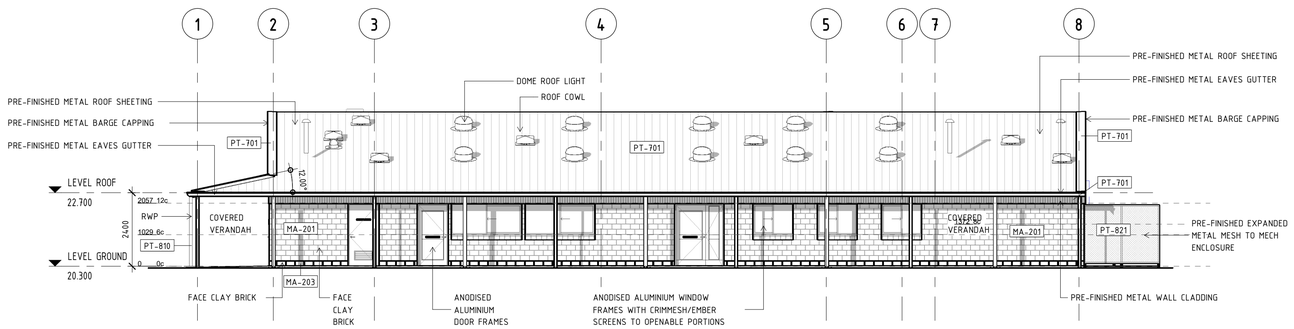
2 DA6-2101 **DA ELEVATION 2 - GA**

SCALE 1 : 100



5 **BRICK SETOUT - ELEVATION 1 DA**

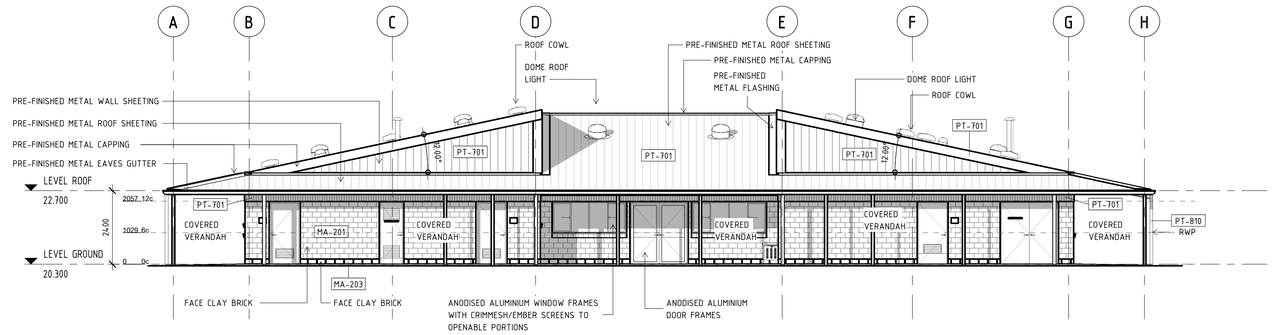
SCALE 1 : 100



3 DA6-2101 **DA ELEVATION 3 - GA**

SCALE 1 : 100

SPAP RECEIVED 11 MAY 2021



4 DA6-2101 **DA ELEVATION 4 - GA**

SCALE 1 : 100

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY
A	04/05/2021	DEVELOPMENT APPLICATION	MLM

CHRISTOU
ARCHITECTURE / URBAN DESIGN / INTERIOR DESIGN

12 GUGERI STREET
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ACN 152 933 885

Government of **Western Australia**
Department of **Finance**
Buildings and Contracts

ARCHITECTURAL

DEPARTMENT OF FINANCE

DAYTON PRIMARY SCHOOL - TB5

LOT 557, 11 BLUNDELL STREET DAYTON & LOT 558 ON PLAN 3698

GA BUILDING ELEVATIONS

BUILDING ELEVATIONS

DRAWN CDG	DESIGNED CDG	REDUCTION 0 2.5M	
CHECKED MLM	PRINCIPAL		
APPROVED SS			
SCALE As indicated @ A1	DATE 04/05/2021	DRAWING No. DA6-3100	REV. A
PROJECT No 15030	DF FILE No 2021/01713		

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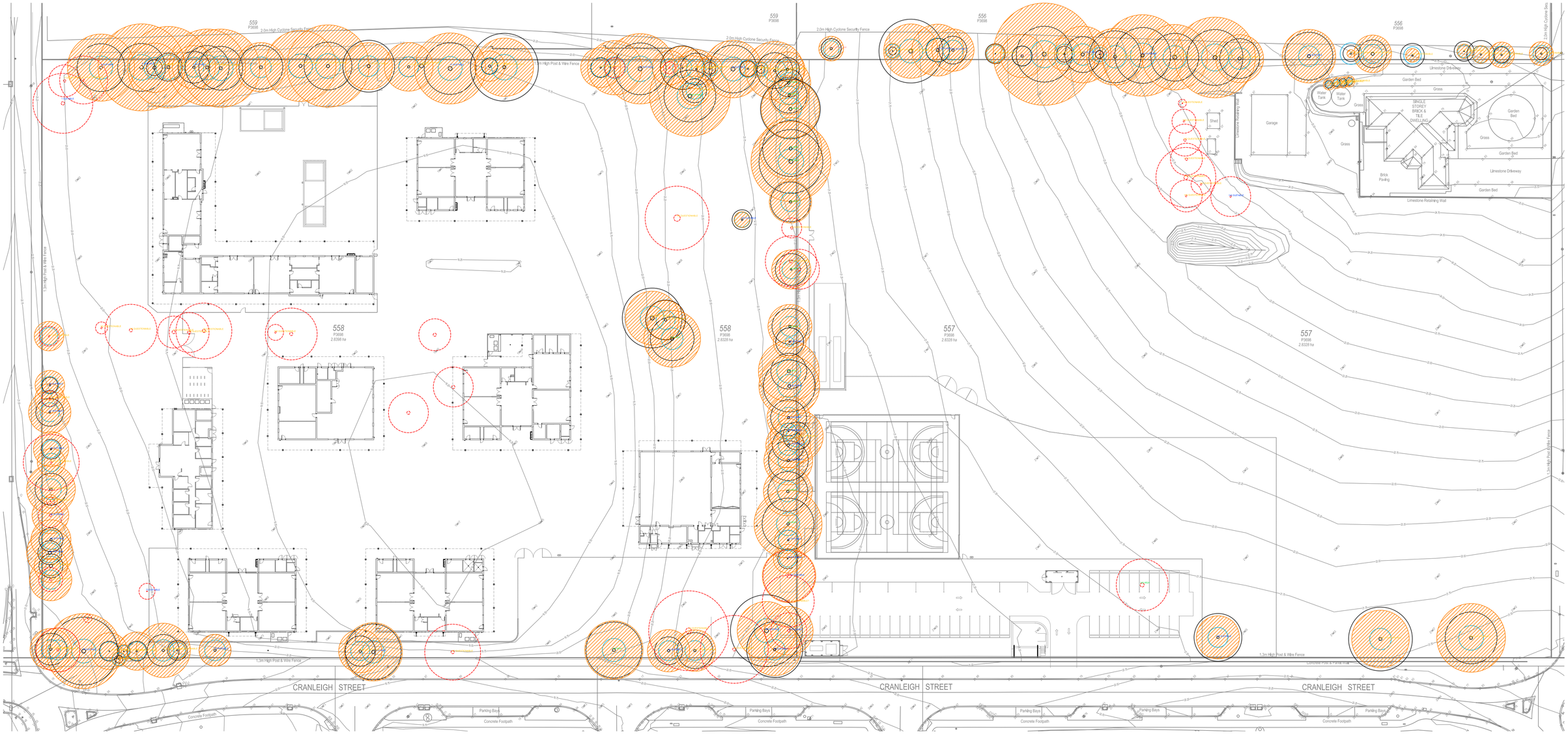
DO NOT AMEND MANUALLY

DPSDA6-3100E5



NOTE: REFER LANDSCAPE SPECIFICATION FOR TREES TO BE REMOVED AND WORKING WITHIN TREE PROTECTED AND STRUCTURAL ROOT ZONE

SPAP RECEIVED 9 JULY 2021

LEGEND:

- EXISTING TREES TO BE RETAINED WITH REFERENCE NUMBER AND SUITABILITY - REFER ARBORICULTURAL REPORT
- EXISTING TREES TO BE REMOVED WITH REFERENCE NUMBER. REFER SCHEDULE AND ARBORICULTURAL REPORT
- STRUCTURAL ROOT ZONE (SRZ)
- TREE PROTECTION ZONE (TPZ)
- SUITABLE TREE - REFER L02 FOR EXISTING TREE SCHEDULE AND ARBORICULTURAL REPORT
- QUESTIONABLE TREE - REFER L02 FOR EXISTING TREE SCHEDULE AND ARBORICULTURAL REPORT
- VERY LOW RETENTION VALUE TREE (REMOVE) - REFER L02 FOR EXISTING TREE SCHEDULE AND ARBORICULTURAL REPORT
- HIGH RETENTION VALUE TREE - REFER L02 FOR EXISTING TREE SCHEDULE AND ARBORICULTURAL REPORT

REV	AMENDMENT	DATE	CHKD
G	ISSUE FOR BOQ	25.06.2021	TC
F	ISSUE FOR 80% DESIGN DOCUMENTATION	18.06.2021	TC
E	ISSUE FOR 50% DESIGN DOCUMENTATION	02.06.2021	TC
D	ISSUE FOR DESIGN DEVELOPMENT	30.04.2021	TC
C	ISSUE FOR DEVELOPMENT APPLICATION	21.04.2021	TC
B	ISSUE FOR SCHEMATIC DESIGN	12.03.2021	TC
A	ISSUE FOR INFORMATION	25.02.2021	TC

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Government of Western Australia
Department of Finance
Buildings & Contracts

ISSUE FOR BOQ

DEPARTMENT OF EDUCATION

DAYTON PRIMARY SCHOOL

EXISTING TREE PLAN

DRAWN	4LS	DESIGNED	4LS	REDUCTION 0 12500
CHECKED	AT	PRINCIPAL		
APPROVED	AT			
SCALE 1 : 500 @ A1		DATE JUNE 2021		DRAWING NO. L01 REV NO. G
DF PROJ NO. XXXXX		DF FILE NO. 202X/XXXXX		

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DO NOT AMEND MANUALLY

EXISTING TREE SCHEDULE

TREE NUMBER	BOTANICAL NAME	HEIGHT	TREE PROTECTION ZONE (TPZ)	STRUCTURAL ROOT ZONE (SRZ)	ORIGIN	RETAIN / REMOVE
1	EUCALYPTUS RUDIS	17M	9.2M	3.1M	WA NATIVE	REMOVE
2	EUCALYPTUS RUDIS	10M	6.8M	2.7M	WA NATIVE	RETAIN
3	EUCALYPTUS RUDIS	8M	4.3M	2.4M	WA NATIVE	RETAIN
4	EUCALYPTUS RUDIS	16M	8.4M	2.9M	WA NATIVE	RETAIN
5	EUCALYPTUS RUDIS	14M	10.9M	3.2M	WA NATIVE	RETAIN
6	EUCALYPTUS SIDEROXYLON	9M	6.2M	2.6M	AUS NATIVE	RETAIN
7	EUCALYPTUS SIDEROXYLON	14M	10.2M	3.1M	AUS NATIVE	RETAIN
8	EUCALYPTUS RUDIS	14M	5.4M	2.5M	WA NATIVE	RETAIN
9	EUCALYPTUS SIDEROXYLON	14M	9.6M	3.1M	AUS NATIVE	RETAIN
10	EUCALYPTUS SIDEROXYLON	14M	9.8M	3.1M	AUS NATIVE	RETAIN
11	EUCALYPTUS RUDIS	14M	6.2M	2.6M	WA NATIVE	RETAIN
12	EUCALYPTUS RUDIS	18M	8.9M	3.0M	WA NATIVE	RETAIN
13	EUCALYPTUS RUDIS	18M	10.3M	3.1M	WA NATIVE	RETAIN
14	EUCALYPTUS RUDIS	12M	5.9M	2.6M	WA NATIVE	RETAIN
15	EUCALYPTUS SIDEROXYLON	9M	6.1M	2.5M	AUS NATIVE	RETAIN
16	EUCALYPTUS RUDIS	17M	5.5M	3.1M	WA NATIVE	RETAIN
17	EUCALYPTUS RUDIS	17M	8.9M	3.0M	WA NATIVE	RETAIN
18	EUCALYPTUS SIDEROXYLON	6M	3.8M	2.1M	AUS NATIVE	RETAIN
19	EUCALYPTUS RUDIS	12M	7.3M	3.2M	WA NATIVE	RETAIN
20	EUCALYPTUS RUDIS	6M	5.0M	2.4M	WA NATIVE	RETAIN
21	EUCALYPTUS RUDIS	6M	6.8M	2.7M	WA NATIVE	REMOVE
22	EUCALYPTUS SIDEROXYLON	18M	8.8M	3.2M	AUS NATIVE	RETAIN
23	EUCALYPTUS RUDIS	9M	4.3M	2.3M	WA NATIVE	REMOVE
24	EUCALYPTUS RUDIS	9M	5.5M	2.4M	WA NATIVE	RETAIN
25	EUCALYPTUS RUDIS	10M	4.9M	2.4M	WA NATIVE	RETAIN
26	EUCALYPTUS RUDIS	8M	3.1M	2.0M	WA NATIVE	RETAIN
27	CORYMBIA CITRIODORA	11M	3.7M	2.1M	AUS NATIVE	RETAIN
28	EUCALYPTUS RUDIS	18M	10.1M	3.2M	WA NATIVE	RETAIN
29	EUCALYPTUS RUDIS	18M	7.2M	3.0M	WA NATIVE	RETAIN
30	EUCALYPTUS RUDIS	8M	1.9M	2.2M	WA NATIVE	RETAIN
31	EUCALYPTUS RUDIS	8M	1.9M	1.7M	WA NATIVE	RETAIN
32	EUCALYPTUS SIDEROXYLON	14M	7.3M	2.8M	AUS NATIVE	RETAIN
33	EUCALYPTUS RUDIS	7M	4.4M	2.4M	WA NATIVE	RETAIN
34	CORYMBIA MACULATA	23M	5.5M	2.6M	AUS NATIVE	RETAIN
35	CORYMBIA MACULATA	23M	4.9M	2.3M	AUS NATIVE	RETAIN
36	CORYMBIA MACULATA	21M	7.3M	2.8M	AUS NATIVE	RETAIN
37	CORYMBIA MACULATA	27M	7.8M	2.8M	AUS NATIVE	RETAIN
38	CORYMBIA MACULATA	27M	10.0M	3.2M	AUS NATIVE	RETAIN
39	CORYMBIA MACULATA	11M	5.3M	2.4M	AUS NATIVE	RETAIN
40	CORYMBIA MACULATA	9M	5.8M	2.5M	AUS NATIVE	REMOVE
41	EUCALYPTUS GRANDIS	26M	6.4M	2.7M	AUS NATIVE	REMOVE
42	CORYMBIA MACULATA	11M	4.9M	2.3M	AUS NATIVE	RETAIN
43	EUCALYPTUS BOTRYOIDES	13M	8.2M	2.9M	AUS NATIVE	REMOVE
44	CORYMBIA MACULATA	16M	5.6M	2.5M	AUS NATIVE	RETAIN
45	CORYMBIA MACULATA	16M	4.1M	2.2M	AUS NATIVE	RETAIN
46	CORYMBIA MACULATA	21M	9.2M	3.0M	AUS NATIVE	RETAIN
47	EUCALYPTUS ROBUSTA	21M	7.6M	2.9M	AUS NATIVE	RETAIN
48	EUCALYPTUS ROBUSTA	15M	5.4M	2.6M	AUS NATIVE	RETAIN
49	CORYMBIA MACULATA	12M	3.2M	2.0M	AUS NATIVE	RETAIN
50	EUCALYPTUS ROBUSTA	9M	6.6M	2.7M	AUS NATIVE	RETAIN
51	EUCALYPTUS ROBUSTA	17M	5.6M	2.5M	AUS NATIVE	RETAIN
52	CORYMBIA MACULATA	17M	6.1M	2.6M	AUS NATIVE	RETAIN
53	CORYMBIA MACULATA	17M	6.1M	2.6M	AUS NATIVE	RETAIN
54	CORYMBIA MACULATA	20M	8.5M	2.9M	AUS NATIVE	RETAIN
55	CORYMBIA CALOPHYLLA	8M	3.4M	2.5M	WA NATIVE	RETAIN
56	CORYMBIA CALOPHYLLA	8M	3.6M	2.1M	WA NATIVE	RETAIN
57	EUCALYPTUS ROBUSTA	16M	6.7M	2.9M	AUS NATIVE	REMOVE
58	EUCALYPTUS RUDIS	14M	7.0M	2.7M	WA NATIVE	REMOVE
59	CORYMBIA MACULATA	20M	6.1M	2.6M	AUS NATIVE	REMOVE
60	EUCALYPTUS RUDIS	16M	7.3M	3.0M	WA NATIVE	RETAIN
61	CORYMBIA MACULATA	18M	6.5M	2.6M	AUS NATIVE	RETAIN
62	CORYMBIA MACULATA	20M	6.1M	3.2M	AUS NATIVE	REMOVE
63	CORYMBIA MACULATA	21M	5.2M	2.5M	AUS NATIVE	RETAIN
64	EUCALYPTUS CAMALDULENSIS 'OBTUSA'	19M	7.4M	3.3M	AUS NATIVE	REMOVE
65	CORYMBIA MACULATA	21M	5.3M	2.5M	AUS NATIVE	RETAIN
66	CORYMBIA MACULATA	20M	7.3M	2.9M	AUS NATIVE	REMOVE
67	CORYMBIA CITRIODORA	15M	5.9M	3.0M	AUS NATIVE	REMOVE
68	CORYMBIA CITRIODORA	18M	7.3M	2.8M	AUS NATIVE	RETAIN
69	CORYMBIA CITRIODORA	11M	3.8M	2.4M	AUS NATIVE	RETAIN
70	CORYMBIA CITRIODORA	14M	4.0M	2.6M	AUS NATIVE	RETAIN
71	CORYMBIA CITRIODORA	9M	2.2M	2.0M	AUS NATIVE	RETAIN
72	CORYMBIA CITRIODORA	12M	6.8M	2.7M	AUS NATIVE	RETAIN
73	CORYMBIA CITRIODORA	11M	2.4M	1.8M	AUS NATIVE	RETAIN
74	CORYMBIA CITRIODORA	12M	4.8M	2.3M	AUS NATIVE	RETAIN
75	CORYMBIA CITRIODORA	7M	1.7M	1.5M	AUS NATIVE	RETAIN
76	CORYMBIA CITRIODORA	9M	1.8M	1.6M	AUS NATIVE	RETAIN
77	CORYMBIA CITRIODORA	7M	4.6M	2.3M	AUS NATIVE	RETAIN
78	CORYMBIA CITRIODORA	5M	1.3M	1.5M	AUS NATIVE	REMOVE
79	EUCALYPTUS RUDIS	16M	9.4M	3.0M	WA NATIVE	RETAIN
80	EUCALYPTUS RUDIS	16M	5.5M	2.5M	WA NATIVE	REMOVE
81	EUCALYPTUS RUDIS	10M	5.2M	2.4M	WA NATIVE	RETAIN
82	CORYMBIA MACULATA	14M	5.3M	2.4M	AUS NATIVE	REMOVE
83	CORYMBIA MACULATA	14M	4.2M	2.4M	AUS NATIVE	RETAIN
84	CORYMBIA MACULATA	16M	5.8M	2.5M	AUS NATIVE	RETAIN
85	CORYMBIA MACULATA	16M	5.0M	2.4M	AUS NATIVE	RETAIN
86	CORYMBIA MACULATA	16M	4.6M	2.4M	AUS NATIVE	REMOVE
87	CORYMBIA MACULATA	7M	1.7M	1.6M	AUS NATIVE	RETAIN
88	CORYMBIA MACULATA	16M	6.1M	2.6M	AUS NATIVE	RETAIN
89	CORYMBIA MACULATA	15M	3.5M	2.3M	AUS NATIVE	REMOVE
90	CORYMBIA MACULATA	15M	4.4M	2.2M	AUS NATIVE	RETAIN
91	CORYMBIA MACULATA	13M	5.3M	2.4M	AUS NATIVE	RETAIN
92	CORYMBIA MACULATA	10M	3.7M	2.1M	AUS NATIVE	REMOVE
93	CORYMBIA MACULATA	13M	3.7M	2.2M	AUS NATIVE	RETAIN
94	CORYMBIA MACULATA	11M	3.7M	2.2M	AUS NATIVE	REMOVE
95	EUCALYPTUS SIDEROXYLON	8M	4.3M	2.2M	AUS NATIVE	REMOVE
96	EUCALYPTUS SIDEROXYLON	11M	11.0M	3.3M	AUS NATIVE	REMOVE
97	EUCALYPTUS SIDEROXYLON	15M	8.9M	3.0M	AUS NATIVE	RETAIN
98	EUCALYPTUS SIDEROXYLON	17M	9.1M	3.1M	AUS NATIVE	RETAIN
99	EUCALYPTUS SIDEROXYLON	15M	10.6M	3.2M	AUS NATIVE	RETAIN
100	EUCALYPTUS SIDEROXYLON	10M	4.8M	2.3M	AUS NATIVE	RETAIN
101	EUCALYPTUS SIDEROXYLON	12M	11.5M	3.3M	AUS NATIVE	RETAIN
102	EUCALYPTUS SIDEROXYLON	12M	10.6M	3.2M	AUS NATIVE	REMOVE
103	MELIA AZEDARACH	9M	4.3M	3.3M	EXOTIC	REMOVE
104	MELIA AZEDARACH	9M	4.0M	2.8M	EXOTIC	REMOVE
105	EUCALYPTUS RUDIS	11M	6.7M	3.0M	WA NATIVE	RETAIN
106	EUCALYPTUS RUDIS	6M	4.9M	2.4M	WA NATIVE	RETAIN
107	CORYMBIA MACULATA	16M	7.1M	2.7M	AUS NATIVE	RETAIN
108	EUCALYPTUS CAMALDULENSIS 'OBTUSA'	17M	9.4M	3.4M	AUS NATIVE	REMOVE
109	EUCALYPTUS RUDIS	7M	2.0M	1.9M	WA NATIVE	RETAIN
110	MELALEUCA ARMILLARIS	5M	3.1M	2.0M	AUS NATIVE	REMOVE
111	EUCALYPTUS ROBUSTA	7M	1.9M	1.7M	AUS NATIVE	RETAIN
112	EUCALYPTUS GRANDIS	21M	6.8M	3.0M	AUS NATIVE	RETAIN
113	EUCALYPTUS ROBUSTA	17M	6.5M	2.9M	AUS NATIVE	RETAIN
114	CORYMBIA MACULATA	19M	5.3M	2.5M	AUS NATIVE	RETAIN
115	EUCALYPTUS RUDIS	4M	2.4M	2.2M	WA NATIVE	RETAIN
116	EUCALYPTUS ROBUSTA	11M	5.4M	2.5M	AUS NATIVE	REMOVE
117	EUCALYPTUS GRANDIS	24M	12.8M	3.4M	AUS NATIVE	RETAIN
118	EUCALYPTUS RUDIS	11M	4.1M	2.5M	WA NATIVE	RETAIN
119	EUCALYPTUS RUDIS	15M	7.1M	2.7M	WA NATIVE	RETAIN
120	EUCALYPTUS RUDIS	6M	2.4M	1.8M	WA NATIVE	REMOVE
121	EUCALYPTUS GRANDIS	25M	7.1M	2.8M	AUS NATIVE	RETAIN
122	EUCALYPTUS GOMPHOCEPHALA	19M	10.2M	3.1M	WA NATIVE	RETAIN
123	EUCALYPTUS GRANDIS	25M	8.2M	2.9M	AUS NATIVE	RETAIN
124	EUCALYPTUS BOTRYOIDES	24M	10.1M	3.4M	AUS NATIVE	RETAIN
125	EUCALYPTUS BOTRYOIDES	18M	6.0M	2.7M	AUS NATIVE	RETAIN
126	EUCALYPTUS MACRANDRA	8M	6.7M	2.6M	WA NATIVE	RETAIN
127	OLEA EUROPAEA	6M	1.0M	2.7M	EXOTIC	RETAIN
128	EUCALYPTUS LEUCOXYLON	7.5M	4.7M	2.4M	AUS NATIVE	RETAIN
129	EUCALYPTUS CAESIA SSP. CAESIA	7.5M	1.7M	2.2M	WA NATIVE	RETAIN
130	ACACIA ITEAPHYLLA	5M	1.8M	1.6M	AUS NATIVE	RETAIN
131	MELALEUCA ARMILLARIS	4.5M	2.2M	2.1M	AUS NATIVE	RETAIN
132	MELALEUCA ARMILLARIS	4.5M	3.2M	2.2M	AUS NATIVE	RETAIN
133	MELALEUCA ARMILLARIS	4.5M	3.0M	2.1M	AUS NATIVE	RETAIN
134	CUPRESSUS SEMPERVIRENS 'STRICTA'	6M	1.4M	1.5M	EXOTIC	RETAIN
135	CUPRESSUS SEMPERVIRENS 'STRICTA'	6M	1.4M	1.5M	EXOTIC	RETAIN
136	CUPRESSUS SEMPERVIRENS 'STRICTA'	6M	1.4M	1.5M	EXOTIC	RETAIN
137	CUPRESSUS SEMPERVIRENS 'STRICTA'	7M	1.4M	1.5M	EXOTIC	RETAIN
138	EUCALYPTUS GRANDIS	7M	1.2M	1.4M	AUS NATIVE	RETAIN
139	EUCALYPTUS GRANDIS	11M	3.2M	2.0M	AUS NATIVE	RETAIN
140	EUCALYPTUS GRANDIS	19M	4.6M	2.3M	AUS NATIVE	RETAIN
141	EUCALYPTUS RUDIS	19M	5.6M	2.5M	AUS NATIVE	RETAIN
142	EUCALYPTUS GRANDIS	25M	10.2M	3.2M	AUS NATIVE	RETAIN
143	EUCALYPTUS RUDIS	15M	4.6M	2.4M	WA NATIVE	REMOVE
144	EUCALYPTUS GRANDIS	9M	2.9M	1.9M	AUS NATIVE	RETAIN
145	MORUS NIGRA	7M	6.2M	2.6M	EXOTIC	RETAIN
146	EUCALYPTUS GRANDIS	16M	8.6M	3.1M	AUS NATIVE	RETAIN
147	EUCALYPTUS GRANDIS	18M	7.2M	2.7M	AUS NATIVE	RETAIN
148	CORYMBIA CALOPHYLLA	11M	5.4M	2.5M	WA NATIVE	RETAIN
149	EUCALYPTUS MARGINATA	11M	6.7M	3.4M	WA NATIVE	RETAIN

LEGEND:

- SUITABLE TREE - REFER L01 FOR EXISTING TREE LOCATION AND ARBORICULTURAL REPORT
- QUESTIONABLE TREE - REFER L01 FOR EXISTING TREE LOCATION AND ARBORICULTURAL REPORT
- VERY LOW RETENTION VALUE TREE (REMOVE) - REFER L01 FOR EXISTING TREE LOCATION AND ARBORICULTURAL REPORT
- HIGH RETENTION VALUE TREE - REFER L01 FOR EXISTING LOCATION AND ARBORICULTURAL REPORT

SPAP RECEIVED 11 MAY 2021

REV	AMENDMENT	DATE	CHKD
C	ISSUE FOR DEVELOPMENT APPLICATION	21.04.2021	TC
B	ISSUE FOR SCHEMATIC DESIGN	12.03.2021	TC
A	ISSUE FOR INFORMATION	25.02.2021	TC

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Government of Western Australia
Department of Finance
Buildings & Contracts

ISSUE FOR DEVELOPMENT APPLICATION

DEPARTMENT OF EDUCATION

DAYTON PRIMARY SCHOOL

EXISTING TREE SCHEDULE

DRAWN	4LS	DESIGNED	4LS
CHECKED	AT	PRINCIPAL	
APPROVED	AT		
SCALE	1 : 500 @ A1	DATE	APRIL 2021
DF PROJ NO.	XXXXX	DF FILE NO.	202X/XXXXX

REDUCTION 0 12500

DRAWING NO. L02 REV NO. C

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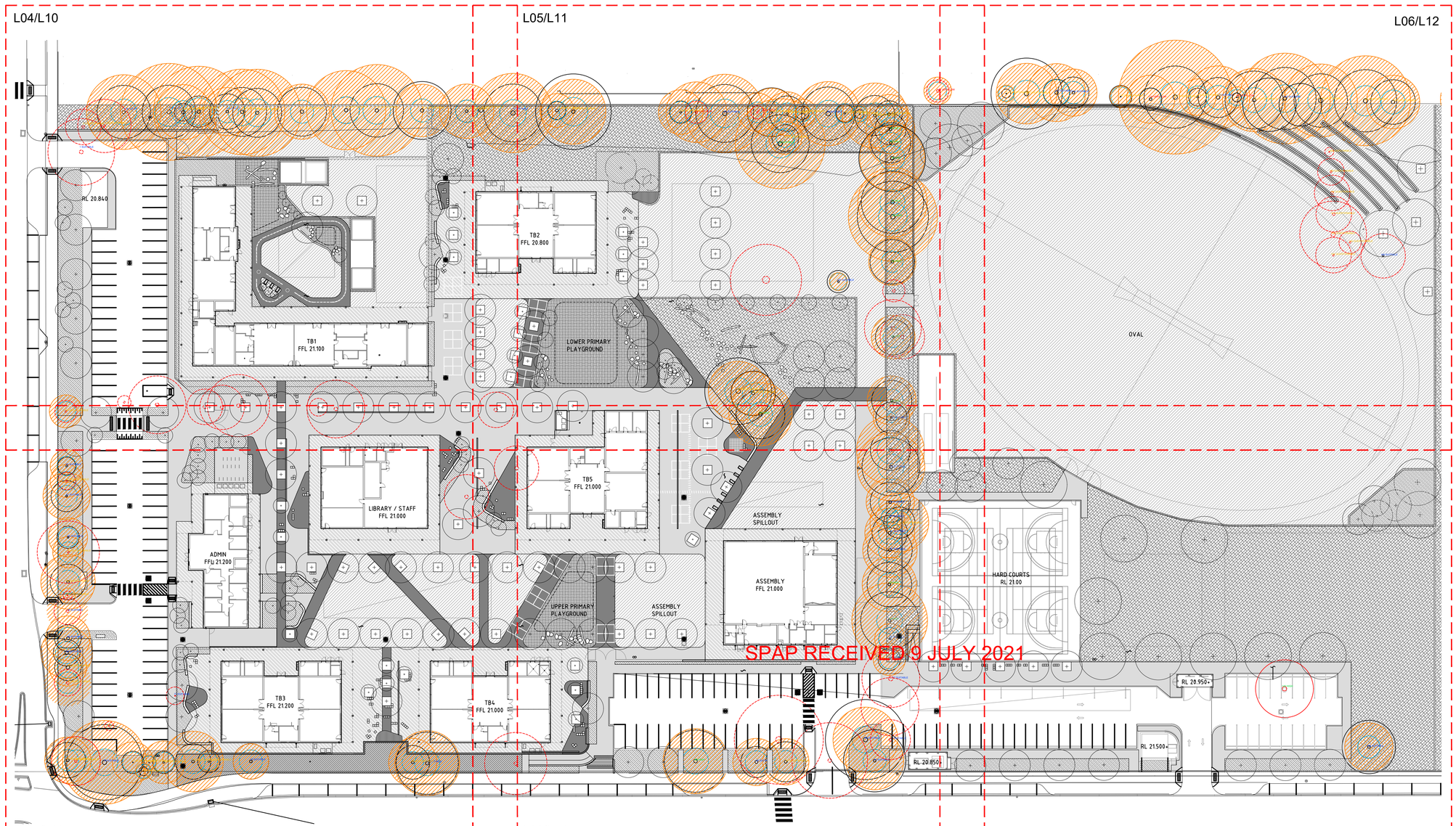

