Greencap Pty Ltd
GF, North Building, 22 Giffnock Avenue
Macquarie Park NSW 2113
Australia
P: (02) 9889 1800
F: (02) 9889 1811

INTERIM LONG-TERM ENVIRONMENTAL MANAGEMENT PLAN

April 2022
J169905

A.W. Edwards Pty Ltd

Stage 1 Area - Darlington Public School

C107251:VA

Document Control

Document Quality Management Details.		
Report Name:	Interim Long-Term Environmental Management Plan	
Site Details:	Stage 1 Area, Darlington Public School- 417 Abercrombie Street Darlington NSW 2008	
Project Number:	J169905	
Client Name:	A.W. Edwards Pty Ltd	
Client Number:	C107251	
Signatures:	Prepared By:   Dr. Victor Arias **Senior Consultant** **CEnvP (SC41156 & GP: 0682)** Environmental | NSW	Authorised/Reviewed By:  Matthew Barberson (CENVP (GP): 1227) **Team Manager –** Environmental | NSW

Issue Status

Version No.	Date	Creator	Reviewer
Interim	5/04/22	Dr. Victor Arias	Mathew Barberson
Interim V2	7/04/2022	Dr. Victor Arias	

Document Circulation

No of Copies	Type	Customer Name	Position & Company
1	**Electronic**	**Riley Barns**	**A.W. Edwards – Project Coordinator**

Statement of Limitations

All and any Services proposed by Greencap to the Client are subject to the Terms and Conditions listed on the Greencap website at: www.greencap.com.au/about-greencap/terms-and-conditions. Unless otherwise expressly agreed to in writing and signed by Greencap, Greencap does not agree to any alternative terms or variation of these terms if subsequently proposed by the Client. The Services are to be carried out in accordance with the current and relevant industry standards of testing, interpretation and analysis. The Services are to be carried out in accordance with Commonwealth, State or Territory legislation, regulations and/or guidelines. The Client will be deemed to have accepted these Terms when the Client signs the Proposal (where indicated) or when the Company commences the Services at the request (written or otherwise) of the Client.

The services were carried out for the Specific Purpose, outlined in the body of the Proposal. To the fullest extent permitted by law, Greencap, its related bodies corporate, its officers, consultants, employees and agents assume no liability, and will not be liable to any person, or in relation to, any losses, damages, costs or expenses, and whether arising in contract, tort including negligence, under statute, in equity or otherwise, arising out of, or in connection with, any matter outside the Specific Purpose. The Client acknowledges and agrees that proposed investigations rely on information provided to Greencap by the Client or other third parties. Greencap makes no representation or warranty regarding the completeness or accuracy of any descriptions or conclusions based on information supplied to it by the Client, its employees or other third parties during provision of the Services. The Client releases and indemnifies Greencap from and against all Claims arising from errors, omissions or inaccuracies in documents or other information provided to Greencap by the Client, its employees or other third parties. Under no circumstances shall Greencap have any liability for, or in relation to, any work, reports, information, plans, designs, or specifications supplied or prepared by any third party, including any third party recommended by Greencap.

The Client will ensure that Greencap has access to all sites and buildings as required by or necessary for Greencap to undertake the Services. Notwithstanding any other provision in these Terms, Greencap will have no liability to the Client or any third party to the extent that the performance of the Services is not able to be undertaken (in whole or in part) due to access to any relevant sites or buildings being prevented or delayed due to the Client or their respective employees or contractors expressing safety or health concerns associated with such access.

Greencap, its related bodies corporate, its officers, employees and agents assume no liability and will not be liable for lost profit, revenue, production, contract, opportunity, loss arising from business interruption or delay, indirect or consequential loss or loss to the extent caused or contributed to by the Client or third parties, suffered or incurred arising out of or in connection with our Proposals, Reports, the Project or the Agreement. In the event Greencap is found by a Court or Tribunal to be liable to the Client for any loss or damage arising in connection with the Services, the Client's entitlement to recover damages from Greencap shall be reduced by such amount as reflects the extent to which any act, default, omission or negligence of the Client, or any third party, caused or contributed to such loss or damage, unless otherwise agreed in writing and signed by both parties, Greencap's total aggregate liability will not exceed the total consulting fees paid by the client in relation to this Proposal. For further detail, see Greencap's Terms and Conditions available at www.greencap.com.au/about-greencap/terms-and-conditions

The Report is provided for the exclusive use of the Client for this Project only, in accordance with the Scope and Specific Purpose as outlined in the Agreement, and only those third parties who have been authorised in writing by Greencap. It should not be used for other purposes, other projects or by a third party unless otherwise agreed and authorised in writing by Greencap. Any person relying upon this Report beyond its exclusive use and Specific Purpose, and without the express written consent of Greencap, does so entirely at their own risk and without recourse to Greencap for any loss, liability or damage. To the extent permitted by law, Greencap assumes no responsibility for any loss, liability, damage, costs or expenses arising from interpretations or conclusions made by others, or use of the Report by a third party. Except as specifically agreed by Greencap in writing, it does not authorise the use of this Report by any third party. It is the responsibility of third parties to independently make inquiries or seek advice in relation to their particular requirements and proposed use of the site.

The conclusions, or data referred to in this Report, should not be used as part of a specification for a project without review and written agreement by Greencap. This Report has been written as advice and opinion, rather than with the purpose of specifying instructions for design or redevelopment. Greencap does not purport to recommend or induce a decision to make (or not make) any purchase, disposal, investment, divestment, financial commitment or otherwise in relation to the site it investigated.

This Report should be read in whole and should not be copied in part or altered. The Report as a whole sets out the findings of the investigations. No responsibility is accepted by Greencap for use of parts of the Report in the absence (or out of context) of the balance of the report.

1 TABLE OF CONTENTS

1 Purpose

Greencap was engaged by A.W. Edwards Pty Ltd (the client), to prepare this interim Long-Term EMP after the completion of remedial works to remove contamination risks at Stage 1 Area, Darlington Public School- 417 Abercrombie Street Darlington NSW 2008 (hereafter referred to as "the Site"). The site location is indicated on *Figure 1*. This EMP was prepared in accordance to the most recent guidelines NSW EPA (January 2022), Preparing environmental management plans for contaminated land: Practice Note.

- Implementation of this Long-Term Environmental Management Plan (EMP) is the responsibility of the site owner, currently Department of Education (DoE). In accordance with the Environmental Planning and Assessment Act 1979 and NSW EPA guidelines, this Long-Term EMP is required to ensure that the capping material covering the contaminated soils at the site remains intact at Darlington Public School.
- The following SSD9914 development consent conditions are applicable to the EMP:
    - D27: Prior to the commencement of operation, the Applicant must submit a Section A1 Site Audit Statement or a Section A2 Site Audit Statement accompanied by an Environmental Management Plan prepared by a NSW EPA accredited Site Auditor. The Section A1 or A2 Site Audit Statement must verify the relevant part of the site is suitable for the intended land use and be provided, along with any Environmental Management Plan to the Planning Secretary and the Certifier.
    - E8: Upon completion of remediation works, the Applicant must manage the site in accordance with the Environmental Management Plan approved by the Site Auditor (if any) under condition D27 and any on-going maintenance of remediation notice issued by EPA under *the Contaminated Land Management Act 1997.*
- This EMP applies only to the extent of the capped area (capped material contains asbestos, PAH and lead impacted soil) referred as Stage 1, shown on **Figure 3**, it does not apply to the remainder of the school area.
- Considering the nature of the contamination that included: Asbestos Total PAH, Benzo(a)pyrene and Lead, remediation works involved removal of fill soil and placement of a capping soil layer over the remaining contaminated fill. The capping works are described in **Section 3.1**
- This remediation works were carried out between January 2021 and March 2022 and a validation report for Basketball Court and Stage 1 works (Greencap August 2021; Greencap April 2022) were issued to document the construction methods for encapsulation of contaminated fill to form a physical barrier over contaminated soils to prevent exposure. The location of the capped area in relation to the overall Darlington Public School property is indicated in **Figure 2**.
- Long term management (capping layer maintenance and notification) is required, as detailed in this EMP, to prevent disturbance, dispersal, or exposure of contaminated soils in future. On-going maintenance of the capping area will generally require occasional inspection of the capping area (Stage 1 Area) to ensure the integrity of the capping system is not being damaged (e.g. by erosion or any unmanaged digging/disturbance) i.e. passive management system. Repairs and reinstatement of the capping layer are required when damage or disturbance occur (as described in detail within **Section 4.8** of this EMP report).
- This report is to be read by any person (including current and future site owners / managers / occupiers) proposing to undertake any subsurface excavation works with potential to disturb the capping layers. Works with potential to disturb the capping layers include:
    - Trenching for installation or maintenance of underground services conduits;
    - Excavations required for maintenance or modification of the concrete slab;
    - Any new constructions such as light poles or other structures with subsurface foundations anywhere in the vicinity of the capping area.

Any works that may disturb the structural integrity of the capping system require planning assessment and approval by the DoE. Other consent authorities (such as City of Sydney Council or NSW Department of Planning) involved in assessment of Development Applications for proposed works are also to provide approval. Applications for approval must include detailed description and design of proposed works and compliance with management requirements under this EMP. A copy of this EMP should be included in all submissions for development consent to both the DOE and other consent authorities.

1.1 Purpose and Objectives of the EMP

The purpose of this long term EMP is to manage the residual contamination risk remaining on site following the completed remediation activities and ensure long-term protection of the human health and the environment on site and its vicinity. This plan comes into force from its date of issue, which is 7/04/2022.

The scope of this Long-Term EMP includes the site management requirements associated with:

- the presence of known contamination within the capped area on site (i.e. contaminated soils beneath capping and hardstand pavement);
- Document the location of the contamination and capping layer;
- Maintenance of the capped area (including maintenance of the capping layers) and to detail the requirements for management of future excavations;
- Delegation of Roles and Responsibilities;
- Ensure notification to all stakeholders of the asbestos contamination, capping and location on the site; and
- Ongoing review of compliance of site monitoring and management regimes against this Long-Term EMP by the site owner or appointed certifier.

The long-term management plan has been developed to address site-specific environmental concerns associated with the contamination contained at the site.

- NSW EPA (2022), Preparing environmental management plans for contaminated land: Practice Note;

1.2 Enforceability of the EMP

It is a requirement that this EMP is legally enforceable via a development application/ approvals process for any proposed work at the site which has potential to disturb the capping soil layer area shown on Figure 3. As the site contains a soil cap and containment of contaminated soil, this EMP will apply in perpetuity or until the contaminated soil is removed from the school.

Any works within the capping area, requiring planning approval is to be approved by the DoE and any other consent authority (refer to **Section 4**).

A copy of this EMP is to be notified as a covenant on the land title, and registered on City of Sydney Council Planning documents (10.7 certificates) and in the site owners quality management system, to indicate that buried wastes including asbestos have been contained onsite and an ongoing mitigation and monitoring system is in place. Notification requirements are detailed in **Section 5** below.

This EMP is to be made available to site owners, managers, contractors and site workers and any other relevant persons. All relevant personnel at the site should be made aware of the presence of the contaminated soil and the need to ensure it remains undisturbed.

Consent includes the following requirements, which enforces the establishment and implementation of a Long-Term EMP (referred to as EMP in SSD9914).

- D27: Prior to the commencement of operation, the Applicant must submit a Section A1 Site Audit Statement or a Section A2 Site Audit Statement accompanied by an

Environmental Management Plan prepared by a NSW EPA accredited Site Auditor. The Section A1 or A2 Site Audit Statement must verify the relevant part of the site is suitable for the intended land use and be provided, along with any Environmental Management Plan to the Planning Secretary and the Certifier.

- E8: Upon completion of remediation works, the Applicant must manage the site in accordance with the Environmental Management Plan approved by the Site Auditor (if any) under condition D27 and any on-going maintenance of remediation notice issued by EPA under *the Contaminated Land Management Act 1997.*

Table 1: SSD Consent Conditions Compliance Table		
Condition	**Relevant information**	**Reference Providing Detailed Information**
D27	LTEMP prepared by Dr. Victor Arias SC41156 & GP: 0682 and reviewed and approved by appointed auditor	LTEMP (this document)
E8	Site owner (DoE) letter/email communication	Site owner (DoE) to provide a letter/email indicating how the EMP will be enforced

2 Background

2.1 Site Identification and Setting

Table 2: Site Information		
Site Address:	Darlington Public School, 417 Abercrombie Street Darlington NSW 2008	
Property Identification:	Lot 592 DP752049 Lot 110 DP623500	
Local Government Area	City of Sydney	
Approximate Area (Accessible Areas):	Stage 1 Handover Zone within School Premises (approximate area: 3400 m^2)	
Current Site Use:	Public School – currently upgrade works are ongoing	
Proposed Site Use:	Public School	
Site Users:	Children/teachers/visitors of the school, workers undertaking service/maintenance works and associated temporary visitors.	
Surrounding Site Use:	North East South West	Sydney University building (residential and educational) with Darlington Lane and residential properties beyond. Sydney University accommodation buildings (residential) with Sydney Campus buildings beyond. School Premises and Abercrombie street with residential properties beyond Stage 1 Works Construction site (As part of School upgrade works) and further Golden Grove street with residential properties beyond
Surface Water Bodies:	North	Lake Northham located within Victoria Park approx. 850 m northeast of the site. Sydney Harbour further north-east, Alexandra Canal to the Southeast.

Nearest sensitive human receptors are the students and staff of Darlington Public School, students and the residents living at the high-density residential houses and Sydney University Campus Building towards the east and north of the site and residential properties beyond Golden Grove Street and on

the south of the site. Lake Northham located approximately 850 m towards the northeast of the site is considered as the nearest environmental receptor.

2.2 Geology and Soils

A review of the Sydney 1:100,000 Geological Series Sheet indicated the site is underlain by Ashfield Shale (Rwa) of the Wianamatta Group of Triassic age. This formation is described as shale, carbonaceous claystone, laminate, fine to medium grained lithic sandstone and some minor coal bands.

A review of 1:100,000 Sydney Geological Series indicated the shallow soils at the site comprise Blacktown Soil Landscape (bt), which consist of up to two soil horizons that vary from shallow to moderately deep red and brown podzolic soils on crests, upper slopes and well drained areas to yellow podzoic soils on lower slopes and in areas of poor drainage.

2.3 Topography

Topography of the site and surrounds slopes gently towards the south and at approximately elevation of 37 m AHD.

3 Description of existing/residual contamination

Comprehensive details of the history of contamination assessments at the site and planning of remediation works are documented in the Remediation Action Plan (RAP) (DP, 2020) and RAP addendum issued by Greencap in October 2021 (refer: *J169905 Further Investigation and RAP Addendum Darlington Public School October 2021_V2*). Details on construction of the soil capping areas are included in the Validation report for Stage 1 Works (refer: *J169905 Remediation Validation Report April 2022_V1*).

Based on the finding of the previous investigations and data assessments (Refer to reports above) the contaminants of concern across the whole site include:

- Bonded Asbestos (ACM in the form of bonded cement sheet fragments were observed across the site, with ACM isolated to fill soils (ACM not observed within natural soils)).
- Total PAH.
- Benzo(a)pyrene.
- Lead.

Based on the investigation results, volatile organic compounds (VOCs) are not considered to be a contaminant of concern for the site, i.e to not pose a vapour intrusion risk.

- No VOC odours were recorded by Greencap in the 21 testpits investigated below the new building and all PID readings were low for samples taken from the 21 testpits (Greencap 2021);
- All TRH F1 and F2, BTEX-N purge and trap sample analysis results for the testpit samples were below the laboratory limit of reporting, with the exception of TRH F2 (170 mg/kg) in one sample (TP1/0.65m) which is below HSL-A soil criteria (silt/medium textured soil) for vapour intrusion (230 mg/kg). TRH F2 in the fill is likely associated with presence of coal ash and coal tar encountered at several locations and comprised a minor fraction of the fill material. TRH F1 was not reported in any of the samples;
- Following detection of TRH F2 by Douglas Partners at one sampling location, the DP 2020 RAP (Section 4.4) included a soil vapour assessment in the central west part of the Stage 1 site which did not identify a vapour intrusion risk for the new building;
- No VOC odours were detected during Greencap inspections of the extensive site excavations in the area below the new building and during sampling of excavated soils for waste classification.

3.1 Remediation History

3.1.1 Basketball Court Capping Works

Remediation earthworks commenced in January 2021 in association with construction of the basketball court in the north-eastern part of the Stage 1 site shown on Figure 4.

Full details including photos of these works and validation of imported materials are documented in the validation report for the basketball court (refer: *J169905 Remediation Validation Report (Basketball Court Area) - Darlington Public School August 2021*), summarised below.

The remediation of the land covered by the basketball court involved excavation and offsite disposal of fill to achieve design ground levels, followed by importing and placement of gravels and asphalt paving across the playing court and access pathways.

The capping layer across the basketball court area placed on the geofabric marker layer that covers the contaminated fill includes:

- validated imported natural rock gravel aggregate subgrade and surface asphalt placed across the court area;
- imported validated topsoil placed below the turfed southern area,
- imported validated recycled concrete gravel placed along the 1 m wide pathway along the west side of the court and surface asphalt placed across the court area (north-south aligned pathway).

3.1.2 North-eastern Tree Protection Zone Capping

Full details including photos of these works and validation of imported materials are documented in the validation report for Stage 1 works (refer: J169905 Remediation Validation Report V1 (Stage 1 Area) - Darlington Public School April 2022), summarised below.

Capping layer barriers over contaminated soils in the north-eastern tree protection zone, included decking, concrete benches and garden beds located between the basketball court and the northern and eastern site boundaries (refer Figure 4). These were constructed after the basketball court). Decking boards were constructed approximately 300 mm above ground surface level, and a layer of mulch was placed on the marker layer geofabric on the ground surface below the deck. The marker layer fabric was pinned onto the soil surface using 200 mm long steel pegs.

Access to the area below the deck was incorporated including removable decking boards and access to the void below the deck at the eastern end of the tree protection zone.

Concrete benches were constructed on the geofabric between the northern deck area and the basketball court asphalt surface.

3.1.3 New Block C and Library Building Concrete Floor

Full details including photos of these works and validation of imported materials are documented in the validation report for Stage 1 works (refer: J169905 Remediation Validation Report V1 (Stage 1 Area) - Darlington Public School April 2022), summarised below.

The concrete floor slab of the new building formed the capping layer over the entire western portion of the Stage 1 site as shown on Figures 4 and 5. Concrete floor slab thickness (180 mm) plus minimum 120 mm base course/subgrade layer on the marker layer geofabric comprise the 300 mm capping layer below the new building.

In addition, two concrete planter beds were installed above concrete cap within block C . These planter beds were filled with approximately 300mm of Smartmix5 (bottom) and 400mm of Smartmix 6 (above) landscaping soils from Benedicts Sands at Menangle.

3.1.4 Preschool Area and New Landscaping East of Block C

Full details including photos of these works and validation of imported materials are documented in the validation report for Stage 1 works (refer: J169905 Remediation Validation Report V1 (Stage 1 Area) - Darlington Public School April 2022), summarised below.

Figures 4 and 5 and the attached diagrams ("Preschool Capping Markup" and "External Works Capping Sections" by FJM Studio Pty Ltd) show the capping layer variations for the preschool and new landscaping areas.

Pre-capping excavations were conducted in the outdoor area between Block C and the basketball court (includes preschool) in July/August 2021. This included construction of a retaining wall along the eastern boundary of the preschool area. Concrete was placed on marker layer fabric in the foundation trench for the retaining wall.

Ground level for the preschool was raised west of the retaining wall, using imported materials for the capping layer. Marker layer fabric was laid on the ground surface. Imported VENM classified clay and sandstone from the source sites at Zetland and Willoughby was placed on the marker layer and formed the first lift of the capping layer. Subsequent capping layer materials added included VENM classified gravel from the Dunmore quarry and Smartmix 6 (sandstone/compost mix) landscaping soil from Benedict Sands at Menangle.