SPAP RECEIVED 9 JULY 2021

LEGEND :

- EXISTING TREES TO BE RETAINED AND PROTECTED - REFER ARBORICULTURAL REPORT
- STRUCTURAL ROOT ZONE (SRZ)
- TREE PROTECTION ZONE (TPZ)
- PROPOSED TREES - REFER PART LANDSCAPE PLAN
- IRRIGATED TURF - REFER PART LANDSCAPE PLAN
- GARDEN BED - REFER PART LANDSCAPE PLAN
- SWALE - REFER PART LANDSCAPE PLAN
- MULCH ONLY - REFER PART LANDSCAPE PLAN
- SOFT FALL MULCH - REFER PART LANDSCAPE PLAN
- 100MM THICK INSITU CONCRETE PAVING - REFER PART LANDSCAPE PLAN
- 100MM THICK EXPOSED AGGREGATE CONCRETE PAVING - REFER PART LANDSCAPE PLAN
- 60MM THICK UNIT PAVING - REFER PART LANDSCAPE PLAN
- DECK/STAGE

REV	AMENDMENT	DATE	CHKD
H	ISSUE FOR BOQ	25.06.2021	TC
G	ISSUE FOR 80% DESIGN DOCUMENTATION	18.06.2021	TC
F	ISSUE FOR 50% DESIGN DOCUMENTATION	02.06.2021	TC
E	ISSUE FOR DESIGN DEVELOPMENT	10.05.2021	TC
D	ISSUE FOR DESIGN DEVELOPMENT	30.04.2021	TC
C	ISSUE FOR DEVELOPMENT APPLICATION	21.04.2021	TC
B	ISSUE FOR COORDINATION	09.03.2021	TC
A	ISSUE FOR 65% SD	05.03.2021	TC

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Government of Western Australia
Department of **Finance**
Buildings & Contracts

ISSUE FOR BOQ

DEPARTMENT OF EDUCATION

DAYTON PRIMARY SCHOOL

LANDSCAPE SITE PLAN

DRAWN	4LS	DESIGNED	4LS	REDUCTION	0 12500
CHECKED	AT	PRINCIPAL			
APPROVED	AT				
SCALE	1 : 500 @ A1	DATE	JUNE 2021	DRAWING NO.	L03
DF PROJ NO.	XXXXX	DF FILE NO.	202X/XXXXX	REV NO.	H

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DO NOT AMEND MANUALLY

DATE PLOTTED: 30/04/2021 5:33:02 PM

LEGEND

- EXTENT OF WORKS BOUNDARY
- 10.0 DESIGN CONTOURS
- 10.0 EXISTING CONTOURS
- EXISTING ROAD
- PROPOSED ROAD
- PROPOSED FOOTPATH
- PROPOSED RETAINING WALL

CUT/FILL LEGEND

- AREA OF CUT DEPTH >2.5m
- AREA OF CUT DEPTH 2.0m - 2.5m
- AREA OF CUT DEPTH 1.5m - 2.0m
- AREA OF CUT DEPTH 1.0m - 1.5m
- AREA OF CUT DEPTH 0.5m - 1.0m
- AREA OF CUT DEPTH 0.0m - 0.5m
- AREA OF FILL DEPTH 0.0m - 0.5m
- AREA OF FILL DEPTH 0.5m - 1.0m
- AREA OF FILL DEPTH 1.0m - 1.5m
- AREA OF FILL DEPTH 1.5m - 2.0m
- AREA OF FILL DEPTH 2.0m - 2.5m
- AREA OF FILL DEPTH >2.5m

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LOT 558
EARTHWORKS VOLUME
CUT: -219m³
FILL: 29,958m³
BALANCE: 29,739m³

LOT 557
EARTHWORKS VOLUME
CUT: -6,239m³
FILL: 538m³
BALANCE: -5,701m³

NOTE:
EARTHWORKS VOLUMES ASSUME TOPSOIL HAS BEEN STRIPPED FROM THE SITE.
TOP SOIL THICKNESS ASSUMED TO BE 150mm.

PUMPS & TANKS PAD FFL 20.84
PROPOSED 1 IN 6 BATTER
SAND PIT SHADE STRUCTURES
FUTURE DEVELOPMENT SITE
PROPOSED RETAINING WALL
SPL 20.80
KINDY & PP PLAY SPL 20.80
SPL 20.80
SPL 20.80
TB2 FFL 20.80 SPL 20.70
6 x FUTURE TRANSPORTABLE FFL 20.80 SPL 20.70
TB1 FFL 21.10 SPL 21.00
LOWER SCHOOL COURTYARD SPL 20.60
LOT 558
LOT 557
STAFF & LIBRARY FFL 20.80 SPL 20.70
TB5 FFL 20.80 SPL 20.70
UPPER SCHOOL COURTYARD SPL 20.95
ADMIN FFL 21.20 SPL 21.10
UPPER SCHOOL COURTYARD SPL 20.70
ASSEMBLY, CANTEEN, MUSIC & STORES FFL 21.00 SPL 20.90
4 x FUTURE TRANSPORTABLE SPL 21.40
FUTURE EDUCARE CENTRE
TB3 FFL 21.20 SPL 21.10
TB4 FFL 21.00 SPL 20.90
LETTERBOX / VALVE ENCLOSURE PAD FFL 20.92
ARTHUR STREET
BLUNDELL STREET
CRANLEIGH STREET
A 10S7
B 10S7
C 10S7
D 10S7

SPAP RECEIVED 11 MAY 2021

TRANSFORMER PAD FFL 21.50 (RETAINING TO PROVIDED IN BUILT FORM). PROVIDE 1.0m MIN. DEPTH STRUCTURAL FILL BELOW TRANSFORMER PAD, COMPACTED TO 95% MMDD. INCREASE DEPTH TO 1.6m WHERE FOUNDED ON IN-SITU CLAY MATERIAL.

PUMP & TANK PAD FFL 20.85

BIN PAD FFL 20.95

PROPOSED 1 IN 6 BATTER

PLAN
SCALE 1:500

0 5 10 25 1: 500 @A1 1: 1000 @A3

REV	DESCRIPTION	DRAWN	APP'D	DATE
C	UPDATED TO SUIT REVISED EARTHWORKS MODEL	LUL	BC	30/04/2021
B	UPDATED TO SUIT LANDSCAPE AND ARCHITECTURAL DRAWINGS	LUL	BC	13/04/2021
A	PRELIMINARY ISSUE	LUL	BC	15/03/2021

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Government of Western Australia
Department of Finance
Buildings and Contracts

ARCHITECT/CLIENT

DAYTON PRIMARY SCHOOL
EARTHWORKS PLAN SKETCH

PROJECT/TITLE

Stantec

PRELIMINARY
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CIVIL

WAPC	COORDS	DATUM	SCALE @ A1	PROJECT No	DRAWING No	REV
-	PCG94	mAHD	1:500	301250182	DPSC10P7	C

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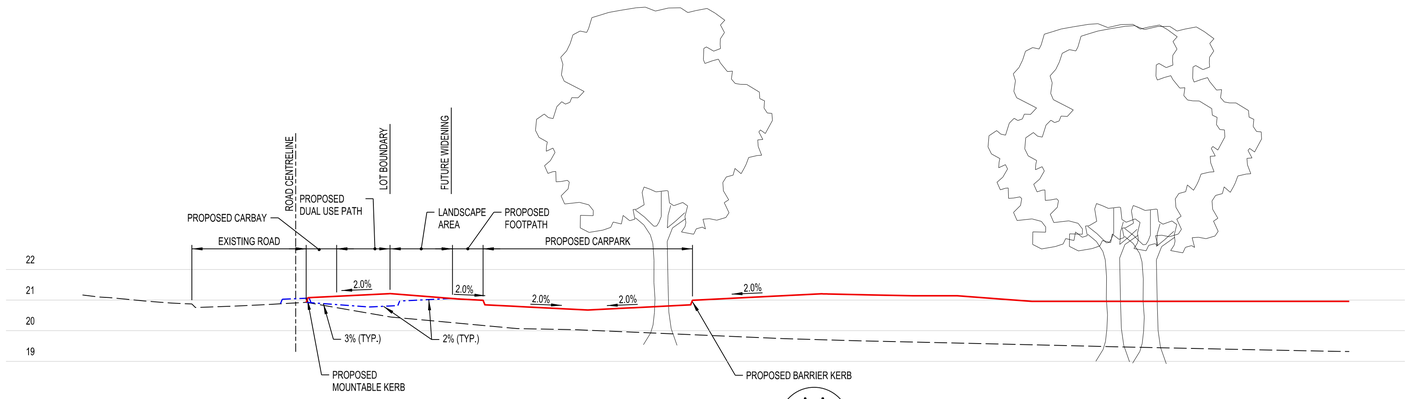
LEGEND

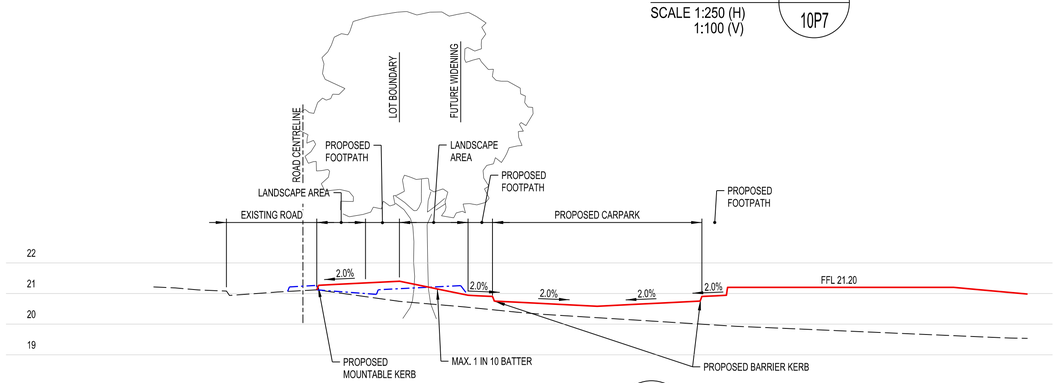
PRELIMINARY DESIGN SURFACE

EXISTING SURFACE

PRELIMINARY FUTURE WIDENING SURFACE



SECTION A-A
SCALE 1:250 (H)
1:100 (V)
10P7



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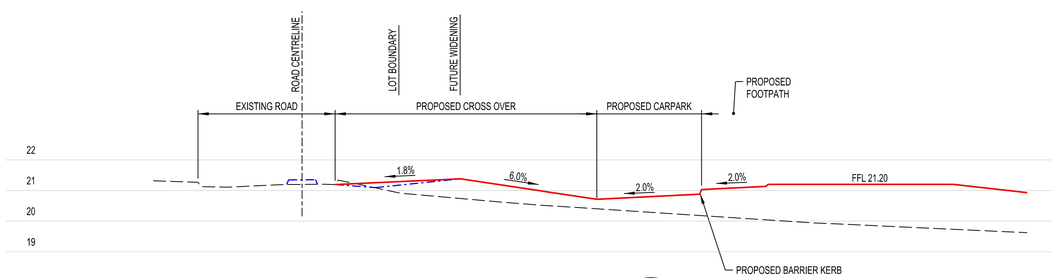
SCALE 1:250 (H)
1:100 (V)
10P7



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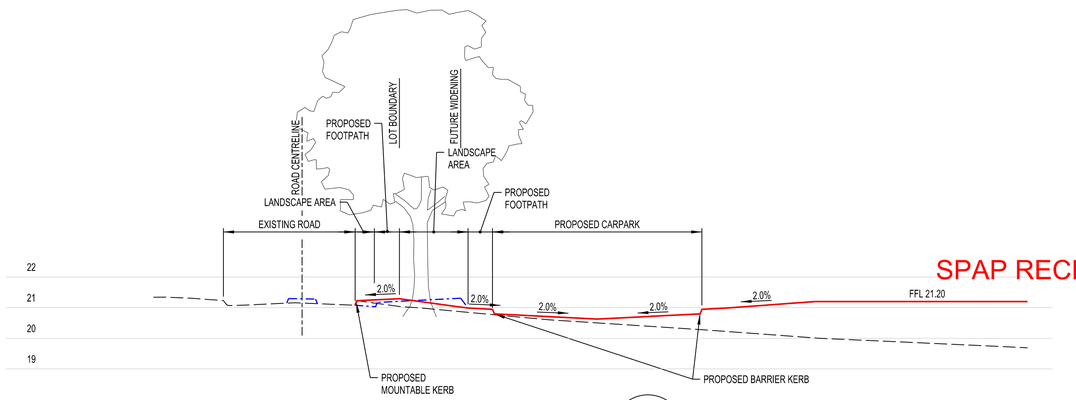
1:100 (V)
10P7



SECTION D-D
SCALE 1:250 (H)
1:100 (V)
10P7

SPAP RECEIVED 11 MAY 2021

0 1 2 5 1: 100 @A1
1: 200 @A3

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REV	DESCRIPTION	DRAWN	APP'D	DATE
B	UPDATED TO SUIT LANDSCAPE AND ARCHITECTURAL DRAWINGS	LUL	BC	30/04/2021
A	PRELIMINARY ISSUE	LUL	BC	15/03/2021

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Department of **Finance**
Buildings and Contracts

ARCHITECT/CLIENT

DAYTON PRIMARY SCHOOL
EARTHWORKS CROSS SECTIONS SKETCH

PROJECT/TITLE

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WAPC	COORDS	DATUM	SCALE @ A1	PROJECT No	DRAWING No	REV
-		mAHD	1:100	301250182	DPSC10S5	B

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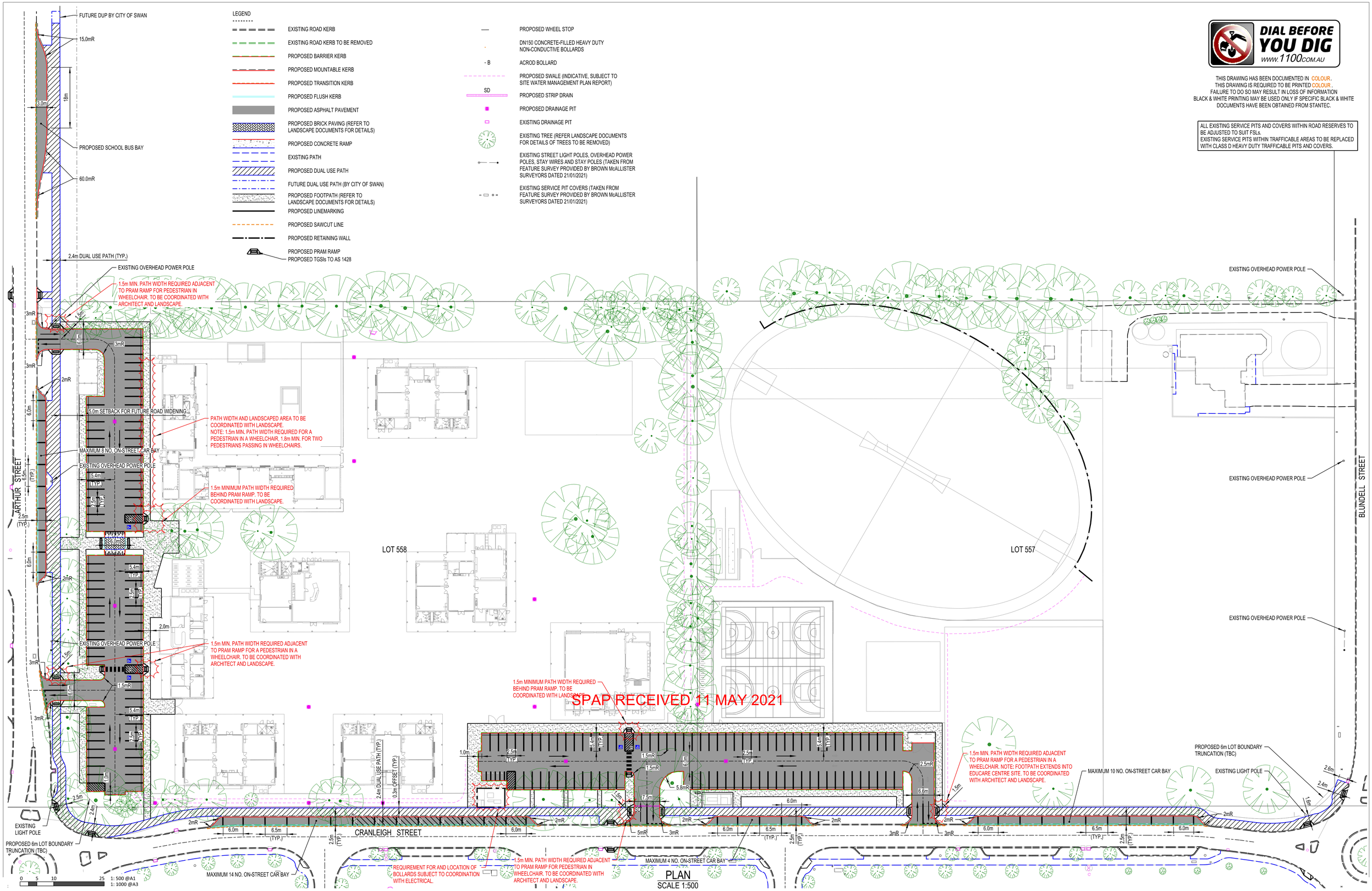
DATE PLOTTED: 30/04/2021 2:47:25 PM



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REV	DESCRIPTION	DRAWN	APP'D	DATE
A	PRELIMINARY ISSUE	LUL	BC	30/04/2021

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DAYTON PRIMARY SCHOOL
ROADWORKS PLAN

PROJECT/TITLE

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WAPC	COORDS	DATUM	SCALE @ A1	PROJECT No	DRAWING No	REV
-	PCG94	mAHD	1:500	301250182	DPSC40P7	A

DATE PLOTTED: 30/04/2021 5:02:35 PM

LEGEND

- EXTENT OF BOUNDARY
- 10.0 DESIGN CONTOURS
- 10.0 EXISTING CONTOURS
- EXISTING ROAD
- PROPOSED ROAD
- PROPOSED FOOTPATH
- PROPOSED RETAINING WALL
- PROPOSED HEADWALL
- PROPOSED DRAINAGE PIPE AND PIT
- SD PROPOSED STRIP DRAIN
- PROPOSED SWALE (INDICATIVE, SUBJECT TO SITE WATER MANAGEMENT PLAN REPORT)
- EXISTING DRAINAGE PIPE AND PIT
- INSPECTFLEX CELLS (BOTTOM LAYER ONLY) PROPOSED GRAF ECOBLOC MAXX (OR EQUIVALENT) DRAINAGE CELL ARRAYS AS APPROVED BY THE CIVIL ENGINEER (INDICATIVE, SUBJECT TO SITE WATER MANAGEMENT PLAN REPORT)
- GRAF VARIO 800 FLEX SHAFT SYSTEM WITH TRAFFICABLE MAXI CAST IRON TELESCOPIC DOME SHAFT COVER (OR EQUIVALENT), SET FLUSH WITH FSL
- FUTURE DRAINAGE CELL ARRAY
- PROPOSED CONNECTION POINT TO HYDRAULIC SYSTEM REFER TO HYDRAULIC DRAWINGS FOR INFORMATION

- W EXISTING WATER
- S EXISTING SEWER
- P EXISTING SEWER
- 18.7 AAMGL LINE
- EXISTING TREE TO RETAIN
- × 20.79 PROPOSED SPOT LEVEL

NOTATION

EXISTING MANHOLE; PROPOSED MANHOLE; EXISTING GULLY PIT; PROPOSED SIDE ENTRY PIT; PROPOSED DRAINAGE PIPE; FUTURE DRAINAGE

- B1 BUBBLE UP PIT
- R1 RAISED GULLY PIT
- SPT GROSS POLLUTANT TRAP
- DS1 DOUBLE SIDE ENTRY PIT
- S1 SIDE ENTRY PIT
- C1 COMBINATION PIT
- M1 ACCESS CHAMBER
- G1 GULLY PIT
- ØXXX PROPOSED GULLY DIAMETER
- G1 PIT NUMBER / DESCRIPTOR
- XX.XX PROPOSED DEPTH TO INVERT

300'4' PIPE DIA. & CLASS
240 PIPE GRADE
18.65 18.97 INVERT LEVEL
38.5 LENGTH
US=16.53 UPSTREAM INVERT LEVEL
300/4'/18.3 PIPE DIA & CLASS/PIPE GRADE
D=21.3 LENGTH OF PIPE
DS=15.37 DOWNSTREAM INVERT LEVEL

TABLE A

1 in 100 YEAR STORM EVENT - EXTERNAL TO BUILDING IMPERVIOUS AREAS + BUILDING ROOF AREAS STORMWATER DISCHARGE + HARD LANDSCAPED AREAS

	DRAINAGE ARRAY 1	DRAINAGE ARRAY 2	DRAINAGE ARRAY 3	DRAINAGE ARRAY 4	DRAINAGE ARRAY 5	DRAINAGE ARRAY 6	DRAINAGE ARRAY 7	DRAINAGE ARRAY 8	DRAINAGE ARRAY 9 (FUTURE)
REQUIRED VOLUME	13.46m³	6.08m³	6.08m³	47.95m³	78.23m³	127.19m³	35.98m³	197.83m³	33.20m³
STORAGE VOLUME PROVIDED	14.76m³	8.68m³	8.68m³	49.46m³	80.72m³	132.59m³	39.49m³	208.32m³	34.72m³
NUMBER OF MODULES	68 (4 ROWS x 17 LINES x 1 LAYER)	40 (4 ROWS x 10 LINES x 1 LAYER)	40 (4 ROWS x 10 LINES x 1 LAYER)	228 (6 ROWS x 38 LINES x 1 LAYER)	372 (6 ROWS x 62 LINES x 1 LAYER)	611 (13 ROWS x 47 LINES x 1 LAYER)	182 (7 ROWS x 26 LINES x 1 LAYER)	960 (15 ROWS x 64 LINES x 1 LAYER)	160 (8 ROWS x 20 LINES x 1 LAYER)
BASE AREA	43.52m²	25.60m²	25.60m²	145.92m²	238.08m²	391.04m²	116.48m²	614.40m²	102.40m²
BASE RL	19.35	19.20	19.02	19.19	19.25	18.93	19.80	19.18	TBC
TOP RL	19.70	19.55	19.37	19.54	19.60	19.28	20.15	19.53	TBC

PUMPS & TANKS PAD FFL 20.84
PROPOSED 1 IN 6 BATTER
SAND PIT SHADE STRUCTURES
FUTURE DEVELOPMENT SITE
FUTURE DAYTON DISTRICT OPEN SPACE WORKS BY CITY OF SWAN
PROPOSED RETAINING WALL
IRRIGATION PUMP & TANK PAD FFL TBC
ARTHUR STREET
BLUNDELL STREET
PROPOSED ABOVE GROUND STORAGE 100 yr STORAGE 22.09 m3 100 yr TWL 20.61 MAXIMUM PONDING DEPTH 150mm
KINDY & PP PLAY SPL 20.80
SPL 20.80
DRAINAGE ARRAY 8 REFER TABLE 'A' FOR DETAILS
6 x FUTURE TRANSPORTABLE FFL 20.80 SPL 20.70
TB2 FFL 20.80 SPL 20.70
DRAINAGE ARRAY 1 REFER TABLE 'A' FOR DETAILS
TB1 FFL 21.10 SPL 21.00
LOWER SCHOOL COURTYARD SPL 20.60
PROPOSED SWALE AND FOOTPATH LOCATIONS SUBJECT TO COORDINATION WITH LANDSCAPE
LOT 558
LOT 557
STAFF & LIBRARY FFL 20.80 SPL 20.70
TB5 FFL 20.80 SPL 20.70
UPPER SCHOOL COURTYARD SPL 20.95
DRAINAGE ARRAY 7 REFER TABLE 'A' FOR DETAILS
PROPOSED MAX 1 IN 6 BATTER
DRAINAGE ARRAY 2 REFER TABLE 'A' FOR DETAILS
ADMIN FFL 21.20 SPL 21.10
DRAINAGE ARRAY 6 REFER TABLE 'A' FOR DETAILS
UPPER SCHOOL COURTYARD SPL 20.70
ASSEMBLY, CANTEEN, MUSIC & STORES FFL 21.00 SPL 20.90
SPORTS COURTS
4 x FUTURE TRANSPORTABLE SPL 21.40
LETTERBOX / VALVE ENCLOSURE PAD FFL 20.92
PROPOSED ABOVE GROUND STORAGE 100 yr STORAGE 13.86 m3 100 yr TWL 20.71 MAXIMUM PONDING DEPTH 150mm
PROPOSED ABOVE GROUND STORAGE 100 yr STORAGE 16.36 m3 100 yr TWL 20.71 MAXIMUM PONDING DEPTH 150mm
DRAINAGE ARRAY 4 REFER TABLE 'A' FOR DETAILS
DRAINAGE ARRAY 5 REFER TABLE 'A' FOR DETAILS
BIN PAD FFL 20.95
FUTURE EDUCARE CENTRE
TB3 FFL 21.20 SPL 21.10
TB4 FFL 21.00 SPL 20.90
PROPOSED MAX 1 IN 1.6 BATTER (RETAINING TO PROVIDED IN BUILT FORM)
PROPOSED MAX 1 IN 5 BATTER
PROPOSED 1 IN 6 BATTER
PROPOSED SWALE GRADED ALONG CONTOUR TO DAYLIGHT TO DISSIPATE FLOW
DRAINAGE ARRAY 3 REFER TABLE 'A' FOR DETAILS
PROPOSED ORIFICE PLATE TO OUTLET PIPE TO RESTRICT FLOW IN ACCORDANCE WITH LWMS
PROPOSED CONNECTION TO EXISTING LOCAL AUTHORITY DRAINAGE NETWORK IN ACCORDANCE WITH LWMS
PROPOSED ROAD CROSSING. LOCATE AND PROTECT ALL EXISTING SERVICES. REINSTATE EXISTING PAVEMENTS, KERBS AND PATH TO EXISTING CONDITION.
PROPOSED SWALE 1 IN 4 BATTER.
PROPOSED MAX 1 IN 4 BATTER
PROPOSED MAX 1 IN 1.5 BATTER ((RETAINING TO PROVIDED IN BUILT FORM)
TRANSFORMER PAD FFL 21.50 (RETAINING TO PROVIDED IN BUILT FORM), PROVIDE 1.0m MIN. DEPTH STRUCTURAL FILL BELOW TRANSFORMER PAD, COMPACTED TO 95% MMDD. INCREASE DEPTH TO 1.6m WHERE FOUNDED ON IN-SITU CLAY MATERIAL.
PUMP & TANK PAD FFL 20.85
PROPOSED ABOVE GROUND STORAGE 100 yr STORAGE 44.54 m3 100 yr TWL 20.50 MAXIMUM PONDING DEPTH 150mm
DRAINAGE ARRAY 9 (FUTURE) REFER TABLE 'A' FOR DETAILS

0 5 10 25 1: 500 @A1 1: 1000 @A3

PLAN
SCALE 1:500

3PAP RECEIVED 3 MAY 2021

REV	DESCRIPTION	DRAWN	APP'D	DATE
C	OVAL LEVELS REVISED AND MINOR AMENDMENTS	LUL	BC	30/04/2021
B	ISSUED FOR HYDROLOGY REVIEW	LUL	BC	28/04/2021
A	PRELIMINARY ISSUE	LUL	BC	16/04/2021

CHRISTOU

Government of Western Australia
Department of Finance
Buildings and Contracts

ARCHITECT/CLIENT

DAYTON PRIMARY SCHOOL
EARTHWORKS AND DRAINAGE PLAN SKETCH

PROJECT/TITLE

Stantec

PRELIMINARY
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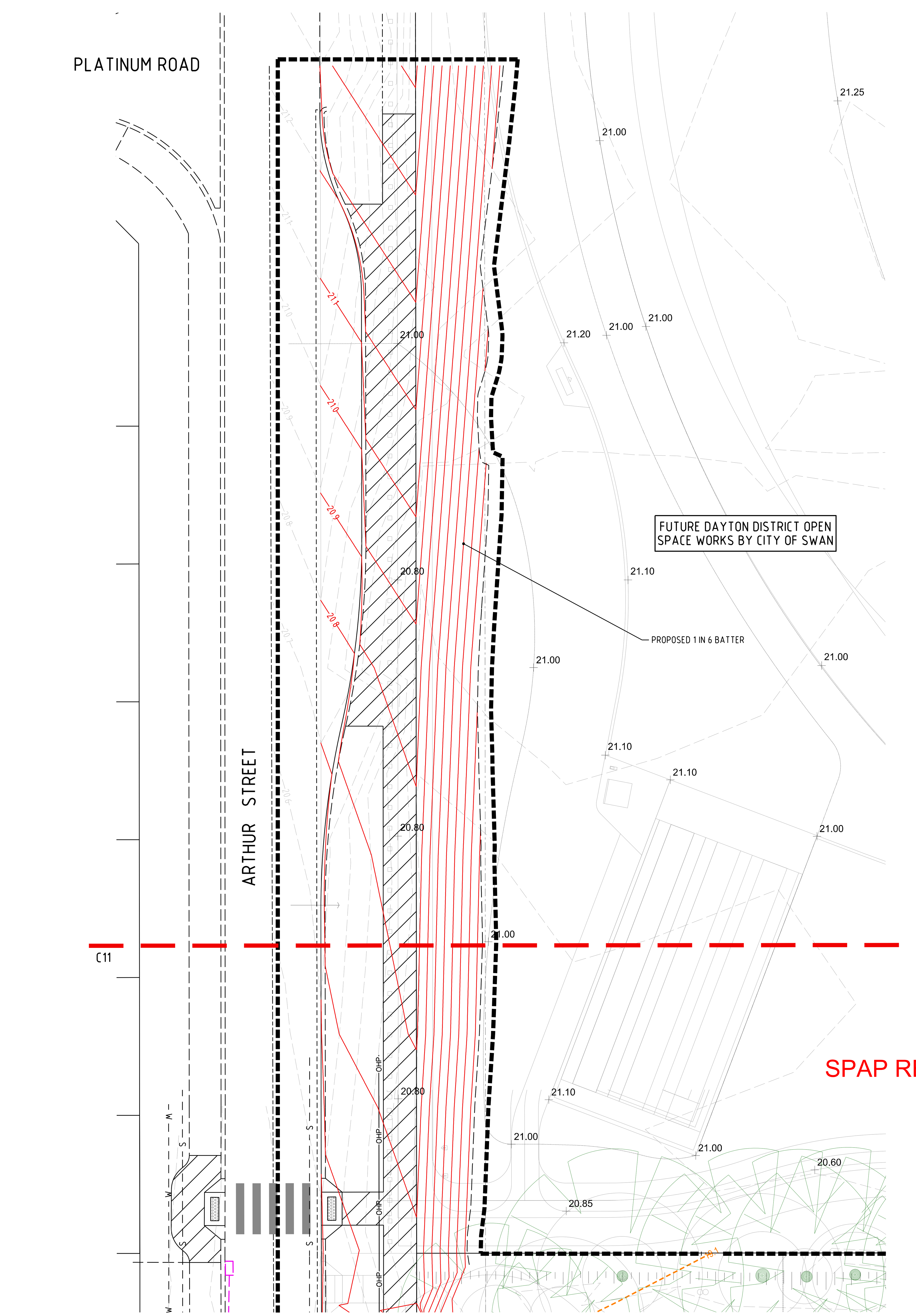
CIVIL

WAPC	COORDS	DATUM	SCALE @ A1	PROJECT No	DRAWING No	REV
-	PCG94	mAHD	1:500	301250182	DPSC50P7	C

CAD FILE: P:\301250182\Project Documentation\Civil\Drawings & Designs\ Sketch Drainage.dgn

REFER DRAWING C18 FOR LEGEND.



PLAN
SCALE 1:200

NOTE:

1. GENERAL
1.1 THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL 301250182 CIVIL DRAWINGS, ALL EXTERNAL TO BUILDING ARCHITECTURAL, LANDSCAPE, STRUCTURAL, HYDRAULIC, ELECTRICAL AND MECHANICAL DRAWINGS THE GEOTECHNICAL REPORT AND THE SPECIFICATION.
1.2 REFER TO THE 'CIVIL DETAILS' DRAWING FOR DETAILS REFERENCED ON THIS PLAN.
1.3 FOR CONSTRUCTION PURPOSES THE CONTRACTOR SHALL MAKE THEIR OWN ASSESSMENT OF GROUNDWATER AND THE PRESENCE OF IN-SITU COFFEE ROCK AND CLAYEY MATERIAL AND THEIR LIKELY AFFECT ON THE WORKS AND MAKE ALL DUE ALLOWANCES IN THE LUMP SUM TENDER.
1.4 THE CONTRACTOR SHALL ARRANGE AND OBTAIN A DEWATERING PERMIT FROM THE DEPARTMENT OF WATER AND ENVIRONMENTAL REGULATION PRIOR TO COMMENCING ANY DEWATERING OPERATIONS.
1.5 THE CONTRACTOR SHALL PREPARE A TRAFFIC MANAGEMENT PLAN FOR ALL WORKS WITHIN EXISTING ROAD RESERVES AND OBTAIN LOCAL AUTHORITY APPROVAL PRIOR TO COMMENCING WORKS ON SITE.

2. LEVELS
2.1 LEVELS ARE REDUCED FROM A.H.D.
2.2 LEVEL INFORMATION HAS BEEN TAKEN FROM SITE SURVEY BY BROWN MCALLISTER SURVEYORS.
2.3 REFER TO LEGEND FOR CONTOUR INTERVAL.
2.4 PROPOSED LEVELS SHOWN SHALL BE ON THE FINISHED SURFACE, INCLUDING TOPSOIL, PAVEMENTS, HARD LANDSCAPING AND ARCHITECTURAL FINISHES WHERE SPECIFIED.

3. TREE PROTECTION
3.1 TREE PROTECTION MEASURES SHALL BE IN ACCORDANCE WITH AS4970. PARAWEB AND STAR PICKET FENCING OR SIMILAR APPROVED SHALL BE UTILISED TO DEMARCATE TREES TO BE RETAINED.
3.2 NO EXCAVATION SHALL OCCUR WITHIN THE TREE PROTECTION ZONE (AS DEFINED BY AS4970) OF ANY TREES TO BE RETAINED UNLESS OTHERWISE NOTED.
3.3 WHERE EXCAVATION WITHIN THE TREE PROTECTION ZONE IS SPECIFIED ON THE DRAWING, THE CONTRACTOR SHALL UTILISE MODIFIED WORK PRACTICES AS SPECIFIED IN AS4970.

4. CONSTRUCTION WATER
4.1 THE CONTRACTOR SHALL MAKE THEIR OWN ARRANGEMENTS AND PAY ALL COSTS FOR THE SUPPLY OF WATER REQUIRED FOR THE SATISFACTORY EXECUTION OF THE WORKS, INCLUDING DUST SUPPRESSION.
4.2 THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVALS FOR SUPPLY.

5. EXISTING SERVICES
5.1 THE CONTRACTOR SHALL OBTAIN DIAL BEFORE YOU DIG INFORMATION AND EXISTING SERVICES INFORMATION PRIOR TO COMMENCEMENT OF ANY WORKS ON SITE, AND MAINTAIN AN UP TO DATE EXISTING SERVICES REGISTER VIA DIAL BEFORE YOU DIG.
5.2 EXISTING SERVICES SHALL BE PHYSICALLY CONFIRMED ON SITE TO ENSURE THAT THE LATEST EXISTING SERVICES INFORMATION IS AVAILABLE.
5.3 THE CONTRACTOR SHALL ACCURATELY LOCATE ANY EXISTING SERVICE THAT MAY POTENTIALLY INHIBIT THE PROPOSED WORKS WITHIN A MAXIMUM OF TWO WEEKS AFTER THE DATE OF POSSESSION OF SITE TO AVOID IMPACTING THE PROGRAM.
5.4 THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT IMMEDIATELY SHOULD ANY EXISTING SERVICE PREVENT OR INHIBIT THE PROPOSED WORKS AND AWAIT FURTHER INSTRUCTION PRIOR TO PROCEEDING, UNLESS NOTED OTHERWISE.
5.5 THE RELEVANT AUTHORITY STANDARDS SHALL BE ADHERED TO AND CAUTION SHALL BE EXERCISED DURING WORKS IN THE VICINITY OF LIVE AUTHORITY SERVICES.
5.6 THE CONTRACTOR SHALL PROTECT AND RETAIN ALL EXISTING SERVICES UNLESS OTHERWISE NOTED. ALL EXISTING ACCESS PITS SHALL REMAIN ACCESSIBLE AT ALL TIMES.
5.7 THE CONTRACTOR SHALL ADJUST ALL EXISTING SERVICE PIT COVERS TO MATCH FINISHED SURFACE LEVELS.
5.8 ALL EXISTING NON-TRAFFICABLE ACCESS PITS AND COVERS WITHIN PROPOSED TRAFFICABLE AREAS SHALL BE REMOVED AND REPLACED WITH CLASS D HEAVY DUTY TRAFFICABLE PITS COVERS, ADJUSTED TO FINISH FLUSH WITH FINISHED PAVEMENT LEVELS.

6. MODIFIED WORK PRACTICES
6.1 THE CONTRACTOR SHALL UTILISE MODIFIED WORK PRACTICES WHERE NECESSARY:
6.1.1 IN THE VICINITY OF LIVE UNDERGROUND SERVICES IN ACCORDANCE WITH AUTHORITY STANDARDS.
6.1.2 IN THE VICINITY OF OVERHEAD POWER LINES IN ACCORDANCE WITH AUTHORITY STANDARDS.
6.1.3 IN THE VICINITY OF EXISTING STRUCTURES IN ACCORDANCE WITH ADVICE TO BE OBTAINED FROM A GEOTECHNICAL ENGINEER AT THE CONTRACTOR'S EXPENSE.
6.1.4 IN THE VICINITY OF TREES TO BE RETAINED IN ACCORDANCE WITH AS4970.

7. ADJACENT BUILDINGS & RESIDENCES
7.1 THE CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT BUILDINGS AND RESIDENCES AT ALL TIMES.

8. REINSTATEMENTS
8.1 THE CONTRACTOR SHALL REINSTATE ANY DAMAGE CAUSED TO EXISTING AREAS TO EXISTING STANDARD PRIOR TO PRACTICAL COMPLETION, WITH THE EXCEPTION OF AREAS TO BE REINSTATED AFTER PIECE UPS BY THE RELEVANT AUTHORITIES. IF REQUIRED, THE CONTRACTOR SHALL REMOBILISE TO PERFORM REINSTATEMENTS AFTER AUTHORITY PIECE UPS.
8.2 EXISTING PAVEMENTS, KERBS FOOTPATHS AND VERGES WITHIN EXISTING ROAD RESERVES SHALL BE REINSTATED TO THE LOCAL AUTHORITY'S STANDARDS AND ACCEPTANCE AS APPLICABLE.

9. CLEARING
9.1 THE CONTRACTOR SHALL CLEAR VEGETATION AND DEBRIS FROM WITHIN THE SITE BOUNDARY IN ACCORDANCE WITH THE SPECIFICATION, EXCEPT FOR VEGETATION SHOWN AS RETAINED.
9.2 VEGETATION TO BE RETAINED SHALL BE PROTECTED IN ACCORDANCE WITH THE SPECIFICATION.
9.3 ALL EXCESS MATERIAL SHALL BE DISPOSED OFFSITE UNLESS OTHERWISE SPECIFIED IN LANDSCAPE DOCUMENTS.

10. TOPSOIL
10.1 TOPSOIL SHALL BE STRIPPED FROM THE SITE AS SPECIFIED.
10.2 TOPSOIL SHALL BE SCREENED AND RESPREAD IN ACCORDANCE WITH LANDSCAPE DOCUMENTS.
10.2.1 EXCESS TOPSOIL SHALL BE DISPOSED OFFSITE.

11. GENERAL EARTHWORKS
11.1 THE CONTRACTOR SHALL CUT, PROOF ROLL, AND FILL THE SITE IN ACCORDANCE WITH THE SPECIFICATION AND THE GEOTECHNICAL REPORT INCLUDING ALL SITE PREPARATION WORKS AS SPECIFIED IN SECTION 7.2 OF THE GEOTECHNICAL REPORT TO ACHIEVE A CLASS A SITE.
11.2 ALL OVEREXCAVATED CLAY, COFFEE ROCK AND OTHER UNSUITABLE MATERIAL SHALL BE DISPOSED OFFSITE.
11.3 VERGE GRADES SHALL BE 2% UNLESS NOTED OTHERWISE.
11.4 ALL BATTERS SHALL BE AT 1 IN 6 UNLESS NOTED OTHERWISE.
11.5 TYPICAL BATTERS TO EXISTING SHALL BE IN ACCORDANCE WITH 'TYPICAL BATTER TO EXISTING' DETAIL.

12. UNCONTROLLED FILL
12.1 UNCONTROLLED FILL SHALL BE EXCAVATED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, AND REPLACED WITH GENERAL OR STRUCTURAL FILL MATERIAL IN ACCORDANCE WITH THE SPECIFICATION.
12.2 UNCONTROLLED FILL SHALL BE DISPOSED OFFSITE.

13. RETAINING WALLS
13.1 RETAINING WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD RETAINING WALL PROFILES, STRUCTURAL DETAILS AND THE SPECIFICATION.
13.2 ALL RETAINING WALLS SHALL BE ADEQUATELY PROPPED DURING BACKFILL AND PAVEMENT CONSTRUCTION.
13.3 REFER TO EARTHWORKS PLAN AND WALL LON SECTIONS FOR UPPER AND LOWER GROUND LEVELS.
13.4 ALL FACE BLOCKS FOR LIMESTONE RETAINING WALLS SHALL BE RECONSTITUTED LIMESTONE AND SELECTED ON SITE TO ENSURE THAT ONLY CLEAN SQUARE EDGES FREE FROM MAJOR CHIPS ARE VISIBLE IN THE TOP COURSE AND FACEWORK. ALL BLOCKS BEHIND FACE OF WALL SHALL BE RECONSTITUTED LIMESTONE OR CONCRETE BLOCKS. RUBBLE SHALL NOT BE USED TO FILL VOIDS.

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13.5 ALL BLOCKS SHALL BE TUNGSTEN CUT & PALLETISED.
13.6 ALL BLOCKS SHALL BE FULLY BONDED WITH MORTAR CLASS M3 (MINIMUM 1:1:6 CEMENT,LIME,SAND RATIO).
13.7 MORTAR JOINTS TO BE 20mm WIDE. ALL FACE MORTAR JOINTS TO BE POINTED AND FINISHED FLUSH WITH A RULED JOINT. TOP COURSE OF WALL TO HAVE FLUSH JOINTS ON TOP SURFACE ONLY. MORTAR FOR FACE POINTING SHALL BE COLOURED TO MATCH THE FACE BLOCKS.
13.8 ALL FINISHING JOINTING SHALL BE COMPLETE OVER THE TOP BLOCK AND DOWN REAR FACE TO THE SECOND COURSE, BELOW THE SAND LEVELS AND INCLUDE BEING TAKEN DOWN THE FRONT FACE TO THE BASE OF THE FOOTING BLOCK.
13.9 ALL BEDDING AND BACKFILL SHALL BE STRUCTURAL FILL.
13.10 CONTRACTOR TO PROVIDE CONSTRUCTION JOINT CONNECTION WHERE ABUTTING OR CONNECTING TO AN EXISTING WALL.
13.11 NON-SACRIFICIAL ANTI-GRAFFITI COATING SHALL BE APPLIED TO EXPOSED WALL AND PIER FACES. CONTRACTOR SHALL PROVIDE CERTIFICATION THAT COATING HAS BEEN APPLIED AND SUBMIT A CLEANING SPECIFICATION TO THE SUPERINTENDENT FOR SUBMISSION PRIOR TO PRACTICAL COMPLETION.
13.12 THE CONTRACTOR SHALL PROVIDE STRUCTURAL CERTIFICATION THAT ALL MASS LIMESTONE RETAINING WALLS, REINFORCED BLOCK WALLS AND MASONRY WALLS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATION. CERTIFICATION SHALL BE BY AN INDEPENDENT PRACTICING STRUCTURAL ENGINEER DIRECTLY ENGAGED BY THE CONTRACTOR.

14. GEOTECHNICAL VERIFICATION
14.1 THE CONTRACTOR SHALL ENGAGE A GEOTECHNICAL ENGINEER TO PERFORM THE FOLLOWING TASKS:
14.1.1 INSPECT AND PROVIDE VERIFICATION OF ADEQUATE TOPSOIL STRIPPING.
14.1.2 INSPECT AND PROVIDE VERIFICATION OF ADEQUATE PROOF ROLLING.
14.1.3 INSPECT AND PROVIDE VERIFICATION THAT EARTHWORKS HAVE BEEN PERFORMED IN ACCORDANCE WITH THE WORD AND INTENT OF THE CONTRACT DOCUMENTS UPON COMPLETION OF EARTHWORKS.
14.1.4 DEVELOP A METHOD SPECIFICATION FOR TREATMENT OF ANY IN-SITU COFFEE ROCK OR CLAY MATERIAL INTENDED FOR RE-USE ON SITE, AND INSPECT AND PROVIDE VERIFICATION OF IMPLEMENTATION OF THE METHOD. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE SUPERINTENDENT FOR THE PROPOSED METHOD SPECIFICATION PRIOR TO COMMENCING THE RELEVANT WORKS ON SITE.
14.2 ALL GEOTECHNICAL VERIFICATION SHALL BE SUBMITTED TO AND APPROVED BY THE SUPERINTENDENT PRIOR TO COMMENCEMENT OF ANY SUBSEQUENT WORKS UNLESS INSTRUCTED OTHERWISE BY THE SUPERINTENDENT IN WRITING.

15. DUST CONTROL AND STABILISATION DURING THE CONTRACT PERIOD
15.1 THE CONTRACTOR SHALL ALLOW FOR DUST CONTROL MEASURES IN ACCORDANCE WITH THE SPECIFICATION.
15.2 THE CONTRACTOR SHALL STABILISE EXPOSED AREAS WITH UNSEEDED & UNDYED HYDROMULCH PRIOR TO ANY INTERIM SHUTDOWN PERIOD GREATER THAN 3 DAYS.
15.3 STOCKPILES CAPABLE OF GENERATING DUST SHALL BE KEPT TO A MAXIMUM OF 1.5M HEIGHT, UNLESS ADDITIONAL STABILISATION IS APPROVED BY THE SUPERINTENDENT AND IMPLEMENTED.
15.4 DUST FENCING SHALL BE ERECTED AND MAINTAINED AROUND THE PERIMETER OF THE SITE FOR THE DURATION OF WORKS OR UNTIL FINAL STABILISATION OCCURS, WHICHEVER OCCURS LATER.
15.5 THE CONTRACTOR SHALL SUBMIT A DUST MANAGEMENT PLAN TO THE LOCAL AUTHORITY AND GAIN APPROVAL PRIOR TO COMMENCEMENT OF GROUND DISTURBING ACTIVITIES.

16. FINAL STABILISATION
THE FINISHED SURFACE, INCLUDING ANY AREAS OUTSIDE OF THE SITE AREA EXPOSED BY THE CONTRACTOR DURING THE WORKS, SHALL BE STABILISED IN ACCORDANCE WITH LANDSCAPE DOCUMENTS.

17. EXISTING DRAINAGE INFRASTRUCTURE
17.1 THE LEVEL, ALIGNMENT, AND DIAMETER OF EXISTING DRAINAGE INFRASTRUCTURE AT PROPOSED POINTS OF CONNECTION SHALL BE CONFIRMED BY THE CONTRACTOR A MINIMUM OF TWO WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION, OR EARLIER IF REQUIRED BY THE PROGRAM. THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT IMMEDIATELY SHOULD EXISTING DETAILS NOT MATCH THOSE SHOWN ON THE DRAWINGS.

18. PIPEWORK
18.1 CONCRETE PIPES SHALL BE RUBBER RING JOINTED CLASS 2 REINFORCED CONCRETE PIPES SHALL BE UTILISED UNLESS NOTED OTHERWISE.
18.2 PIPE ALIGNMENTS SHALL BE AS SHOWN, HOWEVER THE CONTRACTOR SHALL MAKE MINOR AMENDMENTS TO ALIGNMENTS TO ENSURE ADEQUATE PIPE ENTRIES INTO ACCESS CHAMBERS WHERE NECESSARY FOR MULTIPLE PIPE ENTRIES.

19. ACCESS CHAMBERS
19.1 ACCESS CHAMBERS SHALL BE LOCATED AS SHOWN ON THE PLAN, REGARDLESS OF PIPE LENGTHS.
19.2 ACCESS CHAMBERS SHALL BE CLASS D HEAVY DUTY TRAFFICABLE COVERS.
19.3 ACCESS CHAMBER COVERS SHALL BE SET TO FINISH FLUSH WITH THE FINISHED SURFACE LEVEL UNLESS NOTED OTHERWISE.

20. SUBSOIL DRAINAGE
20.1 SUBSOIL DRAINAGE PIPE ON STRAIGHTS SHALL BE DN150 CLASS SN8 SLOTTED UPVC PIPE.
20.2 SUBSOIL DRAINAGE PIPE ON BENDS SHALL BE DRAINCOIL DN160 CLASS SN8 FLEXIBLE SLOTTED PIPE (OR SIMILAR APPROVED).
20.3 SUBSOIL DRAINAGE UNDER CARBAYS OR PAVEMENT SHALL BE DN150 CLASS SN8 PLAIN (UNSLOTTED) UPVC PIPE.
20.4 THE CONTRACTOR SHALL NOT INSTALL GEOFABRIC OR AGGREGATE SURROUNDING PLAIN (UNSLOTTED) PIPE.
20.5 CAPS SHALL BE LOCATED AT THE UPSTREAM END OF ALL SUBSOIL PIPES. CAPS ARE NOT REQUIRED WHERE THE SUBSOIL INVERT LEVEL IS ABOVE ALL CONCRETE PIPE OBVERT LEVELS WITHIN AN ACCESS CHAMBER.

21. DRAINAGE CELL ARRAYS
21.1 PROPOSED DRAINAGE CELL ARRAYS SHALL BE GRAF ECOBLOC MAXX OR GRAF ECOBLOC INSPECT FLEX AS SHOWN, OR EQUIVALENT AS APPROVED BY THE CIVIL ENGINEER.
21.2 DRAINAGE CELL ARRAYS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES, SPECIFICATION, AND INSTALLATION MANUAL, INCLUSIVE OF AIR VENTING, INLET CHAMBERS, PERIMETER ACCESS, MAINTENANCE REQUIREMENTS, GEOFABRIC SURROUNDS AND BACKFILL REQUIREMENTS.
21.3 EACH DRAINAGE CELL ARRAY SHALL BE FULLY WRAPPED IN PERVIOUS GEOTEXTILE, IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES.
21.4 GRAF VARIO 800 FLEX SHAFTS (OR EQUIVALENT AS APPROVED BY THE CIVIL ENGINEER) SHALL BE INSTALLED AS SHOWN. COVERS SHALL BE AS NOTED ON THE PLAN (OR EQUIVALENT AS APPROVED BY THE CIVIL ENGINEER) AND SET TO FINISH FLUSH WITH THE FINISHED SURFACE LEVEL, UNLESS NOTED OTHERWISE.

22. STRIP DRAINS
22.1 PROPOSED STRIP DRAINS SHALL BE ACO KLASSIKDRAIN K200 WITH CLASS D 680D IRON WAVE HEELSAFE ANTI-SLIP GRATES (OR EQUIVALENT AS APPROVED BY THE CIVIL ENGINEER) UNLESS NOTED OTHERWISE.
22.2 STRIP DRAINS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER?S GUIDELINES, SPECIFICATION, AND INSTALLATION MANUAL.
22.3 JOINTS ON ALL CURVES AND BENDS SHALL BE MITRE CUT IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES TO PROVIDE A FLUSH CHANNEL JOINT WITH ZERO GAP.

23. POINT DRAINS
23.1 PROPOSED POINT DRAINS SHALL BE ACO TYPE 33 GRATED PITS WITH GALVANISED HEELGUARD GRATES (OR EQUIVALENT AS APPROVED BY THE CIVIL ENGINEER) UNLESS NOTED OTHERWISE.
23.2 POINT DRAINS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURE'S GUIDELINES, SPECIFICATION, AND INSTALLATION MANUAL.

24. CLASHES WITH OTHER SERVICES
24.1 THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF PROPOSED DRAINAGE WITH ALL OTHER SERVICES AND ROADWORKS. IN THE EVENT OF ANY CLASH THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE SUPERINTENDENT AND SEEK FURTHER DIRECTION PRIOR TO PROCEEDING.

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EARTHWORKS AND DRAINAGE PLAN
SHEET 1

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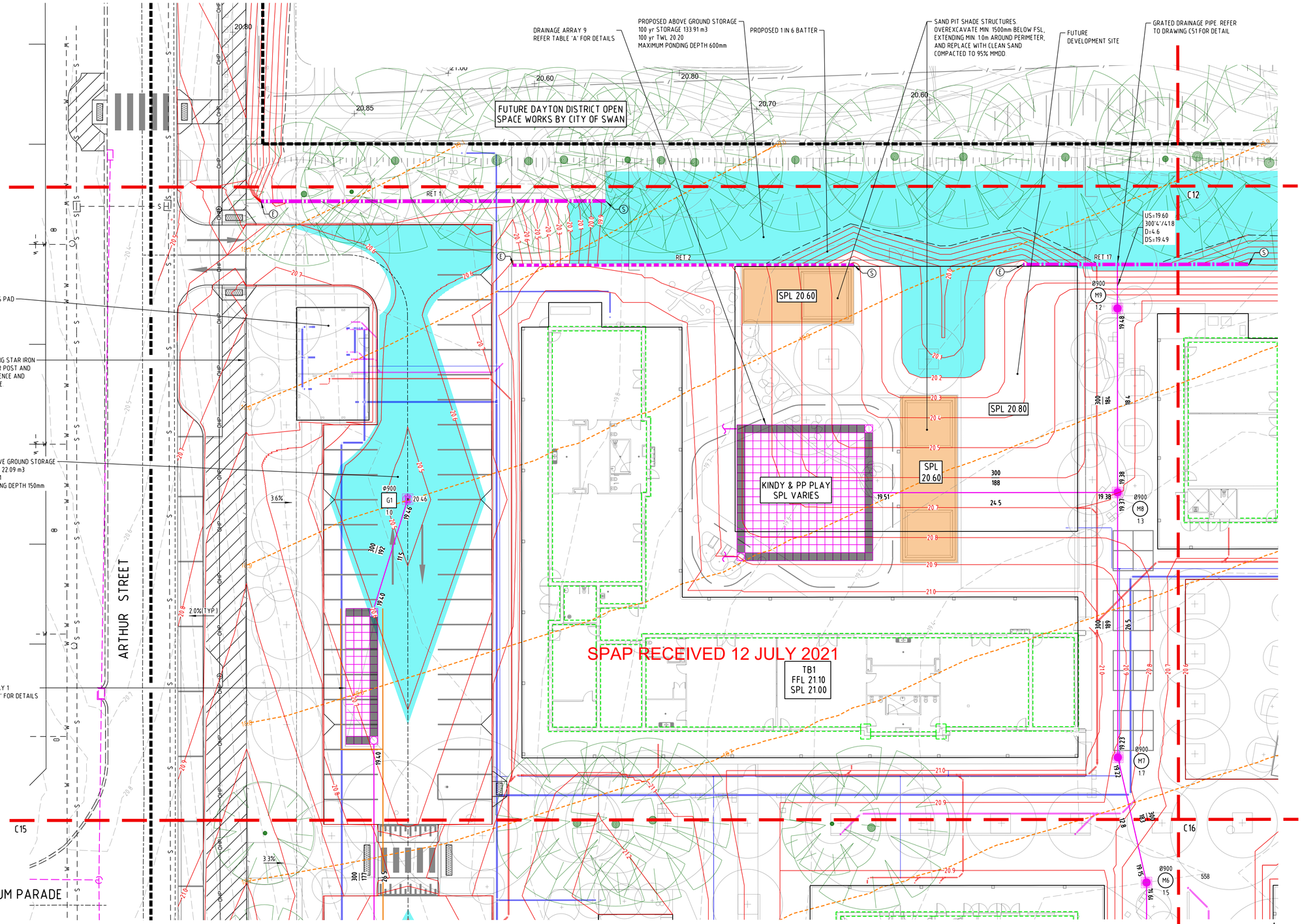
TABLE A

1 in 100 YEAR STORM EVENT - EXTERNAL TO BUILDING IMPERVIOUS AREAS + BUILDING ROOF AREAS STORMWATER DISCHARGE + HARD LANDSCAPED AREAS

	DRAINAGE ARRAY 1	DRAINAGE ARRAY 2	DRAINAGE ARRAY 3	DRAINAGE ARRAY 4A	DRAINAGE ARRAY 4B	DRAINAGE ARRAY 4C	DRAINAGE ARRAY 5A	DRAINAGE ARRAY 5B	DRAINAGE ARRAY 5C	DRAINAGE ARRAY 6	DRAINAGE ARRAY 7	DRAINAGE ARRAY 8	DRAINAGE ARRAY 9	DRAINAGE ARRAY 10 (FUTURE)
REQUIRED VOLUME	13.46m³	6.08m³	6.08m³	20.03m³	20.03m³	20.03m³	27.54m³	23.78m³	23.78	159.05m³	35.98m³	123.10m³	60.18m³	24.80m³
STORAGE VOLUME PROVIDED	14.76m³	8.68m³	8.68m³	20.83m³	20.83m³	20.83m³	28.64m³	24.74m³	24.74m³	160.88m³	39.49m³	125.13m³	61.50m³	25.54m³
NUMBER OF MODULES	68 (4 ROWS x 17 LINES x 1 LAYER)	40 (4 ROWS x 10 LINES x 1 LAYER)	40 (4 ROWS x 10 LINES x 1 LAYER)	96 (6 ROWS x 16 LINES x 1 LAYER)	96 (6 ROWS x 16 LINES x 1 LAYER)	96 (6 ROWS x 16 LINES x 1 LAYER)	132 (6 ROWS x 22 LINES x 1 LAYER)	114 (6 ROWS x 19 LINES x 1 LAYER)	114 (6 ROWS x 19 LINES x 1 LAYER)	756 (14 ROWS x 54 LINES x 1 LAYER)	182 (7 ROWS x 26 LINES x 1 LAYER)	588 (12 ROWS x 49 LINES x 1 LAYER)	289 (17 ROWS x 17 LINES x 1 LAYER)	120 (8 ROWS x 15 LINES x 1 LAYER)
BASE AREA	43.52m²	25.60m²	25.60m²	61.44m²	61.44m²	61.44m²	84.48m²	72.96m²	72.96m²	483.84m²	116.48m²	376.32m²	184.96m²	76.80m²
BASE RL	19.35	19.20	19.02	19.19	19.19	19.19	19.19	19.19	19.19	18.93	19.10	19.26	19.46	19.48
TOP RL	19.70	19.55	19.37	19.54	19.54	19.54	19.54	19.54	19.54	19.28	19.45	19.61	19.86	19.83
FSL (MIN.)	20.59	20.62	20.62	20.43	20.40	20.51	20.40	20.48	20.64	20.70	20.95	20.60	20.80	21.40
COVER (MIN.)	0.89m	1.07m	1.25m	0.89m	0.86m	0.97m	0.86m	0.94m	1.10m	1.42m	1.50m	0.99m	1.06m	1.57m
AAMGL (MAX.)	18.85	18.61	18.35	18.19	18.17	18.14	18.12	18.09	18.07	18.42	18.38	18.61	18.87	17.99
CLEARANCE TO AAMGL (MIN.)	0.50m	0.59m	0.67m	1.00m	1.02m	1.05m	1.07m	1.10m	1.12m	0.51m	0.72m	0.65m	0.59m	1.49m