Concrete pathways between the new building and the basketball court shown on Figure 5 were completed in January 2022.

Various capping materials were used above the marker layer and included VENM classified clay and sandstone from the source sites at Zetland and Willoughby, VENM classified gravel from the Dunmore quarry, VENM classified metal dust from the Lynwood quarry and Smartmix 6 (sandstone/compost mix) landscaping soil from Benedict Sands at Menangle.

In addition, a sandpit was built above the first lift of Willoughby sandstone as follows:

- 150 mm VENM classified gravel from Dunmore quarry
- 5 mm Black plastic protection board
- 30 mm Drainage cell
- 550 mm Washed Newcastle Sand VENM from Redisand Salt Ash Quarry

4 Management Activities: General Management Roles, Contingency Measures, and Responsibilities

Implementation of this Long-Term EMP is the responsibility of the site owner, currently the Department of Education. The subsequent sections of this report outlines proposed Site Management Procedures. These procedures are provided to prevent potential adverse impacts to human health, site amenity or the environment from any residual contamination at the Site. The procedures have been designed to minimise the potential for exposures to contamination, including asbestos in soils.

In addition to the requirements of this EMP, all works with potential to disturb all the capping area (refer to Figure 4) should comply with requirements of the DoE Asbestos Management Plan (currently October 2020 edition). This includes engagement of a Class A licensed contractor, and Licensed Asbestos Assessor, Safework NSW permit, restricted work hours if excavations disturb asbestos and could possibly cause dust emission.

4.1 Delegation of Roles and Responsibilities

Management should include implementing a system that delegates roles to various stakeholders. An example is included in **Table 3**. The school is to be made aware of this EMP and its implementation is managed by the School Principal / Deputies.

The DoE's Asset Management Unit (AMU) is to provide a copy of this EMP to any contractors and subcontractors undertaking works in the capped area.

Table 3: Responsible Persons/Roles: Management of Capping Area

Party Responsible	Key Roles / Actions
Department of Education (Asset Management Unit)	Responsible for approving any proposed works which may cause disturbance to the capping layer or any disturbance of the contaminated soils (particularly works which do not require development consent from an external Consent Authority). Ensure that the contents of this EMP are applied throughout the duration of future Site construction works / civil activities, should they occur. A copy of this EMP is to be provided with the development application submission documents to any consent authority, for approval of proposed works.
Darlington Public School	The school is to be made aware of this EMP and its implementation is to be managed by the school Principal / Deputies, including reporting to DoE on commencement and progress of any excavation works at the capping footprint area. Ensuring that the contents of this EMP are applied throughout the duration of future Site construction / civil activities, should they occur. Ensure that adequate ground markers and fencing are provided for the duration of any site works to prevent users of the school entering the work area, and to prevent contractors from inadvertently excavating into the contaminated soils area.
Other Consent Authorities (eg City of Sydney Council or NSW Department of Planning)	Responsible for approving any works (requiring Development Consent), which may cause disturbance to the capping layer or any disturbance to contaminated soils. Ensure that requirements of this EMP have been considered at the design stage of any works which may cause disturbance to the capping layer or any disturbance to contaminated soils.

Table 3: Responsible Persons/Roles: Management of Capping Area	
Party Responsible	**Key Roles / Actions**
Contractors (earthworks)	Supervising Contractors are required to undertake the following, as a minimum, to comply with the requirements and recommendations of this EMP and the DOE Asbestos Management Plan: Ensure that adequate ground markers are provided and maintained for the duration of any site works to prevent contractors from inadvertently excavating into the capping area. Any subsurface works beneath the cap that penetrate the geotextile marker layer must be carried out by an appropriately licensed asbestos removal contractor. In such situations, an asbestos removal control plan must also be prepared and works completed in accordance with the NSW Work Health and Safety Regulation, 2017. Hold a Class A Friable asbestos works license. Through site inductions and daily toolbox talks, ensure that all contractor and sub-contractor workers have been made aware of the presence of contaminated soils including asbestos at the site and the requirements of this EMP. Oversee and monitor daily work activities of staff to ensure that no unauthorised breaching of the capping layer. Ensure all staff are using appropriate PPE as indicated in the AMP and following the procedures as set out in the site-specific safe work method statements (SWMS) and in compliance with current WHS requirements. Provide dust suppression and ensure air monitoring is in place during any activities that have a potential to disturb fill within the capping area. Ensure authorisation and a permit is provided by the DoE/appointed authorising body prior to any works which may cause disturbance to the capping layer. Sufficient notice must be provided to facilitate planning of works. Provide a spotter during any activities with a potential to encounter asbestos, i.e. excavation of service trenches and swales, cut and fill activities. Undertake daily inspections of their workers and work practices to ensure that the integrity of the capping layer has not been compromised. If authorisation has been provided to excavate into the capping layer, ensure that all necessary controls are strictly adhered to. Ensure certification and testing data is provided for all volumes of soil / fill imported to site. Copies of the testing certificates are to be provided to the DoE either on or prior to arrival to site. Ensure that the hygienist / environmental consultant is notified prior to backfilling to confirm that the backfill material has been validated for use.
Hygienist / Licensed Asbestos Assessor / Contaminated land consultants	Preparation of a project specific Asbestos Management Plan (AMP), in compliance with the DOE AMP. Air monitoring stations should be established at locations surrounding the works area to monitor for free asbestos fibres. If any asbestos fibres are recorded above reporting or background limits, then works shall cease at the site until further management requirements are developed and implemented to control the work area. As a minimum it is recommended that background air monitoring be conducted at designated boundaries of the work zone and/or boundaries of the site in proximity to populations of concern, as determined by the scope of works and specific site conditions assessed at the start of each day (e.g. weather conditions / wind direction). Visual assessment of air quality will be undertaken. If it is considered that dust is being generated unnecessarily, then works will be halted until dust preventative measures can be implemented. Air Monitoring should be undertaken by a competent person with sampling and analysis conducted by a NATA accredited laboratory in accordance with the method as prescribed in Safe Work Australia Guidance Note: Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)].

4.2 Site Inspections and Capping Layer maintenance

The site owner (DoE) should ensure maintenance of the capping layer to prevent exposure of the underlying contaminated materials including asbestos:

- Bi-annual inspections will be implemented by a suitably qualified consultant engaged by the site owner and include inspections of all the capped areas including decking boards and Basketball Court on the north-eastern side of the site, pavements and buildings floors (including preschool, block C and library building) and new landscaping areas on the east of the preschool.
- During these inspections, the checklist provided in **Appendix B – Environmental Checklist** will be filled by the suitably qualified consultant undertaking the inspection.
- Completed inspection checklists will be provided to the site owner and (NSW EPA Accredited Site Auditor if required by the site owner) within two weeks following the inspection;
- Bi-annual replenishment of the mulch layer below the decking boards on the north-eastern Tree Protection Zone and over garden bed capping layer soils, if required.
- Unsealed Area Maintenance: the unsealed areas present across the site (Refer to Figures 3 to 5 and FJMT Studio diagrams), must be maintained to ensure the integrity of the cap and to prevent contact with potentially contaminated soils.
  - In-case of erosion or damage to surface layer soils, turf, surface layer mulch areas or exposure of the capped materials are identified during an inspection, the consultant doing the inspection will notify the site owner, schools principal, NSW EPA Accredited Site Auditor (if required by the site owner), and site manager within 24 hrs.
  - the site manager will organise appropriate fencing for the area until the rectification works are undertaken and validated;
  - the site owner will engage (within 1 month following the receipt of notification) a suitably qualified and experienced remediation/ earthworks contractor to undertake necessary rectifications, if required;
  - a qualified consultant will be engaged by the site owner:
    - to undertake validation sampling of any imported soils required for rectification works/capping layer maintenance and test the soils for the following analytical suite: asbestos fines/ friable asbestos (AF/FA), total recoverable hydrocarbons (TRH), benzene, toluene, ethyl-benzene xylene, and naphthalene (BTEXN), polycyclic-aromatic hydrocarbons (PAH), and heavy metals (As, Cd, Cr, Cu, Ni, Zn, Hg, Pb);
    - to supervise the importation of soils; and
    - issue a validation report advising whether the capping area has been successfully re-instated and the area can be accessed by site users (if not consultant to provide advice regarding further work).
- Hardstand Maintenance: The integrity hardstand surfaces on the site (comprised primarily of concrete or covered by building footprints) must be maintained to prevent contact with potentially contaminated soils. Hardstand pavements are present across the site in both indoor (in an enclosed space that comprises walls and roofing, such as a building or similar) and outdoor (open outdoor areas) areas.
  - Bi-annual inspections must be undertaken by a suitably qualified consultant engaged by the site owner to ensure that the hardstand pavements are not showing signs of deterioration.
  - Should a pothole or cracking be observed in the hardstand pavement, such that users of this area could be practicably exposed to the underlying sub-surface materials present beneath the

pavement and its associated sub-grade, then repairs are required to be undertaken following the protocol set out below (**Sections 4.4 & 4.5**) for minor or major works as appropriate.

- Guidance on determining the period of time in which repairs must be made is as follows:
  - Indoor Areas which are regularly used and occupied by workers or users of the site – Repairs to hardstands must be made within a 2 week period from observing damage;
  - Indoor Areas which are not regularly used or occupied by workers or users of the site – Repairs to hardstands must be made within a 4 week period from observing damage;
  - Outdoor Areas which are regularly used and occupied by workers or users of the site (such as footpaths, access walkways, entrances to buildings) – Repairs to hardstands must be made within a 2 week period from observing damage;
  - Outdoor Areas which are not regularly used or occupied by workers or users of the site – Repairs to hardstands to be made within a timeframe considered to be reasonable by the Operator but no longer than a 4 week period.

- Site owner will engage suitably qualified consultants and specialists to undertake the works recommended following each inspection (if required) within 1 month following the receipt of inspection checklist; and
- In-case a genuine health or environmental risk is identified by the suitably qualified consultant during a bi-annual inspection (or any other non-routine inspection or a reported incident) the site manager will be notified immediately (within 24 hrs) who will then organise fencing and access to these areas will be blocked as soon as possible.
  - Following such occurrence, the suitably qualified consultant will advise (within 24 hours) regarding necessary emergency responses and if partial or complete evacuation of the school is required. The consultant will then provide written advice within two weeks regarding necessary next steps (e.g. duty to notify NSW EPA, interim site management, further investigations, remediation action planning, remediation, and validation).

4.3 Environmental/Awareness Training

All contractors undertaking intrusive works at the site should undergo general environmental awareness training regarding their responsibilities under the EMP. The training should ensure that all employees understand their obligation to exercise due diligence for environmental matters. It should be noted that "employees" in this instance means all people working on-site including contractors and sub-contractors.

It is the responsibility of the site owner (DoE) to prepare their site specific training, however any environmental training programme should incorporate the following:

- A general site induction for all site staff, contractor and subcontractors to be conducted prior to the commencement of site works with all site inductions kept on record;
- Familiarisation with the requirements of the Long-Term EMP (summary of the EMP and all associated management plans);
- Environmental emergency response training (outlining potential environmental emergencies and relevant contacts and response procedures);
- Familiarisation with site environmental i.e. location and composition of the capping layer; and
- Targeted environmental training for specific personnel. For example, the specified personal responsible for maintenance of the capping layer may require specific training in compliance monitoring.

The need for additional or revised training shall be identified and implemented from outputs of:

- Changes to the on-site and surrounding receptors (change of on-site receptors may occur in the scope of potential future land-use changes, in such instances a review of the conceptual site model of the site would be required); and
- Alterations to regulatory frameworks and future reviews of the Long-Term EMP as required.

Training records are to be prepared and retained by Darlington Public School/ DoE / Project Manager.

4.4 Excavation Approvals and Permitting

The following information in ***Table 4*** is a summary of the compliances and approvals required for any proposed civil works with potential to disturb the capping area (excluding Generalised Landscaping Works & Minor Works as indicated in Section 4.5).

All "minor landscaping activities" are to be restricted to the areas above the marker layer (less than 0.2 m below ground level (BGL)) in the capped areas (refer to Section 4.5 for details).

An asbestos management Plan (AMP) should be prepared by a licensed asbestos assessor (LAA) for any excavation works below the capping layer, for each proposed episode of work into the future.

The following documentation is required for submission to DOE to obtain works approval:

- Copy of licences of workers/contractors undertaking the works in accordance with the requirements of the AMP and relevant OH&S regulations and NSW Workcover.
- Description of Works Plan/Methodology by workers/contractors including any control measures required as per the AMP, scope (minor or major works) and duration of works.
- Safety documentation for the works.
- Statement indicating the appointed suitably qualified consultant/hygienist for supervision and validation of works.
- Evidence of reinstatement of the capping layer as applicable (e.g. photographical records, surveys, etc) after completion of the works.
- Clearance(s)/ Validation Report by the appointed suitably qualified consultant/hygienist after completion of works.
- Any analytical results including chemical analysis and Asbestos (AF/FA) analysis obtained during supervision of works or for validation purposes after completion of the works.

The following protocols are to be adopted when carrying out any works below the capping layer. The capping layer is to be reinstated at the completion on of any subsurface works, as per the capping layer specifications as detailed in ***Table 4*** below.

In accordance with Clause 458 of the *Work Health and Safety Regulation 2017* (NSW), Class B asbestos removal license holders are permitted to conduct asbestos removal work or asbestos-related work that involves non-friable asbestos. However, as a requirement of the Department of Education Asbestos Management Plan, asbestos-related works are to be supervised by a Licensed Asbestos Removal Contractor (LARC) whom holds a Class A removal license (Asbestos Management Plan of NSW Government Schools, NSW Department of Education. October 2020).

Table 4: Planning and Management of Intrusive Works in Capping Areas

Activity	Standards / Compliance	Hold Point	Approval Issue
Site Inductions	The school is to be made aware of this EMP and is to be managed by the school Principal Deputies.	All contractors and sub-contractors to provide appropriate documentation, insurances and Safe Work	Record of Inductions

Table 4: Planning and Management of Intrusive Works in Capping Areas			
Activity	**Standards / Compliance**	**Hold Point**	**Approval Issue**
	The DoE's Asset Management Unit (AMU) is to provide a copy of the EMP and a copy of the asbestos management plan (AMP) prepared for the site, to any contractors and subcontractors undertaking works in the capping area. Contractors and sub-contractors to be inducted to the site and made aware of this EMP and subsurface conditions expected.	Method Statements (SWMS) to the Site Owner (DoE).	
Planning subsurface works	No excavation works are to commence without approval from the DoE. Contractors working within potentially contaminated areas must either hold a WorkCover NSW asbestos removal licence (Class A minimum- as per the DoE AMP guidelines) or subcontract an asbestos licenced contractor. Contractors not holding asbestos removal license are to be supervised at all times by the asbestos licenced contractor, suitably qualified consultant and undertake asbestos awareness training. Earthworks contractors and project managers to undertake the works to provide evidence of their Safework NSW asbestos removal licence (Class A minimum) and notification of intent to disturb remove non friable asbestos.	An approvals process to include review and approval of contractors proposed excavation works plan by the consent authority and/or their appointed suitably qualified consultant. Approval of an excavation works plan requires ensuring that all controls are included in the contractor's excavation works plan.	Approval to commence works from site manager, occupier and/or owner (DoE) to contractors performing civil works.
Monitoring and Supervision	DoE to engage a qualified occupational hygienist or Licenced Asbestos Assessor (LAA) or suitably qualified contaminated land consultant to manage progress and completion of any excavation works. Includes ensuring that all controls are implemented and inspection of marker layer, capping layer, topsoil layer and vegetation/mulch reinstatement.	Suitably qualified consultant/Hygienist to prepare asbestos clearance reports on completion of each stage of civil works or maintenance and/or reinstatement works. Site manager (DoE) to approve and document all completed rectification works. The consultant should provide validation reports including details of excavation works, sample analysis results, waste classification and materials used in backfilling/reinstatement.	Site owner (DoE) approvals and works as executed reports and validation reports to be provided to the site owner (DoE) and/or regulating authority.
Notifications / Approvals for Major Construction	Should works, more than minor in nature (for example installing new underground services), or where excavation to a depth greater than	Review of concept design, detailed design and site works management plan by a qualified	Site manager (DoE) approvals and works as executed reports to be provided to the site

Table 4: Planning and Management of Intrusive Works in Capping Areas			
Activity	**Standards / Compliance**	**Hold Point**	**Approval Issue**
works or site redevelopment works	0.5 m bgl is required, development applications are to be approved by Site owner (DoE) and preparation of Asbestos Management Plan (AMP) is required (refer to Section 7.7). Any works in the capping area requiring planning approval is to be approved by the DoE and a copy of the EMP provided with the planning submission. Development application to be approved by Site owner (DoE) and Other Consent Authority (City of Sydney/ Department of Planning) and submitted to City of Sydney for development consent. If possible, exclude any penetration of capping layer at design stage.	engineer and suitably qualified consultant. Monitoring of civil works and capping layer reinstatement upon completion by a suitably qualified consultant.	owner (DoE) and/or regulating authority.

4.5 Generalised Landscaping Works & Minor Works

Minor works comprise activities that only require disturbance at surface to depths of 0.2 metres below ground surface. Examples include:

- Pavement surface maintenance
  - Filling in of cracks, patching of holes
  - Small scale replacement of sections of pavement where sub-surface at depths greater than 0.2 m are not required to be disturbed
- Minor landscaping works
  - Mowing of grassed areas -Raking or placing of additional growing medium on top of existing growing mediums
  - removal of surface weeds or similar Internal or External Building façade works
  - Mulch replenishment
  - Painting, pointing, plastering
  - Internal fitouts aboveground only

Does not include:

- planting or any similar landscaping activity that requires excavation into the growing medium or sub-surface at depths greater than 0.2 m.
- maintenance of the groundwater/seepage collection system
- maintenance of underground utilities

All casual landscaping activities are to be restricted to the areas above the marker layer less than 0.2 m below ground level (BGL) in the outdoor landscaped capped areas (***Figures 3 to Figure 5 and FJMT Studio Diagram***). Landscaping activities below the marker layer are prohibited. This Long-Term EMP must be read, understood and followed by any person prior to undertaking landscaping works.

The following control measures for minor works are required:

- No eating, drinking, smoking; avoid contact with soil (wear gloves);
- wash hands and clothes after work and before eating or smoking.

- A half–face respirator (fitted with organic cartridges) or dust-masks must be available for use at the Site in the event that significant odours or dust is generated during the works
- Dust generation should be controlled by dampening the materials.
- Where the integrity of surface coverings has been compromised such that the required repairs are considered to be Minor Works, an exclusion zone must be established around the impacted area to preclude exposure to the subsurface by users of the site until such time that repairs can be completed. The exclusion zone is to established by using physical barriers such as bollards, cones, tape or mesh. Timeframes in which the repairs that are classified as Minor Works are required to be completed are provided in Section 4.2 of this EMP.

4.6 Management of Subsurface/Excavation Works

In addition to *Section 5.3* (Regulations/Guidelines) and *Table 4* above, all works with potential to disturb the contaminated soil below the marker layer are to be carried out in accordance with:

- The NSW Work Health & Safety Regulation 2017;
- Code of Practice - How to Safely Remove Asbestos (NSW Government, 2019); and
- Code of Practice: How to Manage and Control Asbestos in the Workplace (NSW Government, 2019).

An asbestos management Plan (AMP) should be prepared by a licensed asbestos assessor (LAA)/consultant for any excavation works below the capping layer. Additional details are provided in Section 4.7.