C10



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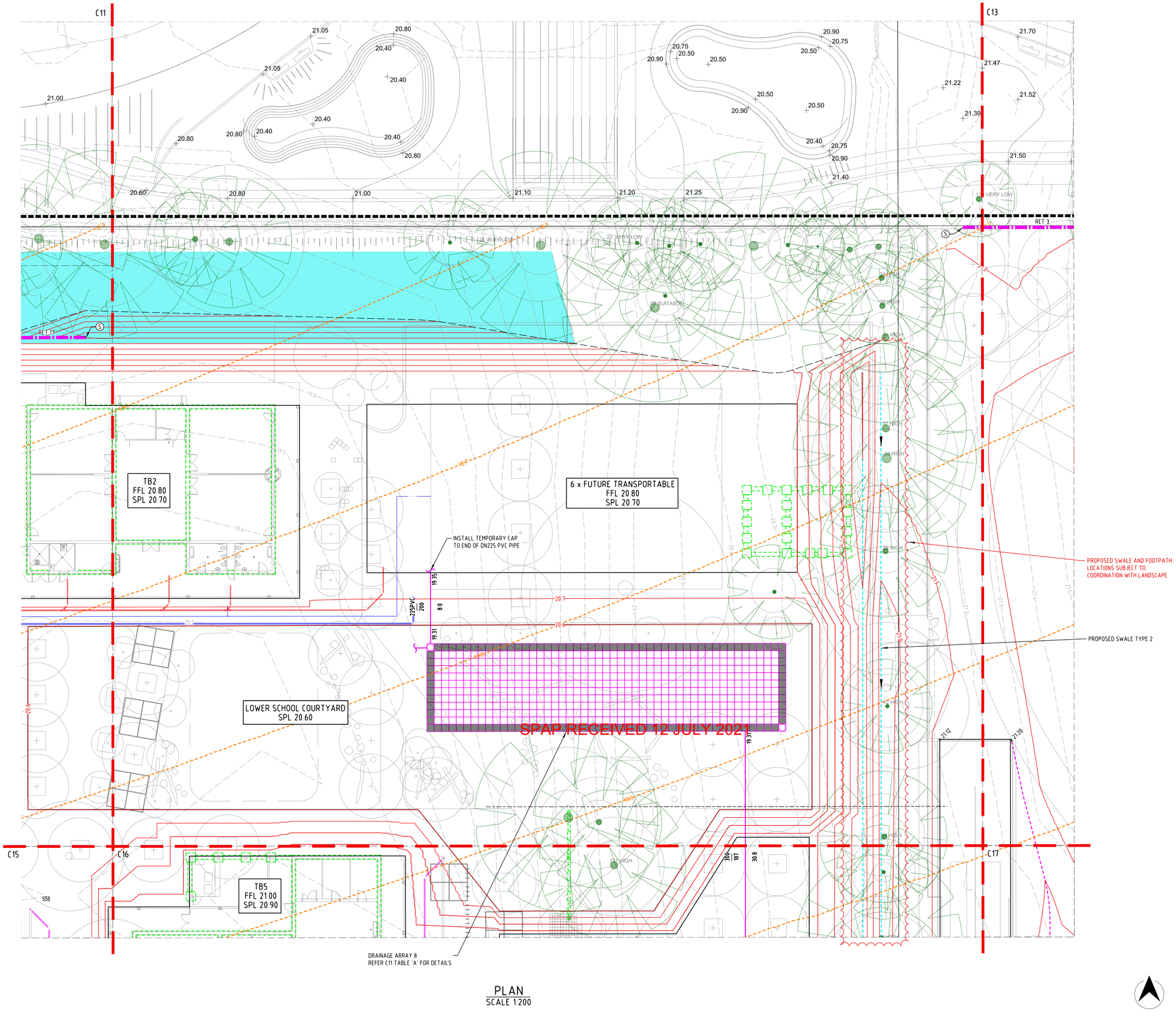

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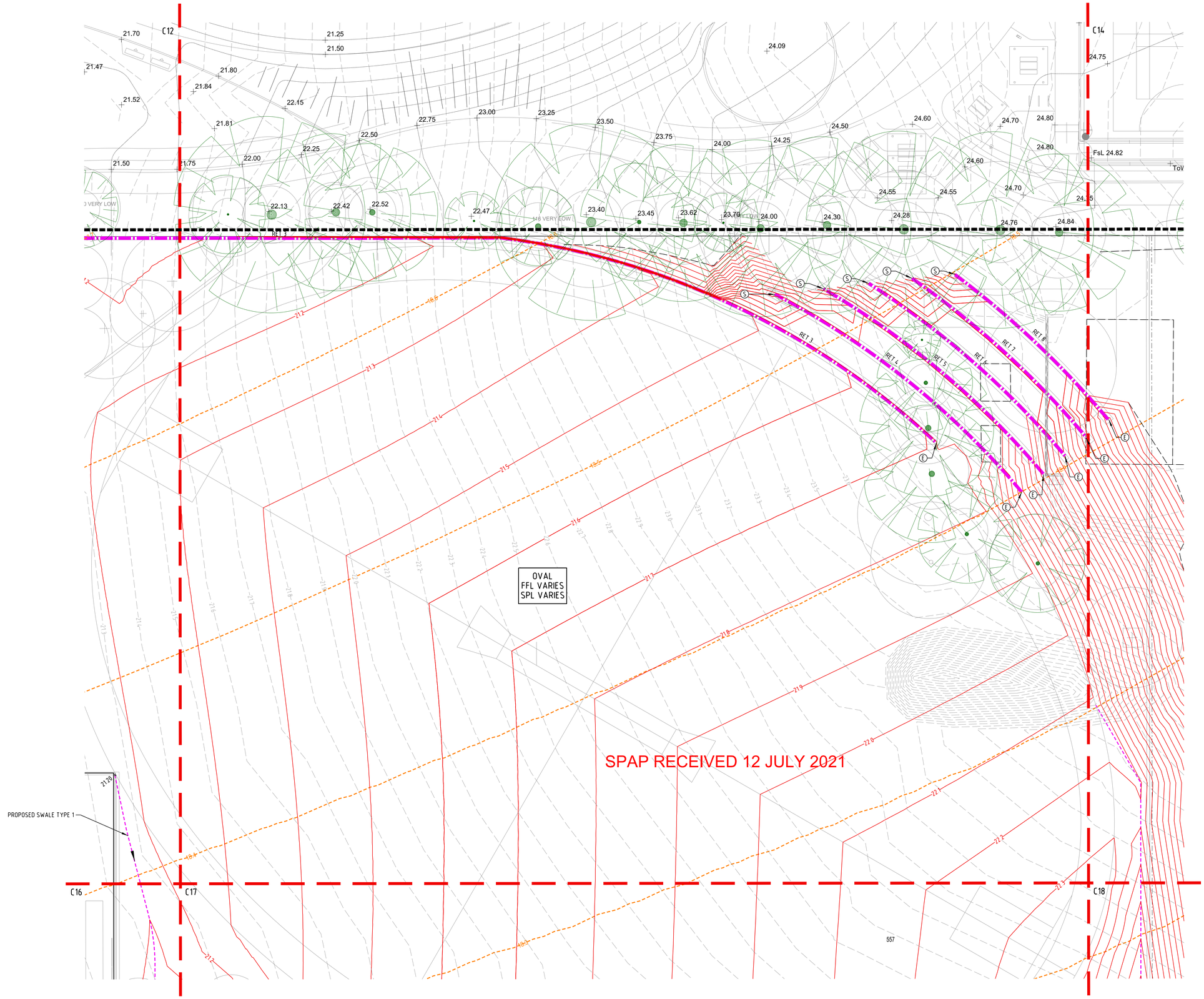

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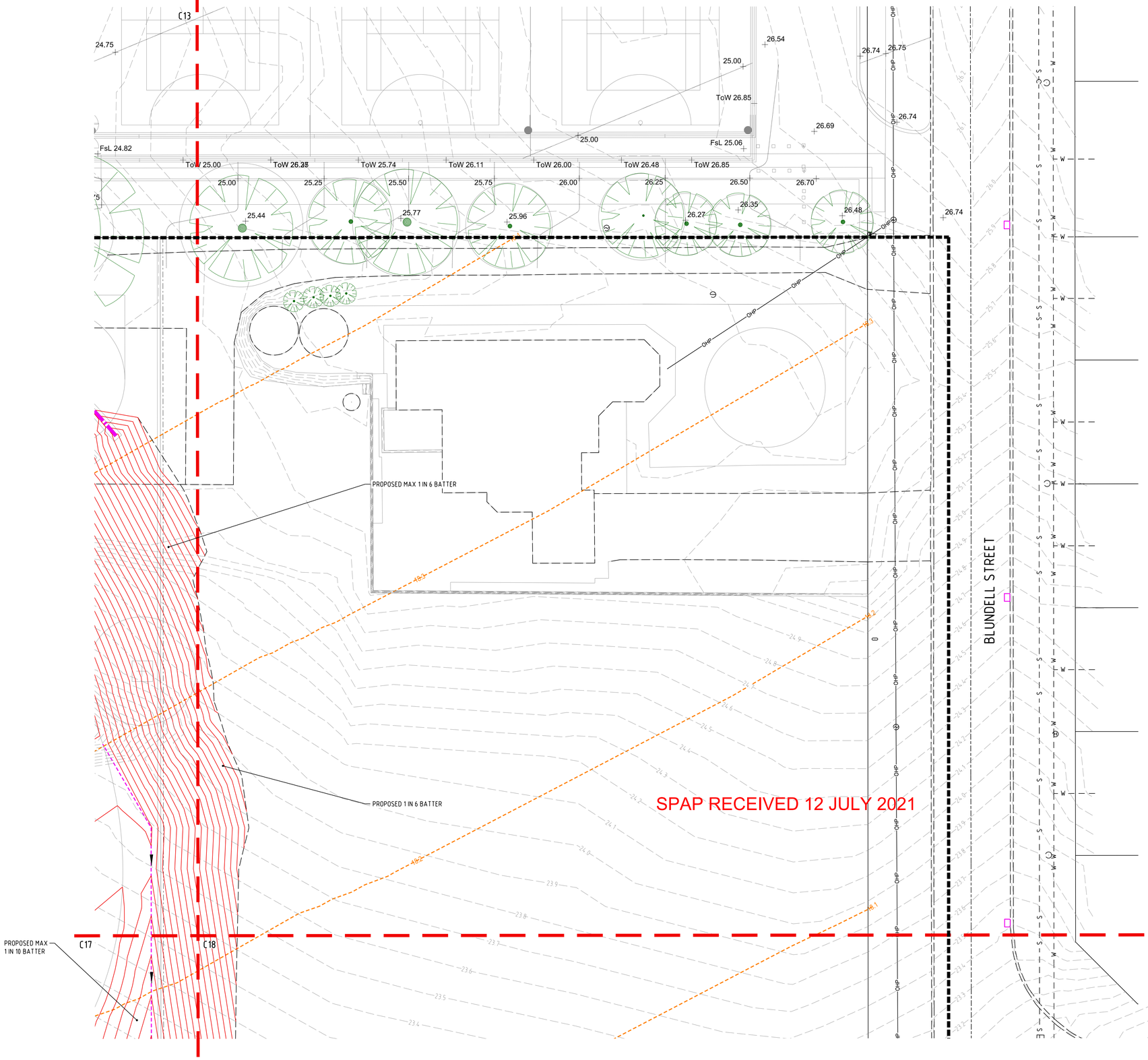

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C11

C12

AURUM PARADE

ARTHUR STREET

CRANLEIGH STREET

KABIANA WAY

REMOVE EXISTING STAR IRON PICKET / TIMBER POST AND WIRE STRAND FENCE AND DISPOSE OFFSITE

DRAINAGE ARRAY 2
REFER C11 TABLE 'A' FOR DETAILS

PROPOSED ABOVE GROUND STORAGE
100 yr STORAGE 12.13 m3
100 yr TWL 20.71
MAXIMUM PONDING DEPTH 150mm

LETTERBOX / VALVE ENCLOSURE PAD
FFL 20.92

PROPOSED ABOVE GROUND STORAGE
100 yr STORAGE 16.36 m3
100 yr TWL 20.71
MAXIMUM PONDING DEPTH 150mm

DRAINAGE ARRAY 3
REFER C11 TABLE 'A' FOR DETAILS

DRAINAGE ARRAY 6
REFER C11 TABLE 'A' FOR DETAILS

STAFF & LIBRARY
FFL 21.00
SPL 20.90

ADMIN
FFL 21.20
SPL 21.10

UPPER SCHOOL COURTYARD
SPL 20.70

TB3
FFL 21.20
SPL 21.10

TB4
FFL 21.00
SPL 20.90

US=19.27
300/150
D=3.0
DS=19.25

US=19.09
300/150
D=3.0
DS=19.07

US=18.98
300/31
D=3.1
DS=18.88

ø900 G2 1.3

ø900 G3 1.5

ø900 M1 2.5

ø900 M2 1.7

ø900 M3 2.2

ø900 M6 1.5

1 IN 12.5

5.4%

RET 9

SUPPLY AND INSTALL 400mm x 400mm x 5mm GALVANISED STEEL ORIFICE PLATE TO OUTLET PIPE WITH 100mm DIA OPENING OFFSET 50mm FROM BASE OF PLATE, FIXED TO CONCRETE LINER WITH 4x GALVANISED BOLTS, IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

PROPOSED CONNECTION TO EXISTING LOCAL AUTHORITY DRAINAGE NETWORK IN ACCORDANCE WITH LWMS

PROPOSED ROAD CROSSING TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF SWAN SPECIFICATION FOR ROAD OPENINGS AND RESTORATIONS INCLUDING TRAFFIC MANAGEMENT REQUIREMENTS. LOCATE AND PROTECT ALL EXISTING SERVICES. REINSTATE EXISTING PAVEMENTS, KERBS AND PATH TO EXISTING CONDITION.

(US=16.96)
(750/271)
(ID=16.27)
(DS=16.90)

PROPOSED SWALE
1 IN 6 BATTER

REMOVE EXISTING STAR IRON PICKET AND WIRE STRAND FENCE AND DISPOSE OFFSITE.

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C11 C12 C13 C15 C17

DRAINAGE ARRAY 7
REFER C11 TABLE 'A' FOR DETAILS

TB5
FFL 21.00
SPL 20.90

UPPER SCHOOL COURTYARD
SPL 20.95

UPPER SCHOOL COURTYARD
SPL 20.70

ASSEMBLY, CANTEEN, MUSIC & STORES
FFL 21.00
SPL 20.90

SPORTS COURTS

TB4
FFL 21.00
SPL 20.90

Ø300 INTER-CONNECTED PIPE
IL 19.24

US=19.26
300/150
D=3.0
DS=19.24

PROPOSED SWALE AND FOOTPATH LOCATIONS SUBJECT TO COORDINATION WITH LANDSCAPE

PROPOSED SWALE TYPE 2

PROPOSED PAVEMENT BUILD-UP FOR PLEXIPAVE SPORTS SURFACING SYSTEM TBC PENDING MANUFACTURER'S ADVICE

PROPOSED RETAINING WALLS TO BE ADEQUATELY PROPPED DURING BACKFILL AND PAVEMENT CONSTRUCTION (TYP.)

DRAINAGE ARRAY 5A
REFER C11 TABLE 'A' FOR DETAILS

REMOVE EXISTING STAR IRON PICKET AND WIRE STRAND FENCE AND DISPOSE OFFSITE.

DRAINAGE ARRAY 4A
REFER C11 TABLE 'A' FOR DETAILS

PROPOSED ABOVE GROUND STORAGE
100 yr STORAGE 21.68 m3
100 yr TWL 20.50
MAXIMUM PONDING DEPTH 150mm

DRAINAGE ARRAY 4B
REFER C11 TABLE 'A' FOR DETAILS

DRAINAGE ARRAY 4C
REFER C11 TABLE 'A' FOR DETAILS

PROPOSED ABOVE GROUND STORAGE
100 yr STORAGE 20.21m3
100 yr TWL 20.50
MAXIMUM PONDING DEPTH 150mm

PROPOSED PUMP & TANK PAD
FFL 20.85

SYNANDRA WAY

CRANLEIGH STREET

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APPROVED	DMN	SIGNATURE		
SCALE 1:200 @ A1		DATE 25/06/2021		DRAWING No. C16 REV. B
DF PROJ No 15030		DF FILE No 2021/01713		

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REFER DRAWING C10 FOR NOTES AND C18 FOR LEGEND.

C12 C13 C14 C16 C18

PROPOSED SWALE TYPE 1

PROPOSED OVERLAND FLOW PATH

PROPOSED SWALE TYPE 1

PROPOSED SWALE TYPE 1

SPORTS COURTS OVEREXCAVATE MIN 1000mm BELOW FSL, EXTENDINNG MIN 1.0m AROUND PERIMETER, AND REPLACE WITH STRUCTURAL FILL COMPACTED TO 98% MMDD

PROPOSED TEMPORARY SWALE TYPE 1

SPORTS COURTS

PROPOSED PAVEMENT BUILD-UP FOR PLEXIPAVE SPORTS SURFACING SYSTEM TBC PENDING MANUFACTURER'S ADVICE

Ø300 INTER-CONNECTED PIPE IL 19.24

4 x FUTURE TRANSPORTABLE
SPL 21.40
FFL 21.50

FUTURE EDUCARE CENTRE
SPL 21.40
FFL 21.50

PROPOSED TEMPORARY SWALE TYPE 1

PROPOSED RETAINING WALLS TO BE ADEQUATELY PROPPED DURING BACKFILL AND PAVEMENT CONSTRUCTION (TYP.)

Ø300 INTER-CONNECTED PIPE IL 19.24

RET 16

225PVC 200 Ø0

19.28

19.24

DRAINAGE ARRAY 10 (FUTURE) REFER C11 TABLE 'A' FOR DETAILS

INSTALL TEMPORARY CAP TO END OF PROPOSED Ø300 PIPE

US=19.26
300/150
D=3.0
DS=19.24

Ø900
G7
1.3

19.24

300
187

18.7

19.34

20.90

19.35

Ø900
G8
1.5

35.7

19.53

300
198

RET 14

RET 14

RET 15

RET 14

SPAP RECEIVED 12 JULY 2021

CRANLEIGH STREET

FEATHERFLOWER AVENUE

PROPOSED PUMP & TANK PAD FFL 20.85

PROPOSED ABOVE GROUND STORAGE
100 yr STORAGE 20.21 m3
100 yr TWL 20.50
MAXIMUM PONDING DEPTH 150mm

DRAINAGE ARRAY 5B REFER C11 TABLE 'A' FOR DETAILS

REMOVE EXISTING STAR IRON PICKET AND WIRE STRAND FENCE AND DISPOSE OFFSITE

DRAINAGE ARRAY 5C REFER C11 TABLE 'A' FOR DETAILS

TRANSFORMER PAD FFL 21.50. PROVIDE 1.0m MIN. DEPTH STRUCTURAL FILL BELOW TRANSFORMER PAD, COMPACTED TO 95% MMDD. INCREASE DEPTH TO 1.6m WHERE FOUNDED ON IN-SITU CLAY MATERIAL

BIN PAD FFL 20.95

EXISTING POST AND PANEL RETAINING WALL INCLUDING FOOTINGS TO BE REMOVED FOR MINIMUM EXTENT SHOWN TO NEAREST VERTICAL POST. DISPOSE OFFSITE AND MAKE GOOD.

PLAN
SCALE 1:200

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REV.	DESCRIPTION	DRAWN	APP'D	DATE
B	100% CONTRACT DOCUMENTATION ISSUE	LUL	BC	25/06/2021
A	80% CONTRACT DOCUMENTATION ISSUE	LUL	BC	18/06/2021

ARCHITECT/CLIENT:

CHRISTOU

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PRELIMINARY
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Government of Western Australia
Department of Finance
Building Management and Works

CIVIL SERVICES
DAYTON PRIMARY SCHOOL
EARTHWORKS AND DRAINAGE PLAN
SHEET 8

DRAWN	LUL	DESIGNED	LUL	REDUCTION	
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APPROVED	DMN	SIGNATURE			
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DF PROJ No	15030	DF FILE No	2021/01713	C17	B

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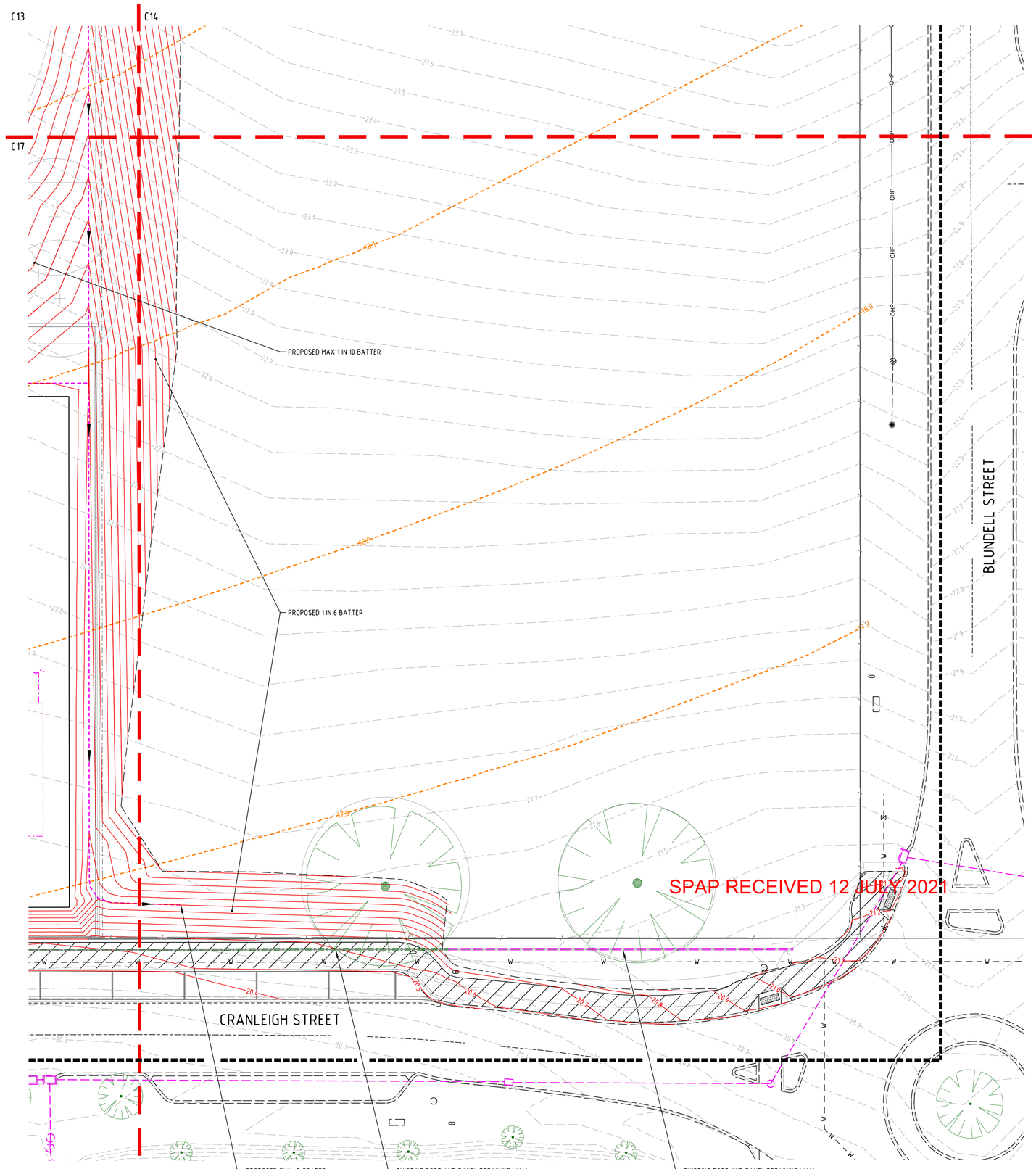
REFER DRAWING C10 FOR NOTES.



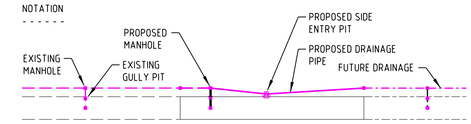
SPAP RECEIVED 12 JULY 2021

PLAN
SCALE 1:200

LEGEND

- EXTENT OF BOUNDARY
- 10.0 DESIGN CONTOURS
- 10.0 EXISTING CONTOURS
- EXISTING FENCE
- AREA TO BE OVER-EXCAVATED AS DENOTED ON PLAN
- PROPOSED FOOTING REFER STRUCTURUAL DOCUMENTS FOR DETAILS
- PROPOSED HYDRAULIC DRAINAGE PIPE REFER HYDRAULIC DOCUMENTS FOR DETAILS
- PROPOSED HYDRAULIC SEWER PIPE REFER HYDRAULIC DOCUMENTS FOR DETAILS
- PROPOSED HYDRAULIC WATER PIPE REFER HYDRAULIC DOCUMENTS FOR DETAILS
- EXISTING ROAD
- PROPOSED ROAD
- PROPOSED DUAL USE PATH
- PROPOSED HEADWALL
  PROPOSED DRAINAGE PIPE AND PIT
  PROPOSED DN160 SUBSOIL DRAIN LAID AT AAMGL LEVEL
- SD PROPOSED STRIP DRAIN
- PROPOSED SWALE TYPE 1
- PROPOSED SWALE TYPE 2
- EXISTING DRAINAGE PIPE AND PIT
- INSPECTFLEX CELLS (BOTTOM LAYER ONLY)
  PROPOSED GRAF ECOBLOC MAXX (OR EQUIVALENT) DRAINAGE CELL ARRAYS AS APPROVED BY THE CIVIL ENGINEER (INDICATIVE, SUBJECT TO SITE WATER MANAGEMENT PLAN REPORT)
  GRAF VARIO 800 FLEX SHAFT SYSTEM WITH TRAFFICABLE MAXI CAST IRON TELESCOPIC DOME SHAFT COVER (OR EQUIVALENT), SET FLUSH WITH FSL
- FUTURE DRAINAGE CELL ARRAY
- PROPOSED CONNECTION POINT TO HYDRAULIC SYSTEM REFER TO HYDRAULIC DRAWINGS FOR INFORMATION
- PROPOSED REINFORCED MASONRY RETAINING WALL
- RET 1 RETAINING WALL LONGSECTIONS REFERENCE NAME (REFER TO RETAINING WALL LONGSECTIONS)
- PROPOSED LIMESTONE RETAINING WALL REFER RETAINING WALL LONG SECTIONS
- (S) START OF RETAINING WALL LONGSECTION
- (E) END OF RETAINING WALL LONGSECTION
- EXISTING STAR IRON PICKET / TIMBER POST AND WIRE STRAND FENCE
- EXISTING RETAINING WALL TO BE RETAINED AND PROTECTED
- EXISTING RETAINING WALL TO BE REMOVED
- W EXISTING WATER
- S EXISTING SEWER
- P EXISTING SEWER
- 18.7 AAMGL LINE
- EXISTING TREE TO RETAIN
- × 20.79 PROPOSED SPOT LEVEL

NOTATION



- B1 BUBBLE UP PIT
- R1 RAISED GULLY PIT
- GPT GROSS POLLUTANT TRAP
- DS1 DOUBLE SIDE ENTRY PIT
- S1 SIDE ENTRY PIT
- CY COMBINATION PIT
- M1 ACCESS CHAMBER
- G1 GULLY PIT
- ØXXX PROPOSED GULLY DIAMETER
- GT PIT NUMBER / DESCRIPTOR
- XX XX PROPOSED DEPTH TO INVERT

300'4' PIPE DIA. & CLASS
24.0 PIPE GRADE
18.65 18.97 INVERT LEVEL
38.5 LENGTH

- US=16.53 UPSTREAM INVERT LEVEL
- 300'4'/18.3 PIPE DIA & CLASS/PIPE GRADE
- D=21.3 LENGTH OF PIPE
- DS=15.37 DOWNSTREAM INVERT LEVEL

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CIVIL SERVICES
DAYTON PRIMARY SCHOOL
EARTHWORKS AND DRAINAGE PLAN
SHEET 9

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CHECKED	BC	PRINCIPAL	
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SCALE	1:200 @ A1	DATE	25/06/2021
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DAYTON PRIMARY SCHOOL

REV	DATE	DESCRIPTION	BY
A	04/05/2021	DEVELOPMENT APPLICATION	MLM

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Title: FINISHES SCHEDULE

FINISHES SCHEDULE

Status: DEVELOPMENT APPLICATION

Drawn: CDG Checked: MLM

Job Number: 15030

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FORMERLY JAMES CHRISTOU
+ PARTNERS ARCHITECTS

CHRISTOU

ARCHITECTURE / URBAN DESIGN / INTERIOR DESIGN

Drawing Number
DA0-8300

Revision
A

CODE ON DRAWINGS	PRODUCT TYPE	DESCRIPTION	COLOUR / FINISH	MANUFACTURER / SUPPLIER	IMAGE
MA-201	Face Brick	Manor Range 290 x 162 x 90mm Stretcher bond Rolled joint Mortar colour to match Whitecliffe	Whitecliffe	Midland Brick	
MA-202	Face Brick	Manor Range 290 x 162 x 90mm Stretcher bond Rolled joint Mortar colour to match Whitecliffe	Silverbirch	Midland Brick	
MA-203	Face Brick	Manor Range 290 x 162 x 90mm Stretcher bond Rolled joint Mortar colour to match Whitecliffe	Blackwell	Midland Brick	
PT-701	Pre-painted Steel	Range: Contemporary	Shale Grey	Colorbond	
PT-810	Metal Finish	Hot-dip galvanised steel Refer to specifications for details	Galvanised steel	T.B.C.	
PT-820	Metal Finish	Anodised Aluminium	Black	T.B.C.	
PT-821	Metal Finish	Anodised Aluminium	Clear	T.B.C.	

NOTES:
1 ALL PRODUCTS AND FINISHES TO BE AS NOTED OR AN APROVED EQUIVALENT
2 REFER TO ELEVATIONS FOR BRICK PATTERNING

Dayton Primary School

Development Application Report

four LANDSCAPE STUDIO

info@fourls.com.au ph:92864900 11/34 Eighth Ave, Maylands 6051

CONTENTS

Section 1	Existing Site Assessment Project Vision
Section 2	Exploration of Place Current Site Experience
Section 3	The Landscape Design
Section 4	Opportunities and Constraints
Section 5	Environmental Sustainable Design
Section 6	Soft Landscape Strategy
Section 7	Hard Landscape Strategy Play Strategy
Section 8	Crime Prevention Through Environmental Design Irrigation Strategy Maintenance Strategy
Appendix A	Landscape Drawings
Appendix B	Arborist Report

Four Landscape Studio wish to acknowledge the Traditional Custodians of the land on which we work, live and play, The Whadjuk people. We wish to acknowledge and respect their continuing culture and contribution to the life of this city and region.

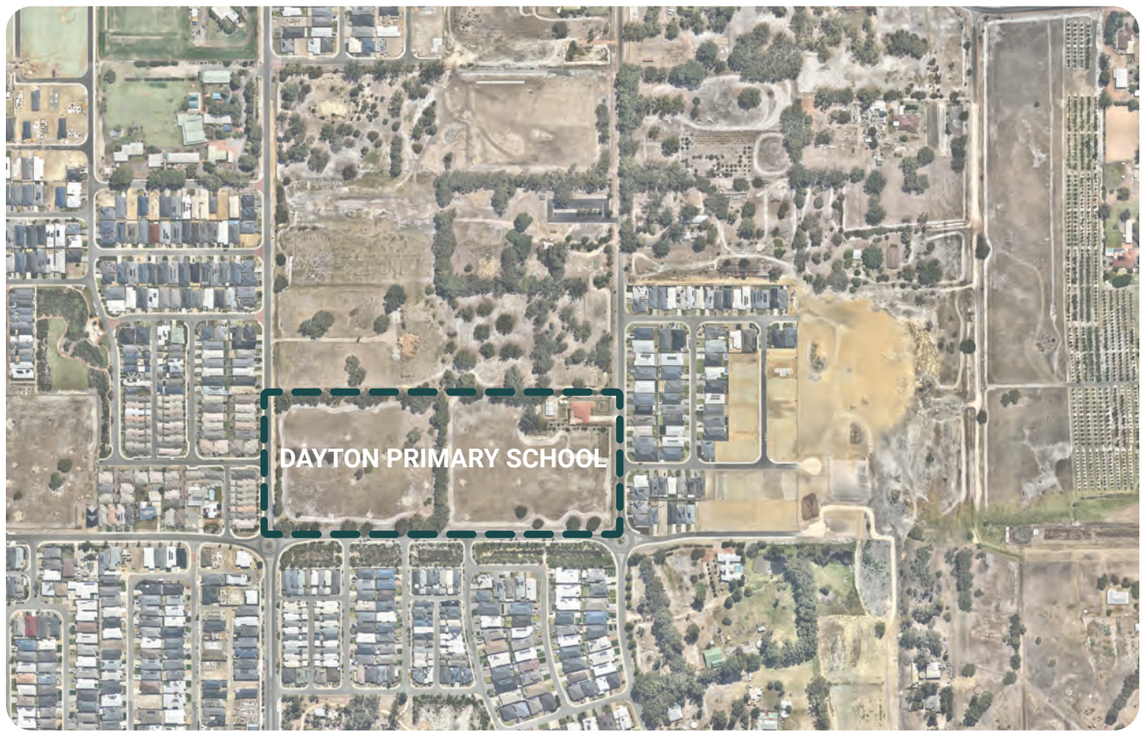
EXISTING SITE ASSESSMENT

The proposed Dayton Primary School is located in the existing suburban development of Dayton, within the City of Swan. The proposed school site is bordered to the West by Arthur Street, Blundell Street to the East, to the South by Cranleight Street. The lot to the North of the site is proposed Public Open Space as per Dayton Stage 2A Local Structure Plan, 2015.

The site is currently managed grassland with an existing residence and domestic orchard to the North-East corner of the site. The existing house will be demolished, Four Landscape Studio will investigate the opportunity to transplant select species to be integrated as part of the school science courtyard.

The site has significant existing trees planted along historic fence lines. An aborist report has been undertaken by Arborlogic (refer Appendix B) and interpreted as an existing tree plan included in Appendix A.

A Bushfire assessment and subsequent management plan has been conducted and relevant setbacks included as part of the Schematic Design.



Location map
nearmaps.com

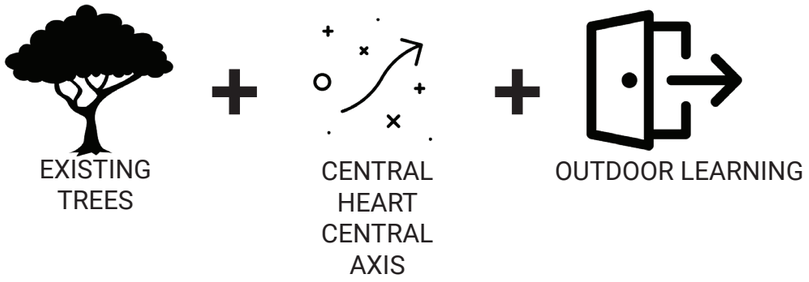


Existing site vegetation

PROJECT VISION

To create a landscape design that includes a strong hierarchy of structure, shapes and forms to produce usable and interesting outdoor spaces which promote student interaction and external learning. The organisation of the new Administration and General Learning Buildings create a central heart, courtyard space in the center of the campus. A generous spine will connect the two ends of the site, creating a unified language throughout the site.

Design is to be simple and uncluttered; have a sense of place be versatile, durable and maintainable. The design should recognise the heritage of the site but remain contemporary in its aesthetic. The proposed design will celebrate the significant existing trees throughout the site and include numerous opportunities for external learning.









EXPLORATION OF PLACE

The suburb of Dayton is bordered by the Swan Valley to the east and Whiteman Park to the North-West.

Dayton has been named In honour of the memory of Walter Warner Day "Wally". An English migrant, who arrived in the Swan Valley in 1912 and commenced work with Phil Taylor at the Wissanger vineyard.

Wally was decorated with the Military Medal in World War 1 and has owned several parcels of land throughout the West Swan area - one he called "Swaisdale", and another that now forms part of Whiteman Park. He played a key role in the cattle and grape growing industries in the Swan Valley, was president of the West Swan Branch of the RSL and captain of the first West Swan Fire Brigade. A successful vigneron, he was awarded the Centenary Medal and a certificate for the best vineyard in WA during the centenary celebrations of WA in 1929. Content supplied by G Rogers.

https://www.swan.wa.gov.au/

CURRENT SITE EXPERIENCE

Crunching dry leaves underfoot. Differing patterned bark. Multi stemmed trees.
Fruit laden trees.

Smell of Eucalyptus on a muggy day.
A bird I hadn't heard before.
A butterfly.
Weed seed heads blowing in the wind.
About to rain.

Cars humming.
Power lines in background.



Existing site patterning

THE LANDSCAPE DESIGN

The design seeks to provide usable outdoor education spaces of high amenity, whilst providing strong links to the landscape of the existing site.

The following key points are addressed via the design:

- Celebrate existing mature trees for their provision of shade, vertical relief and diversity.
- Reference the locations colonial history of fruit trees and grazing land.
- Reference adjacent Whiteman Park through planting selections.
- Create a central heart of campus connecting administration to undercovered assembly building.
- Present a soft landscape palette that provides shade to outdoor classroom and passive recreation areas, promotes solar passivity and references the native flora of the area.
- Present a consolidated hard landscape strategy with a focus on interesting courtyard spaces for outdoor learning and breakout spaces, student interaction and the articulation of pedestrian movement through the campus.
- Promote environmental sustainability through the utilisation of water sensitive design via on site storm water retention and infiltration.
- Utilisation of cost-efficient materials, which are sensitive to the schools site and surrounding location, in new and interesting ways.
- Facilitates pedestrian access within the Campus by providing appropriate path networks.
- Provides a range of pavement typologies to identify public, transition and private spaces.
- Provides tree planting to allow for shading to paved areas.
- Delivers flexible spaces that can be used for a range of activities and group sizes.
- Provides casual seating elements for the congregation, interaction and communication between students, teachers and parents.
- Incorporate existing site trees (felled and transplants) within design to benefit pedagogy.



Existing site condition

OPPORTUNITIES AND CONSTRAINTS

The Dayton Primary School site presents many interesting prospects for the landscape design. Compiled below is a list of the opportunities and constraints that the site provides.

Opportunities:

- Significant existing trees providing shade, a sense of enclosure, biodiversity and visual amenity.
- The existing endemic flora provides an opportunity for the inclusion of environmentally significant vegetation. This will enable the site to maintain fauna habitat and promote interaction between students and the existing natural environment in a science-based learning environment.
- The schematic design layout presents opportunities for outdoor learning spaces tailored to the learning outcomes of the adjacent classrooms.
- The proposed building layout creates generous external spaces for outdoor learning and passive recreation.
- To create a precedence for other education facilities to follow in regards to the perceived benefits associated with breaking the mold of the typical classroom with breakout spaces.
- Opportunity to incorporate the percent of art towards wayfinding.

Constraints:

- Increase in site levels limit ability for tree retention.
- Level of drainage/swale infrastructure required.



Opportunity to salvage timber for nature play

ENVIRONMENTAL SUSTAINABLE DESIGN

The landscape design addresses sustainability through environmental responsibility and cost effectiveness by:

- Consolidating the extent and selection of vegetation and helping to reduce water usage through the implementation of water wise principles.
- Provides for a kitchen garden and the associated teachings.
- Opportunity to relocate existing site fruit trees to a dedicated orchid adjacent science courtyard.
- Retention of existing trees where possible.
- Recycle and reincorporate existing felled site trees into nature play elements.
- Using similar construction modules to simplify construction.
- Choosing sustainable planting in conjunction with the application of solar passive design principles (shading to Western & Eastern elevations).
- Provides the opportunity to utilise water sensitive urban design via on-site storm water retention and infiltration.
- Minimises earthworks to site by locating buildings as close to the existing ground-level as possible.



Existing site fruit trees

SOFT LANDSCAPE STRATEGY

The focus of the soft landscaping is to reference the endemic planting of the area, whilst integrating with the existing planting throughout the School. The soft landscaping aims to:

- Maintain, protect and celebrate significant existing trees.
- Utilise appropriate tree species to provide shade for active and passive recreation areas.
- Provide semi-advanced tree species to provide immediate shade and structure.
- Reference locally endemic and drought tolerant species via themed courtyard spaces.
- Link soft landscaping with outdoor classroom to provide student interaction and education opportunities.
- Create an open 'Sacred space' central courtyard strengthened with trees to the East West axis.
- Potential inclusion of productive permaculture garden to compliment community garden program.
- Utilise colour and species selection within the landscape to provide links with the surrounding landscape.
- Ensure all plant species are hardy and low maintenance. Utilise species that are growing well within the surrounding suburb.
- Remove hazardous trees as indicated in Arborist's Report.
- Inclusion of planting species with nutrient stripping capability to swales that can be utilised in science curriculum.

The following tree species have been recorded and identified on site :
Corymbia calophylla **
Corymbia citriodora
Corymbia maculata
Cupressus sempervirens
Eucalyptus botryoides
Eucalyptus camdaldulensis obtusa
Eucalyptus caesia
*Eucalyptus gomphocephala***
Eucalyptus grandis
Eucalyptus leucoxylon **
Eucalyptus macranda
*Eucalyptus marginata***
Eucalyptus robusta
Eucalyptus rudis
*Eucalyptus sideroxylon***
Melaleuca armillaris
Melia azedarach
Olea europaea

*** Indicates species to form part of proposed tree planting palette.*
Preliminary soft landscape selections will be completed during the construction documentation phase of the project with final selections completed during construction documentation.

Four Landscape Studio have identified several fruit trees to the south of the existing residence on the site that are suitable for relocation into the school site to form part of the STEAM curriculum, provide species diversity within the site. This relocation will be undertaken budget permitting.

Apricot	Fig
Various Citrus	Pear
3x Nectarine	3x Olives
6x Pomegranite	Peach
Mango	Bay tree

Four Landscape Studio have identified the presence of tree species, *Melia azedarach, which is* not part of the approved Department of Education list, due to health risks. The 2 tree specimens of this species will be removed as part of the demolition works.



Existing site trees

HARD LANDSCAPE STRATEGY

The focus of the hard landscaping will be to:
- Articulate the primary traffic flow arteries with paving.
- Connect desire lines through site.
- Create visual interest via a distinct paving pattern, including the integration of recycled site materials.
- Provide universal access throughout the site.
- Provide numerous play opportunities
- Provide hardstand breakout spaces and casual seating for outdoor teaching with curriculum theming.
- Define central courtyard space via hard landscape finishes.
- Create multiple external learning opportunities through the inclusion of teaching walls, raised vegetable planters and line marking including; 'X Y axis', number grids and punnet squares
- Provide casual seating in shaded areas for the congregation of students in different size groupings.
- Reduce ongoing maintenance costs via simple robust detailing, including materiality selection.

Preliminary landscape selections will be made in collaboration with the project architects prior to the completion of the design development phase of the project with final selections being made during the contract documents phase of the project.

PLAY STRATEGY

The Early Learning Centre includes;
- Figure 8 bike track; to give students decision making opportunities when navigating intersections.
- Strategic placement of Standard Pattern sand pits, to reduce the impact of prevailing Easterly winds.
- Dedicated areas within softfall mulch for the School to install proprietary equipment of their choosing.
- Rocks and site recycled logs for balancing, siting, imaginative play and mindfulness.
- Connection to existing line of significant trees to the North.
- Provision for raised vegetable planters and fruit trees.
- Large expanse of turf for physical activity and spare parts play.

Primary School courtyards include the following play provisions;
- Connection to existing significant trees with future provision for School to implement nature play inclusions below.
- Provision for raised vegetable planters and fruit trees.
- Large expanse of turf for physical activity and spare parts play.
- Dedicated areas within softfall mulch for the School to install proprietary equipment of their choosing.
- Rocks and site recycled logs for balancing, siting, imaginative play and mindfulness.
- Multipurpose stages for impromptu performances and imaginative play.







Precedent imagery

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

The landscape design will use accepted design principles in an attempt to reduce antisocial behavior, thereby improving the quality and security of the School.

The following principles are proposed:
- Appropriate overhead and path lighting;
- Natural access control by the use of a perimeter fence;
- Elimination of blind corners and dense vegetation, which can hinder views and prevent natural surveillance; and
- Vandal resilient materials and furniture.

IRRIGATION STRATEGY

A desktop study on the subject site and its capacity to service the proposed landscape areas via a ground water bore has been undertaken and an allocation for the site is available.

A request for a license to construct a bore and for a water allocation will be submitted to the Department of Water (DoW) on behalf of the client.

MAINTENANCE STRATEGY

Reduction in the soft landscape maintenance requirements will be promoted by including water wise principles & ensuring all plant species are hardy and easy to sustain. High importance will be placed on overseeing and inspecting the soft landscape installation to ensure that correct soil preparation procedures are undertaken and that supplied plant material is of high quality. Particular emphasis will be placed on tree species complying with Australian Standard AS2303 Tree stock for landscape use and the assessment criteria outlined in Ross Clarke's book 'Specifying Trees'.

Upon completion of installation Four Landscape Studio will provide a comprehensive maintenance schedule for the soft landscape material to ensure the School maintenance team are aware of all maintenance requirements.

The hard landscape material palette will be selected to ensure longevity of life along with ease of cleaning and vandal resilience. Detailing will be simple and robust to aid in maintenance minimisation.

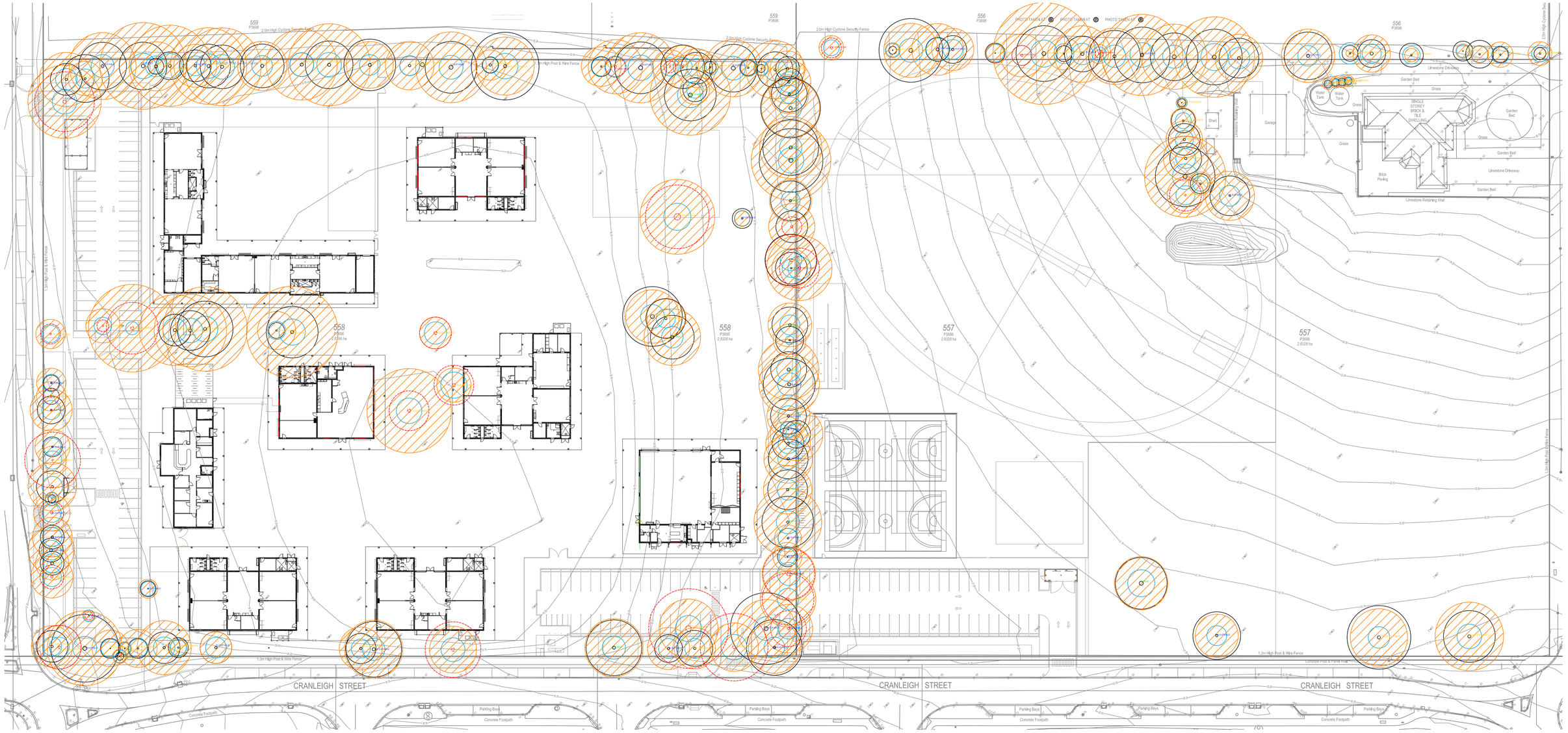
The site's Masterplan has been thoughtfully undertaken to preserve and celebrate the significant existing site trees. The trees provide instant shade, vertical scale, biodiversity and visual amenity to the site. Dayton Primary School will need to engage an Arborist to undertake yearly tree inspections to ensure mature trees are free of deadwood, healthy and structurally sound.



Existing site condition

APPENDIX A_ LANDSCAPE DRAWINGS

L01 EXISTING TREE PLAN
L02 EXISTING TREE SCHEDULE
L03 LANDSCAPE CONCEPT PLAN



LEGEND:

- EXISTING TREES TO BE RETAINED WITH REFERENCE NUMBER AND SUITABILITY - REFER ARBORICULTURAL REPORT
- EXISTING TREES TO BE REMOVED WITH REFERENCE NUMBER. REFER SCHEDULE AND ARBORICULTURAL REPORT
- STRUCTURAL ROOT ZONE (SRZ)
- TREE PROTECTION ZONE (TPZ)
- SUITABLE TREE - REFER L02 FOR EXISTING TREE SCHEDULE AND ARBORICULTURAL REPORT
- QUESTIONABLE TREE - REFER L02 FOR EXISTING TREE SCHEDULE AND ARBORICULTURAL REPORT
- VERY LOW RETENTION VALUE TREE (REMOVE) - REFER L02 FOR EXISTING TREE SCHEDULE AND ARBORICULTURAL REPORT
- HIGH RETENTION VALUE TREE - REFER L02 FOR EXISTING TREE SCHEDULE AND ARBORICULTURAL REPORT

REV	AMENDMENT	DATE	CHKD
C	ISSUE FOR DEVELOPMENT APPLICATION	21.04.2021	TC
B	ISSUE FOR SCHEMATIC DESIGN	12.03.2021	TC
A	ISSUE FOR INFORMATION	25.02.2021	TC

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Government of Western Australia
Department of Finance
Buildings & Contracts

ISSUE FOR DEVELOPMENT APPLICATION

DEPARTMENT OF EDUCATION

DAYTON PRIMARY SCHOOL

EXISTING TREE PLAN

DRAWN	4LS	DESIGNED	4LS	REDUCTION 0 12500
CHECKED	AT	PRINCIPAL		
APPROVED	AT			
SCALE 1 : 500 @ A1		DATE APRIL 2021		DRAWING NO. L01 REV NO. C
DF PROJ NO. XXXXX		DF FILE NO. 202X/XXXXX		

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EXISTING TREE SCHEDULE

TREE NUMBER	BOTANICAL NAME	HEIGHT	TREE PROTECTION ZONE (TPZ)	STRUCTURAL ROOT ZONE (SRZ)	ORIGIN	RETAIN / REMOVE
1	EUCALYPTUS RUDIS	17M	9.2M	3.1M	WA NATIVE	REMOVE
2	EUCALYPTUS RUDIS	10M	6.8M	2.7M	WA NATIVE	RETAIN
3	EUCALYPTUS RUDIS	8M	4.3M	2.4M	WA NATIVE	RETAIN
4	EUCALYPTUS RUDIS	16M	8.4M	2.9M	WA NATIVE	RETAIN
5	EUCALYPTUS RUDIS	14M	10.9M	3.2M	WA NATIVE	RETAIN
6	EUCALYPTUS SIDEROXYLON	9M	6.2M	2.6M	AUS NATIVE	RETAIN
7	EUCALYPTUS SIDEROXYLON	14M	10.2M	3.1M	AUS NATIVE	RETAIN
8	EUCALYPTUS RUDIS	14M	5.4M	2.5M	WA NATIVE	RETAIN
9	EUCALYPTUS SIDEROXYLON	14M	9.6M	3.1M	AUS NATIVE	RETAIN
10	EUCALYPTUS SIDEROXYLON	14M	9.8M	3.1M	AUS NATIVE	RETAIN
11	EUCALYPTUS RUDIS	14M	6.2M	2.6M	WA NATIVE	RETAIN
12	EUCALYPTUS RUDIS	18M	8.9M	3.0M	WA NATIVE	RETAIN
13	EUCALYPTUS RUDIS	18M	10.3M	3.1M	WA NATIVE	RETAIN
14	EUCALYPTUS RUDIS	12M	5.9M	2.6M	WA NATIVE	RETAIN
15	EUCALYPTUS SIDEROXYLON	9M	6.1M	2.5M	AUS NATIVE	RETAIN
16	EUCALYPTUS RUDIS	17M	5.5M	3.1M	WA NATIVE	RETAIN
17	EUCALYPTUS RUDIS	17M	8.9M	3.0M	WA NATIVE	RETAIN
18	EUCALYPTUS SIDEROXYLON	6M	3.8M	2.1M	AUS NATIVE	RETAIN
19	EUCALYPTUS RUDIS	12M	7.3M	3.2M	WA NATIVE	RETAIN
20	EUCALYPTUS RUDIS	6M	5.0M	2.4M	WA NATIVE	RETAIN
21	EUCALYPTUS RUDIS	6M	6.8M	2.7M	WA NATIVE	REMOVE
22	EUCALYPTUS SIDEROXYLON	18M	8.8M	3.2M	AUS NATIVE	RETAIN
23	EUCALYPTUS RUDIS	9M	4.3M	2.3M	WA NATIVE	REMOVE
24	EUCALYPTUS RUDIS	9M	5.5M	2.4M	WA NATIVE	RETAIN
25	EUCALYPTUS RUDIS	10M	4.9M	2.4M	WA NATIVE	RETAIN
26	EUCALYPTUS RUDIS	8M	3.1M	2.0M	WA NATIVE	RETAIN
27	CORYMBIA CITRIODORA	11M	3.7M	2.1M	AUS NATIVE	RETAIN
28	EUCALYPTUS RUDIS	18M	10.1M	3.2M	WA NATIVE	RETAIN
29	EUCALYPTUS RUDIS	18M	7.2M	3.0M	WA NATIVE	RETAIN
30	EUCALYPTUS RUDIS	8M	1.9M	2.2M	WA NATIVE	RETAIN
31	EUCALYPTUS RUDIS	8M	1.9M	1.7M	WA NATIVE	RETAIN
32	EUCALYPTUS SIDEROXYLON	14M	7.3M	2.8M	AUS NATIVE	RETAIN
33	EUCALYPTUS RUDIS	7M	4.4M	2.4M	WA NATIVE	RETAIN
34	CORYMBIA MACULATA	23M	5.5M	2.6M	AUS NATIVE	RETAIN
35	CORYMBIA MACULATA	23M	4.9M	2.3M	AUS NATIVE	RETAIN
36	CORYMBIA MACULATA	21M	7.3M	2.8M	AUS NATIVE	RETAIN
37	CORYMBIA MACULATA	27M	7.8M	2.8M	AUS NATIVE	RETAIN
38	CORYMBIA MACULATA	27M	10.0M	3.2M	AUS NATIVE	RETAIN
39	CORYMBIA MACULATA	11M	5.3M	2.4M	AUS NATIVE	RETAIN
40	CORYMBIA MACULATA	9M	5.8M	2.5M	AUS NATIVE	REMOVE
41	EUCALYPTUS GRANDIS	26M	6.4M	2.7M	AUS NATIVE	REMOVE
42	CORYMBIA MACULATA	11M	4.9M	2.3M	AUS NATIVE	RETAIN
43	EUCALYPTUS BOTRYOIDES	13M	8.2M	2.9M	AUS NATIVE	REMOVE
44	CORYMBIA MACULATA	16M	5.6M	2.5M	AUS NATIVE	RETAIN
45	CORYMBIA MACULATA	16M	4.1M	2.2M	AUS NATIVE	RETAIN
46	CORYMBIA MACULATA	21M	9.2M	3.0M	AUS NATIVE	RETAIN
47	EUCALYPTUS ROBUSTA	21M	7.6M	2.9M	AUS NATIVE	RETAIN
48	EUCALYPTUS ROBUSTA	15M	5.4M	2.6M	AUS NATIVE	RETAIN
49	CORYMBIA MACULATA	12M	3.2M	2.0M	AUS NATIVE	RETAIN
50	EUCALYPTUS ROBUSTA	9M	6.6M	2.7M	AUS NATIVE	RETAIN
51	EUCALYPTUS ROBUSTA	17M	5.6M	2.5M	AUS NATIVE	RETAIN
52	CORYMBIA MACULATA	17M	6.1M	2.6M	AUS NATIVE	RETAIN
53	CORYMBIA MACULATA	17M	6.1M	2.6M	AUS NATIVE	RETAIN
54	CORYMBIA MACULATA	20M	8.5M	2.9M	AUS NATIVE	RETAIN
55	CORYMBIA CALOPHYLLA	8M	3.4M	2.5M	WA NATIVE	RETAIN
56	CORYMBIA CALOPHYLLA	8M	3.6M	2.1M	WA NATIVE	RETAIN
57	EUCALYPTUS ROBUSTA	16M	6.7M	2.9M	AUS NATIVE	REMOVE
58	EUCALYPTUS RUDIS	14M	7.0M	2.7M	WA NATIVE	REMOVE
59	CORYMBIA MACULATA	20M	6.1M	2.6M	AUS NATIVE	REMOVE
60	EUCALYPTUS RUDIS	16M	7.3M	3.0M	WA NATIVE	RETAIN
61	CORYMBIA MACULATA	18M	6.5M	2.6M	AUS NATIVE	RETAIN
62	CORYMBIA MACULATA	20M	6.1M	3.2M	AUS NATIVE	REMOVE
63	CORYMBIA MACULATA	21M	5.2M	2.5M	AUS NATIVE	RETAIN
64	EUCALYPTUS CAMALDULENSIS 'OBTUSA'	19M	7.4M	3.3M	AUS NATIVE	REMOVE
65	CORYMBIA MACULATA	21M	5.3M	2.5M	AUS NATIVE	RETAIN
66	CORYMBIA MACULATA	20M	7.3M	2.9M	AUS NATIVE	REMOVE
67	CORYMBIA CITRIODORA	15M	5.9M	3.0M	AUS NATIVE	REMOVE
68	CORYMBIA CITRIODORA	18M	7.3M	2.8M	AUS NATIVE	RETAIN
69	CORYMBIA CITRIODORA	11M	3.8M	2.4M	AUS NATIVE	RETAIN
70	CORYMBIA CITRIODORA	14M	4.0M	2.6M	AUS NATIVE	RETAIN
71	CORYMBIA CITRIODORA	9M	2.2M	2.0M	AUS NATIVE	RETAIN
72	CORYMBIA CITRIODORA	12M	6.8M	2.7M	AUS NATIVE	RETAIN
73	CORYMBIA CITRIODORA	11M	2.4M	1.8M	AUS NATIVE	RETAIN
74	CORYMBIA CITRIODORA	12M	4.8M	2.3M	AUS NATIVE	RETAIN
75	CORYMBIA CITRIODORA	7M	1.7M	1.5M	AUS NATIVE	RETAIN
76	CORYMBIA CITRIODORA	9M	1.8M	1.6M	AUS NATIVE	RETAIN
77	CORYMBIA CITRIODORA	7M	4.6M	2.3M	AUS NATIVE	RETAIN
78	CORYMBIA CITRIODORA	5M	1.3M	1.5M	AUS NATIVE	REMOVE
79	EUCALYPTUS RUDIS	16M	9.4M	3.0M	WA NATIVE	RETAIN
80	EUCALYPTUS RUDIS	16M	5.5M	2.5M	WA NATIVE	REMOVE
81	EUCALYPTUS RUDIS	10M	5.2M	2.4M	WA NATIVE	RETAIN
82	CORYMBIA MACULATA	14M	5.3M	2.4M	AUS NATIVE	REMOVE
83	CORYMBIA MACULATA	14M	4.2M	2.4M	AUS NATIVE	RETAIN
84	CORYMBIA MACULATA	16M	5.8M	2.5M	AUS NATIVE	RETAIN
85	CORYMBIA MACULATA	16M	5.0M	2.4M	AUS NATIVE	RETAIN
86	CORYMBIA MACULATA	16M	4.6M	2.4M	AUS NATIVE	REMOVE
87	CORYMBIA MACULATA	7M	1.7M	1.6M	AUS NATIVE	RETAIN
88	CORYMBIA MACULATA	16M	6.1M	2.6M	AUS NATIVE	RETAIN
89	CORYMBIA MACULATA	15M	3.5M	2.3M	AUS NATIVE	REMOVE
90	CORYMBIA MACULATA	15M	4.4M	2.2M	AUS NATIVE	RETAIN
91	CORYMBIA MACULATA	13M	5.3M	2.4M	AUS NATIVE	RETAIN
92	CORYMBIA MACULATA	10M	3.7M	2.1M	AUS NATIVE	REMOVE
93	CORYMBIA MACULATA	13M	3.7M	2.2M	AUS NATIVE	RETAIN
94	CORYMBIA MACULATA	11M	3.7M	2.2M	AUS NATIVE	REMOVE
95	EUCALYPTUS SIDEROXYLON	8M	4.3M	2.2M	AUS NATIVE	REMOVE
96	EUCALYPTUS SIDEROXYLON	11M	11.0M	3.3M	AUS NATIVE	REMOVE
97	EUCALYPTUS SIDEROXYLON	15M	8.9M	3.0M	AUS NATIVE	RETAIN
98	EUCALYPTUS SIDEROXYLON	17M	9.1M	3.1M	AUS NATIVE	RETAIN
99	EUCALYPTUS SIDEROXYLON	15M	10.6M	3.2M	AUS NATIVE	RETAIN
100	EUCALYPTUS SIDEROXYLON	10M	4.8M	2.3M	AUS NATIVE	RETAIN
101	EUCALYPTUS SIDEROXYLON	12M	11.5M	3.3M	AUS NATIVE	RETAIN
102	EUCALYPTUS SIDEROXYLON	12M	10.6M	3.2M	AUS NATIVE	REMOVE
103	MELIA AZEDARACH	9M	4.3M	3.3M	EXOTIC	REMOVE
104	MELIA AZEDARACH	9M	4.0M	2.8M	EXOTIC	REMOVE
105	EUCALYPTUS RUDIS	11M	6.7M	3.0M	WA NATIVE	RETAIN
106	EUCALYPTUS RUDIS	6M	4.9M	2.4M	WA NATIVE	RETAIN
107	CORYMBIA MACULATA	16M	7.1M	2.7M	AUS NATIVE	RETAIN
108	EUCALYPTUS CAMALDULENSIS 'OBTUSA'	17M	9.4M	3.4M	AUS NATIVE	REMOVE
109	EUCALYPTUS RUDIS	7M	2.0M	1.9M	WA NATIVE	RETAIN
110	MELALEUCA ARMILLARIS	5M	3.1M	2.0M	AUS NATIVE	REMOVE
111	EUCALYPTUS ROBUSTA	7M	1.9M	1.7M	AUS NATIVE	RETAIN
112	EUCALYPTUS GRANDIS	21M	6.8M	3.0M	AUS NATIVE	RETAIN
113	EUCALYPTUS ROBUSTA	17M	6.5M	2.9M	AUS NATIVE	RETAIN
114	CORYMBIA MACULATA	19M	5.3M	2.5M	AUS NATIVE	RETAIN
115	EUCALYPTUS RUDIS	4M	2.4M	2.2M	WA NATIVE	RETAIN
116	EUCALYPTUS ROBUSTA	11M	5.4M	2.5M	AUS NATIVE	REMOVE
117	EUCALYPTUS GRANDIS	24M	12.8M	3.4M	AUS NATIVE	RETAIN
118	EUCALYPTUS RUDIS	11M	4.1M	2.5M	WA NATIVE	RETAIN
119	EUCALYPTUS RUDIS	15M	7.1M	2.7M	WA NATIVE	RETAIN
120	EUCALYPTUS RUDIS	6M	2.4M	1.8M	WA NATIVE	REMOVE
121	EUCALYPTUS GRANDIS	25M	7.1M	2.8M	AUS NATIVE	RETAIN
122	EUCALYPTUS GOMPHOCEPHALA	19M	10.2M	3.1M	WA NATIVE	RETAIN
123	EUCALYPTUS GRANDIS	25M	8.2M	2.9M	AUS NATIVE	RETAIN
124	EUCALYPTUS BOTRYOIDES	24M	10.1M	3.4M	AUS NATIVE	RETAIN
125	EUCALYPTUS BOTRYOIDES	18M	6.0M	2.7M	AUS NATIVE	RETAIN
126	EUCALYPTUS MACRANDRA	8M	6.7M	2.6M	WA NATIVE	RETAIN
127	OLEA EUROPAEA	6M	1.0M	2.7M	EXOTIC	RETAIN
128	EUCALYPTUS LEUCOXYLON	7.5M	4.7M	2.4M	AUS NATIVE	RETAIN
129	EUCALYPTUS CAESIA SSP. CAESIA	7.5M	1.7M	2.2M	WA NATIVE	RETAIN
130	ACACIA ITEAPHYLLA	5M	1.8M	1.6M	AUS NATIVE	RETAIN
131	MELALEUCA ARMILLARIS	4.5M	2.2M	2.1M	AUS NATIVE	RETAIN
132	MELALEUCA ARMILLARIS	4.5M	3.2M	2.2M	AUS NATIVE	RETAIN
133	MELALEUCA ARMILLARIS	4.5M	3.0M	2.1M	AUS NATIVE	RETAIN
134	CUPRESSUS SEMPERVIRENS 'STRICTA'	6M	1.4M	1.5M	EXOTIC	RETAIN
135	CUPRESSUS SEMPERVIRENS 'STRICTA'	6M	1.4M	1.5M	EXOTIC	RETAIN
136	CUPRESSUS SEMPERVIRENS 'STRICTA'	6M	1.4M	1.5M	EXOTIC	RETAIN
137	CUPRESSUS SEMPERVIRENS 'STRICTA'	7M	1.4M	1.5M	EXOTIC	RETAIN
138	EUCALYPTUS GRANDIS	7M	1.2M	1.4M	AUS NATIVE	RETAIN
139	EUCALYPTUS GRANDIS	11M	3.2M	2.0M	AUS NATIVE	RETAIN
140	EUCALYPTUS GRANDIS	19M	4.6M	2.3M	AUS NATIVE	RETAIN
141	EUCALYPTUS RUDIS	19M	5.6M	2.5M	AUS NATIVE	RETAIN
142	EUCALYPTUS GRANDIS	25M	10.2M	3.2M	AUS NATIVE	RETAIN
143	EUCALYPTUS RUDIS	15M	4.6M	2.4M	WA NATIVE	REMOVE
144	EUCALYPTUS GRANDIS	9M	2.9M	1.9M	AUS NATIVE	RETAIN
145	MORUS NIGRA	7M	6.2M	2.6M	EXOTIC	RETAIN
146	EUCALYPTUS GRANDIS	16M	8.6M	3.1M	AUS NATIVE	RETAIN
147	EUCALYPTUS GRANDIS	18M	7.2M	2.7M	AUS NATIVE	RETAIN
148	CORYMBIA CALOPHYLLA	11M	5.4M	2.5M	WA NATIVE	RETAIN
149	EUCALYPTUS MARGINATA	11M	6.7M	3.4M	WA NATIVE	RETAIN