The following protocols are to be adopted when carrying out any works below the engineered capping layer. The capping layer is to be reinstated at the completion on of any subsurface works, as per the capping layer specifications as detailed in Table 5 below.

Prior to the commencement of subsurface works, personnel being employed to undertake any intrusive works above the marker layer must develop a specific Safe Work Method Statement (SWMS) which adequately manages the potential for exposure to asbestos contaminated soils. In accordance with Clause 458 of the *Work Health and Safety Regulation 2017*(NSW), Class B asbestos removal licence holders are permitted to conduct asbestos removal work or asbestos-related work that involves non-friable asbestos. However, as a requirement of the Department of Education Asbestos Management Plan, Asbestos related works are to be supervised by a Licenced Asbestos Removal Contractor (LARC) whom holds a Class A removal license.

Table 5 summarises Capping Layer Methods implemented during remediation.

Table 5: Remediation Capping Layer Methods

Management Area	Remediation Solution
Basketball Court	• Orange geotextile fabric marker layer placed over the contaminated fill, • 100mm thick layer of quarried rock DGB40 aggregate placed on the marker layer, • 100mm thick layer of quarried rock DGB20 aggregate layer placed on the DGS40, • 50mm of asphalt surface paving.
Garden Bed and Synthetic grass areas on the East side of the Basketball Court	1) Garden Bed: Comprised of the following layers: a. Orange geotextile fabric Marker Layer b. 100-300 mm Road base, c. 400 mm of VENM soil d. 100 mm mulch e. Plants

Table 5: Remediation Capping Layer Methods	
Management Area	**Remediation Solution**
	2) AstroTurf: Comprised of the following layers: a. Orange geotextile fabric Marker layer b. 300 mm Road base c. 40 mm AstroTurf
Tree Protection Zone (TPZ)	50-150 mm of mulch on top of the marker layer (orange geofabric), below a wood decking. The wood decking to incorporate sufficient access points and/or use of removable boards to allow top up of mulch layer when required
Service/Utility Trenches	1) Trenches Outside Buildings Footprint Capping a. Orange geotextile fabric Marker Layer to cover the base and walls of the trench excavation and across the ground surface between trenches b. VENM/validated sand and gravel aggregates for trenches backfill and depth varies pending on type of service c. Orange geotextile fabric marker layer above backfilled service trenches d. Final Caping Layer o Gardens: 500 mm approved/certified VENM soil o Soft-fall or pavements: 300 mm approved/certified VENM soil 2) Trenches Underneath Buildings Footprint Capping • VENM/validated sand and gravel aggregates /approved fill for trenches backfill fill and depth varies pending on type of service • Geofabric marker layer above backfilled service trenches • 180 mm concrete lab
Structures	• Orange geotextile fabric marker layer • 180 mm concrete floor slab • 120 mm base course/subgrade layer
Landscaping Areas	• Orange geotextile fabric marker layer • Final Caping Layer o Gardens: 500 mm approved/certified VENM soil o Soft-fall or concrete pathways: 300 mm approved/certified VENM soil

4.7 Asbestos Management Plans (AMP) & Excavation Management Controls

Preparation of a project specific Asbestos Management Plan (AMP) is required for each episode of works in the future, in compliance with Safework NSW 2019 and the DoE AMP (2020). The following controls are required to be covered by each works project specific AMP in the future, to reduce the risk of direct exposure to, and prevent cross contamination of contaminated residual soils during proposed future excavation works. The requirements of the DoE AMP are also to be recognised, including permissible work hours.

- Given the nature of the site use (Public School), works should be conducted outside of general business hours (Monday to Friday: 8am to 5 pm) in order to reduce potential exposure to encapsulated Asbestos Containing Material;

- Exclusion zone fencing will be applied between work areas and publicly accessible or operational school areas prior to undertaking any excavation on-site. Exclusion zone should be established with minimum 5 m buffer distance to publicly accessible areas and operational sections of school (where practical);
- Appropriate personal protective equipment (respirators, gloves, overalls) are to be worn by excavation workers as defined by the AMP;
- Dust suppression mechanisms and air monitoring undertaken by a Licensed Asbestos Assessor (LAA) are to be implemented during excavation works ensure air monitoring is in place during any activities that have a potential to disturb fill below the marker layer; air monitoring thresholds and monitoring locations to be covered in the AMP;
- Establishment of exclusion zones: The boundaries of the asbestos remediation areas are to be established with barriers, to identify the ACM areas and caution access by unauthorised / unprotected persons. Sufficient warning signs (e.g. asbestos removal in progress) erected at regular intervals around the boundary of these exclusion zones. All works are to be monitored and supervised by a suitably qualified environmental consultant;
- Segregation of excavated materials (mulch, topsoil and contaminated soil), placement on plastic sheeting until use as backfill or off-site disposal as classified waste - All excavated materials/ stockpiles are to be placed on plastic sheeting (200µm builders polythene or other synthetic barrier membrane material), with erosion and perimeter sediment controls to prevent contamination of ground surface layer soils (topsoil). Stockpiles are to be securely covered with plastic sheeting during inclement weather or if they remain in place for more than 1 day prior to off-site disposal (as Special Waste);
- Footprint of temporary stockpiles and their surroundings will be validated by a suitably qualified environmental consultant; and
- Off-site Disposal: Waste disposal documentation should be provided to the site owner (DoE) / consent authority for all excavated material removed from the site. Waste tracking and disposal documentation should demonstrate that disposal of all soil from the site is carried out in accordance with the NSW *Waste Classification Guidelines* 2014 and that materials were transported to an appropriately licensed landfill.

4.8 Reinstatement and Validation of the Capping Layer

Any material used to reinstate the capping layer is to comprise geotechnically suitable Virgin Excavated Natural Material (VENM) (validated and compacted). Any excavations are to be finished flush with the surrounding surfaces of the capping layer to the satisfaction of the supervising suitably qualified environmental consultant. Reinstatement of the capping layer should be comprised of:

- Replacement of the geofabric marker layer over the contaminated soil prior replacement of capping/cover layer and topsoil layer, is required. Geofabric joins are to be overlapped by ≥300mm and the geofabric marker layer;
- Following placement of the geofabric marker layer, a minimum soil capping layer as follows;
    - The capping layer will consist (on top of the geo-fabric marker layer) a minimum of 300 mm of VENM for soft-fall and/or a minimum of 500 mm of VENM for garden areas (as detailed in **Table 5** and see **Figure 4 and 5 and FJMT Studio Diagrams**);
- For areas of hardstand where sub-surface capped soils are to be disturbed, reinstatement of hard surface to original conditions is required by use of appropriate measures such as filling in of cracks, patching of holes or small scale replacement of sections of pavement;
- Capping layer is then to be compacted and stabilised; and

- An LAA is required to issue completion/ACM clearance reports to the site manager and owner (DoE). A contaminated land consultant should be engaged to provide advice, sampling and analysis for excavation works. The consultant should provide validation reports including details of excavation works, sample analysis results, waste classification and materials used in backfilling/reinstatement in this area. Refer to Figure 2 to Figure 4 for site layout and capping areas.

Validation of the capping layer reinstatement is to comprise of:

- Confirmation that the material used to reinstate the capping layer is not contaminated and/or was originally sourced from the capping layer or comprises similar virgin excavated natural material (VENM); or
- Classification as VENM as defined in the Protection for the Environment Operations Act 1997 where VENM is natural material (such as clay, gravel, sand, soil or rock fines); or
- The procedure for validation of imported VENM for the soil capping layer includes:
    - Inspection of the surface, prior to placement of geo-fabric marker layer;
    - Inspection of the placed geo-fabric marker layer; and
    - Survey or measurement of the clean fill capping layer indicating minimum thickness achieved over the remediated area.

4.9 Instructions to Avoid Cross Contamination During Excavation

Prior to undertaking any earthworks at the capping area (see. **Figure 4**); following steps, which are necessary to avoid cross-contamination of clean soils used in capping, and must be (together with items detailed under **Section 4.7** and **4.8**) communicated with and understood by the **excavator operators and earthworks contractors** (who will be undertaking any works at the capping area):

- Excavate the clean soils (first 300-500 mm of the cap) first until the geofabric marker layer can be seen;
- Place plastic sheeting near the excavation area to cover an area large enough where all contaminated soils to be excavated can be placed;
- Remove the exposed marker layer and neatly excavate contaminated soils (without allowing it to mix with clean soils as much as practical) and place on top of the above-mentioned plastic sheet;
- Avoid mixing of contaminated soils with clean capping material;
- Contaminated soil stockpiles to be placed on and be covered with plastic sheeting to avoid cross contamination; and
- It is contractor's responsibility to ensure, after their work is finished, no contaminated soils remain on the top 300 mm for soft-fall capped areas and 500 mm for garden capped areas or anywhere around their work area.

4.10 Unexpected Finds on Site

Any potential ACMs encountered on the ground should be managed as follows:

- Stop work, inform the site manager (site manager will inform school's principal and DoE within 24 hrs after they are aware of an unexpected finds situation);
- Barricade the area from the remaining work site and attach warning signs;
- Keep the area moist with water sprays (if Asbestos Containing Materials);
- Engage a suitably qualified consultant to carry out an assessment of the area to determine the nature and extent of contamination (e.g. if friable asbestos is present, including in soils near observed asbestos material);
- A remediation and validation plan is to be developed by the suitably qualified consultant;

- Asbestos materials, if identified, must be managed in accordance with the Code of Practice How to Manage and Control Asbestos in the Workplace (NSW Government 2019) and Code of Practice How to Safely Remove Asbestos (NSW Government 2019) and requirements;
- Should visual or olfactory indicators of contamination (e.g. staining of soils, hydrocarbon odours, buried drums or buried waste material), the consultant will collect chemical samples to be tested for the relevant contaminants of concern
  - Suitably qualified consultant to adopt a sampling density & methodology by using professional judgment with reference to relevant guidelines (inc. NEPM 2013) (a minimum of 3 samples will be collected per unexpected find) and decide on an appropriate chemical suite (minimum chemical suite will be: Total recoverable hydrocarbons (TRH), benzene, toluene, ethyl-benzene xylene, and naphthalene (BTEXN), polycyclic-aromatic hydrocarbons (PAH), and heavy metals (As, Cd, Cr, Cu, Ni, Zn, Hg, Pb));
  - Other contamination (e.g. lead, petroleum hydrocarbons, PAH, heavy metals), if identified requires assessment of results against relevant threshold criteria. Should exceedances identified suitably qualified consultant to advise if further investigation or remediation is required. Remediation of material that exceeds the site criteria will include either its off-site disposal as appropriately classified waste or onsite containment;
- Management and remediation of "unexpected finds" will be performed under the supervision of the environmental consultant, (and the asbestos removal contractor and in accordance with SafeWork NSW requirements, for ACM, FA and AF). Monitoring for asbestos fibres in accordance with the Guidance Note on the Membrane;
- Filter Method for Estimating Airborne Asbestos Fibres (NOHSC 2005) will be required during any disturbance of asbestos contaminated materials;
- Asbestos and asbestos contaminated material removed from site must be disposed as a Special Waste to an appropriately licensed landfill;
- A validation report is to be prepared by a suitably qualified consultant and issued for the site upon completion of the remedial works; and
- A suitably qualified consultant is to issue clearance certificates for ACM remediated areas.

4.11 General Ongoing Management Roles and Responsibilities

As a minimum requirement, bi-annual visual inspections of the area of capping should be conducted and are the responsibility of the site owner (DoE). Inspections are to focus on the assessment of potential issues that may hinder the structural integrity of the cap with examples provided in *Chart 1*: Schematic Summary.

Chart 1: Schematic Summary

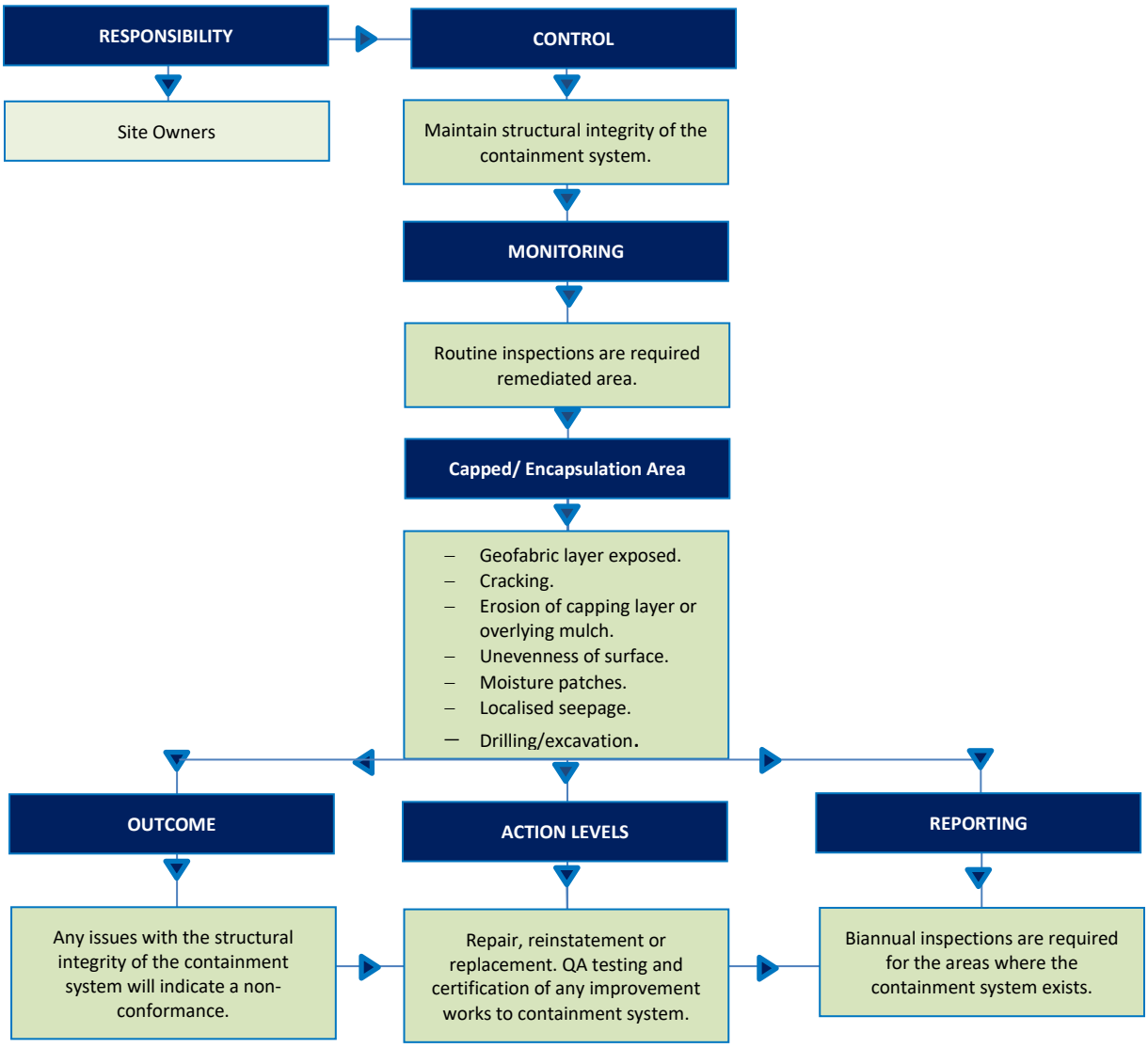


Table 6 below summarises management principles (required as a minimum) to ensure the contaminated soils containment area is adequately managed into the future, including management of unavoidable intrusive works in the contaminated soils containment area.

Table 6 Responsible Persons/Roles: Management of Contaminated Soils Containment Area	
Party Responsible	**Key Actions and Description**
Site Manager	Responsible for authorising and issuing an approval / permit for any works which may cause disturbance to the capping layer. Ensure that adequate ground markers are provided for the duration of any site works to prevent contractors from inadvertently excavating into the capping area. Ensuring that the contents of this EMP are applied throughout the duration of future Site construction / civil activities, should they occur.
Contractors (earthworks)	Supervising Contractors are required to undertake the following, as a minimum, to comply with the requirements and recommendations of this EMP: Through site inductions and daily toolbox talks, ensure that all contractor and sub-contractor workers have been made aware of the presence of asbestos at the site and the requirements of this EMP. Oversee and monitor daily work activities of staff to ensure that no unauthorised breaching of the capping layer occurs. Ensure all staff are using appropriate PPE and following the procedures as set out in the site specific SWMS and in compliance with current WHS requirements. Provide dust suppression and ensure air monitoring is in place during any activities that have a potential to disturb the fill below the marker layer. Ensure authorisation and a permit is provided by the site manager/appointed authorising body prior to any works which may cause disturbance to the capping layer. Sufficient notice must be provided to facilitate planning of works. Provide a spotter during any activities with a potential to encounter asbestos, i.e. excavation of service trenches and swales, cut and fill activities. Undertake daily inspections of their workers and work practices to ensure that the integrity of the capping layer has not been compromised. If authorisation has been provided to excavate into the capping layer, ensure that all necessary controls are strictly adhered to. Ensure certification and testing data is provided for all volumes of soil / fill imported to site. Copies of the testing certificates are to be provided to the site manager either on or prior to arrival to site. Ensure that the suitably qualified environmental consultant is notified prior to backfilling to confirm that the backfill material has been validated for use.

5 Communications and Notifications of Contamination Contained Onsite

5.1 Stake Holders, Roles and Responsibilities

The roles and responsibilities of the following stakeholders are included in this Long-Term EMP:

- Darlington Public School (site manager);
- NSW Department of Education (Site Owner: DoE Schools Infrastructure/Asset Management Unit);
- The Consent Authority (City of Sydney and/or NSW Department of Planning); and

- Contractors and Consultants (including architects/designers) involved in site development works.

Full details concerning stakeholder responsibilities are included in **Section 4.1** above.

Contaminated soils poses a risk to construction and maintenance workers and other site occupants if exposed. Control measures will be appropriately planned and implemented by all stakeholders involved in future works that disturb or have potential to disturb the contaminated soil contained onsite.

A decision process flow chart including stakeholder decision steps can be developed for inclusion in this EMP. The decision process and hierarchy of stakeholders involved will depend on DoE preferences and requires input from the DoE.

5.2 Notifications of Contamination Contained Onsite

The on-site contamination containment system and existence of this Long-Term EMP site management document requires a notification system including:

- Listings in the site owner's register of contaminated sites and site maintenance management systems;
- A covenant on the land title;
- Registration on the Councils Planning System (Section 10.7 certificate documents) issued by council; and

Asbestos and additional contamination poses a risk to construction and maintenance workers and other site occupants if exposed. Control measures will be appropriately implemented for future works that disturb or have potential to disturb the contamination contained onsite.

This Long-Term EMP is to be made available to site owners, managers, school's principal, contractors and site workers and any other relevant persons. All relevant personnel at the site should be made aware of the presence of the contaminated soil and the need to ensure it remains undisturbed.

Diagrams showing the location of the capped areas are included in the *Figures* section of this report (see. Figure 2 to Figure 5).

5.3 NSW Legislation and Regulations

This section lists laws and regulations indicating responsibilities and options for enforcement of this Environmental Management Plan.

5.3.1 NSW Legislation and Regulations POEO Act, 1997/POEO Act (Waste) Regulation, 2005

The Protection of the Environment Operations Act 1997 (POEO Act) is a key piece of environment protection legislation administered by NSW EPA. The POEO Act provides a single integrated system of licensing to control the air, noise, water and waste impacts of an activity, with the purpose of protecting the environment. The NSW EPA is the regulatory authority for the licensing of activities specified under Schedule 1 of the POEO Act (scheduled activities) and in most cases councils are the regulatory authority for non-scheduled activities. General requirements under the POEO Act, relating to the ACM containment area are incorporated into the appropriate sections of this EMP.