LEGEND:

- SUITABLE TREE - REFER L01 FOR EXISTING TREE LOCATION AND ARBORICULTURAL REPORT
- QUESTIONABLE TREE - REFER L01 FOR EXISTING TREE LOCATION AND ARBORICULTURAL REPORT
- VERY LOW RETENTION VALUE TREE (REMOVE) - REFER L01 FOR EXISTING TREE LOCATION AND ARBORICULTURAL REPORT
- HIGH RETENTION VALUE TREE - REFER L01 FOR EXISTING LOCATION AND ARBORICULTURAL REPORT

REV	AMENDMENT	DATE	CHKD
C	ISSUE FOR DEVELOPMENT APPLICATION	21.04.2021	TC
B	ISSUE FOR SCHEMATIC DESIGN	12.03.2021	TC
A	ISSUE FOR INFORMATION	25.02.2021	TC

four LANDSCAPE STUDIO
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Government of Western Australia
Department of Finance
Buildings & Contracts

ISSUE FOR DEVELOPMENT APPLICATION

DEPARTMENT OF EDUCATION

DAYTON PRIMARY SCHOOL

EXISTING TREE SCHEDULE

DRAWN	4LS	DESIGNED	4LS	REDUCTION	0 12500
CHECKED	AT	PRINCIPAL			
APPROVED	AT				
SCALE	1 : 500 @ A1	DATE	APRIL 2021	DRAWING NO.	L02
DF PROJ NO.	XXXXX	DF FILE NO.	202X/XXXXX	REV NO.	C

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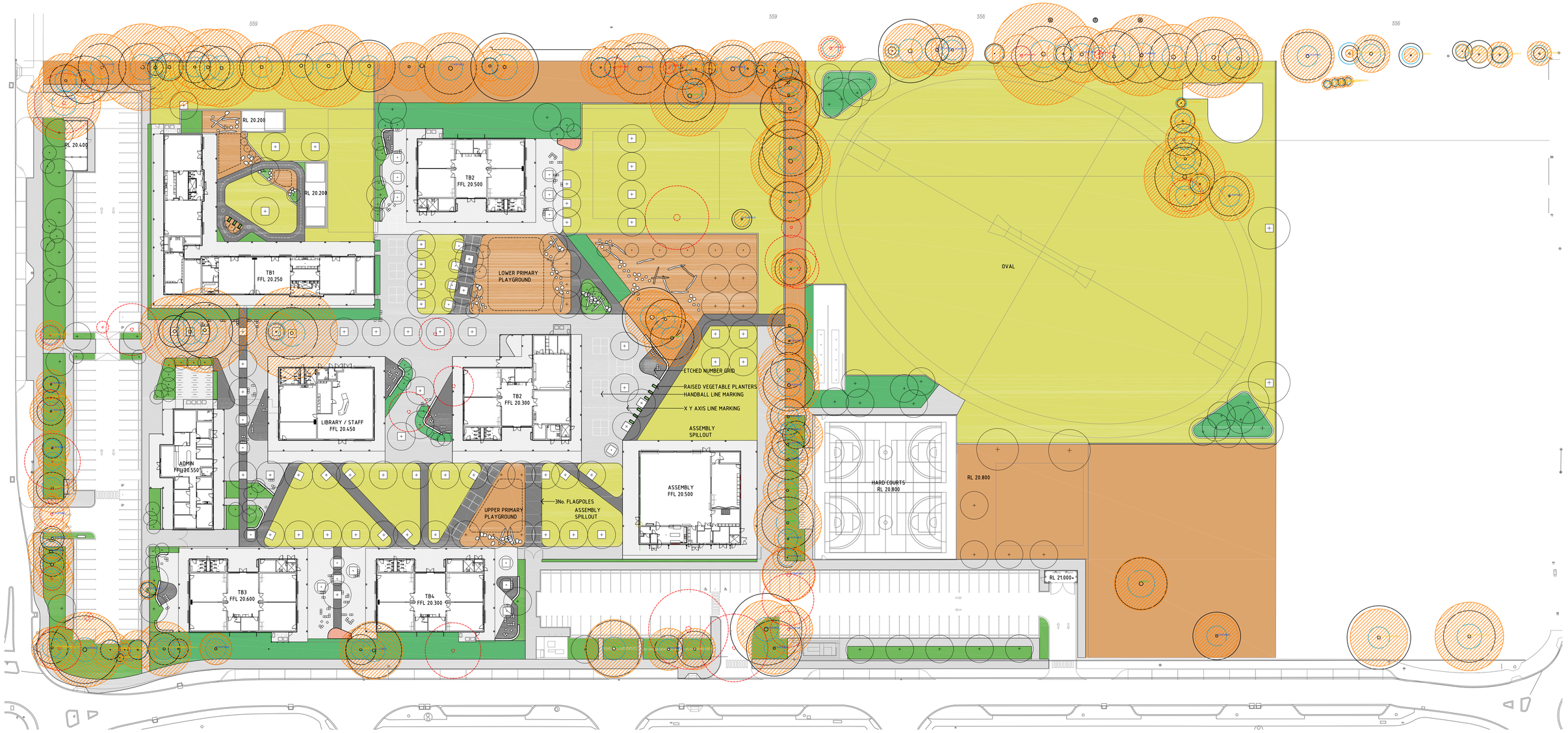
DO NOT AMEND MANUALLY



LEGEND:

- PROPOSED IRRIGATED TREES
- 100MM THICK IN SITU CONCRETE PAVING
- 100MM THICK EXPOSED AGGREGATE CONCRETE PAVING
- 60MM THICK UNIT PAVING
- DECK/STAGE
- MULCH ONLY
- IRRIGATED TURF
- IRRIGATED GARDEN AREAS
- BIO RETENTION SWALE
- UNIT SEATS
- SEATING WALLS
- ROCK BOULDERS
- TIMBER STEPPING LOGS

LEGEND:

- EXISTING TREES TO BE RETAINED WITH REFERENCE NUMBER AND SUITABILITY - REFER ARBORICULTURAL REPORT
- EXISTING TREES TO BE REMOVED WITH REFERENCE NUMBER. REFER SCHEDULE AND ARBORICULTURAL REPORT
- STRUCTURAL ROOT ZONE (SRZ)
- TREE PROTECTION ZONE (TPZ)
- SUITABLE TREE - REFER L02 FOR EXISTING TREE SCHEDULE AND ARBORICULTURAL REPORT
- QUESTIONABLE TREE - REFER L02 FOR EXISTING TREE SCHEDULE AND ARBORICULTURAL REPORT
- VERY LOW RETENTION VALUE TREE (REMOVE) - REFER L02 FOR EXISTING TREE SCHEDULE AND ARBORICULTURAL REPORT
- HIGH RETENTION VALUE TREE - REFER L02 FOR EXISTING TREE SCHEDULE AND ARBORICULTURAL REPORT

REV	AMENDMENT	DATE	CHKD
C	ISSUE FOR DEVELOPMENT APPLICATION	21.04.2021	TC
B	ISSUE FOR COORDINATION	09.03.2021	TC
A	ISSUE FOR 65% SD	05.03.2021	TC

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Government of Western Australia
Department of Finance
Buildings & Contracts

ISSUE FOR DEVELOPMENT APPLICATION

DEPARTMENT OF EDUCATION

DAYTON PRIMARY SCHOOL

LANDSCAPE CONCEPT PLAN

DRAWN	4LS	DESIGNED	4LS	REDUCTION	0 12500
CHECKED	AT	PRINCIPAL			
APPROVED	AT				
SCALE	1 : 500 @ A1	DATE	APRIL 2021	DRAWING NO.	L03
DF PROJ NO.	XXXXX	DF FILE NO.	202X/XXXXX	REV NO.	C

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APPENDIX B_ ARBORIST REPORT

February 15, 2021

Four Landscape Studio
11/34 Eighth Avenue
Maylands, WA, 6051

ATTENTION: Andrew Thomas

RE: Assessment of Trees at Dayton Primary School site

Dear Andrew,

Further to your request, the following is a brief summary of my assessment of the identified trees at the Dayton Primary School site.

Should you have any queries regarding the findings of this report, or if I can be of any further assistance in the management of the identified trees, please do not hesitate to contact me.

Yours sincerely



JASON ROYAL
Dip. Arboriculture (UK)
Tech. Arbor A

Preliminary Assessment of identified Trees; Dayton Primary School site

Prepared For

Four Landscape Studio

Prepared By

ARBOR logic

Contents

1. Particulars to this Assessment Page 1

2. Scope of Works Page 1

3. Assessment Methodology Applied Pages 2 - 3

4. Brief Summary of the Key Findings of the Assessment Pages 4 - 8

5. Table of the Findings of the Assessment Pages 9 - 62

6. Recommendations Pages 63 - 65

Attachments to the Report

Attachment 1; Location Guide with Retention Value overlaid
Attachment 2; Glossary of arboricultural terms
Attachment 3; Company Information & Disclaimer

1. Particulars to the Assessment

1.1 Terms Used

The following terms have been used in this report:

'Site' meaning the area that encompasses the proposed development

'Tree' meaning any tree shown on the Plan provided to be included in the assessment

'TPZ' meaning 'Tree Protection Zone'; the area where the majority of the Tree's root mass is considered likely to be found. Any works required in this zone are considered likely to have the potential to have an impact the Tree's future health.

'SRZ' meaning 'structural root zone; the area where the majority of the Tree's larger in-ground supportive root mass is considered likely to be found. Any works required in this zone are considered likely to have some potential to impact the Tree's future health and possibly its in-ground stability as well. **Important Note: the SRZ of a tree does not need to be considered unless works and encroachment occur within the tree's nominal TPZ.**

'AS 4970' meaning Australian Standards 4970; Protection of Trees on Development Sites

'AS 4373' meaning Australian Standards 4373; Pruning of Amenity Trees

1.2 Limitations and Particulars of this Assessment

The information and opinions provided in this document are based on the findings from the visual observations of the Trees on the Site during the inspections undertaken February 9 and 10, 2021.

All observations of all of the Trees were undertaken from ground level.

No exploratory excavations were undertaken as part of this particular assessment to verify the actual root spread of any given Tree.

As such the allocation of TPZ for each Tree has at this stage been based on AS 4970 guidelines, with some amendments being made for the physical size and canopy dimensions of the Tree, its condition, the known root zone morphology of its given species in the sort of soil profile considered to be typical to this area of Western Australia.

2. Scope of Works

- Undertake an inspection of the trees in the identified areas of the proposed Dayton Primary School site.
- Provide basic cursory information on each of the identified trees in terms of their species, approximate height, approximate canopy spread (metres diameter in both N-S and E-W dimensions), DBH (Diameter at breast height), DRF (Diameter at Root flare), Nominal TPZ (Tree Protection Zone radius), Nominal SRZ (Structural Root Zone radius), Health & structural condition, any comments deemed pertinent to the given tree and an opinion on the suitability for retention of the given tree in the context of a school site.
- Provide any broad-brush purposeful and practical recommendations for any design and construction implications that may apply for any trees identified as being able to be retained in the context of the proposed development so to ensure their preservation if undertaken remains successful.

3. Methodology of the Assessment

All of the Trees identified on the Plan provided were assessed in the course of this assessment from ground level (on all sides where the absence of any obstructions and/or access restrictions allowed) in accordance with 'visual tree assessment'[1] ("VTA") methods and principles.

The VTA method is based on the sciences of tree biology, physiology, tree structure, and tree bio-mechanics. It is a method widely used by arborists worldwide to identify visible signs on trees that indicate any health or potential structural issues that in turn could increase the risks associated with the given tree. There are many variables that require consideration as part of this process including the structure of the given tree, its health condition, known natural species traits, environmental factors such as direction of prevailing (and storm) winds and how they would affect the subject tree and the occurrence of potential Targets within its projected Fall Zone.

The overall health of each Tree was adjudged from an inspection of its leaf, overall percentage of leaf mass present in the canopy of the Tree, and the presence (or absence) of any pest or disease factor that could have an effect on its health.

The structural integrity of each Tree was determined from a visual inspection of its main stem, primary (and secondary) branch unions to determine the presence of any areas considered to be a structural 'defect' or 'imperfection' such as unions with included bark, swelling, or noticeable splitting at them. Symptoms of decay, growth patterns and defects are identified and assessed as to their potential to cause whole tree, part tree or branch failure, and where considered necessary further investigation by way of the use of sounding techniques was utilised to determine the presence and general extent of any areas of cavity or associated decay within a tree's main stem structure. Each Tree's root plate area was also inspected to identify any visible signs of root plate, movement, cracking or heave from which a determination of its in-ground stability can be ascertained. It is however important to note that there are limitations in verifying the in-ground stability of a tree based on a 'one-off' cursory visual observation; particularly if the inspection is undertaken during a period of 'fine' weather with little to no wind; as was the case over the period of this assessment.

The natural species traits of the given Tree was also considered as part of the assessment process; i.e. its typically anticipated natural life span for the Perth area, if it is a species known to be subject to issues associated with decay, termites (and how that would affect its structural integrity), or can be subject to the 'sudden branch drop' phenomenon, known to have large diameter surface root system, declared weed species etc.

The Trees were also assessed using the principles of SULE; "Safe-Useful-Life-Expectancy"[2].

SULE is a system that can be used to provide an indication of the length of time an individual tree can be retained with an acceptable level of risk based on the information available at the time of inspection.

It is a snapshot in time of the potential an individual tree has for survival in the eyes of the assessor based on the tree's current health and structural condition, and the known typical life span of specimens of its given species for the given area/situation.

There are many factors that can affect SULE of a tree, and as such, at best the SULE for any given tree can only be estimated within a 'range' of years, with the following ranges typically used; Long Term (>40 years), Medium Term (15-40 years), Short Term (5-15 years), and Limited (<5yrs).

1 Field Guide for Visual Tree Assessment (VTA); The Body Language of Trees, A Handbook for Failure Analysis; C Matteck, H Breloer

2 SULE: Its use and status into the new millennium; J Barrell; 2001

4. Summary of the Key Findings of the Assessment

4.1 No of Trees Identified

A total of 149 Trees were identified and included in this assessment.

4.2 Species Identified

20 different species of tree were identified on the Site including some local West Australian native, Australian native and 'exotic' introduced species of tree.

Flooded Gum (*Eucalyptus rudis*) were noted to be the most common species present; some of which may actually be a cross with the Northern River Red Gum (*Eucalyptus camaldulensis* subsp. '*Obtusa*').

Spotted Gum (*Corymbia maculata*), Ironbark (*Eucalyptus sideroxylon*), Lemon Scented Gum *(Corymbia citriodora*) and Rose Gum (*Eucalyptus grandis*) are also well represented, and collectively these five species represent over 70% of the Trees present on the Site.

Table 1; List of Species identified

Species	No of	Origin
Bangalay (*Eucalyptus botryoides*)	3	Aus. Native
Bracelet Honey Myrtle (*Melaleuca armillaris*)	4	Aus. Native
Flinders Range Wattle (*Acacia iteaphylla*)	1	Aus. Native
Flooded Gum (*Eucalyptus rudis*)	38	WA Native
Ironbark (*Eucalyptus sideroxylon*)	16	Aus. Native
Jarrah (*Eucalyptus marginata*)	1	WA Native
Lemon Scented Gum (*Corymbia citriodora*)	13	Aus. Native
Marri (*Corymbia calophylla*)	3	WA Native
Mulberry (*Morus nigra*)	1	Exotic
Northern River Red Gum (*Eucalyptus camaldulensis* subsp. '*Obtusa*')	2	Aus. Native
Olive (*Olea europaea*)	1	Exotic
Pencil Pine (*Cupressus sempervirens 'Stricta'*)	4	Exotic
River Yate (*Eucalyptus macrandra*)	1	WA Native
Rose Gum (*Eucalyptus grandis*)	12	Aus. Native
Silver Princess (*Eucalyptus caesia* subsp. *caesia*)	1	WA Native
South Australian Yellow Gum (*Eucalyptus leucoxylon*)	1	Aus. Native
Spotted Gum (*Corymbia maculata*)	36	Aus. Native
Swamp Mahogany (*Eucalyptus robusta*)	8	Aus. Native
Tuart (*Eucalyptus gomphocephala*)	1	WA Native
White Cedar (*Melia azedarach*)	2	Exotic

None of the tree species identified are considered to be (or are known to be classed as) an endangered species, or found on the Environment Protection and Biodiversity Conservation Act 1999. None of the tree species identified are known to have been declared a weed species[3].

Rose Gum, Northern River Red Gum and the species that looks to be a cross between the Northern River Red Gum and Flooded Gum are all considered to be higher risk species in terms of their propensity for branch failures than others. To a lesser extent Bangalay and Lemon Scented Gum are also considered to have an elevated potential for failure than others.

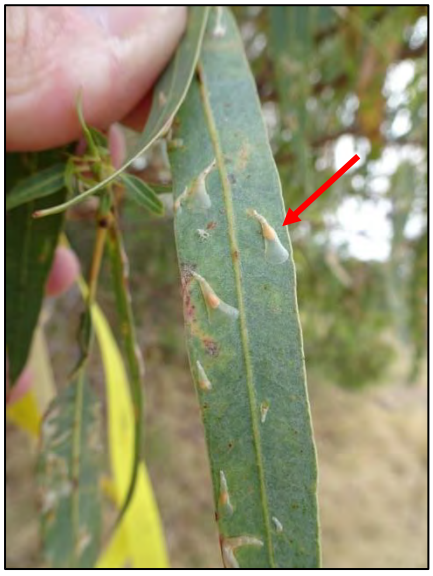
[3] Reference; Declared Plant Species in Western Australia (Department of Agriculture and Food, Western Australia 2008)

4. Summary of the Key Findings of the Assessment

4.3 Health Condition

The majority of the Trees showed to be in good health or better at this time.

Western Horned Lerp (*Creiis periculosa*); a Psyllid[4] insect species was noted on some of the Flooded Gum and River Red Gum; seen in the images below. However its presence at this time does not appear to be affecting their health at this time.





I could see no visible evidence of any other pest or disease pathogen that could have a major impact to the health of the Trees on this Site at the time of my inspection.

Whilst a number showed to have varying amounts of varying diameter sized deadwood in their canopy, it looks to have occurred as part of the natural growth processes of tree's rather than being caused by any pest or disease pathogen.

Three dead trees were identified along with two that look to be mostly dead and a further six that look to be in a poor health condition and look to have limited life span remaining so may not survive the development process.

[4] Psyllids are a sap sucking insect. The nymphs (immatures) form a cover called a "lerp"; a small white cap composed of solidified honeydew and wax. The yellow or brownish nymphs resemble a wingless aphid, and spend most of their time covered beneath a lerp feeding on the sap in the leaf, and in the process secreting substances that cause localised death of plant cells within the leaf. Severe infestations cause the entire leaf to die and subsequently fall off. As with many insect species they can have several life cycles in the one calendar year lower numbers typically occur during the winter.

Treatment measures for Psyllids/Lerp is generally not required as the 'host' trees generally are able to recover and grow new leaf mass to replace the damaged leaf. Maintaining soil moisture and undertaking other efforts to aid in their recovery (such as applications of liquid seaweed and other organic bio-stimulants) can be of benefit. Conversely, applications of in-organic fertilisers such as NPK can be counter-productive or even detrimental to the recovery of affected trees.

Applications of chemical insecticides although available can be varied in its effectiveness as often the Psyllid insect has left the host by the time the damage becomes noticed.

4. Summary of the Key Findings of the Assessment

4.4 Structural Condition

The majority of the Trees showed to have (what is considered to be) typical structural forms for specimens of their given species.

Whilst a number of the Trees showed to have what are considered to be 'structural defects' such as bi-furcated unions with signs of swelling and included bark (which are considered to potentially have an increased likelihood for failure than other forms of branch unions) for the most part any structural defect or imperfections were not considered to be of any major concern at this time.

Branch failures were observed to have occurred in 23 of the Trees on this Site including some notably large diameter sized parts. All looked to have occurred as a result of force loading (i.e. wind/storm damage) as opposed to any predisposition for branch failures although some of the species present are considered to have a higher propensity for branch failures than many others; particularly the Northern River Red Gum and Rose Gum.

There are also a number of Trees that have been previously topped (height reduced) along the Arthur Street and Cranleigh Street boundaries.

35 of the Trees were considered to have a 'questionable' or 'undesirable' structural form; mostly trees that have been previously (badly) topped. These Trees will have an increased potential for branch failure and subsequently will require increased levels of management and expenditure in the long term particularly when 'targets' (people/structures etc.) are introduced into their projected fall zone once the development around them has been completed. As such their retention within a school situation is often considered questionable as canopy works (pruning) will not necessarily be able to address the risks or reduce the potential for failure to occur.

24 Trees were considered to have a poor structural form due to splits and decay in their structure and (what looks to be a) high probability for failure. Retention of these Trees within a school situation would NOT be recommended as canopy works (pruning) will not necessarily be able to address the risks or reduce the potential for failure to occur.

4.5 SULE

With regards to their SULE, when consideration is given to the proposed use of the Site, most of the Trees look likely to have a comparatively short SULE remaining as many are considered to either be a comparatively high risk species, or have poor/questionable structural form.

Whilst this is not to say that their life span is comparatively short, managing trees of higher risk species and/or trees with poor/questionable structural form within urbanised areas with higher use and 'targets' can be problematic and often results in the removal of a tree; even if it remains in good health at that time.

Table 2; SULE Rating for the Trees

SULE	No of.
Long term (>40 yrs)	34
Medium term (15-40 yrs)	36
Short-term (5-15 yrs)	61
Limited (<5 yrs)	15
n/a. Dead tree	3

4. Summary of the Key Findings of the Assessment

4.6 Suitability for inclusion into an area of Development

Retention value of the various tree species and even individual tree specimens will always be open to some personal opinion.

In general trees displaying good health and deemed to have a good aesthetic quality will be generally considered to have a high retention value.

Conversely, dead or declining trees, or tree species known (or considered) to be problematic in terms of having a propensity for branch failures, or ones that could self-seed freely, or one that display low aesthetic traits would typically be considered to have a low retention value.

Whilst all of the Trees on this Site may have high environmental benefits, as part of ascertaining the suitability for inclusion into a development, other aspects of the tree must be considered; primarily its structural form and suitability for inclusion into an urbanised area with high volumes of potential targets (such as people, structures etc.), and its potential to cope with changes to its soil and surrounding environment that typically occur as part of a development process.

With this in mind, based on the findings of the assessment:

1. 15 Trees are considered to have a **high retention value**. Generally all larger older specimens in good health and structural form. Retention of as many of these Trees as possible is strongly encouraged to occur as part of the development of the Site as they will provide a valuable amenity to the area where they are situated and are species that are suited to the proposed situation.

2. 40 Trees were considered to be good specimens of their species and were considered to suitable for retention in the context of what is proposed.

   Retention of some however may be questionable if adjacent Trees are removed (due to impact of sudden exposure and the issues it can cause to trees), and some would be better retained as a group rather than individual trees.

   Retention of some of these Trees may however also be subject to aspects of detailed design relating to not only the civil stages of the development but also aspects of Lot development as well.

3. The retention of 88 Trees is however considered <u>questionable</u> in the context of what is proposed due to their species, current health and/or structural condition and risks that they look likely to represent to the 'targets' that will be introduced into their fall zone as a result of the proposed development.

4. 6 other Trees are considered to have a **very low** retention value and would <u>not</u> be considered suitable for retention as part of the development of the Site; namely the dead and near dead Trees.

The aerial overleaf provides an overview of the Site with the retention value of each Tree overlaid and colour coded for ease of reference.

4. Summary of Key Findings of the Assessment



Key

- High Retention Value Tree
- Suitable Tree
- Unsuitable Tree
- Very Low Retention Value (remove)

Client;	Four landscapes Studio
Site;	Dayton Primary School
Drawn by;	J Royal
Revision;	0
Date;	12/02/2020
Arial Source;	Nearmap.com
Scale;	1:1750

ARBOR logic
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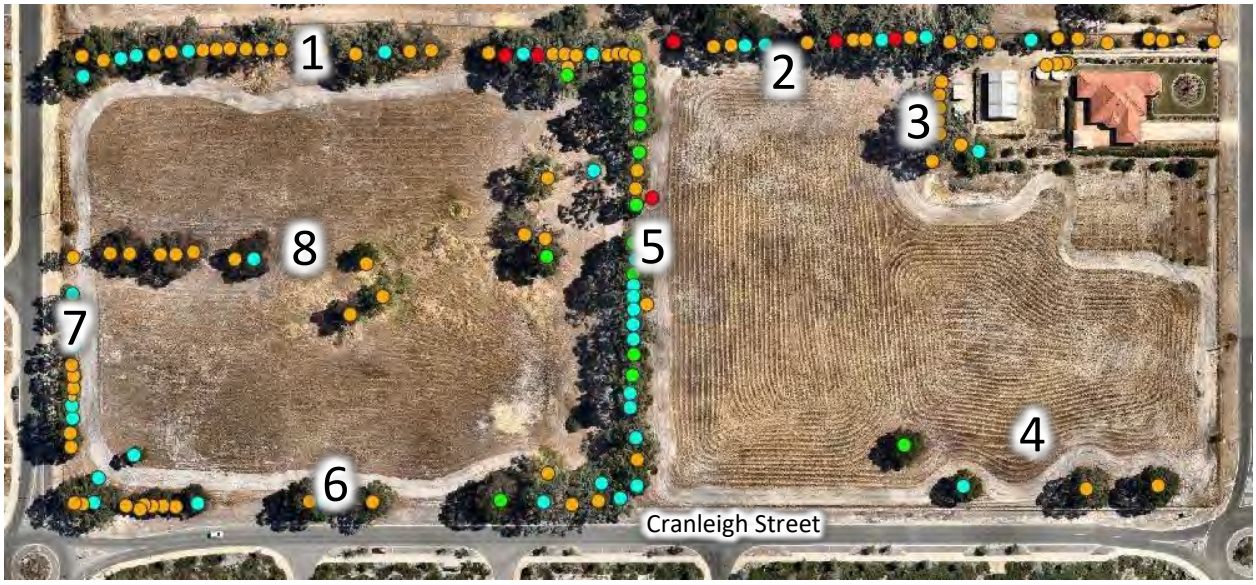
4. Summary of Key Findings of the Assessment

4.7 Visual Summary of Key Findings





Long row of trees along the northern boundary planted as a windbreak.

Mix of species including some Flooded Gum (most of which look to be a cross with Northern River Red Gum) as well as some Ironbark.

Most currently show good health and structural form although some of the larger Trees in this area show evidence of a history of branch failures having occurred.

The Rose Gum and Northern River Red Gum and to a lesser extent the Bangalay are all considered to be higher risk species in terms of their propensity for branch failure so whilst physically large and in good condition they are not necessarily suited to school situations due to the risks that they can represent.



Long row of trees along the northern boundary planted as a windbreak.

Mix of species including some Flooded Gum (most of which look to be a cross with Northern River Red Gum) as well as some Ironbark, Rose Gum, Bangalay and others.

Most currently show good health and structural form although some of the larger Trees in this area show evidence of a history of branch failures having occurred.

The Rose Gum and Northern River Red Gum and to a lesser extent the Bangalay are all considered to be higher risk species in terms of their propensity for branch failure so whilst physically large and in good condition they are not necessarily suited to school situations due to the risks that they can represent.

4. Summary of Key Findings of the Assessment



Short row of Trees; mostly Rose Gum.

Most currently show good health and structural form although some of the larger Trees in this area show evidence of a history of branch failures having occurred.

The Rose Gum are considered to be higher risk species in terms of their propensity for branch failure so whilst physically large and in good condition they are not necessarily suited to school situations due to the risks that they can represent.



Four individual trees; 2 Rose Gum, a Marri and a Jarrah.

All currently show good health and structural form although both Rose Gum show evidence of a history of branch failures having occurred.

The Rose Gum are considered to be higher risk species in terms of their propensity for branch failure so whilst physically large and in good condition they are not necessarily suited to school situations due to the risks that they can represent.

The Marri may be ok to retain depending on the landscape around it (due to potential issues with the 'honky-nuts')



Row of large mature trees including some Spotted Gum and Rose Gum.

Most currently show good health and structural form although some of the larger Rose Gum in this area show evidence of a history of branch failures having occurred.

The Rose Gum and to a lesser extent the Bangalay are all considered to be higher risk species in terms of their propensity for branch failure so whilst physically large and in good condition they are not necessarily suited to school situations due to the risks that they can represent.

Conversely Spotted Gum although a physically large species are considered to have a comparatively low propensity for branch failure.

4. Summary of Key Findings of the Assessment



Row of large mature trees along the southern boundary and Cranleigh Street.

Mix of species but predominantly Lemon Scented Gum along with a few Flooded Gum.

Most currently show good health and structural form although some have been previously topped at some stage in the past so their structure looks likely to cause issues longer term and reduce their suitability for retention in the context of what's proposed.



Row of mature trees along the western boundary and Arthur Street.

Predominantly Spotted Gum.

Most currently show good health although they all look to have been previously topped at some stage in the past so their structure looks likely to cause issues longer term and reduce their suitability for retention in the context of what's proposed depending on the proposed landscape around them and what 'targets' will be introduced into their fall zone area.



Row of mature trees through the middle of the Site.

Predominantly Ironbark.

Most currently show good health although they all look to have been previously topped at some stage in the past so their structure looks likely to cause issues longer term and reduce their suitability for retention in the context of what's proposed.

One very good large mature Spotted Gum at the eastern end of the row also noted and is considered to have a high retention value.

5. Table of the Key Findings of the Assessment

The following pages provide further information on the Trees identified during this assessment.

Explanation of Fields of Information in the Table

Tree ID. Provides an identification number for the identified Tree corresponding to its tree tag number on Site

Species Provides the botanical and most commonly used species name of the Tree.

Height Provides the height of the Tree (in metres) to the nearest metre.

DBH (Trunk Calliper) Provides the diameter of the Tree's main stem (trunk) in centimetres, and generally measured at 1.4 metres above ground level as per the industry standard. Should lower canopy formation start below 1.4 metres above ground level, the DBH is estimated at the point below the furcation of its main stem. In instances where the tree has multiple main stem structures, the DBH of all has been provided.

Estimated Canopy Spread Provides an estimated spread of the Tree's canopy; provided in metres diameter. Both north-south and east – west canopy dimensions have been provided.

Health Condition Provides a view of the Tree's health/vigour condition at the time of inspection based on a number of predetermined criteria.

Health Rating	Explanation
Excellent	Shows to have typical foliage condition and amount of foliage mass for a specimen of the species. May have a minor amount of deadwood, but no signs of any pest or disease factor that may affect its health.
Good	Shows to have typical foliage condition. Canopy foliage may be slightly chlorotic, or it may have a slightly higher percentage of deadwood than usual, or exhibit signs of being affected by environmental conditions. May have a minor pest or disease present that could start to affect its health.
Fair	Shows to have a relatively high percentage of deadwood than considered typical for a specimen of the given species and/or a low volume of live canopy leaf mass for a specimen of the given species. Apical sections of the canopy (may also be) dead. Signs of a pest or disease factor evident.
Poor	Canopy mass and foliage condition shows to be in a poor state for a specimen of the species. Has a high percentage of deadwood material in its canopy and a low volume of live canopy mass (typically <20%).
Dead	Shows to have either no live tissue within its structure, or at best has <5% live foliage mass remaining in its canopy.

5. Table of Information on the individual Trees identified during the Assessment

Structural Form Provides a view of the Tree's structural form at the time of inspection based on a number of predetermined criteria.

Structure Rating	Explanation
Good	Shows typical structural form for a specimen of the species. Branch unions show typical form at the point of attachment. May have a small number of minor structural defects; but are within the scope of tree surgery management to rectify. Shows to be root-stable.
Acceptable	Shows an acceptable form, but may have a number of structural defects present i.e. bi-furcation (but with no major swelling or movement), or areas of stem cavities, but structure remains within the scope of management at this stage; albeit with a higher risk/management requirement. Can include previously lopped trees that are known to have good points of attachment of any regrowth that occurs.
Questionable ('Undesirable' for juvenile/semi-mature trees)	Shows an undesirable structure for a specimen of the species. Structural condition likely to cause future issues in regards to the potential for branch or even complete tree failure to occur. Generally includes previously lopped trees, trees with large areas of cavity and/or associated decay that may be starting to affect its structural integrity, trees with bi-furcated unions with notable included bark and swelling that are considered to have an increased potential to fail.
Poor	Major structural defects evident. May have very large stem cavities, extensive termite damage, or noticeable movement in main stem, branch unions or root plate area.

Age Class Provides the age class of the given Tree.

SULE; Provides an indication of the safe-useful-life-expectancy remaining for the given Tree based on its current health and structural condition**.** This has been expressed as:

- Limited (<5yrs)
- Short Term (5-20 years),
- Medium Term (20-40 years)
- Long Term (>40 years)

Comment Provides any additional information (seen as relevant in the context of this report) to the Tree. Comments are (generally) self-explanatory. An explanation of arboricultural terms has been provided as an attachment to this document.

TPZ Meaning the Tree's protection zone; the area where the majority of the given Tree's root mass is considered likely to be found. **Any works required in this zone are considered likely to have some potential to impact the Tree.**

SRZ Meaning the Tree's 'structural root zone; the area where the majority of the Tree's larger in-ground supportive root mass is considered likely to be found. **Important Note: the SRZ of a tree does not need to be considered unless works and encroachment occur within the tree's nominal TPZ.**

Retention Value Provides an overall 'opinion' on the quality of the Tree and its suitability for retention as part of the development.

This opinion rating has been colour-coded for ease of reference.

High Suitable Questionable Very Low

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
1	Flooded Gum (Eucalyptus rudis)	17	77	84	0.84	9--10	14-15	Excellent	Good	Mature	Medium term (15-40 yrs)		Large mature specimen. Part of a group of trees in close proximity that effectively form the one canopy. Possibly cross with Northern River Red Gum. Basal sucker forms part of its canopy but can be removed if desired. Weight loading noted in parts of its canopy	9.2	3.1	**Suitable**
2	Flooded Gum (Eucalyptus rudis)	10	57	60	0.6	7--8	7--8	Excellent	Undesirable	Mature	Medium term (15-40 yrs)		Ok tree. Possibly cross with Northern River Red Gum. Effectively forms the one canopy with the adjacent Tree. Evidence of a history of branch failures	6.8	2.7	Low (unsuitable)
3	Flooded Gum (Eucalyptus rudis)	8	36, 32	46	0.46	4--5	11--12	Excellent	Poor	Mature	Short-term (5-15 yrs)		Previously topped tree. Small tree. Low spreading canopy form which may be a limiting factor to its retention. Probably wouldn't be missed from the landscape if removed	4.3	2.4	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
4	Flooded Gum (Eucalyptus rudis)	16	70	76	0.76	14-15	11--12	Excellent	Good	Mature	Medium term (15-40 yrs)		Large mature specimen. Possibly cross with Northern River Red Gum. Part of a group of trees in close proximity that effectively form the one canopy. Some moderate and larger diameter deadwood in canopy. Broken branch in canopy	8.4	2.9	**Suitable**
5	Flooded Gum (Eucalyptus rudis)	14	91	93	0.93	14-15	11--12	Good	Good	Mature	Medium term (15-40 yrs)		Large mature specimen. Possibly cross with Northern River Red Gum. Part of a group of trees in close proximity that effectively form the one canopy. Some moderate and larger diameter deadwood in canopy. Broken branch in canopy. Upper canopy slightly sparse but lower canopy still ok	10.9	3.2	**Suitable**
6	Ironbark (Eucalyptus sideroxylon)	9	52	58	0.58	3--4	3--4	Excellent	Poor	Mature	Short-term (5-15 yrs)		Badly topped tree and unions of regrowth look likely to cause issues longer term	6.2	2.6	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
7	Ironbark (Eucalyptus sideroxylon)	14	85	85	0.85	7--8	6--7	Excellent	Poor	Mature	Short-term (5-15 yrs)		Badly topped tree and unions of regrowth look likely to cause issues longer term	10.2	3.1	Low (unsuitable)
8	Flooded Gum (Eucalyptus rudis)	14	45	50	0.5	5--6	7--8	Excellent	Acceptable	Mature	Medium term (15-40 yrs)		Ok tree. Canopy is one-sided west due to proximity of the adjacent tree. Possibly cross with Northern River Red Gum	5.4	2.5	**Suitable**
9	Ironbark (Eucalyptus sideroxylon)	14	80	83	0.83	10--11	7--8	Excellent	Poor	Mature	Short-term (5-15 yrs)		Badly topped tree and unions of regrowth look likely to cause issues longer term	9.6	3.1	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
10	Ironbark (Eucalyptus sideroxylon)	14	82	86	0.86	10--11	7--8	Excellent	Poor	Mature	Short-term (5-15 yrs)		Badly topped tree and unions of regrowth look likely to cause issues longer term	9.8	3.1	Low (unsuitable)
11	Flooded Gum (Eucalyptus rudis)	14	52	58	0.58	10--11	7--8	Poor	Acceptable	Mature	Limited (<5 yrs)		Canopy indicates decline. Apical sections of its canopy are dead/declining. Possible lightning strike	6.2	2.6	Low (unsuitable)
12	Flooded Gum (Eucalyptus rudis)	18	74	80	0.8	5--6	5--6	Good	Poor	Mature	Limited (<5 yrs)		Large section of its canopy has snapped. Remainder ok but structure looks likely to cause issues longer term	8.9	3.0	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
13	Flooded Gum (Eucalyptus rudis)	18	86	86	0.86	11--12	8--9	Good	Poor	Mature	Limited (<5 yrs)		Badly topped tree	10.3	3.1	Low (unsuitable)
14	Flooded Gum (Eucalyptus rudis)	12	49	56	0.56	11--12	12--13	Poor	Acceptable	Mature	Limited (<5 yrs)		Apical sections of its canopy are dead/declining	5.9	2.6	Low (unsuitable)
15	Ironbark (Eucalyptus sideroxylon)	9	51	53	0.53	4--5	4--5	Excellent	Poor	Mature	Limited (<5 yrs)		Badly topped tree	6.1	2.5	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
16	Flooded Gum (Eucalyptus rudis)	17	56, 51, 40, 38, 34, 32	85	0.85	11--12	12--13	Excellent	Undesirable	Mature	Short-term (5-15 yrs)		Multi-stemmed from ground level and looks to be regrowth off/around an old stump/original tree. Evidence of a history of (various sized) branch failures (storm damage). Possibly cross with Northern River Red Gum	5.5	3.1	Low (unsuitable)
17	Flooded Gum (Eucalyptus rudis)	17	74	80	0.8	12--13	12--13	Excellent	Acceptable	Mature	Medium term (15-40 yrs)		Large mature specimen. Evidence of previous branch failure (small <100mm diameter). Widespread canopy form. Some moderate and larger diameter deadwood in canopy. Possibly cross with Northern River Red Gum	8.9	3.0	**Suitable**
18	Ironbark (Eucalyptus sideroxylon)	6	32	34	0.34	3--4	3--4	Excellent	Poor	Mature	Limited (<5 yrs)		Badly topped tree	3.8	2.1	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
19	Flooded Gum (Eucalyptus rudis)	12	61, 42, 36	93	0.93	12--13	16-17	Fair	Acceptable	Mature	Medium term (15-40 yrs)		Large mature specimen. Evidence of previous branch failure (small <100mm diameter). Some moderate and larger diameter deadwood in canopy. Possibly cross with Northern River Red Gum. Apical sections of its canopy are dead/declining. Low spreading canopy. Multi-stemmed from near ground level. Western-Horned Lerp noted on leaf; looks to be major impact to its health	7.3	3.2	Low (unsuitable)
20	Flooded Gum (Eucalyptus rudis)	6	42	45	0.45	4--5	4--5	Excellent	Poor	Early-mature	Short-term (5-15 yrs)		Badly topped tree. Possibly cross with Northern River Red Gum	5.0	2.4	Low (unsuitable)
21	Flooded Gum (Eucalyptus rudis)	6	57	60	0.6	4--5	4--5	Dead	Undesirable	Mature	Limited (<5 yrs)		Dead tree	6.8	2.7	Very Low (Remove)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
22	Ironbark (Eucalyptus sideroxylon)	18	73, 67	92	0.92	12--13	12--13	Excellent	Acceptable	Mature	Medium term (15-40 yrs)		Large mature specimen. Multi-stemmed from near ground level	8.8	3.2	**Suitable**
23	Flooded Gum (Eucalyptus rudis)	9	36	40	0.4	2--3	2--3	Near Dead	Poor	Mature	n/a. Dead tree		Mostly dead tree	4.3	2.3	Very Low (Remove)
24	Flooded Gum (Eucalyptus rudis)	9	46	48	0.48	5--6	7--8	Good	Questionable	Mature	Short-term (5-15 yrs)		Canopy is one-sided west due to proximity of the adjacent tree. Leaning. Looks to have been partially ring-barked	5.5	2.4	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
25	Flooded Gum (Eucalyptus rudis)	10	41	46	0.46	7--8	5--6	Good	Acceptable	Mature	Short-term (5-15 yrs)		Canopy is relatively one-sided north due to proximity of the adjacent tree. Looks to have been partially ring-barked	4.9	2.4	Low (unsuitable)
26	Flooded Gum (Eucalyptus rudis)	8	26	30	0.3	2--3	2--3	Poor	Acceptable	Mature	Limited (<5 yrs)		Canopy is relatively one-sided east due to proximity of the adjacent tree. Apical sections of its canopy are dead/declining	3.1	2.0	Low (unsuitable)
27	Lemon Scented Gum (Corymbia citriodora)	11	31	35	0.35	5--6	4--5	Excellent	Undesirable	Early-mature	Short-term (5-15 yrs)		Canopy is one-sided north due to proximity of the adjacent tree. Effectively forms the one canopy with the adjacent Tree. Probably wouldn't be missed from the landscape if removed	3.7	2.1	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
28	Flooded Gum (Eucalyptus rudis)	18	84	90	0.9	12--13	12--13	Excellent	Good	Mature	Long term (>40 yrs)		Large mature specimen. Good specimen. Some moderate and larger diameter deadwood in canopy	10.1	3.2	**High Retention Value**
29	Flooded Gum (Eucalyptus rudis)	18	60, 56	78	0.78	11--12	10--11	Excellent	Good	Mature	Long term (>40 yrs)		Large mature specimen. Some moderate and larger diameter deadwood in canopy. Main stem bi-furcates. Union looks to be Ok at this stage	7.2	3.0	**Suitable**
30	Flooded Gum (Eucalyptus rudis)	8	16 (multiple)	36	0.36	3--4	3--4	Poor	Undesirable	Early-mature	Limited (<5 yrs)		Apical sections of its canopy are dead/declining. Multi-stemmed from near ground level	1.9	2.2	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
31	Flooded Gum (Eucalyptus rudis)	8	16	20	0.2	1--2	1--2	Good	Acceptable	Early-mature	Medium term (15-40 yrs)		Ok tree	1.9	1.7	Low (unsuitable)
32	Ironbark (Eucalyptus sideroxylon)	14	61	70	0.7	8--9	7--8	Excellent	Poor	Mature	Short-term (5-15 yrs)		Large mature specimen. Section of its main stem looks to have failed. Canopy is one-sided west. Resulting structure looks likely to cause issues longer term	7.3	2.8	Low (unsuitable)
33	Flooded Gum (Eucalyptus rudis)	7	37	46	0.46	5--6	3--4	Excellent	Poor	Mature	Short-term (5-15 yrs)		Ok tree. Top of main leader has snapped (storm damage). Canopy is one-sided north. Resulting structure looks likely to cause issues longer term	4.4	2.4	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
34	Spotted Gum (Corymbia maculata)	23	46	54	0.54	6--7	6--7	Excellent	Good	Early-mature	Long term (>40 yrs)		Large mature tree. No issues or concerns visible at this time. Part of a group of trees in close proximity that effectively form the one canopy	5.5	2.6	**High Retention Value**
35	Spotted Gum (Corymbia maculata)	23	41	44	0.44	6--7	8--9	Excellent	Good	Early-mature	Long term (>40 yrs)		Large mature tree. No issues or concerns visible at this time. Part of a group of trees in close proximity that effectively form the one canopy. Co-dominant leader. Union looks to be ok	4.9	2.3	**High Retention Value**
36	Spotted Gum (Corymbia maculata)	21	61	68	0.68	11--12	14-15	Excellent	Good	Early-mature	Long term (>40 yrs)		Large mature tree. No issues or concerns visible at this time. Part of a group of trees in close proximity that effectively form the one canopy. Co-dominant leader. Union looks to be ok	7.3	2.8	**High Retention Value**

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
37	Spotted Gum (Corymbia maculata)	27	65	69	0.69	11--12	13-14	Excellent	Good	Mature	Long term (>40 yrs)		Large mature tree. No issues or concerns visible at this time. Good aesthetic form/value. Effectively forms the one canopy with the adjacent Tree	7.8	2.8	**High Retention Value**
38	Spotted Gum (Corymbia maculata)	27	83	93	0.93	15-16	13-14	Excellent	Good	Mature	Long term (>40 yrs)		Large mature specimen. Good aesthetic form/value. Effectively forms the one canopy with the adjacent Tree. Evidence of a history of (various sized) branch failures (storm damage)	10.0	3.2	**High Retention Value**
39	Spotted Gum (Corymbia maculata)	11	44	46	0.46	9--10	9--10	Excellent	Good	Mature	Long term (>40 yrs)		Good specimen. No issues or concerns visible at this time	5.3	2.4	**High Retention Value**

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
40	Spotted Gum (Corymbia maculata)	9	48	53	0.53	5--6	7--8	Excellent	Undesirable	Mature	Short-term (5-15 yrs)		Badly topped tree	5.8	2.5	Low (unsuitable)
41	Rose Gum (Eucalyptus grandis)	26	53	60	0.6	12--13	12--13	Excellent	Good	Mature	Short-term (5-15 yrs)		Large mature specimen. Species generally considered to be a higher risk species for the propensity for branch failures	6.4	2.7	Low (unsuitable)
42	Spotted Gum (Corymbia maculata)	11	41	44	0.44	7--8	7--8	Excellent	Good	Early-mature	Long term (>40 yrs)		Upper canopy is dead. Good specimen. No issues or concerns visible at this time. Good aesthetic form/value	4.9	2.3	**High Retention Value**

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
43	Bangalay (Eucalyptus botryoides)	13	68	72	0.72	9--10	8--9	Dead	Questionable	Mature	n/a. Dead tree		Dead tree	8.2	2.9	Very Low (Remove)
44	Spotted Gum (Corymbia maculata)	16	47	50	0.5	8--9	8--9	Excellent	Good	Mature	Long term (>40 yrs)		Good specimen. No issues or concerns visible at this time. Part of a group of trees in close proximity that effectively form the one canopy	5.6	2.5	**High Retention Value**
45	Spotted Gum (Corymbia maculata)	16	34	38	0.38	5--6	6--7	Excellent	Good	Mature	Long term (>40 yrs)		Good specimen. No issues or concerns visible at this time. Part of a group of trees in close proximity that effectively form the one canopy	4.1	2.2	Suitable

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
46	Spotted Gum (Corymbia maculata)	21	77	82	0.82	8--9	8--9	Excellent	Good	Mature	Long term (>40 yrs)		Good specimen. No issues or concerns visible at this time. Part of a group of trees in close proximity that effectively form the one canopy. Main stem bi-furcates. Union looks to be Ok at this stage	9.2	3.0	**High Retention Value**
47	Swamp Mahogany (Eucalyptus robusta)	21	63	73	0.73	8--9	12--13	Excellent	Acceptable	Mature	Medium term (15-40 yrs)		Reasonably good specimen. Leggy canopy form. Canopy is one-sided due to proximity of the adjacent tree. Main stem bi-furcates. Union looks to be Ok at this stage	7.6	2.9	**Suitable**
48	Swamp Mahogany (Eucalyptus robusta)	15	45	56	0.56	6--7	8--9	Excellent	Good	Mature	Medium term (15-40 yrs)		Good specimen. No issues or concerns visible at this time. Part of a group of trees in close proximity that effectively form the one canopy	5.4	2.6	**Suitable**

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
49	Spotted Gum (Corymbia maculata)	12	27	29	0.29	2--3	3--4	Excellent	Good	Early-mature	Long term (>40 yrs)		Good specimen. No issues or concerns visible at this time. Part of a group of trees in close proximity that effectively form the one canopy	3.2	2.0	**Suitable**
50	Swamp Mahogany (Eucalyptus robusta)	9	55	60	0.6	5--6	6--7	Excellent	Acceptable	Mature	Medium term (15-40 yrs)		Ok tree. Part of a group of trees in close proximity that effectively form the one canopy. Canopy is one sided north	6.6	2.7	Low (unsuitable)
51	Swamp Mahogany (Eucalyptus robusta)	17	47	53	0.53	5--6	7--8	Excellent	Acceptable	Mature	Medium term (15-40 yrs)		Reasonably good specimen. Part of a group of trees in close proximity that effectively form the one canopy	5.6	2.5	**Suitable**

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
52	Spotted Gum (Corymbia maculata)	17	51	54	0.54	7--8	9--10	Excellent	Acceptable	Mature	Long term (>40 yrs)		Good specimen. Main stem bi-furcates. Union looks to be Ok at this stage. Part of a group of trees in close proximity that effectively form the one canopy	6.1	2.6	**Suitable**
53	Spotted Gum (Corymbia maculata)	17	51	56	0.56	8--9	9--10	Excellent	Good	Mature	Long term (>40 yrs)		Good specimen. Part of a group of trees in close proximity that effectively form the one canopy	6.1	2.6	**High Retention Value**
54	Spotted Gum (Corymbia maculata)	20	71	76	0.76	12--13	10--11	Excellent	Good	Mature	Long term (>40 yrs)		Large mature specimen. Good specimen. Good aesthetic form/value. Main stem bi-furcates. Union looks to be Ok at this stage. Part of a group of trees in close proximity that effectively form the one canopy	8.5	2.9	**High Retention Value**

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
55	Marri (Corymbia calophylla)	8	28, 25	51	0.51	3--4	4--5	Excellent	Undesirable	Early-mature	Medium term (15-40 yrs)		Reasonably good specimen. Main stem bi-furcates. Included bark at the union. Union looks to be ok at this time but may cause future issues	3.4	2.5	**Suitable**
56	Marri (Corymbia calophylla)	8	30	33	0.33	3--4	4--5	Excellent	Good	Early-mature	Long term (>40 yrs)		Reasonably good specimen	3.6	2.1	**Suitable**
57	Swamp Mahogany (Eucalyptus robusta)	16	56	75	0.75	10--11	12--13	Excellent	Good	Early-mature	Long term (>40 yrs)		Large mature specimen. Low spreading canopy. Part of a group of trees in close proximity that effectively form the one canopy	6.7	2.9	**Suitable**

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
58	Flooded Gum (Eucalyptus rudis)	14	58	63	0.63	8--9	12--13	Excellent	Undesirable	Mature	Medium term (15-40 yrs)		Ok tree. Canopy is one-sided north due to proximity of the adjacent tree. Structure ok but would question retention if the adjacent trees were removed	7.0	2.7	Low (unsuitable)
59	Spotted Gum (Corymbia maculata)	20	51	54	0.54	8--9	7--8	Excellent	Acceptable	Mature	Long term (>40 yrs)		Large mature specimen. Main stem bi-furcates. Swelling at the union. Union looks to be ok. Part of a group of trees in close proximity that effectively form the one canopy	6.1	2.6	**Suitable**
60	Flooded Gum (Eucalyptus rudis)	16	61, 54	80	0.8	17-18	12--13	Excellent	Acceptable	Mature	Long term (>40 yrs)		Large mature specimen. Main stem bi-furcates. Swelling at the union. Union looks to be ok. Part of a group of trees in close proximity that effectively form the one canopy. Possibly cross with Northern River Red Gum. Low spreading canopy. Western-Horned Lerp noted on leaf	7.3	3.0	**Suitable**

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
61	Spotted Gum (Corymbia maculata)	18	54	57	0.57	6--7	6--7	Good	Acceptable	Mature	Medium term (15-40 yrs)		Large mature specimen. Main stem bi-furcates. Swelling at the union. Union looks to be ok. Part of a group of trees in close proximity that effectively form the one canopy. Apical sections of its canopy are dead/declining	6.5	2.6	**Suitable**
62	Spotted Gum (Corymbia maculata)	20	51, 49	89	0.89	16-17	9--10	Fair	Acceptable	Mature	Short-term (5-15 yrs)		Large mature specimen. Canopy is relatively sparse. Multi-stemmed from near ground level. Included bark at union. Looks to be ok at this time. Part of a group of trees in close proximity that effectively form the one canopy	6.1	3.2	Low (unsuitable)
63	Spotted Gum (Corymbia maculata)	21	43	52	0.52	8--9	7--8	Fair	Acceptable	Mature	Short-term (5-15 yrs)		Large mature specimen. Canopy slightly sparse. Remaining leaf still good condition. Leggy canopy form. Main stem bi-furcates. Union looks to be Ok at this stage. Some root plate mounding noted but looks to be remaining root stable at this time. Part of a group of trees in close proximity that effectively form the one canopy	5.2	2.5	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
64	Northern River Red Gum (Eucalyptus camaldulensis 'Obtusa')	19	62, 53, 46, 30	98	0.98	18-20	14-15	Excellent	Undesirable	Mature	Short-term (5-15 yrs)		Large mature specimen. Part of a group of trees in close proximity that effectively form the one canopy. Multi-stemmed from ground level and looks to be regrowth off/around an old stump/original tree. Species generally considered to be a higher risk species for the propensity for branch failures. Widespread canopy form	7.4	3.3	Low (unsuitable)
65	Spotted Gum (Corymbia maculata)	21	44	50	0.5	6--7	6--7	Good	Acceptable	Mature	Short-term (5-15 yrs)		Large mature specimen. Leggy canopy form. Main stem bi-furcates. Union looks to be Ok at this stage. Part of a group of trees in close proximity that effectively form the one canopy	5.3	2.5	**Suitable**
66	Spotted Gum (Corymbia maculata)	20	61	72	0.72	12--13	13-14	Excellent	Good	Mature	Long term (>40 yrs)		Large mature specimen. Main stem bi-furcates. Union looks to be Ok at this stage. Good aesthetic form/value	7.3	2.9	**High Retention Value**