5.3.2 Contaminated Land Management Act 1997

In NSW, the management of contaminated land is shared by the EPA, the Department of Planning (DoP) and planning consent authorities (usually local councils). The Contaminated Land Management Act 1997 (CLM Act) is the primary Act under which contaminated land is regulated in NSW. Under the CLM Act, EPA regulates contaminated sites where the contamination is determined to be Significant

Enough to Warrant Regulation (SEWR). Contaminated sites that are not regulated by the EPA are managed by local councils through land use planning processes.

This Long-Term EMP is prepared in general accordance with guidance documents endorsed by NSW EPA under Section 105 of the CLM Act. The primary references under the Act include:

- NSW EPA (January 2022), Preparing environmental management plans for contaminated land: Practice Note;
- NSW DECCW – Guidelines for the NSW Site Auditor Scheme (3rd Edition), 2017;
- NEPC NEPM 1999 National Environment Protection (Assessment of Site Contamination) Amendment Measure (2013 amendment);
- Consultants Reporting on Contaminated Land - Contaminated Land Guidelines (NSW EPA 2020);
- WA Department of Health – Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia, 2021; and
- Guidelines for the Assessment of On-site Containment of Contaminated Soil (ANZECC 1999).

5.3.3 Work Health and Safety Act 2011 and Work Health and Safety Regulation 2017

The WHS Act 2011 and WHS Regulation 2017 expand the duty of care for work health and safety to all persons who conduct a business or undertaking.

Requirements relevant to the capped area under the WHS regulation are to be implemented by the Site owner (Department of Education). These include:

- Establishment of an asbestos register in accordance with Chapter 8 Clause 425 WHS Regulation 2017; and
- Establishment of an asbestos management plan in accordance with Chapter 8 Clause 429 WHS Regulation 2017.

5.3.4 Other NSW Policies and Guidelines

Other policies and guidelines applicable to environmental management of the site include:

- SEPP 55: Remediation of Land (notification of consent authority regarding proposed intrusive works requiring reinstatement of capping layer(s));
- NSW WorkCover (2014), Managing Asbestos in or on Soil;
- Code of Practice: How to manage and control asbestos in the Workplace (NSW Government 2019);
- Code of Practice: How to Safely Remove Asbestos (NSW Government 2019); and
- NSW EPA Waste Classification Guidelines 2014.

5.4 Communications Protocol

Communication protocols should be established to inform all stakeholders of any proposed works in the capping area.

Contact details for all stakeholders should be readily available and are provided below in **Table 6**.

The specific AMP and SWMS for proposed civil works will include communications and emergency response procedures.

5.5 Emergency Procedures and Response

The responsibility for emergency procedures lies with the Principal Contractor during civil works however, the following section is an example of the type of information which can be included in the SWMS or other general emergency procedure document.

In the event that an emergency arises, a potentially dangerous situation is encountered or suspect/unknown material is identified, site work is to cease immediately and the matter reported to the Principal Contractor for immediate assessment and action.

The following procedures should be followed if site personnel are injured, suffer exposure or a condition is uncovered that has not been covered by this RAP is identified:

- Visual contact to be maintained by personnel on site;
- In the event that any site personnel experiences any adverse symptoms of exposure whilst onsite, work will be halted and instruction or assistance sought from the Principal Contractor;
- In the event of an accident, the Site Supervisor and the injured person will compile an incident report, which will be submitted to the Principal Contractor within 24 hours of the incident. Follow-up actions will be carried out to correct the situation;
- In the event that an emergency situation arises, the Site Supervisor must address the problem and notify the ambulance, fire brigade and police if necessary. In addition, the Project Manager must be notified immediately;
- To minimise the impact of an emergency situation, at least one of the Principal Contractor's site personnel working full time on site will be trained in basic first aid procedures and all field personnel will have immediate access to a first aid kit; and
- Emergency phone numbers will be made available at the commencement of the project including ambulance, fire brigade, police and the nearest hospital. Emergency services can be called on 000 in a life-threatening emergency (or 112 via mobile phone). In addition, the mobile phone numbers of the Principal Contractor, Site Supervisor and the Project Manager will be made available.

5.6 Site Contacts Details

Table 7: Contact Details

Organisation	Current Role	Responsible Person / Position	Phone no. / email
Darlington Public School	Site Occupant	To be advised	To be advised
NSW Department of Education (Asset Management Unit)	Site Owner	To be advised	1300 42 651
City of Sydney	Regulatory Authority	To be advised	02 9265 9333
NSW EPA	Statutory Advice	To be advised	9995 5000
SafeWork NSW	Asbestos Management Advice	To be advised	131050
Consultants and Contractors	Consulting Hygienist, LAA, Licensed asbestos	To be advised	To be advised

Table 7: Contact Details			
Organisation	**Current Role**	**Responsible Person / Position**	**Phone no. / email**
	removal contractor		
State Emergency Service	Emergency Management	Not applicable	(02) 4226 2444
Fire Brigade **Ambulance** **Police**	Emergency Management	Not Applicable	000 or 112 (mobile)

6 Review and Closure

The Long-Term EMP should be updated/reviewed in the following circumstances (if necessary):

- Subsequent to significant environmental incidents, such as a major breach in the capping layer; In the event of an unprecedented environmental incident, the site owner (DoE) will be required to commission an appropriate environmental professional agency to review and amend the Long-Term EMP and ensure its conformance with statutory or regulatory instruments.
- Where maintenance of the Long-Term EMP has indicated a need to improve performance in an identified area of environmental impact;
- At the release of any major updates to local or national pertinent legislation and/or guidance documentation;
- At the completion of internal and/or external environmental audits;
- At the completion of Site Inspection Reports; and
- At the completion of works which could have disturbed the capping layer.

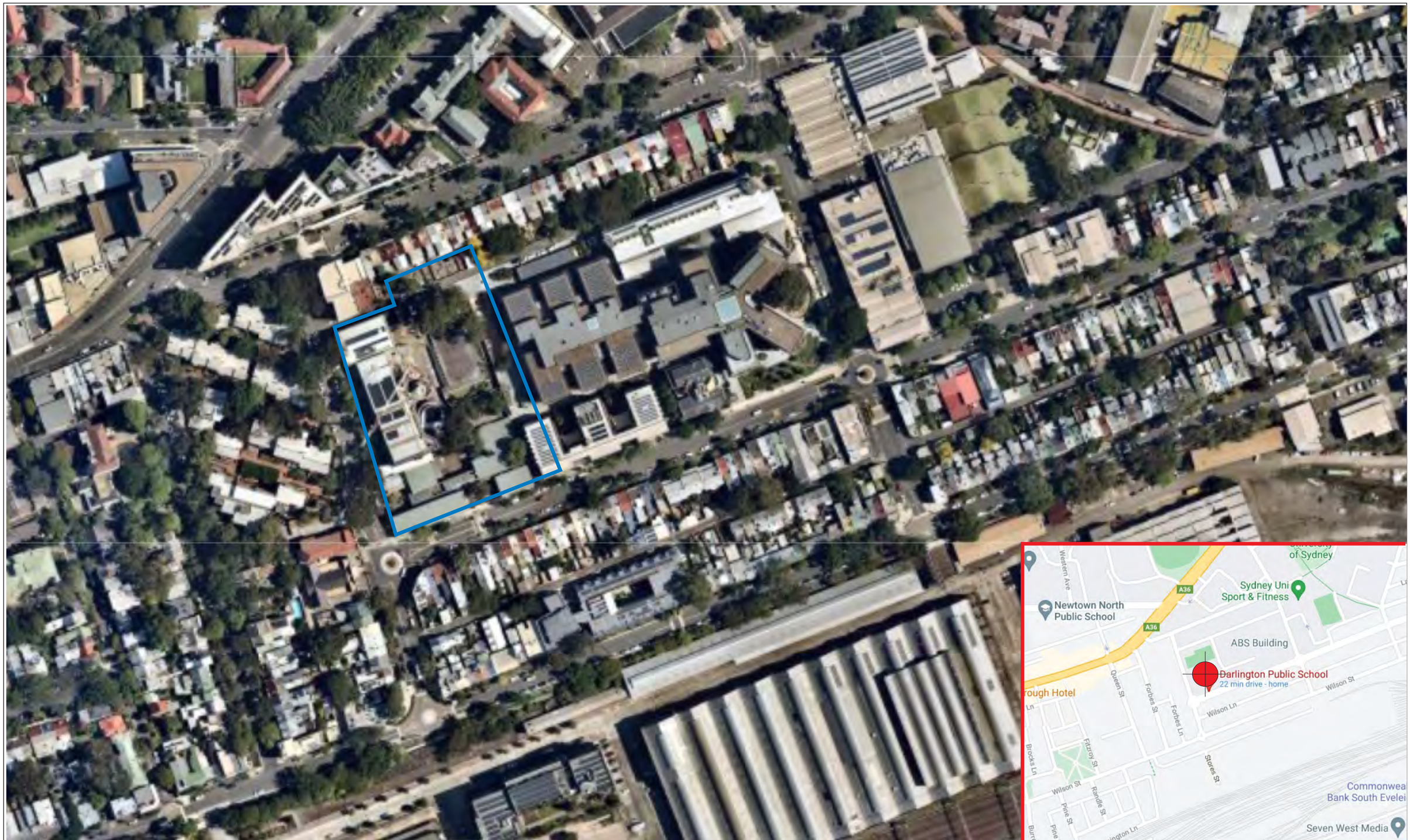
Auditor Communications & Approvals: Any proposed amendments must be communicated to and approved by the NSW EPA Accredited Site Auditor before being brought in force.

Note: The EMP must remain in force until it can be demonstrated to no longer be required to the satisfaction of a NSW EPA accredited site auditor.

GREENCAP
Going Further in Managing Risk

Environmental Management Plan
A.W. Edwards Pty Ltd
Stage 1 Area, Darlington Public School

Figures



Legend:

Site Location

Darlington Public School Bounary

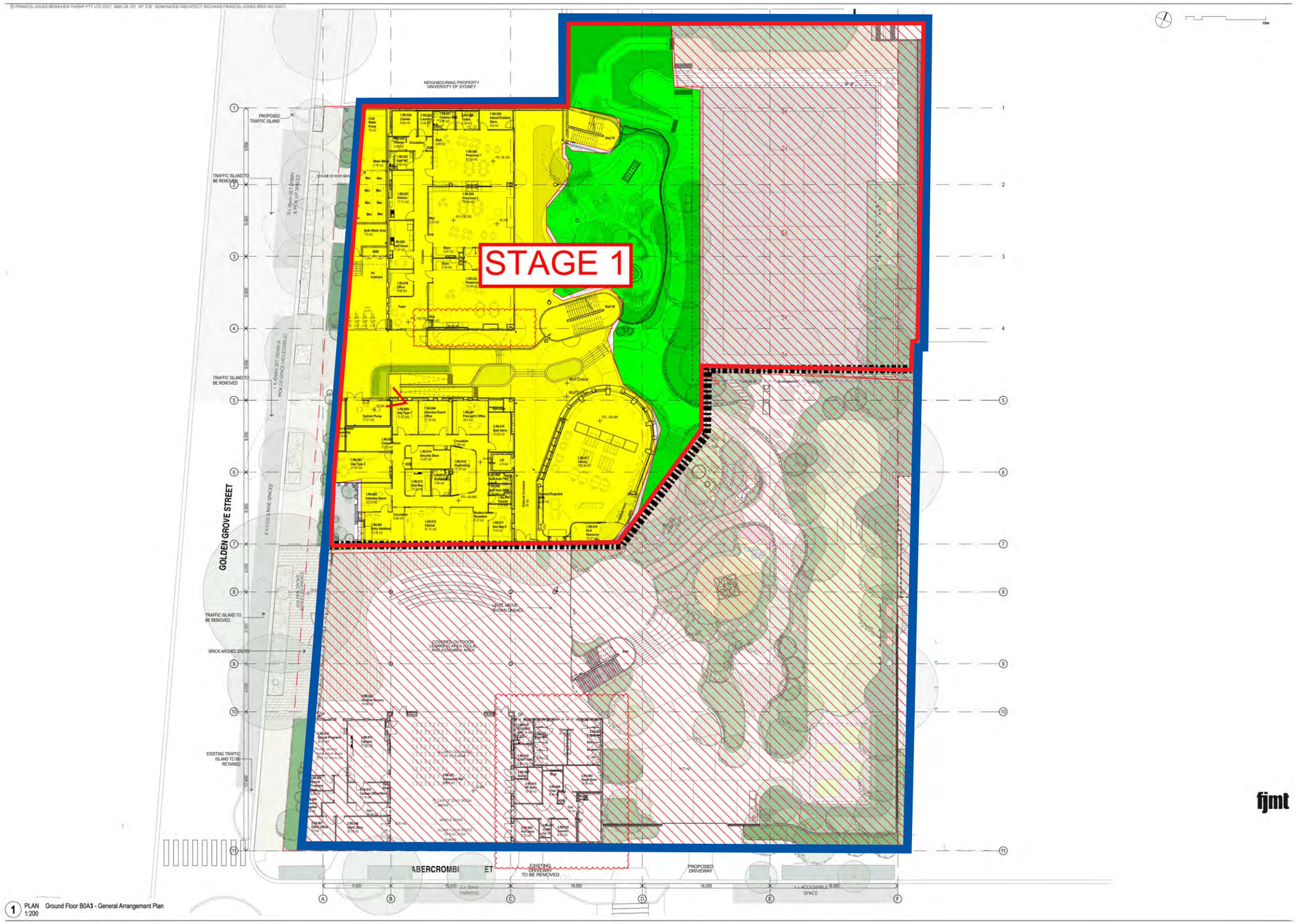
Metres

0 25 50 75 100

GREENCAP
Going Further in Managing Risk

GF, North Building,
22 Giffnock Av.
Macquarie Park NSW 2113

Client Name:	AW Edwards Pty Ltd				
Client Number:	C1207251	Project Number: J169905			
Project Description:	Darlington Public School				
Address:	417 Abercrombie St, Darlington NSW 2008				
Prepared:	SW	Reviewed:	VA	Date: 07/04/22	
Figure 1	Site Location				



1 PLAN Ground Floor B0A3 - General Arrangement Plan
1:200

fjmt

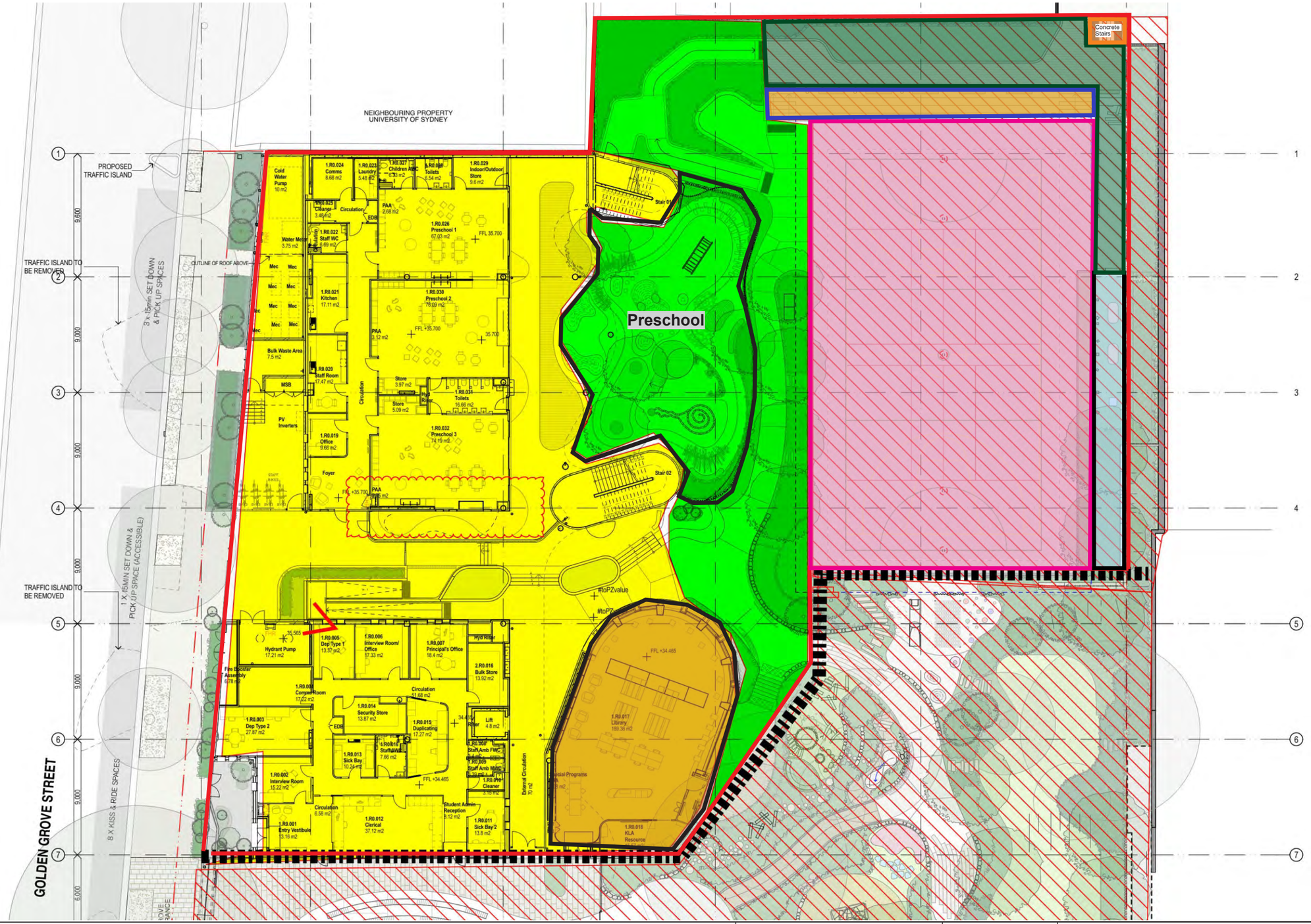
Legend:

- Darlington Public School Boundary
- Stage 1 Site Boundary

GREENCAP
Going Further in Managing Risk

GF, North Building,
22 Giffnock Av.
Macquarie Park NSW 2113

Client Name:	AW Edwards Pty Ltd				
Client Number:	C1207251	Project Number: J169905			
Project Description:	Darlington Public School				
Address:	417 Abercrombie St, Darlington NSW 2008				
Prepared:	SW	Reviewed:	VA	Date: 07/04/22	
Figure 2	Stage 1 Site Boundary (provided by the client)				