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
67	Lemon Scented Gum (Corymbia citriodora)	15	49, 44, 38	80	0.8	13-14	11--12	Excellent	Undesirable	Mature	Medium term (15-40 yrs)		Large mature specimen. Multi-stemmed from near ground level. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future. Widespread canopy form	5.9	3.0	Low (unsuitable)
68	Lemon Scented Gum (Corymbia citriodora)	18	61	69	0.69	13-14	10--11	Excellent	Acceptable	Mature	Medium term (15-40 yrs)		Large mature specimen. Evidence of previous branch failure (100-200mm diameter). Broken branch in canopy	7.3	2.8	**Suitable**
69	Lemon Scented Gum (Corymbia citriodora)	11	32, 26	47	0.47	7--8	5--6	Excellent	Undesirable	Mature	Short-term (5-15 yrs)		Previously topped tree. Canopy is one-sided west due to proximity of the adjacent tree. Effectively forms the one canopy with the adjacent Tree. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future	3.8	2.4	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
70	Lemon Scented Gum (Corymbia citriodora)	14	33, 32, 20	56	0.56	7--8	7--8	Excellent	Acceptable	Mature	Medium term (15-40 yrs)		Reasonably good specimen. Multi-stemmed from ground level possibly more than one tree	4.0	2.6	**Suitable**
71	Lemon Scented Gum (Corymbia citriodora)	9	18 (multiple)	30	0.3	4--5	4--5	Excellent	Undesirable	Early-mature	Short-term (5-15 yrs)		Looks to be regrowth off/around an old stump/original tree. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future	2.2	2.0	Low (unsuitable)
72	Lemon Scented Gum (Corymbia citriodora)	12	57	60	0.6	6--7	7--8	Excellent	Undesirable	Early-mature	Short-term (5-15 yrs)		Previously topped tree. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future	6.8	2.7	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
73	Lemon Scented Gum (Corymbia citriodora)	11	20	22	0.22	3--4	3--4	Excellent	Good	Juvenile	Long term (>40 yrs)		Good specimen. No issues or concerns visible at this time	2.4	1.8	**Suitable**
74	Lemon Scented Gum (Corymbia citriodora)	12	40	44	0.44	4--5	2--3	Excellent	Poor	Early-mature	Short-term (5-15 yrs)		Badly topped tree. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future	4.8	2.3	Low (unsuitable)
75	Lemon Scented Gum (Corymbia citriodora)	7	14	15	0.15	2--3	2--3	Excellent	Undesirable	Juvenile	Short-term (5-15 yrs)		Looks to be regrowth off/around an old stump/original tree. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future	1.7	1.5	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
76	Lemon Scented Gum (Corymbia citriodora)	9	15	17	0.17	1--2	1--2	Excellent	Acceptable	Juvenile	Medium term (15-40 yrs)		Ok tree. Probably self sown. Grown up through the fence	1.8	1.6	Low (unsuitable)
77	Lemon Scented Gum (Corymbia citriodora)	7	38	42	0.42	3--4	4--5	Excellent	Poor	Early-mature	Limited (<5 yrs)		Badly topped tree. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future	4.6	2.3	Low (unsuitable)
78	Lemon Scented Gum (Corymbia citriodora)	5	11, 8	15	0.15	1--2	1--2	Excellent	Acceptable	Juvenile	Medium term (15-40 yrs)		Ok tree. Probably self sown. Co-dominant leader from ground level	1.3	1.5	**Suitable**

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
79	Flooded Gum (Eucalyptus rudis)	16	78	77	0.77	16-17	12--13	Excellent	Good	Mature	Long term (>40 yrs)		Large mature specimen. Widespread canopy form. Possibly cross with Northern River Red Gum	9.4	3.0	**Suitable**
80	Flooded Gum (Eucalyptus rudis)	16	46	50	0.5	10--11	7--8	Excellent	Undesirable	Mature	Short-term (5-15 yrs)		Large mature specimen. Possibly cross with Northern River Red Gum. Leggy canopy form. Effectively forms the one canopy with the adjacent Tree. Evidence of a history of branch failures. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future	5.5	2.5	Low (unsuitable)
81	Flooded Gum (Eucalyptus rudis)	10	43	46	0.46	7--8	7--8	Excellent	Undesirable	Early-mature	Short-term (5-15 yrs)		Ok tree. Possibly cross with Northern River Red Gum. Canopy is one-sided west due to proximity of the adjacent tree	5.2	2.4	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
82	Spotted Gum (Corymbia maculata)	14	44	46	0.46	5--6	5--6	Excellent	Undesirable	Mature	Short-term (5-15 yrs)		Ok tree. Part of a group of trees in close proximity that effectively form the one canopy. Main stem bi-furcates. Included bark & swelling at the union. Union looks to be ok at this time but looks likely to cause issues longer term	5.3	2.4	Low (unsuitable)
83	Spotted Gum (Corymbia maculata)	14	35, 20, 16	48	0.48	5--6	5--6	Excellent	Undesirable	Mature	Short-term (5-15 yrs)		Ok tree. Part of a group of trees in close proximity that effectively form the one canopy. Multi-stemmed from ground level and looks to be regrowth off/around an old stump/original tree. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future	4.2	2.4	Low (unsuitable)
84	Spotted Gum (Corymbia maculata)	16	48	53	0.53	5--6	5--6	Excellent	Acceptable	Mature	Medium term (15-40 yrs)		Large mature specimen. Part of a group of trees in close proximity that effectively form the one canopy. Previously topped. Regrowth unions look ok at this time	5.8	2.5	**Suitable**

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
85	Spotted Gum (Corymbia maculata)	16	42	46	0.46	5--6	5--6	Excellent	Acceptable	Mature	Medium term (15-40 yrs)		Large mature specimen. Part of a group of trees in close proximity that effectively form the one canopy. Previously topped. Regrowth unions look ok at this time. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future	5.0	2.4	**Suitable**
86	Spotted Gum (Corymbia maculata)	16	38	47	0.47	5--6	5--6	Excellent	Acceptable	Mature	Medium term (15-40 yrs)		Large mature specimen. Part of a group of trees in close proximity that effectively form the one canopy. Previously topped. Regrowth unions look ok at this time. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future	4.6	2.4	**Suitable**
87	Spotted Gum (Corymbia maculata)	7	14	18	0.18	1--2	1--2	Excellent	Acceptable	Mature	Medium term (15-40 yrs)		Part of a group of trees in close proximity that effectively form the one canopy. Previously topped. Regrowth unions look ok at this time. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future. Small tree and probably wouldn't be missed from the landscape if removed.	1.7	1.6	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
88	Spotted Gum (Corymbia maculata)	16	51	56	0.56	7--8	7--8	Excellent	Acceptable	Mature	Medium term (15-40 yrs)		Large mature specimen. Part of a group of trees in close proximity that effectively form the one canopy. Previously topped. Regrowth unions look ok at this time. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future	6.1	2.6	Low (unsuitable)
89	Spotted Gum (Corymbia maculata)	15	29, 24, 20	42	0.42	6--7	6--7	Excellent	Undesirable	Mature	Short-term (5-15 yrs)		Ok tree. Multi-stemmed from ground level. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future. Canopy is one sided due to pruning for line clearance	3.5	2.3	Low (unsuitable)
90	Spotted Gum (Corymbia maculata)	15	37	37	0.37	4--5	3--4	Excellent	Acceptable	Mature	Short-term (5-15 yrs)		Ok tree. Canopy is one sided due to pruning for line clearance. Leggy canopy form	4.4	2.2	**Suitable**

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
91	Spotted Gum (Corymbia maculata)	13	44	46	0.46	6--7	3--4	Excellent	Acceptable	Mature	Medium term (15-40 yrs)		Ok tree. Canopy is one sided due to pruning for line clearance	5.3	2.4	**Suitable**
92	Spotted Gum (Corymbia maculata)	10	31	33	0.33	3--4	3--4	Excellent	Undesirable	Mature	Short-term (5-15 yrs)		Badly topped tree. Canopy is one sided due to pruning for line clearance. Area of decay. Possibly starting to impact its structural integrity	3.7	2.1	Low (unsuitable)
93	Spotted Gum (Corymbia maculata)	13	31	37	0.37	4--5	3--4	Excellent	Acceptable	Mature	Medium term (15-40 yrs)		Ok tree. Canopy is one sided due to pruning for line clearance. Leggy canopy form	3.7	2.2	**Suitable**

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
94	Spotted Gum (Corymbia maculata)	11	31	36	0.36	4--5	3--4	Excellent	Undesirable	Mature	Short-term (5-15 yrs)		Canopy is one sided due to pruning for line clearance. Leggy canopy form. Badly topped tree. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future	3.7	2.2	Low (unsuitable)
95	Ironbark (Eucalyptus sideroxylon)	8	36	38	0.38	2--3	1--2	Excellent	Undesirable	Mature	Short-term (5-15 yrs)		Badly topped tree. Canopy is one-sided west due to proximity of the adjacent tree. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future	4.3	2.2	Low (unsuitable)
96	Ironbark (Eucalyptus sideroxylon)	11	92	96	0.96	12--13	12--13	Excellent	Undesirable	Mature	Short-term (5-15 yrs)		Large mature specimen. Good aesthetic form/value. Looks to have been previously topped. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future	11.0	3.3	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
97	Ironbark (Eucalyptus sideroxylon)	15	74	80	0.8	7--8	7--8	Excellent	Poor	Mature	Short-term (5-15 yrs)		Badly topped tree. Union looks to be ok at this time but looks likely to cause issues longer term. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future	8.9	3.0	Low (unsuitable)
98	Ironbark (Eucalyptus sideroxylon)	17	76	86	0.86	9--10	5--6	Excellent	Poor	Mature	Short-term (5-15 yrs)		Badly topped tree. Union looks to be ok at this time but looks likely to cause issues longer term. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future	9.1	3.1	Low (unsuitable)
99	Ironbark (Eucalyptus sideroxylon)	15	88	94	0.94	13-14	8--9	Excellent	Poor	Mature	Short-term (5-15 yrs)		Badly topped tree. Union looks to be ok at this time but looks likely to cause issues longer term. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future. Evidence of a history of branch failures	10.6	3.2	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
100	Ironbark (Eucalyptus sideroxylon)	10	40	40	0.4	3--4	2--3	Excellent	Poor	Mature	Short-term (5-15 yrs)		Badly topped tree. Union looks to be ok at this time but looks likely to cause issues longer term. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future. Canopy is one-sided west	4.8	2.3	Low (unsuitable)
101	Ironbark (Eucalyptus sideroxylon)	12	96	96	0.96	12--13	9--10	Excellent	Undesirable	Mature	Short-term (5-15 yrs)		Large mature specimen. Good aesthetic form/value. Previously topped. Regrowth unions look ok at this time	11.5	3.3	**Suitable**
102	Ironbark (Eucalyptus sideroxylon)	12	88	89	0.89	9--10	9--10	Excellent	Poor	Mature	Short-term (5-15 yrs)		Large mature specimen. Section of its main stem looks to have failed. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future	10.6	3.2	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
103	White Cedar (Melia azedarach)	9	36, multiple)	101	1.01	9--10	9--10	Good	Undesirable	Early-mature	Short-term (5-15 yrs)		Multi-stemmed from ground level possibly more than one tree. Canopy slightly sparse. Remaining leaf still good condition. Few dead tips	4.3	3.3	Low (unsuitable)
104	White Cedar (Melia azedarach)	9	33 (multiple)	68	0.68	7--8	7--8	Excellent	Undesirable	Early-mature	Short-term (5-15 yrs)		Multi-stemmed from ground level possibly more than one tree	4.0	2.8	Low (unsuitable)
105	Flooded Gum (Eucalyptus rudis)	11	56	80	0.8	14-15	14-15	Fair	Questionable	Mature	Short-term (5-15 yrs)		Large mature specimen. Few dead tips. Western-Horned Lerp noted on leaf; looks to be major impact to its health. Broken branch in canopy. Low spreading canopy. Minimal canopy may remain if canopy is raised	6.7	3.0	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
106	Flooded Gum (Eucalyptus rudis)	6	41	48	0.48	7--8	9--10	Fair	Undesirable	Mature	Short-term (5-15 yrs)		Canopy is one-sided north due to proximity of the adjacent tree. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future. Effectively forms the one canopy with the adjacent Tree. Few dead tips. Western-Horned Lerp noted on leaf; looks to be major impact to its health	4.9	2.4	Low (unsuitable)
107	Spotted Gum (Corymbia maculata)	16	59	63	0.63	10--11	10--11	Excellent	Good	Mature	Long term (>40 yrs)		Large mature specimen. Main stem bi-furcates. Union looks to be Ok at this stage. Good aesthetic form/value	7.1	2.7	**High Retention Value**
108	Northern River Red Gum (Eucalyptus camaldulensis 'Obtusa')	17	78, 42, 38, 30	106	1.06	15-16	15-16	Excellent	Poor	Mature	Limited (<5 yrs)		Large mature specimen. Evidence of a history of branch failures. Species generally considered to be a higher risk species for the propensity for branch failures	9.4	3.4	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
109	Flooded Gum (Eucalyptus rudis)	7	17, 14, 10	26	0.26	3--4	4--5	Excellent	Acceptable	Juvenile	Medium term (15-40 yrs)		Ok tree. Looks to be self-sown. Multi-stemmed from ground level possibly more than one tree	2.0	1.9	Suitable
110	Bracelet Honey Myrtle (Melaleuca armillaris)	5	26, 11, 11	30	0.3	3--4	4--5	Excellent	Poor	Mature	Limited (<5 yrs)		Signs to suggest root plate heave/partial failure has occurred	3.1	2.0	Very Low (Remove)
111	Swamp Mahogany (Eucalyptus robusta)	7	16	20	0.2	1--2	1--2	Poor	Poor	Early-mature	Limited (<5 yrs)		Apical sections of its canopy are dead/declining. Canopy is one-sided west due to proximity of the adjacent tree. Wouldn't be missed from the landscape if removed	1.9	1.7	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
112	Rose Gum (Eucalyptus grandis)	21	57	82	0.82	14-15	15-16	Excellent	Acceptable	Mature	Short-term (5-15 yrs)		Canopy is one-sided west due to proximity of the adjacent tree. Large mature specimen. Species generally considered to be a higher risk species for the propensity for branch failures. Evidence of a history of branch failures	6.8	3.0	Low (unsuitable)
113	Swamp Mahogany (Eucalyptus robusta)	17	54	72	0.72	9--10	5--6	Excellent	Good	Mature	Long term (>40 yrs)		Reasonably good specimen. No issues or concerns visible at this time	6.5	2.9	**Suitable**
114	Spotted Gum (Corymbia maculata)	19	44	50	0.5	9--10	6--7	Excellent	Good	Mature	Long term (>40 yrs)		Large mature specimen. Canopy slightly sparse. Remaining leaf still good condition. Leggy canopy form	5.3	2.5	**Suitable**

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
115	Flooded Gum (Eucalyptus rudis)	4	20, 17, 12	36	0.36	4--5	4--5	Good	Good	Mature	Long term (>40 yrs)		Ok smaller tree. Canopy slightly sparse. Remaining leaf still good condition. Multi-stemmed from near ground level	2.4	2.2	Low (unsuitable)
116	Swamp Mahogany (Eucalyptus robusta)	11	45	50	0.5	2--3	4--5	Dead	Questionable	Mature	n/a. Dead tree		Dead tree	5.4	2.5	Very Low (Remove)
117	Rose Gum (Eucalyptus grandis)	24	107	110	1.1	14-15	13-14	Excellent	Good	Mature	Short-term (5-15 yrs)		Large mature specimen. Species generally considered to be a higher risk species for the propensity for branch failures. Area of decay. Possibly starting to impact its structural integrity. Evidence of a history of branch failures	12.8	3.4	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
118	Flooded Gum (Eucalyptus rudis)	11	34, 21	50	0.5	7--8	3--4	Good	Acceptable	Early-mature	Medium term (15-40 yrs)		Ok tree. Canopy is one-sided due to proximity of the adjacent tree. Possibly cross with Northern River Red Gum. Canopy slightly sparse. Remaining leaf still good condition. Few dead tips. Co-dominant leader	4.1	2.5	Low (unsuitable)
119	Flooded Gum (Eucalyptus rudis)	15	59	64	0.64	8--9	8--9	Good	Acceptable	Early-mature	Medium term (15-40 yrs)		Reasonably good specimen. Main stem bi-furcates. Union looks to be Ok at this stage	7.1	2.7	Suitable
120	Flooded Gum (Eucalyptus rudis)	6	20	25	0.25	1--2	1--2	Near Dead	Acceptable	Early-mature	Limited (<5 yrs)		Mostly dead tree	2.4	1.8	Very Low (Remove)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
121	Rose Gum (Eucalyptus grandis)	25	59	69	0.69	11--12	12--13	Excellent	Good	Mature	Short-term (5-15 yrs)		Large mature specimen. Species generally considered to be a higher risk species for the propensity for branch failures	7.1	2.8	Low (unsuitable)
122	Tuart (Eucalyptus gomphocephala)	19	85	88	0.88	13-14	11--12	Excellent	Good	Mature	Long term (>40 yrs)		Large mature specimen. Main stem bi-furcates. Union looks to be Ok at this stage	10.2	3.1	**Suitable**
123	Rose Gum (Eucalyptus grandis)	25	68	76	0.76	11--12	11--12	Excellent	Acceptable	Mature	Short-term (5-15 yrs)		Large mature specimen. Species generally considered to be a higher risk species for the propensity for branch failures. Broken branch in canopy. Evidence of a history of branch failures	8.2	2.9	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
124	Bangalay (Eucalyptus botryoides)	24	84	110	1.1	13-14	11--12	Excellent	Acceptable	Mature	Long term (>40 yrs)		Large mature specimen. Main stem bi-furcates. Union looks to be Ok at this stage. Evidence of a history of (various sized) branch failures (storm damage). Some moderate and larger diameter deadwood in canopy	10.1	3.4	Low (unsuitable)
125	Bangalay (Eucalyptus botryoides)	18	50	62	0.62	9--10	8--9	Excellent	Acceptable	Mature	Long term (>40 yrs)		Large mature specimen. Canopy is one sided north. Effectively forms the one canopy with the adjacent Tree. Minor amount of moderate diameter sized deadwood	6.0	2.7	Low (unsuitable)
126	River Yate (Eucalyptus macrandra)	8	56	56	0.56	6--7	11--12	Excellent	Acceptable	Mature	Medium term (15-40 yrs)		Ok specimen. Previously topped but not of any concerns at this time	6.7	2.6	**Suitable**

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
127	Olive (Olea europaea)	6	8 multiple)	60	0.6	3--4	3--4	Excellent	Acceptable	Semi-mature	Long term (>40 yrs)		Ok tree. Multi-stemmed from ground level and looks to be regrowth off/around an old stump/original tree	1.0	2.7	Low (unsuitable)
128	South Australian Yellow Gum (Eucalyptus leucoxylon)	7.5	39	46	0.46	6--7	6--7	Excellent	Poor	Mature	Short-term (5-15 yrs)		Previously topped. Regrowth unions could cause future issues	4.7	2.4	Low (unsuitable)
129	Silver Princess (Eucalyptus caesia ssp. caesia)	7.5	14, 12, 10, 8	36	0.36	4--5	5--6	Poor	Acceptable	Mature	Limited (<5 yrs)		Canopy condition suggests possibly limited life remaining. Canopy is sparse. Multi-stemmed from ground level	1.7	2.2	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
130	Flinders Range Wattle (Acacia iteaphylla)	5	15	18	0.18	3--4	4--5	Excellent	Good	Early-mature	Short-term (5-15 yrs)		Reasonably good specimen. No issues or concerns visible at this time. Typically a short-lived species	1.8	1.6	Low (unsuitable)
131	Bracelet Honey Myrtle (Melaleuca armillaris)	4.5	18 multiple)	35	0.35	3--4	6--7	Good	Acceptable	Mature	Short-term (5-15 yrs)		Ok tree. Multi-stemmed from ground level possibly more than one tree	2.2	2.1	Low (unsuitable)
132	Bracelet Honey Myrtle (Melaleuca armillaris)	4.5	27	36	0.36	3--4	3--4	Good	Undesirable	Mature	Short-term (5-15 yrs)		Ok specimen. Previously topped but not of any concerns at this time	3.2	2.2	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
133	Bracelet Honey Myrtle (Melaleuca armillaris)	4.5	25	34	0.34	2--3	2--3	Good	Acceptable	Mature	Short-term (5-15 yrs)		Ok tree. Canopy is one-sided south	3.0	2.1	Low (unsuitable)
134	Pencil Pine (Cupressus sempervirens 'Stricta')	6	12	15	0.15	1--2	1--2	Excellent	Good	Mature	Medium term (15-40 yrs)		Ok tree. Part of a row of four	1.4	1.5	Low (unsuitable)
135	Pencil Pine (Cupressus sempervirens 'Stricta')	6	12	15	0.15	1--2	1--2	Excellent	Good	Mature	Medium term (15-40 yrs)		Ok tree. Part of a row of four	1.4	1.5	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
136	Pencil Pine (Cupressus sempervirens 'Stricta')	6	12	15	0.15	1--2	1--2	Excellent	Good	Mature	Medium term (15-40 yrs)		Ok tree. Part of a row of four	1.4	1.5	Low (unsuitable)
137	Pencil Pine (Cupressus sempervirens 'Stricta')	7	12	15	0.15	1--2	1--2	Excellent	Good	Mature	Medium term (15-40 yrs)		Ok tree. Part of a row of four	1.4	1.5	Low (unsuitable)
138	Rose Gum (Eucalyptus grandis)	7	10	12	0.12	1--2	1--2	Fair	Acceptable	Semi-mature	Short-term (5-15 yrs)		Canopy is relatively sparse. Leggy canopy form. Species generally considered to be a higher risk species for the propensity for branch failures	1.2	1.4	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
139	Rose Gum (Eucalyptus grandis)	11	27	30	0.3	4--5	5--6	Excellent	Acceptable	Semi-mature	Short-term (5-15 yrs)		Ok tree. Leggy canopy form. Species generally considered to be a higher risk species for the propensity for branch failures	3.2	2.0	Low (unsuitable)
140	Rose Gum (Eucalyptus grandis)	19	38	44	0.44	7--8	7--8	Excellent	Undesirable	Early-mature	Short-term (5-15 yrs)		Ok tree. Leggy canopy form. Species generally considered to be a higher risk species for the propensity for branch failures	4.6	2.3	Low (unsuitable)
141	Flooded Gum (Eucalyptus rudis)	19	47	49	0.49	7--8	7--8	Excellent	Undesirable	Early-mature	Short-term (5-15 yrs)		Ok tree. Leggy canopy form. Canopy is one-sided north due to proximity of the adjacent tree. Swoop in main stem	5.6	2.5	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
142	Rose Gum (Eucalyptus grandis)	25	85	90	0.9	14-15	14-15	Excellent	Good	Mature	Short-term (5-15 yrs)		Large mature specimen. Species generally considered to be a higher risk species for the propensity for branch failures. Some moderate and larger diameter deadwood in canopy	10.2	3.2	Low (unsuitable)
143	Flooded Gum (Eucalyptus rudis)	15	38	46	0.46	5--6	7--8	Excellent	Undesirable	Early-mature	Short-term (5-15 yrs)		Canopy is one-sided due to proximity of the adjacent tree. Grown on a lean but not considered an issue at this time. Structure looks to be ok at this time but equally looks likely to cause issues in foreseeable future	4.6	2.4	Low (unsuitable)
144	Rose Gum (Eucalyptus grandis)	9	24	26	0.26	3--4	4--5	Fair	Acceptable	Early-mature	Short-term (5-15 yrs)		Canopy is slightly sparse & suggests decline. Few dead tips. Canopy is one sided north. Species generally considered to be a higher risk species for the propensity for branch failures	2.9	1.9	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
145	Mulberry (Morus nigra)	7	52	56	0.56	9--10	9--10	Excellent	Good	Mature	Long term (>40 yrs)		Good specimen. No issues or concerns visible at this time. Low spreading canopy	6.2	2.6	**Suitable**
146	Rose Gum (Eucalyptus grandis)	16	72	83	0.83	10--11	12--13	Excellent	Acceptable	Mature	Short-term (5-15 yrs)		Large mature specimen. Main stem bi-furcates. Union looks to be Ok at this stage. Union looks to be ok at this time but may cause future issues. Species generally considered to be a higher risk species for the propensity for branch failures	8.6	3.1	Low (unsuitable)
147	Rose Gum (Eucalyptus grandis)	18	60	64	0.64	12--13	15-16	Good	Acceptable	Mature	Short-term (5-15 yrs)		Large mature specimen. Species generally considered to be a higher risk species for the propensity for branch failures. Canopy slightly sparse. Remaining leaf still good condition	7.2	2.7	Low (unsuitable)

Tree Number	Species	Approx. Height (metres)	DBH (cm)	Approx. DRF (cm)	DRF (m)	Canopy Spread (metres diameter)		Health	Structure	Age Class	SULE	Image	Comments	Nominal TPZ (metres radius)	Nominal SRZ (metres radius)	Opinion
						N-S	E-W									
148	Marri (Corymbia calophylla)	11	45	52	0.52	9--10	11--12	Good	Good	Mature	Long term (>40 yrs)		Good specimen. Good aesthetic form/value. Canopy slightly sparse. Remaining leaf still good condition	5.4	2.5	**Suitable**
149	Jarrah (Eucalyptus marginata)	11	56, 50	110	1.1	12--13	12--13	Excellent	Good	Mature	Long term (>40 yrs)		Good specimen. Good aesthetic form/value. Multi-stemmed from ground level and looks to be regrowth off/around an old stump/original tree	6.7	3.4	**High Retention Value**

6. Further Considerations; Development Design and Construction

6.1 Protection of Trees as part of Development

It is difficult to provide any further specific comments for each Tree as to the potential of the impact from the development of this Site at this stage, as much of the impact caused will be very much dependent on the detailed design aspects of any proposed development.

The retention of the existing current ground level and soil profile and limiting excavations within a Tree's designated TPZ will however be of paramount and key importance in the success of the retention of any Tree.

Effective tree protection must also begin with good design and specifications, so that protection during the construction/landscape stages of a development will be achievable and practicably possible.

As an initial recommendation:

1. The Trees considered to have a very low retention value are recommended to be removed as part of the development process. Removal of any tree directly adjacent to a Tree to be retained must be undertaken in a manner that does not cause any damage to any of the above or below ground parts of the Tree being retained. Some of these Trees will need to be removed using sectional dismantling methods.

2. Retention of the Trees considered to be unsuitable is highly questionable in the context of what is proposed and they too would be suggested to be removed as part of the development process. Whilst some of these Trees are large mature trees that are in good health their structural condition and/or their typical species traits are considered likely to represent a high risk to the Site once development has been completed that may not be able to be managed or mitigated through canopy works without either extensive resources (expense) or the extent of canopy pruning undertaking resulting in the retention of the Tree being questionable anyway (i.e. the Tree is topped).

   Retention of a few of these Trees may however be viable in areas where there will be no or few 'targets' introduced into their fall zone.

3. **Retention of the Trees considered to have a high retention value is strongly recommended as they are considered to be good mature specimens of their given species that are currently in good health and structural form and highly suitable for the proposed situation.**

4. Retention of the other suitable Trees identified during this survey would also be encouraged.

5. The nominal TPZ of each Tree is strongly recommended to be overlaid onto all drawings and designs of the proposed development where the Tree is proposed to be retained.

   Where encroachments into a designated TPZ are found to be required, further discussion with an experienced independent arboricultural consultant is an important part of the tree protection process.

   This is not to say that some encroachment and development activity would not be permitted to be undertaken within a TPZ area as part of a development process. However any encroachment required/proposed will require further input and discussion with the arboricultural consultant as part of any detailed design process to determine what the potential impact on the given Tree will be, and what design modifications or measures may need to be implemented to mitigate any potential negative impact on the given Tree.

7. Further Considerations; Development Design and Construction

If considered necessary, some exploratory excavation works may also be required to verify actual root spread and determine what impact could occur.

Aspects such as resulting levels, delineation of any underground service pipework, drainage, sewerage etc. can all have (potentially) a major impact on a tree's root zone, and in turn its future health and potential lifespan.

During the detailed design process further arboricultural input will likely be required to discuss:

- Current existing ground levels and proposed resulting levels of the various areas of the Site. Note: As previously mentioned, retaining and maintaining current existing ground levels within the designated TPZ of any tree is of paramount importance to the success of tree retention.
- Delineation of any underground services pipework including drainage, sewerage, water, gas, electricity, telecommunications and the like; specifically should they pass through any designated TPZ.
- Location of any drainage near to the Trees and their TPZ.
- Any further site remediation requirements within TPZ areas as part of the Site clearing process.

Once development design has been furthered, tree protection method statements are recommended to be drafted for use during the construction stages of the development and include specific details of any:

- Protection measures for each Tree's TPZ area,
- Specifications for any works designed to occur within a TPZ area during the construction process,
- Canopy pruning works,
- Watering requirements,
- Monitoring requirements during construction

Including a degree of further arboricultural input is considered key to the success of the retention of any of the Tree's during the proposed development, and effective protection of trees during a development process must being with good design and construction specifications so that physical impact to any Tree's root zone during the construction stages will be limited.

7.2 Physical Protection of Trees during Development

Physical protection measures in accordance with AS 4970 will also be required for any Tree selected for retention; details of any measures to be implemented will be very much dependent on the final detailed design.

It will be of critical importance that the appropriate protection measures are set up and maintained from the outset.

Implementing tree protection measures after damage has occurred from works is often of little to no value other than affording some protection from further damages occurring.