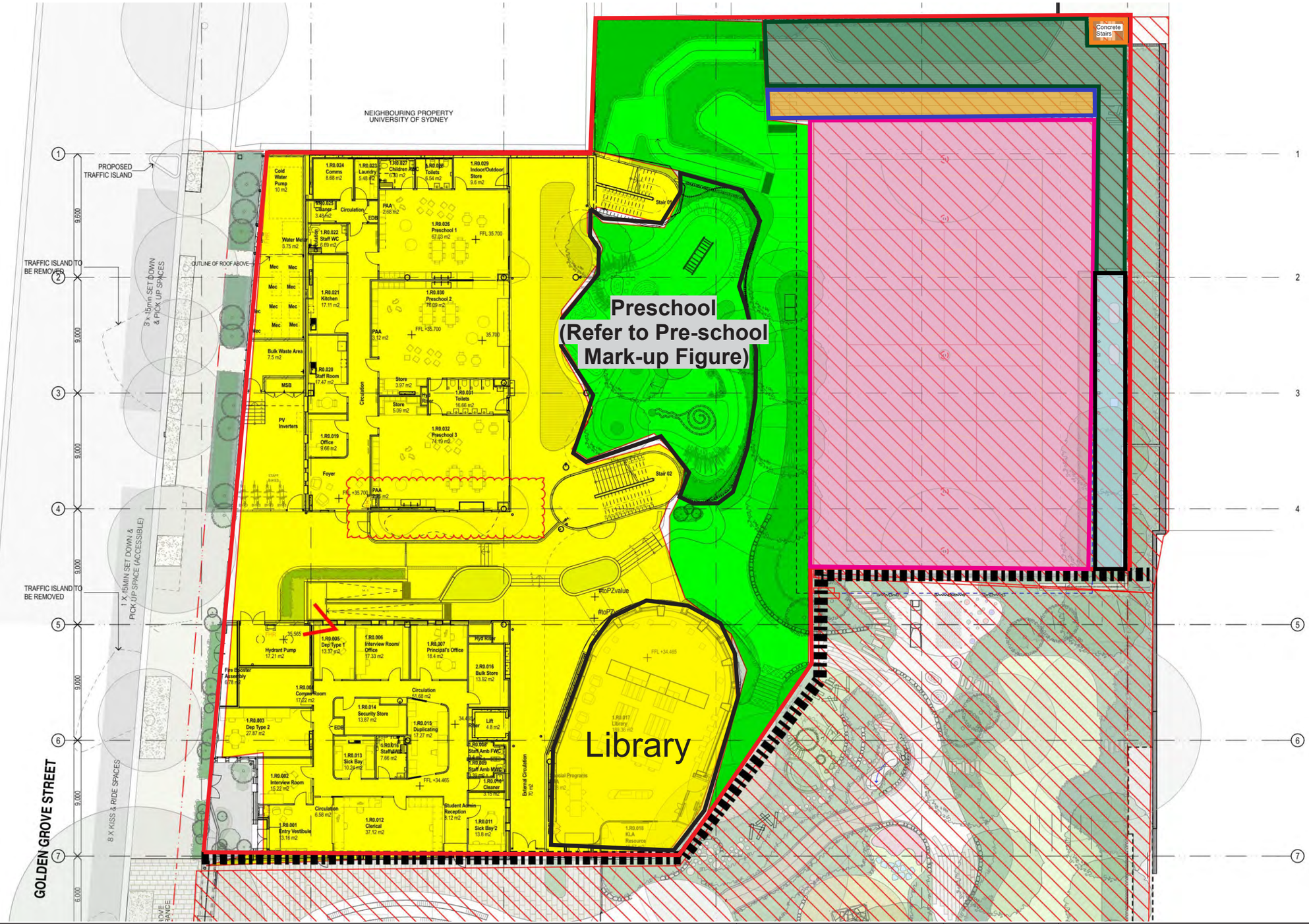
Legend:

- Stage 1 Validation Boundary
- Basketball Court
- Outdoor Landscaping Area
- Building Footprint
- Tree Protection Zone
- Library
- Concrete Benches and Pathway
- New Landscaping, Grass & Garden Area
- Concrete Stairs

GREENCAP
Going Further in Managing Risk

GF, North Building,
22 Giffnock Av.
Macquarie Park NSW 2113

Client Name:	AW Edwards Pty Ltd				
Client Number:	C1207251	Project Number: J169905			
Project Description:	Darlington Public School				
Address:	417 Abercrombie St, Darlington NSW 2008				
Prepared:	SW	Reviewed:	VA	Date: 07/04/22	
Figure 3	Stage 1 Site Features				



Legend:

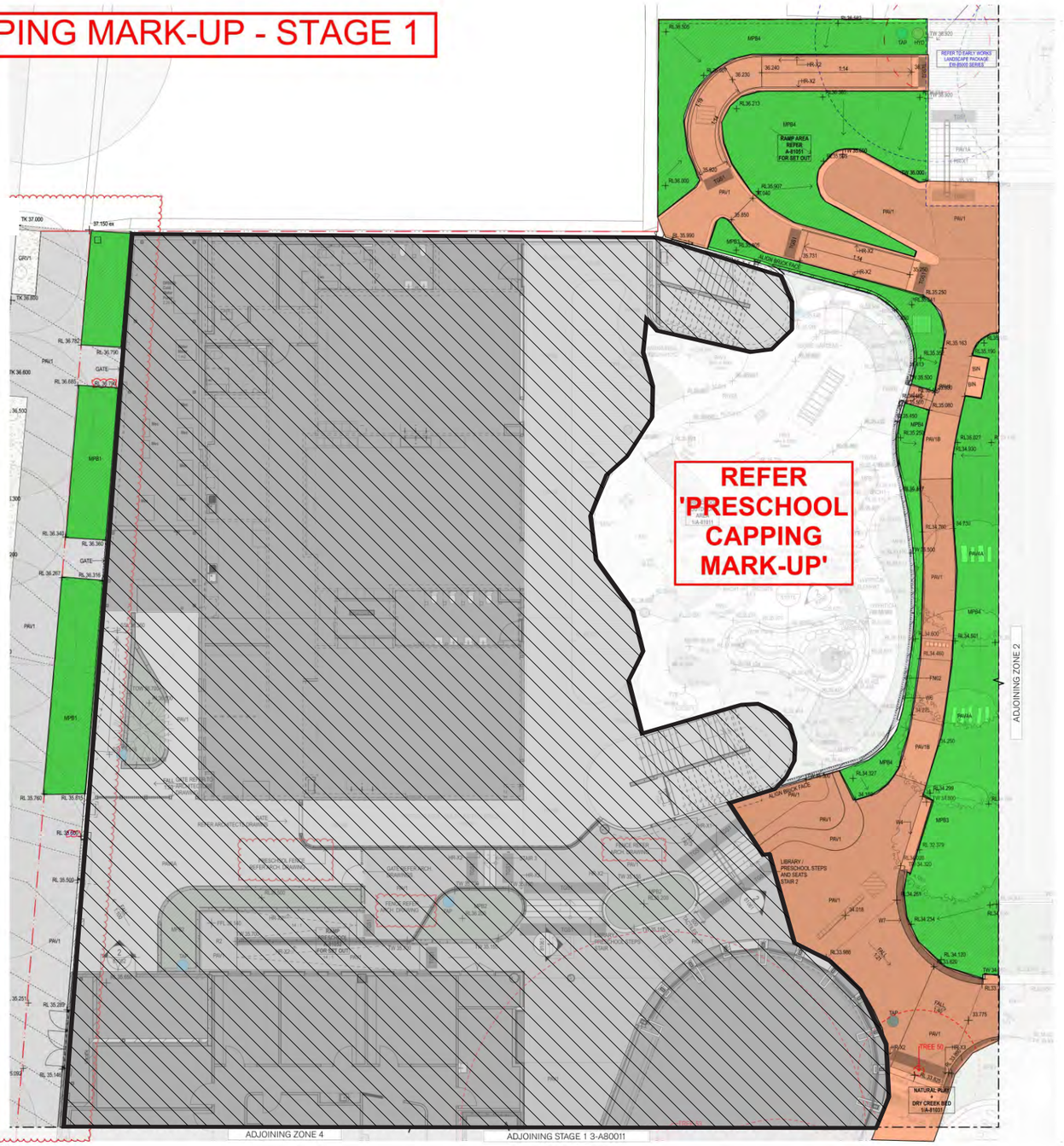
- Stage 1 Site Validation Boundary
- Ashphalt Pavement Capping
- Outdoor Landscaping Capping
- Building Floor Slab Capping (Concrete)
- Tree Protection Zone Deck
- Concrete Benches and Pathway
- New Landscaping, Grass & Garden Area
- Concrete Stairs

GREENCAP
Going Further in Managing Risk

GF, North Building,
22 Giffnock Av.
Macquarie Park NSW 2113

Client Name:	AW Edwards Pty Ltd				
Client Number:	C1207251	Project Number: J169905			
Project Description:	Darlington Public School				
Address:	417 Abercrombie St, Darlington NSW 2008				
Prepared:	SW	Reviewed:	VA	Date: 07/04/22	
Figure 4	Stage 1 Capping Layer Variations				

EXTERNAL WORKS CAPPING MARK-UP - STAGE 1



1 PLAN LANDSCAPE - ZONE 1
1:100

architecture / interiors / urban / landscape / place Level 5, 70 King Street Sydney 2000 t +61 2 9251 7077 w fjmtstudio.com

fjmtstudio

0 1 2 5m

General notes
- All dimensions and existing conditions shall be checked and verified by the contractor before proceeding with the work.
- All levels relative to 'Australian Height Datum'.
- Do not scale drawings.
- Use figured dimensions only.

Legend

FOOTING PLACEMENT
SITE BOUNDARY
EXTENT OF WORKS
200 Contours
EX RL Existing Relative Level
FFL Finished Floor Level (internal)
RL Relative Level
SSL Structural Slab Level
TREE ID# Existing tree to be retained (Stage 2)
TREE ID# Existing treeto be removed (Stage 2)
Structural Root Zone
Tree Protection Zone
Proposed tree in Garden Bed
Garden Bed - MPB
Timber Decking - TD1/2
Rubber Softfall - PAV3
Astroturf - AST
*For Detail Profiles Refer to 82000 Series
Water Tap
Hydrant
Water Pump
*Note: Sculptures to Artwork Committe consultation. To be installed at a later date.
Surface inlet Pit
Juction Pit
Grated Drain

PAVEMENT FINISHES:
PAV1 Concrete paving
PAV1A/B/C Colour concrete paving - Dolomite/ Arctic/ Silver Colour
PAV2 Stone paver - Granite
PAV3a/b/c Rubber Softfall -EDPM
PAV4A Connecting Pathways-Timber Sleepers (in ground)
PAV4B Connecting Pathways-Slumps in ground
PAV4C Connecting Pathways-Stone blocks, boulders
PAV4D Connecting Pathways-Balancing sleepers
PAV4E Connecting Pathways-Recycled timber logs
PAV4F Connecting Pathways-Stepping Stones
PAV4G Connecting Pathways-Paver with sandblasted pattern
PAV5 Brick Pavement
PAV6A/B Preschool - Colour Concrete Topping
PAV7A/B/C Preschool - Stone Paving - Australian Bluestone Stone cobbles/Stone pavers/ Crazy Paving
AST Astroturf
TD2 Timber Composite Deck Type 2
LN1 Line marking

WALLS AND FENCING:
W1 In-situ Concrete Bleacher Walls 450mm Wide
W1a In-situ Concrete seat with composite timber top
W1b In-situ Concrete wall/Seat 450mm wide
W1c In-situ Concrete wall/Seat with Cistern Access Hatch
W2 In-situ Concrete Bleacher Walls 900mm wide
W3 Entry Walls 600mm
W4 Sandstone Wall
W5 Entry Wall
W6 Landscape Brick Wall
W7 Insitu Concrete Wall/Seat 300mm wide
R1 Access Ramp & Seatwall Garden
R2 Access Ramp to preschool
EDG1 Composite Timber Edge
EDG2 Concrete Edge
EDG3 Sandstone cobbles
EDG4 Feature steel inlay to COLA
FN02 Preschool Fence

ELEMENTS AND FURNITURE:
BIN1 External Litter Bin
BNCH1 Bench Seat
FP Flagpole
HRX1 External Handrail - Double
HRX2 External Handrail - Single
FR Feature Rock
RVG Raised Veggie Garden
S1 Stair Type 1 - Concrete Stairs
TAP Water Tap

PLANTING PROFILES:
MPB1 Garden profile on grade - 300MM
MPB2 Garden profile on structure
MPB3 Garden profile on grade - 500MM
MPB4 Garden profile on grade - above 500MM
MUL1 Mulch
MUL2 Rock mulch

rev	date	comment	by	ch'k
K	09/11/21	For Construction	And F... Lon	
J	24/9/21	For Construction	MY M...	
I	31/8/21	For Construction	JRS	
H	20/8/21	For Construction	MZ	
G	29/7/21	For Construction Certificate Issue	MZ	
F	9/7/21	For Construction Certificate Issue	MY M...	

Darlington Public School
Golden Grove Street
Darlington NSW 2008

Landscape Plans — Scale: 1:100 @ A1
Ground Floor - G.A and Finishes - ZONE 1

Project Code: DTPS
First Issued: 15/6/20

Sheet No.: A-80011
Rev: K

For Construction

Legend:

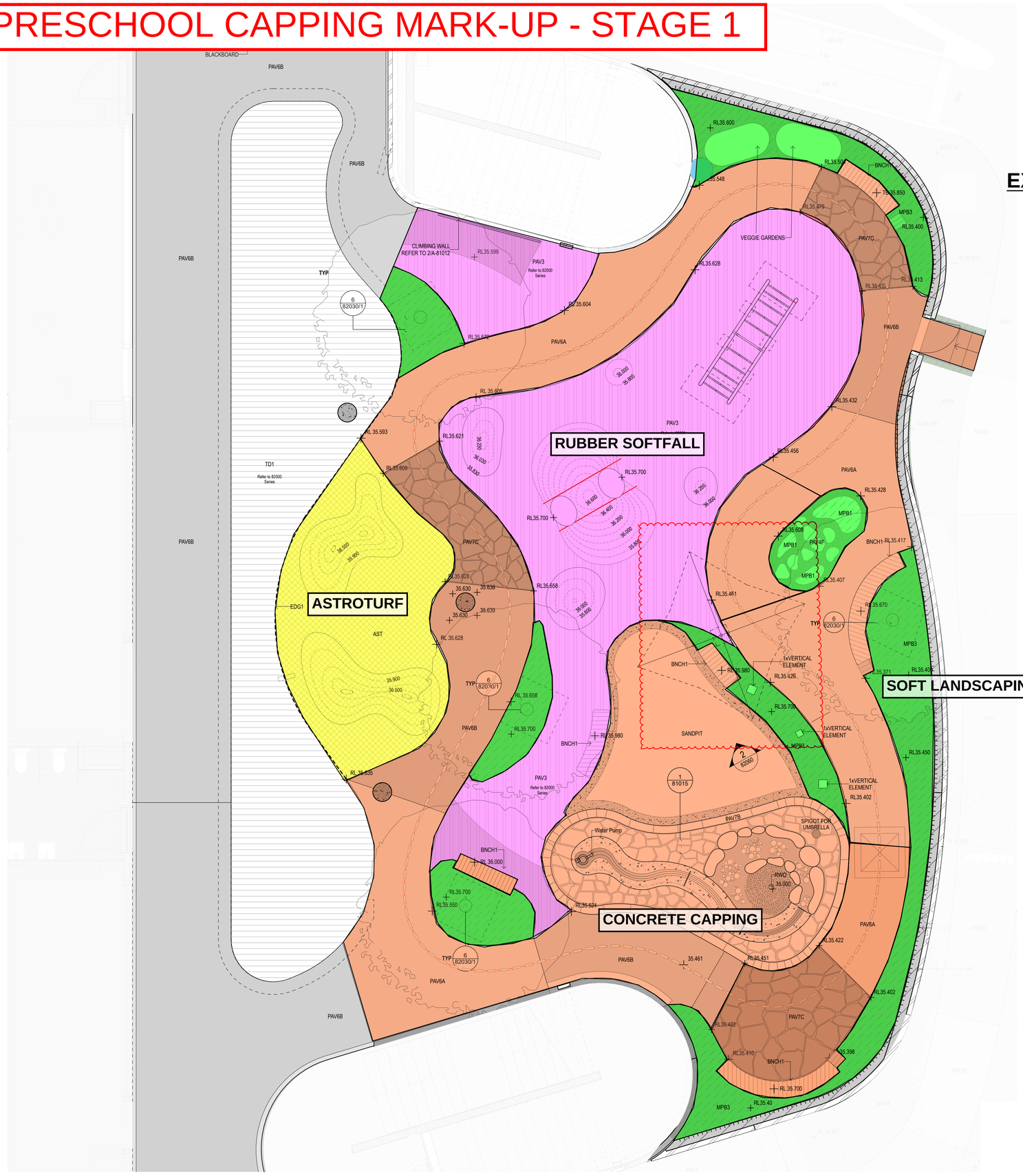
- Building concrete floor slab
- Concrete Pavement, Pathyways
- Soft Landscaping Area (Plants, Trees, Mulch, etc)

GREENCAP
Going Further in Managing Risk

GF, North Building,
22 Giffnock Av.
Macquarie Park NSW 2113

Client Name:	AW Edwards Pty Ltd				
Client Number:	C1207251	Project Number: J169905			
Project Description:	Darlington Public School				
Address:	417 Abercrombie St, Darlington NSW 2008				
Prepared:	SW	Reviewed:	VA	Date: 07/04/22	
Figure 5	External Works Capping Details (figure provided by the client)				

PRESCHOOL CAPPING MARK-UP - STAGE 1



EXTERNAL WORKS CAPPING LEGEND

- **RUBBER SOFTFALL AREA**
- **CONCRETE AREA**
- **ASTROTURF AREA**
- **SOFT LANDSCAPING AREA** *(PLANTS, TREES, MULCH ETC.)*

fjmtstudio

0 0.5 1.0 2.0m

General notes

- All dimensions and existing conditions shall be checked and verified by the contractor before proceeding with the work.
- All levels relative to 'Australian Height Datum'.
- Do not scale drawings.
- Use figured dimensions only.

Legend

- FOOTING PLACEMENT
- SITE BOUNDARY
- EXTENT OF WORKS
- 200 Contours
- **EX RL** Existing Relative Level
- **FFL** Finished Floor Level (internal)
- **RL** Relative Level
- **SSL** Structural Slab Level
- TREE ID# Existing tree to be retained (Stage 2)
- TREE ID# Existing treeto be removed (Stage 2)
- Structural Root Zone
- Tree Protection Zone
- Proposed tree in Garden Bed
- Garden Bed - MPB
- Timber Decking - TD1/2
- Rubber Softfall - PAV3
- Astroturf - AST

*For Detail Profiles Refer to 82000 Series

- Water Tap
- Hydrant
- Water Pump

*Note: Sculptures to Artwork Committe consultation. To be installed at a later date.

- Surface inlet Pit
- Juction Pit
- Grated Drain

PAVEMENT FINISHES:

PAV1	Concrete paving
PAV1A/B/C	Colour concrete paving - Dolomite/ Arctic/ Silver Colour
PAV2	Stone paver - Granite
PAV3a/b/c	Rubber Softfall -EDPM
PAV4A	Connecting Pathways-Timber Sleepers (in ground)
PAV4B	Connecting Pathways-Stumps in ground
PAV4C	Connecting Pathways-Stone blocks, boulders
PAV4D	Connecting Pathways-Balancing steepers
PAV4E	Connecting Pathways-Recycled timber logs
PAV4F	Connecting Pathways-Stepping Stones
PAV4G	Connecting Pathways-Paver with sandblasted pattern
PAV5	Brick Pavement
PAV6A/B	Preschool - Colour Concrete Topping
PAV7A/B/C	Preschool - Stone Paving - Australian Bluestone Stone cobbles/Stone pavers/ Crazy Paving
AST	Astroturf
TD2	Timber Composite Deck Type 2
LN1	Line marking

WALLS AND FENCING:

W1	In-situ Concrete Bleacher Walls 450mm Wide
W1a	In-situ Concrete seat with composite timber top
W1b	In-situ Concrete wall/Seat 450mm wide
W1c	In-situ Concrete wall/Seat with Cistern Access Hatch
W2	In-situ Concrete Bleacher Walls 900mm wide
W3	Entry Walls 600mm
W4	Sandstone Wall
W5	Entry Wall
W6	Landscape Brick Wall
W7	Insitu Concrete Wall/Seat 300mm wide
R1	Access Ramp & Seatwall Garden
R2	Access Ramp to preschool
EDG1	Composite Timber Edge
EDG2	Concrete Edge
EDG3	Sandstone cobbles
EDG4	Feature steel inlay to COLA
FN02	Preschool Fence

ELEMENTS AND FURNITURE:

BIN1	External Litter Bin
BNCH1	Bench Seat
FP	Flagpole
HRX1	External Handrail - Double
HRX2	External Handrail - Single
FR	Feature Rock
RVG	Raised Veggie Garden
S1	Stair Type 1 - Concrete Stairs
TAP	Water Tap

PLANTING PROFILES:

MPB1	Garden profile on grade - 300MM
MPB2	Garden profile on structure
MPB3	Garden profile on grade - 500MM
MPB4	Garden profile on grade - above 500MM
MUL1	Mulch
MUL2	Rock mulch

rev	date	name	by	chk
L	24/9/21	For Construction	MY M	
K	31/8/21	For Construction	JRS	
J	20/8/21	For Construction	MZ	
I	30/7/21	For Construction Certificate Issue	MZ	
H	24/7/21	For Construction Certificate Issue	MY M	
G	8/7/21	For Construction	MZ	
F	2/7/21	For Construction	MZ	

Darlington Public School
Golden Grove Street
Darlington NSW 2008

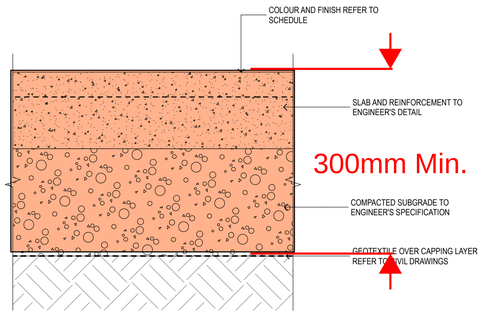
Landscape Play Areas and Sections — **Scale** 1:50 @ A1
Preschool Outdoor Area

Project Code DTPS — **First Issued** 7/8/20

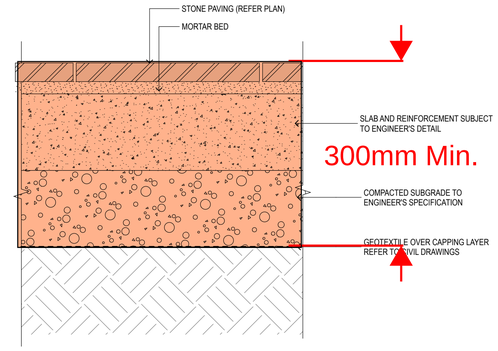
Sheet No. A-81011 — **Rev** L

For Construction

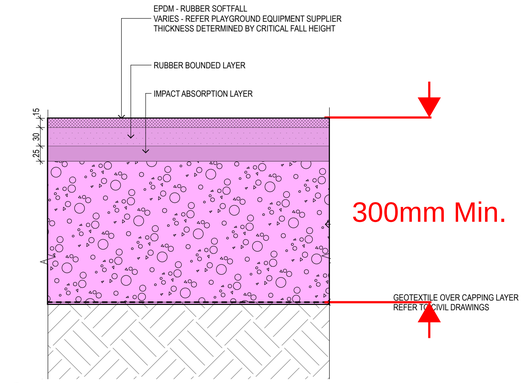
CAPPING SECTIONS MARK-UP



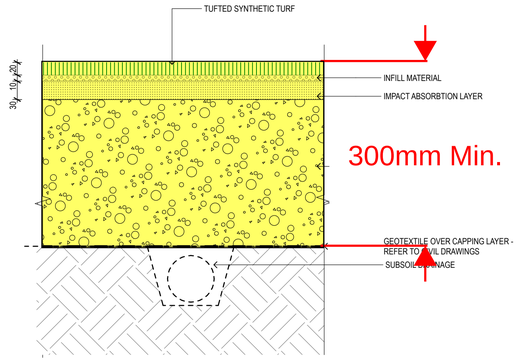
1 DETAIL PAV1/6 A/B/C
1:5 CONCRETE



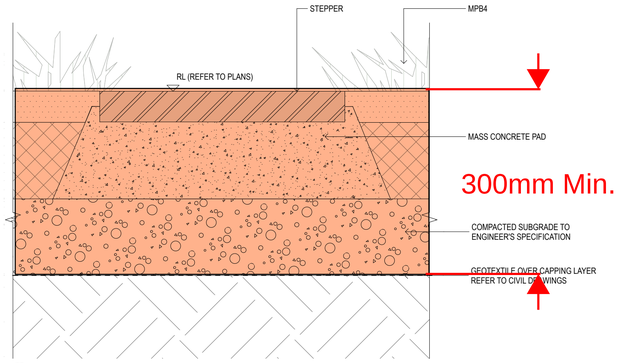
2 DETAIL PAV2/PAV7C
1:5 STONE



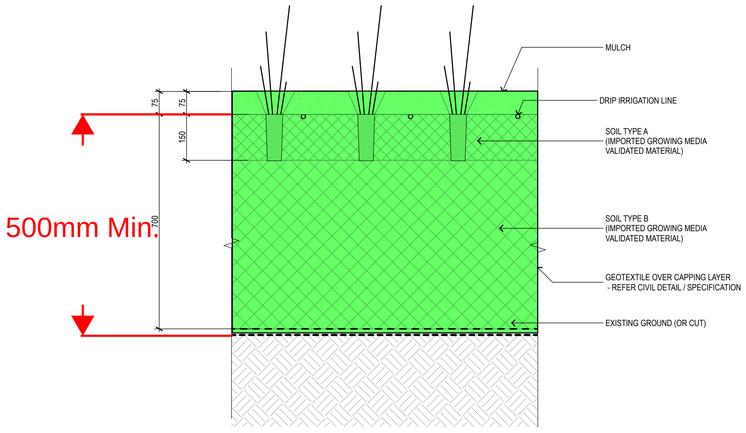
3 DETAIL PAV3
1:5 RUBBER SOFTFALL



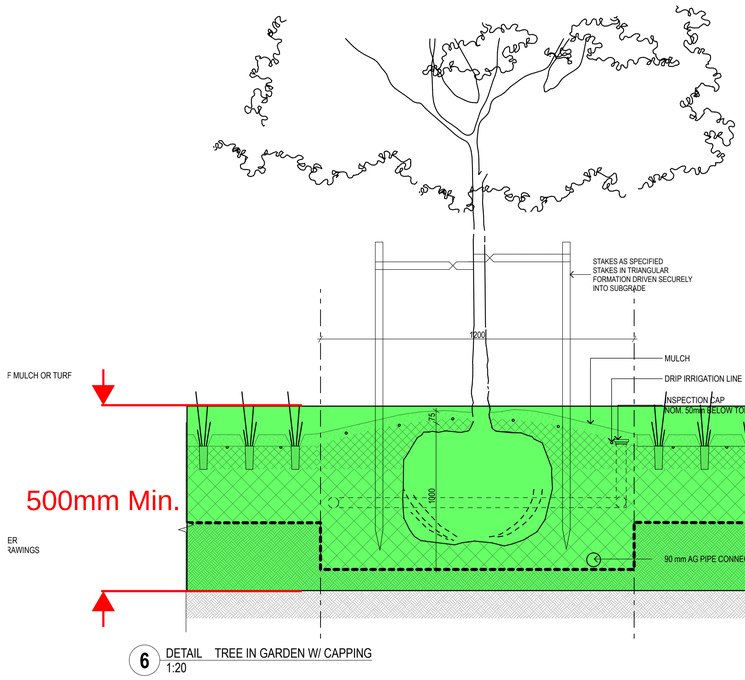
4 DETAIL AST
1:5 ASTROTURF



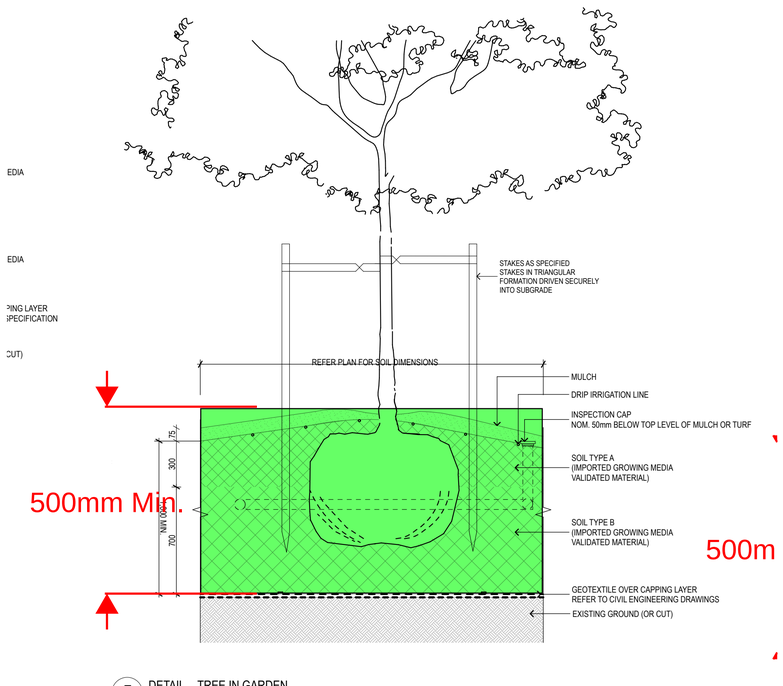
6 DETAIL PAV4F
1:5 STEPPERS



4 DETAIL MPB4
1:10



6 DETAIL TREE IN GARDEN W/ CAPPING
1:20



5 DETAIL TREE IN GARDEN
1:20

fjmtstudio

0 0.05 0.10 0.20m

General notes
- All dimensions and existing conditions shall be checked and verified by the contractor before proceeding with the work.
- All levels relative to 'Australian Height Datum'.
- Do not scale drawings.
- Use figured dimensions only.

Legend

FOOTING PLACEMENT
SITE BOUNDARY
EXTENT OF WORKS
200 Contours
EX RL Existing Relative Level
FFL Finished Floor Level (internal)
RL Relative Level
SSL Structural Slab Level
TREE ID# Existing tree to be retained (Stage 2)
TREE ID# Existing treeto be removed (Stage 2)
Structural Root Zone
Tree Protection Zone
Proposed tree in Garden Bed
Garden Bed - MPB
Timber Decking - TD1/2
Rubber Softfall - PAV3
Astroturf - AST
*For Detail Profiles Refer to 82000 Series
Water Tap
Hydrant
Water Pump
*Note: Sculptures to Artwork Committe consultation. To be installed at a later date.
Surface inlet Pit
Juction Pit
Grated Drain

PAVEMENT FINISHES:

PAV1	Concrete paving
PAV1A/B/C	Colour concrete paving - Dolomite/ Arctic/ Silver Colour
PAV2	Stone paver - Granite
PAV3a/b/c	Rubber Softfall -EDPM
PAV4A	Connecting Pathways-Timber Sleepers (in ground)
PAV4B	Connecting Pathways-Stumps in ground
PAV4C	Connecting Pathways-Stone blocks, boulders
PAV4D	Connecting Pathways-Balancing steepers
PAV4E	Connecting Pathways-Recycled timber logs
PAV4F	Connecting Pathways-Stepping Stones
PAV4G	Connecting Pathways-Paver with sandblasted pattern
PAV5	Brick Pavement
PAV6A/B	Preschool - Colour Concrete Topping
PAV7A/B/C	Preschool - Stone Paving - Australian Bluestone Stone cobbles/Stone pavers/ Crazy Paving
AST	Astroturf
TD2	Timber Composite Deck Type 2
LN1	Line marking

WALLS AND FENCING:

W1	In-situ Concrete Bleacher Walls 450mm Wide
W1a	In-situ Concrete seat with composite timber top
W1b	In-situ Concrete wall/Seat 450mm wide
W1c	In-situ Concrete wall/Seat with Cistern Access Hatch
W2	In-situ Concrete Bleacher Walls 900mm wide
W3	Entry Walls 600mm
W4	Sandstone Wall
W5	Entry Wall
W6	Landscape Brick Wall
W7	Insitu Concrete Wall/Seat 300mm wide
R1	Access Ramp & Seatwall Garden
R2	Access Ramp to preschool
EDG1	Composite Timber Edge
EDG2	Concrete Edge
EDG3	Sandstone cobbles
EDG4	Feature steel inlay to COLA
FN02	Preschool Fence

ELEMENTS AND FURNITURE:

BIN1	External Litter Bin
BNCH1	Bench Seat
FP	Flagpole
HRX1	External Handrail - Double
HRX2	External Handrail - Single
FP	Flag Pole
RVG	Raised Veggie Garden
S1	Stair Type 1 - Concrete Stairs
TAP	Water Tap

PLANTING PROFILES:

MPB1	Garden profile on grade - 300MM
MPB2	Garden profile on structure
MPB3	Garden profile on grade - 500MM
MPB4	Garden profile on grade - above 500MM
MUL1	Mulch

rev	date	name	by	chk
E	27/8/21	For Construction	MZ	
D	20/8/21	For Construction	MZ	
C	22/6/21	IFC for Sign-off Issue	JRS	
B	14/5/21	Final SINSW Review Issue	BM	
A	7/4/21	SINSW Preliminary Review 95%	MM G	
07	1/4/21	SINSW Preliminary Review 95%	JRS	

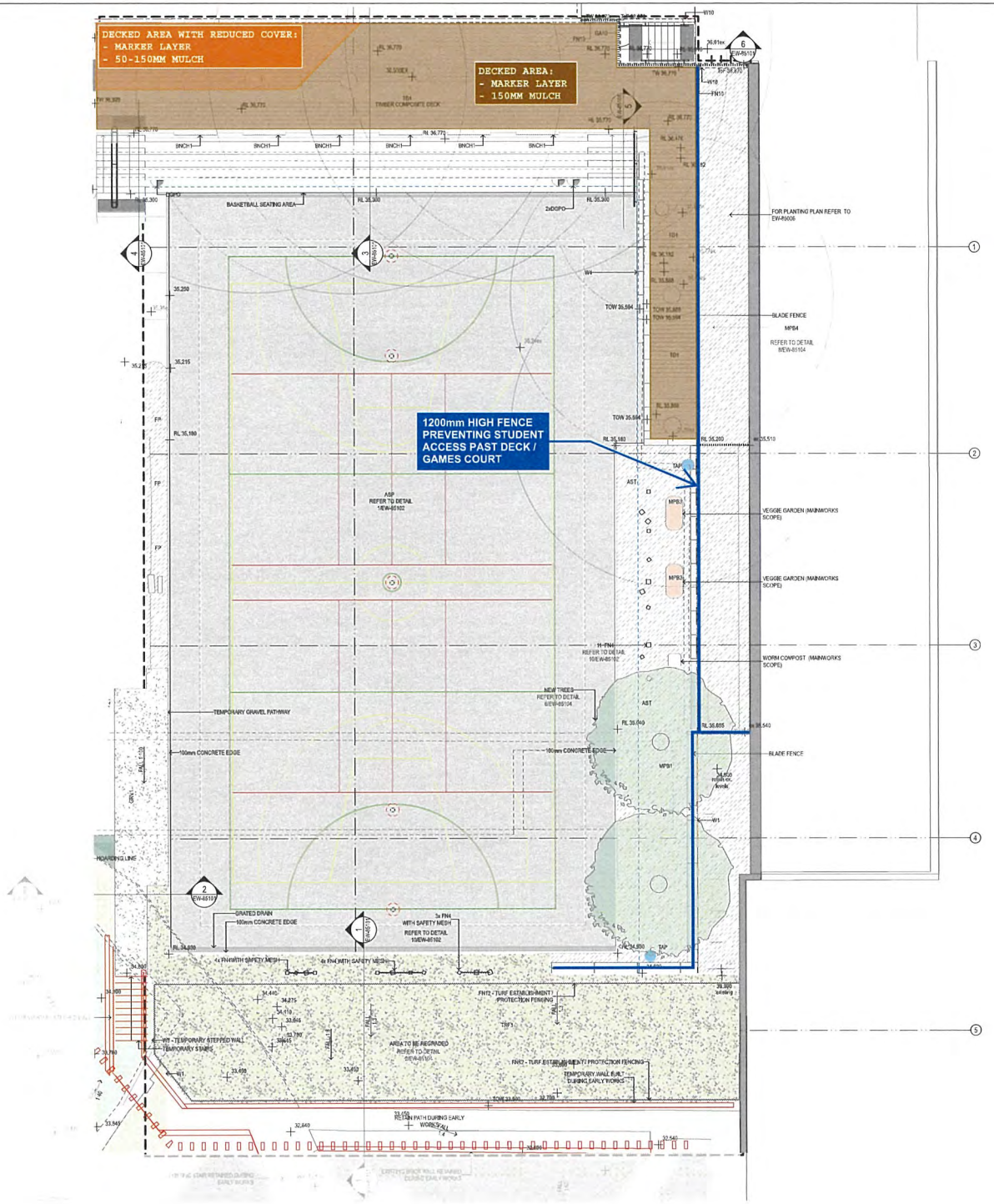
Darlington Public School
Golden Grove Street
Darlington NSW 2008

Landscape Details — **Scale**
Pavements — 1:5 @ A1

Project Code — **First Issued**
DTPS — 15/6/20

Sheet No. — **Rev**
A-82010 — E

For Construction



1 PLAN LANDSCAPE - EARLY WORKS
1:100 BASKETBALL COURT

0 1 2 5m

GENERAL NOTES

- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK.
- ALL LEVELS RELATIVE TO AUSTRALIAN HEIGHT DATUM.
- DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY.

EXTENT OF LANDSCAPE EARLY WORKS

EXISTING TREES TO BE RETAINED

NEW TREES

09	03/3/21	For Construction	MMG	NM
08	26/2/21	For Construction	MMG	NM
07	25/2/21	For Construction	MMG	NM
06	5/2/21	For Construction	NM	NM
05	19/12/20	For Construction Certificate	CD	NM
04	14/12/20	For Construction Certificate	MMG	NM
03	19/11/20	Tender Addendum No. 02	CD	NM
02	19/5/20	Tender Issue	CD	NM
rev	date	name	by	chk

fjmt studio
sydney
Level 5, 70 King Street t +61 2 9211 7177 w fjmtstudio.com

fjmt

project
Darlington Public School
Golden Grove Street
Darlington NSW 2008

title
Landscape - Early Works
Basketball Court Area

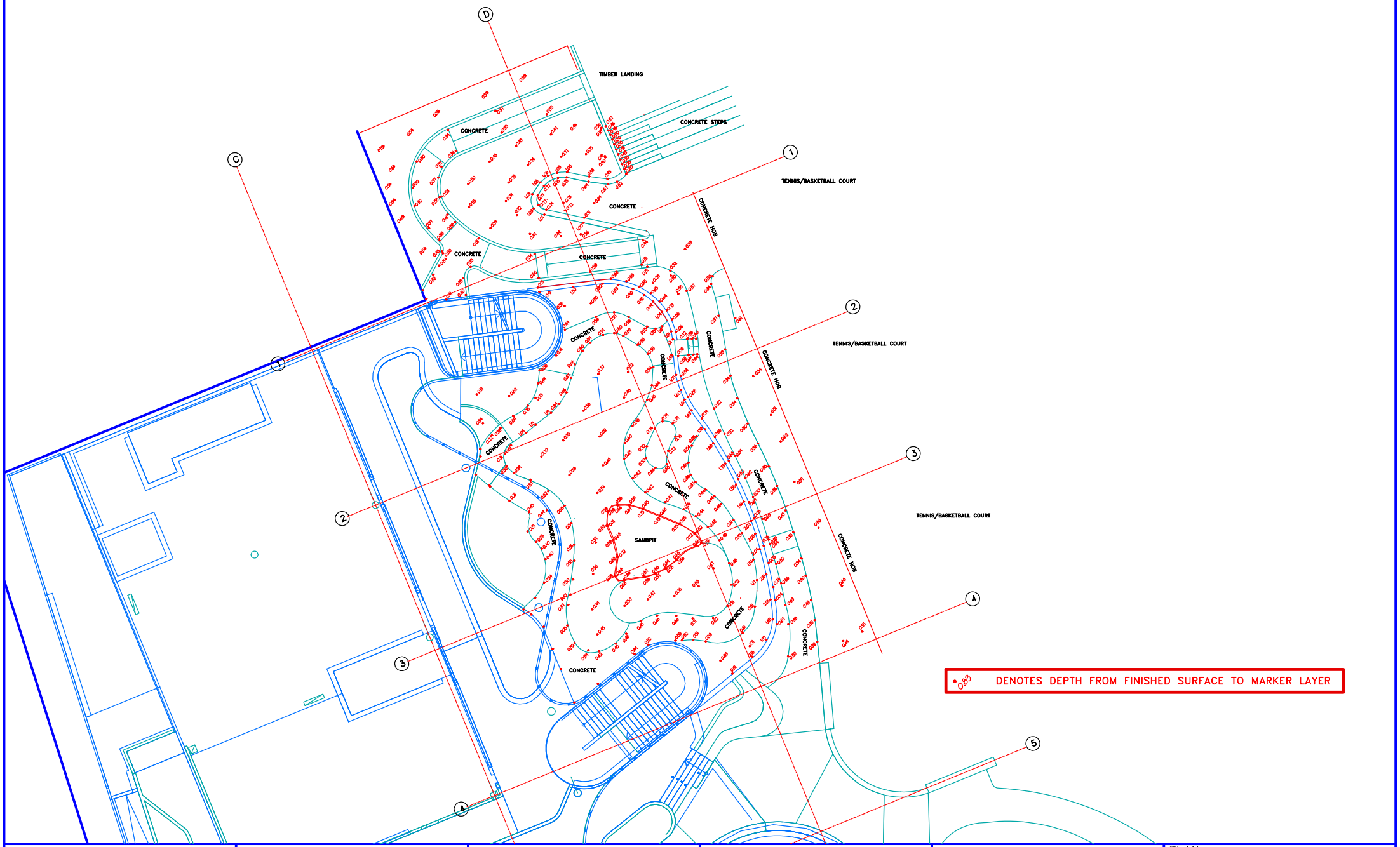
scale	first issued	
1:100 @ A1	3/7/20	
project code	sheet no.	revision
DTPS	EW-85003	09

Environmental Management Plan

A.W. Edwards Pty Ltd

Stage 1 Area, Darlington Public School

Appendix A – Capping Area Survey Drawings



DRAWING STATUS

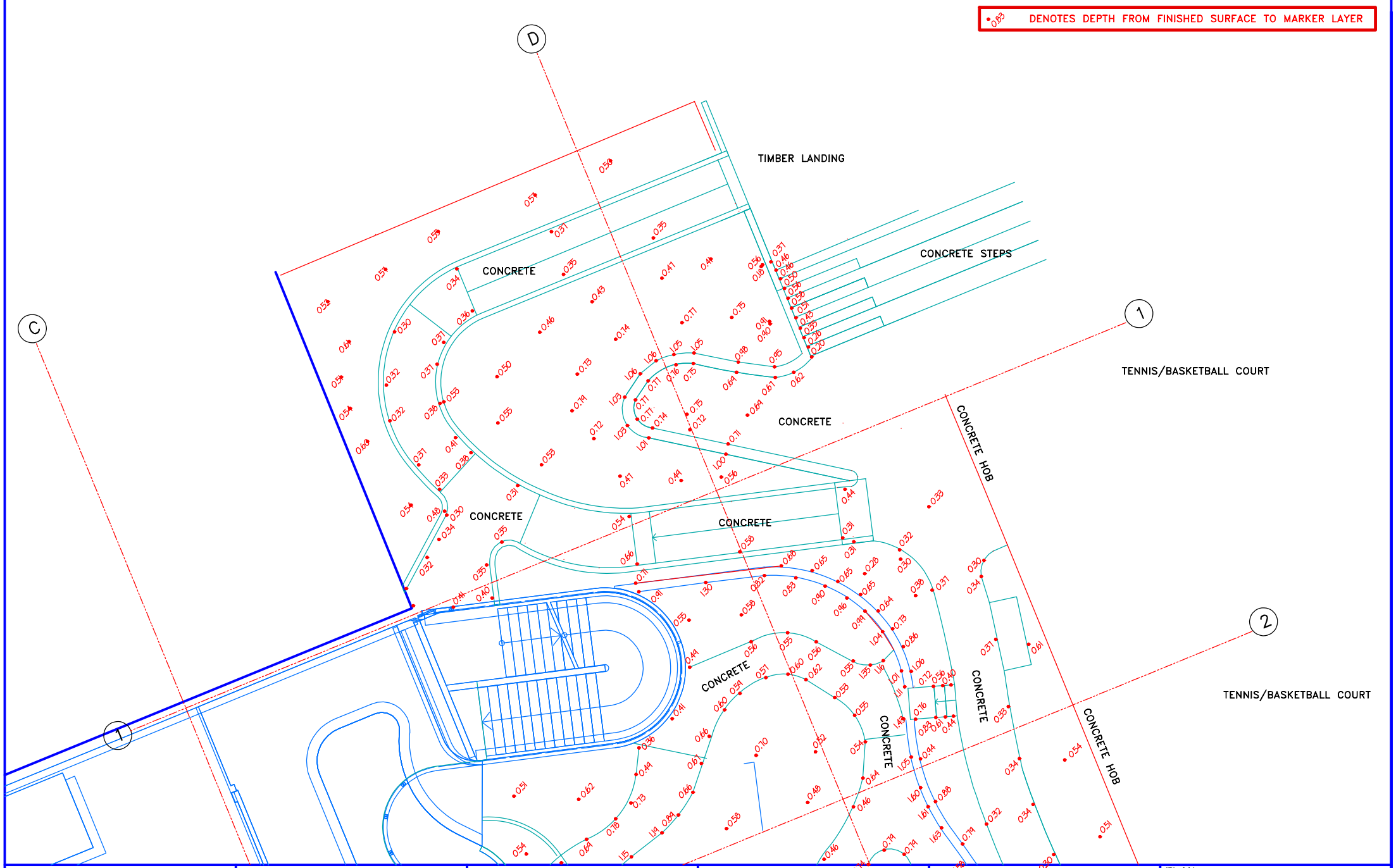
PROJECT:
DARLINGTON PUBLIC SCHOOL
GOLDEN GROVE STREET
DARLINGTON NSW 2008

CLIENT:
A.W. EDWARDS PTY LTD
BUILDERS AND CONTRACTORS
131 SAILORS BAY ROAD
NORTHBRIDGE NSW 2063
Ph (02) 9958 1474 Fax (02) 9958 6208

S.P. SITE SETOUT PTY LTD
CONSTRUCTION SURVEYING
UNIT 36/9 HOYLE AVENUE
CASTLE HILL 2154
Mobile: 0411 315 379
Telephone: (02) 9654 3316
Facsimile: (02) 9654 3318
Email: stephen@spsite.com.au

SCALE 1:100 (A1)
DATE 24/03/2022 DATUM A.H.D
CADD FILE REF AWE/DARLINGTON
DWG No: SP1208-062A.PRO

PLAN:
PLAY AREA
MARKER LAYER
DEPTH FROM FINISHED SURFACE
SHEET 1 OF 3



DRAWING STATUS

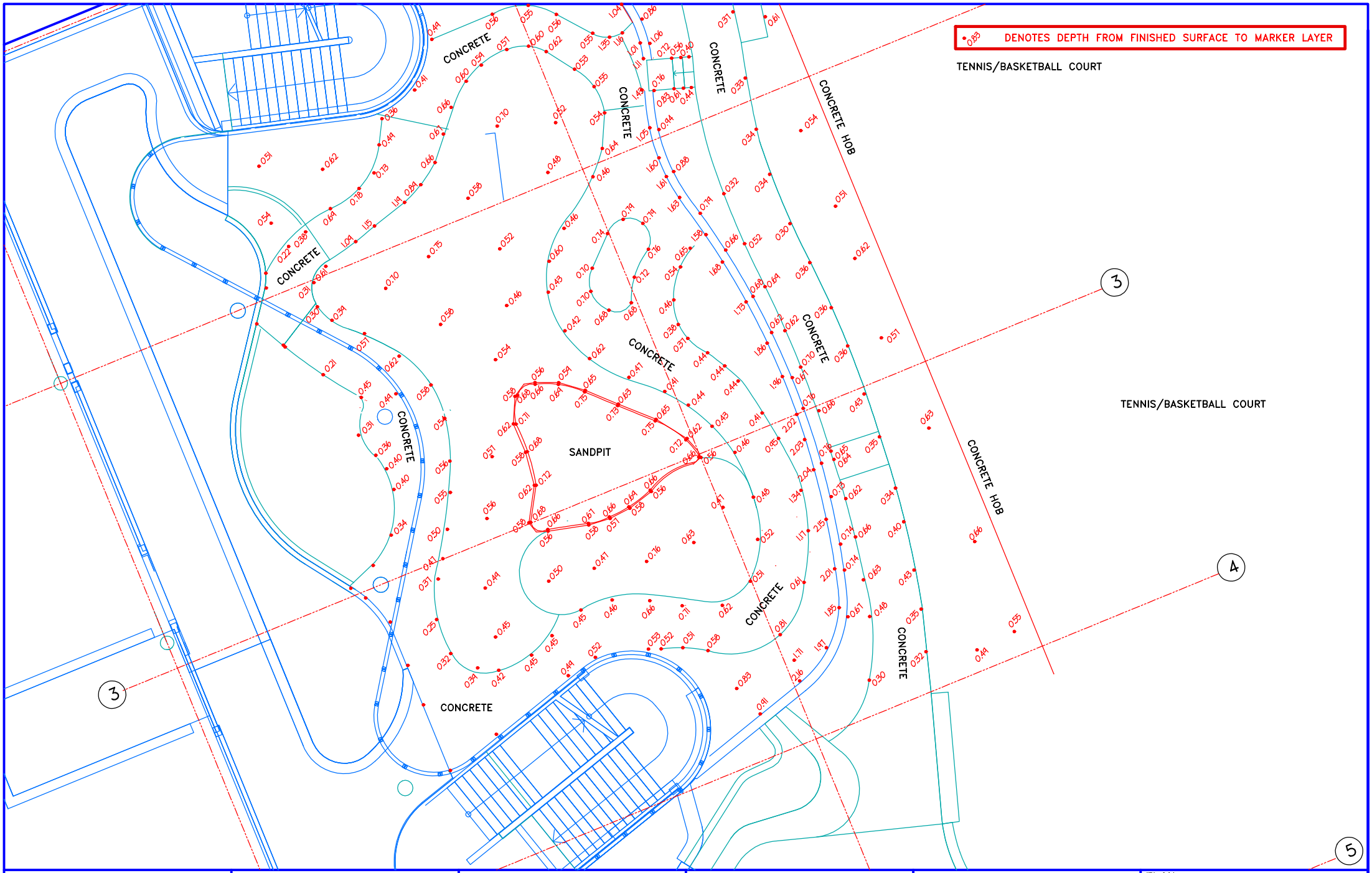
PROJECT:
DARLINGTON PUBLIC SCHOOL
GOLDEN GROVE STREET
DARLINGTON NSW 2006

CLIENT:
A.W. EDWARDS PTY LTD
BUILDERS AND CONTRACTORS
131 SAILORS BAY ROAD
NORTHBRIDGE NSW 2063
Ph (02) 9958 1474 Fax (02) 9958 6208

S.P. SITE SETOUT PTY LTD
CONSTRUCTION SURVEYING
UNIT 36/9 HOYLE AVENUE
CASTLE HILL 2154
Mobile: 0411 315 379
Telephone: (02) 9654 3316
Facsimile: (02) 9654 3318
Email: stephen@spsite.com.au

SCALE 1:50 (A1)
DATE 24/03/2022 DATUM A.H.D
CADD FILE REF AWE/DARLINGTON
DWG No: SP1208-062A.PRO

PLAN:
PLAY AREA
MARKER LAYER
DEPTH FROM FINISHED SURFACE
SHEET 2 OF 3



DRAWING STATUS

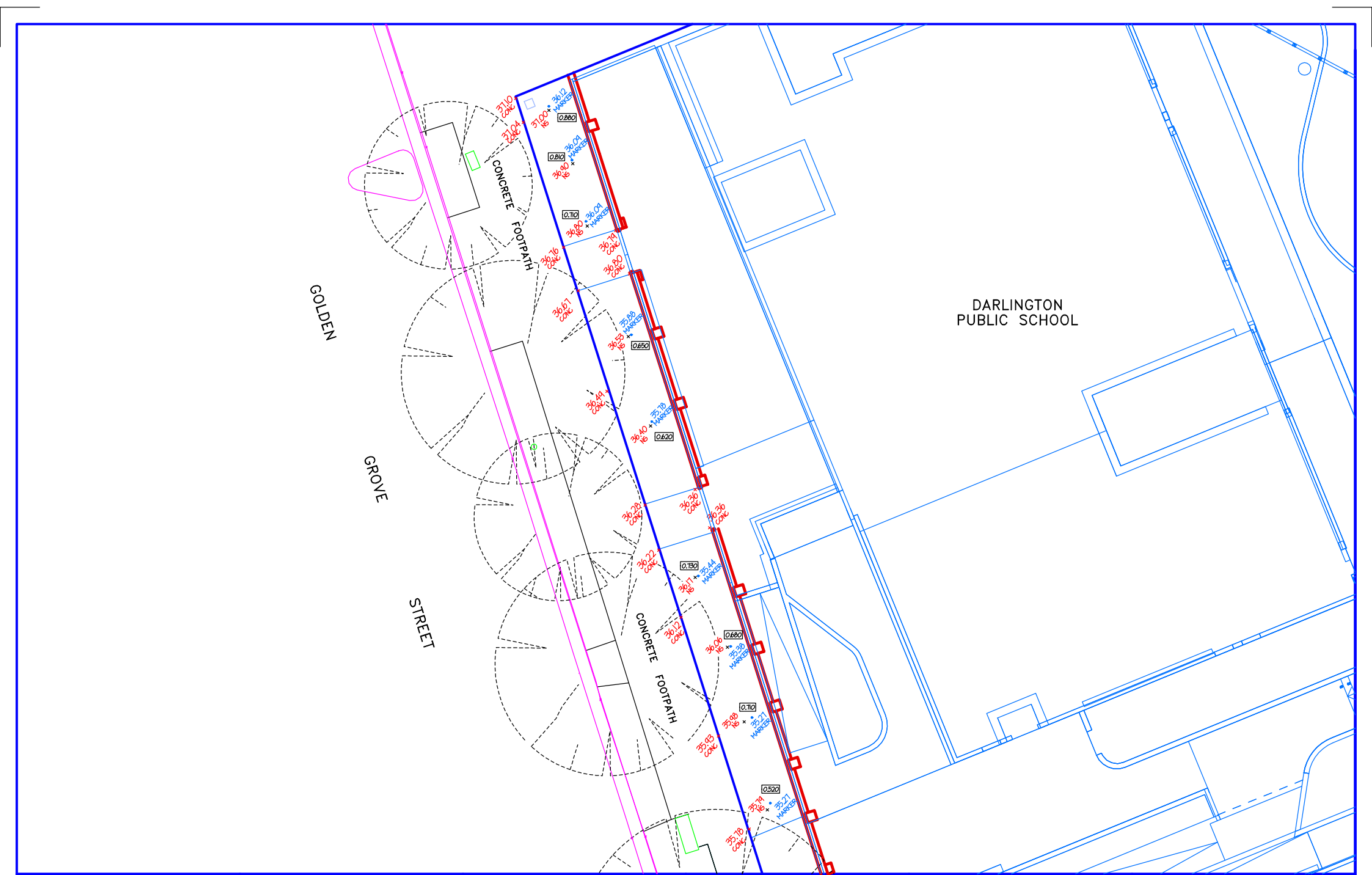
PROJECT:
DARLINGTON PUBLIC SCHOOL
GOLDEN GROVE STREET
DARLINGTON NSW 2006

CLIENT:
A.W. EDWARDS PTY LTD
BUILDERS AND CONTRACTORS
131 SAILORS BAY ROAD
NORTHBRIDGE NSW 2063
Ph (02) 9958 1474 Fax (02) 9958 6208

S.P. SITE SETOUT PTY LTD
CONSTRUCTION SURVEYING
UNIT 36/9 HOYLE AVENUE
CASTLE HILL 2154
Mobile: 0411 315 379
Telephone: (02) 9654 3316
Facsimile: (02) 9654 3318
Email: stephen@spsite.com.au

SCALE 1:50 (A1)
DATE 24/03/2022 DATUM A.H.D
CADD FILE REF AWE/DARLINGTON
DWG No: SP1208-062A.PRO

PLAN:
PLAY AREA
MARKER LAYER
DEPTH FROM FINISHED SURFACE
SHEET 3 OF 3



DRAWING STATUS

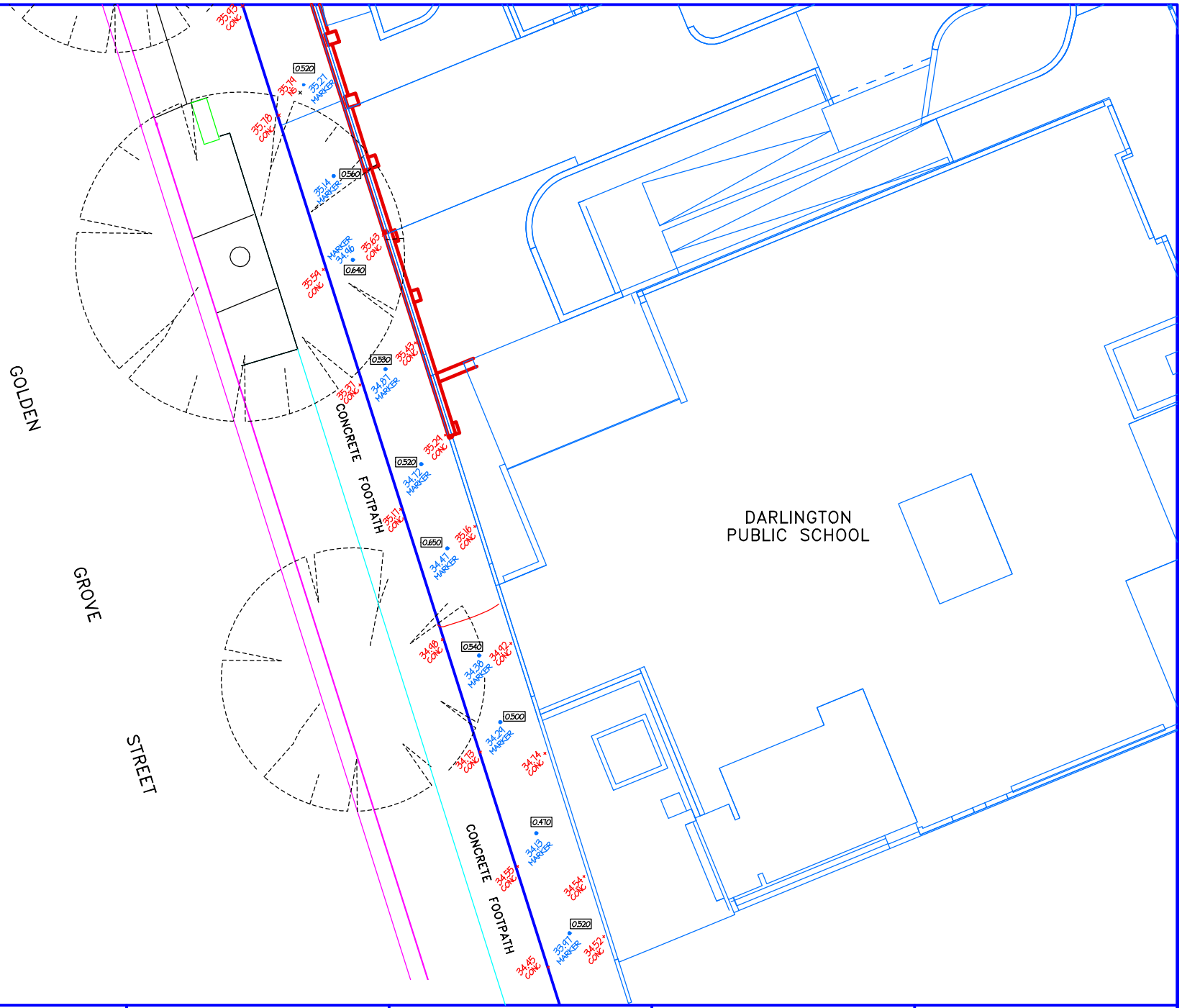
PROJECT:
DARLINGTON PUBLIC SCHOOL
GOLDEN GROVE STREET
DARLINGTON NSW 2008

CLIENT:
A.W. EDWARDS PTY LTD
BUILDERS AND CONTRACTORS
131 SAILORS BAY ROAD
NORTHBRIDGE NSW 2063
Ph (02) 9958 1474 Fax (02) 9958 6208

S.P. SITE SETOUT PTY LTD
CONSTRUCTION SURVEYING
UNIT 36/9 HOYLE AVENUE
CASTLE HILL 2154
Mobile: 0411 315 379
Telephone: (02) 9654 3316
Facsimile: (02) 9654 3318
Email: stephen@spsite.com.au

SCALE 1:60 (A1)
DATE 30/03/2022 DATUM A.H.D
CADD FILE REF AWE/DARLINGTON
DWG No: SP1208-063A.PRO

PLAN:
STREET LANDSCAPE
MARKER LAYER
DEPTH TO FINISHED SURFACE
SHEET 1 OF 2



DRAWING STATUS

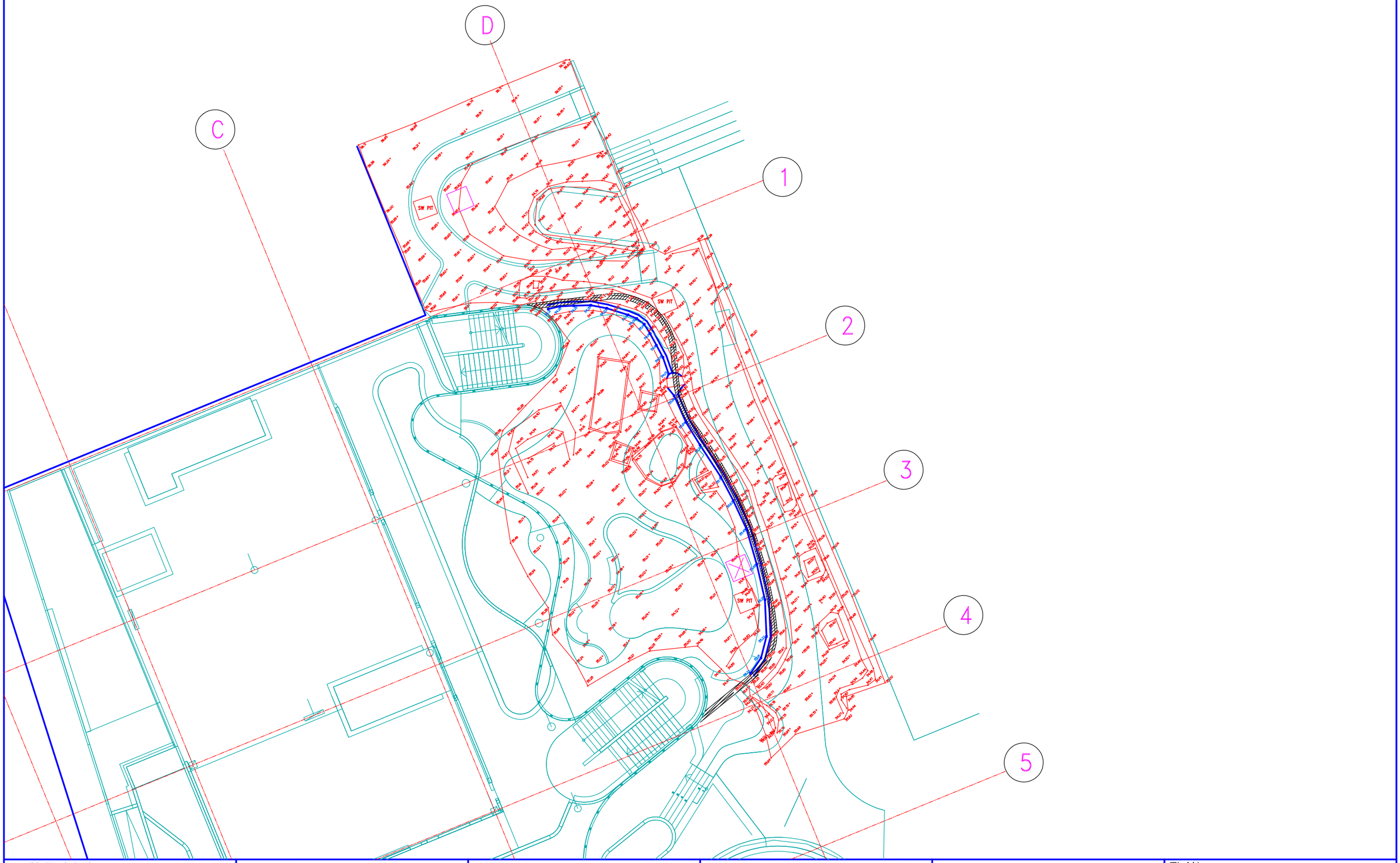
PROJECT:
DARLINGTON PUBLIC SCHOOL
GOLDEN GROVE STREET
DARLINGTON NSW 2006

CLIENT:
A.W. EDWARDS PTY LTD
BUILDERS AND CONTRACTORS
131 SAILORS BAY ROAD
NORTHBRIDGE NSW 2063
Ph (02) 9958 1474 Fax (02) 9958 6208

S.P. SITE SETOUT PTY LTD
CONSTRUCTION SURVEYING
UNIT 36/9 HOYLE AVENUE
CASTLE HILL 2154
Mobile: 0411 315 379
Telephone: (02) 9659 3316
Facsimile: (02) 9659 3318
Email: stephen@spsite.com.au

SCALE	1:60 (A1)
DATE	30/03/2022 DATUM A.H.D
CADD FILE REF	AWE/DARLINGTON
DWG No:	SP1208-063A.PRO

PLAN:
STREET LANDSCAPE
MARKER LAYER
DEPTH TO FINISHED SURFACE
SHEET 2 OF 2



DRAWING STATUS

PROJECT:

DARLINGTON PUBLIC SCHOOL

GOLDEN GROVE STREET
DARLINGTON NSW 2008

CLIENT:

A.W. EDWARDS PTY LTD

BUILDERS AND CONTRACTORS
131 SAILORS BAY ROAD
NORTHBRIDGE NSW 2063
Ph (02) 9958 1474 Fax (02) 9958 6208

S.P. SITE SETOUT PTY LTD
CONSTRUCTION SURVEYING
UNIT 36/9 HOYLE AVENUE
CASTLE HILL 2154
Mobile: 0411 315 379
Telephone: (02) 9659 3316
Facsimile: (02) 9659 3318
Email: stephen@spsite.com.au

SCALE 1:100 (A1)

DATE 10/07/2021 DATUM A.H.D

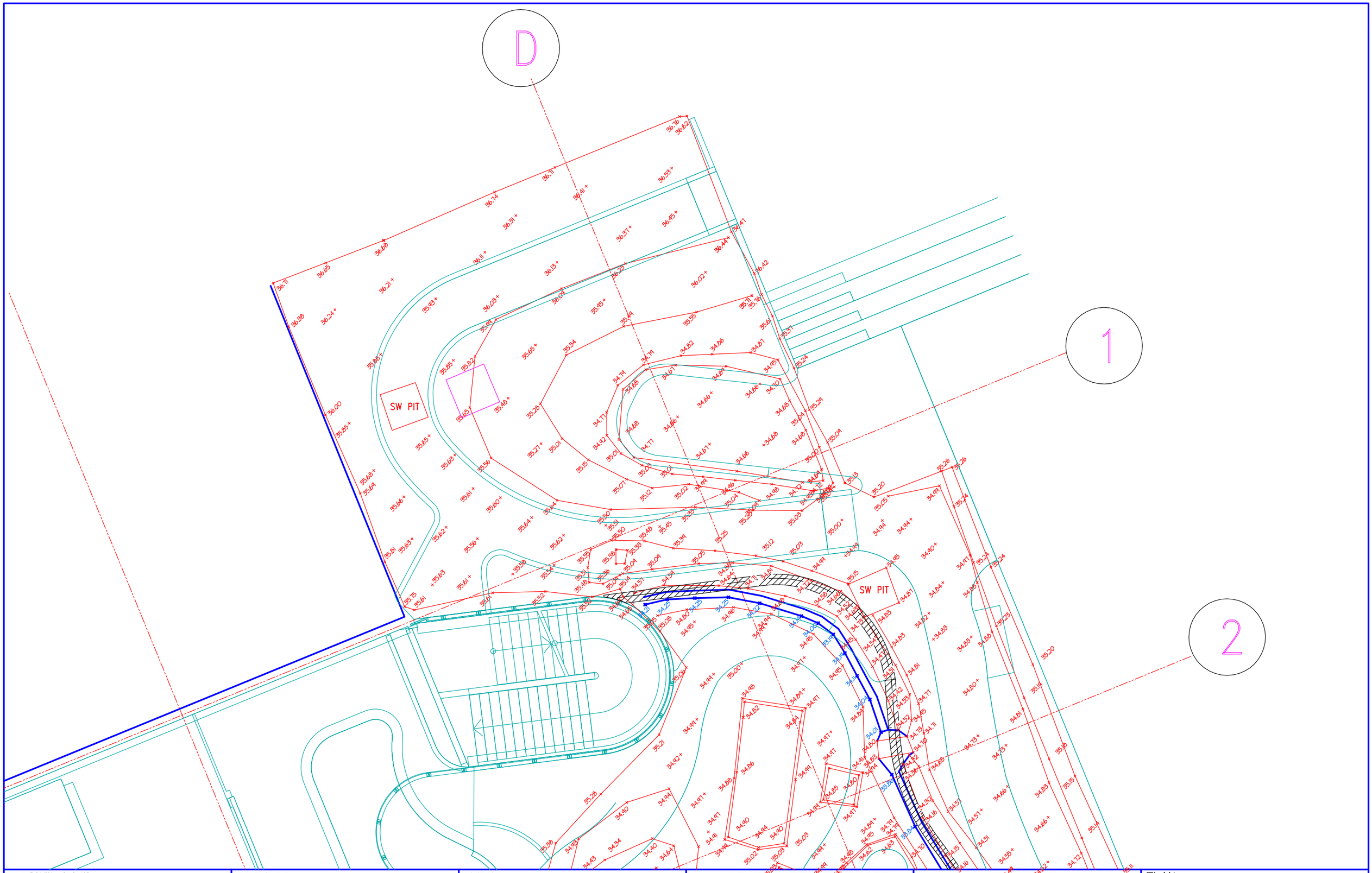
CADD FILE REF AWE/DARLINGTON

DWG No: SP1208-044.PRO

PLAN:

PLAY AREA MARKER LAYER LEVEL SURVEY

SHEET 1 OF 3



DRAWING STATUS

PROJECT:

DARLINGTON PUBLIC SCHOOL

GOLDEN GROVE STREET
DARLINGTON NSW 2008

CLIENT:

A.W. EDWARDS PTY LTD

BUILDERS AND CONTRACTORS
131 SAILORS BAY ROAD
NORTHBRIDGE NSW 2063
Ph (02) 9958 1474 Fax (02) 9958 6208

S.P. SITE SETOUT PTY LTD
CONSTRUCTION SURVEYING
UNIT 36/9 HOYLE AVENUE
CASTLE HILL 2154
Mobile: 0411 315 379
Telephone: (02) 9659 3316
Facsimile: (02) 9659 3318
Email: stephen@spsite.com.au

SCALE 1:50 (A1)

DATE 10/07/2021 DATUM A.H.D

CADD FILE REF AWE/DARLINGTON

DWG No: SP1208-044.PRO

PLAN:

PLAY AREA MARKER LAYER LEVEL SURVEY

SHEET 2 OF 3

2

3

4

SW PIT

DRAWING STATUS

PROJECT:

DARLINGTON PUBLIC SCHOOL

GOLDEN GROVE STREET
DARLINGTON NSW 2008

CLIENT:

A.W. EDWARDS PTY LTD

BUILDERS AND CONTRACTORS
131 SAILORS BAY ROAD
NORTHBRIDGE NSW 2063
Ph (02) 9958 1474 Fax (02) 9958 6208

S.P. SITE SETOUT PTY LTD
CONSTRUCTION SURVEYING
UNIT 36/9 HOYLE AVENUE
CASTLE HILL 2154
Mobile: 0411 315 379
Telephone: (02) 9659 3316
Facsimile: (02) 9659 3318
Email: stephen@spsite.com.au

SCALE 1:50 (A1)

DATE 10/07/2021 DATUM A.H.D

CADD FILE REF AWE/DARLINGTON

DWG No: SP1208-044.PRO

PLAN:

PLAY AREA MARKER LAYER LEVEL SURVEY

SHEET 3 OF 3

fjmtstudio

0 0.5 1.0 2.0m

General notes
- All dimensions and existing conditions shall be checked and verified by the contractor before proceeding with the work.
- All levels relative to 'Australian Height Datum'.
- Do not scale drawings.
- Use figured dimensions only.

Legend
- Change of finish line
- Colour Concrete
- Concrete Setdown 50mm
- Concrete Hob

REFER TO ARCHITECTURE CONCRETE SETOUT DRAWING A-22011 AND A-22012

ADJOINING 81014

1 PLAN PRESCHOOL OUTDOOR AREA
1:50 CRITICAL LINES SET OUT

rev	date	name	by	chk
H	8/7/21	For Construction	MZ	
G	22/6/21	IFC for Sign-off Issue	JRS	
F	18/6/21	For Construction	MZ	
E	17/6/21	For Construction	MZ	
D	14/5/21	Final SINSW Review Issue	BM	
C	30/4/21	Final SINSW Review Issue	GE	
B	30/4/21	Final SINSW Review Issue	MZ	

Darlington Public School
Golden Grove Street
Darlington NSW 2008

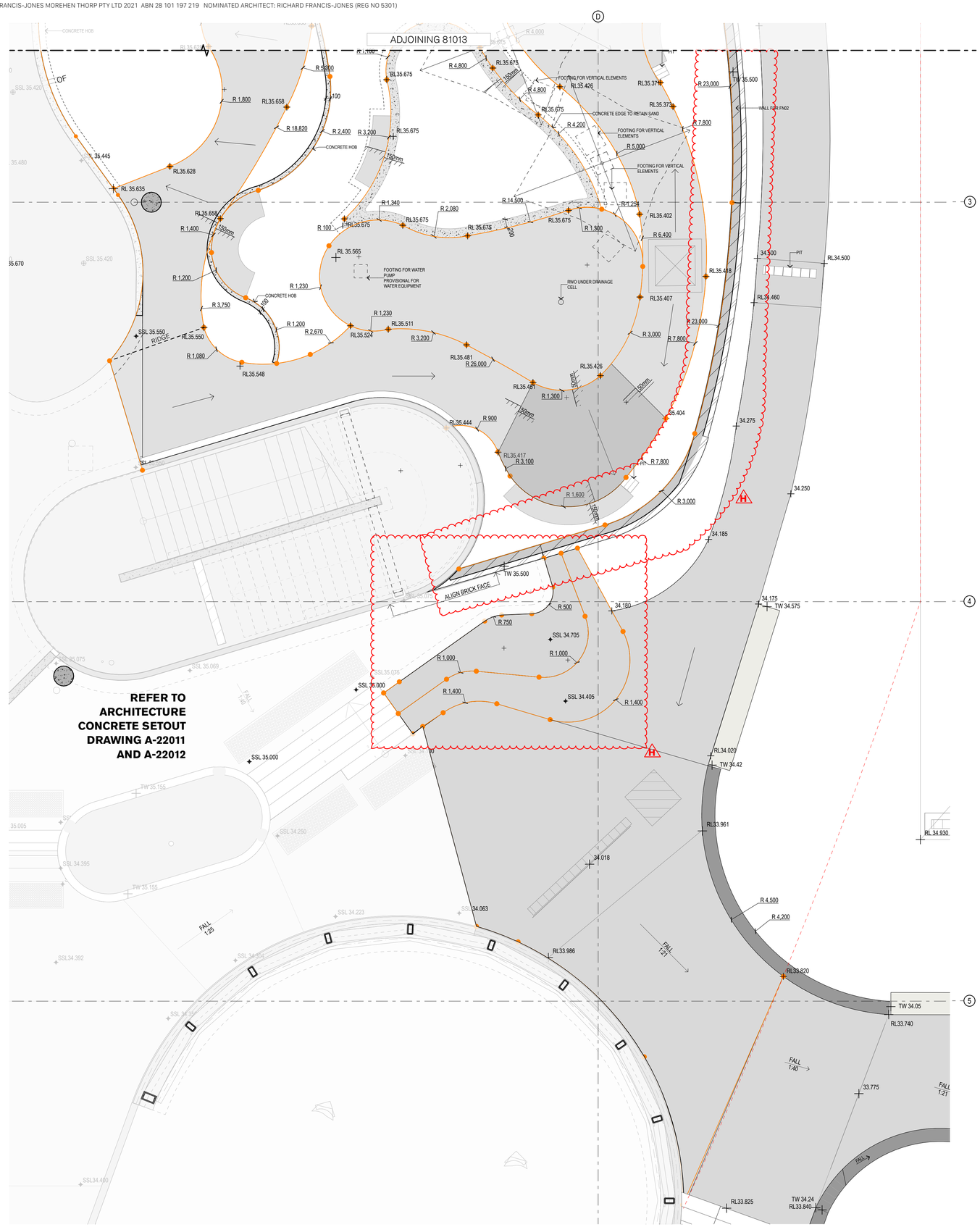
Landscape Play Areas and Sections — **Scale** 1:50 @ A1
Preschool Outdoor Area - Set Out 01

Project Code DTPS — **First Issued** 8/2/21

Sheet No. A-81013 — **Rev** H

For Construction

architecture / interiors / urban / landscape / place Level 5, 70 King Street Sydney 2000 **t** +61 2 9251 7077 **w** fjmtstudio.com



1 PLAN PRESCHOOL OUTDOOR AREA
1:50 CRITICAL LINES SET OUT

architecture / interiors / urban / landscape / place Level 5, 70 King Street Sydney 2000 **t** +61 2 9251 7077 **w** fjmtstudio.com

fjmtstudio

0 0.5 1.0 2.0m

General notes
- All dimensions and existing conditions shall be checked and verified by the contractor before proceeding with the work.
- All levels relative to 'Australian Height Datum'.
- Do not scale drawings.
- Use figured dimensions only.

Legend
- Change of finish line
- Colour Concrete
- Concrete Setdown (50mm)
- Concrete Hob

rev	date	name	by	chk
H	8/7/21	For Construction	MZ	
G	22/6/21	IFC for Sign-off Issue	JRS	
F	18/6/21	For Construction	MZ	
E	17/6/21	For Construction	MZ	
D	14/5/21	Final SINSW Review Issue	BM	
C	30/4/21	Final SINSW Review Issue	GE	
B	30/4/21	Final SINSW Review Issue	MZ	

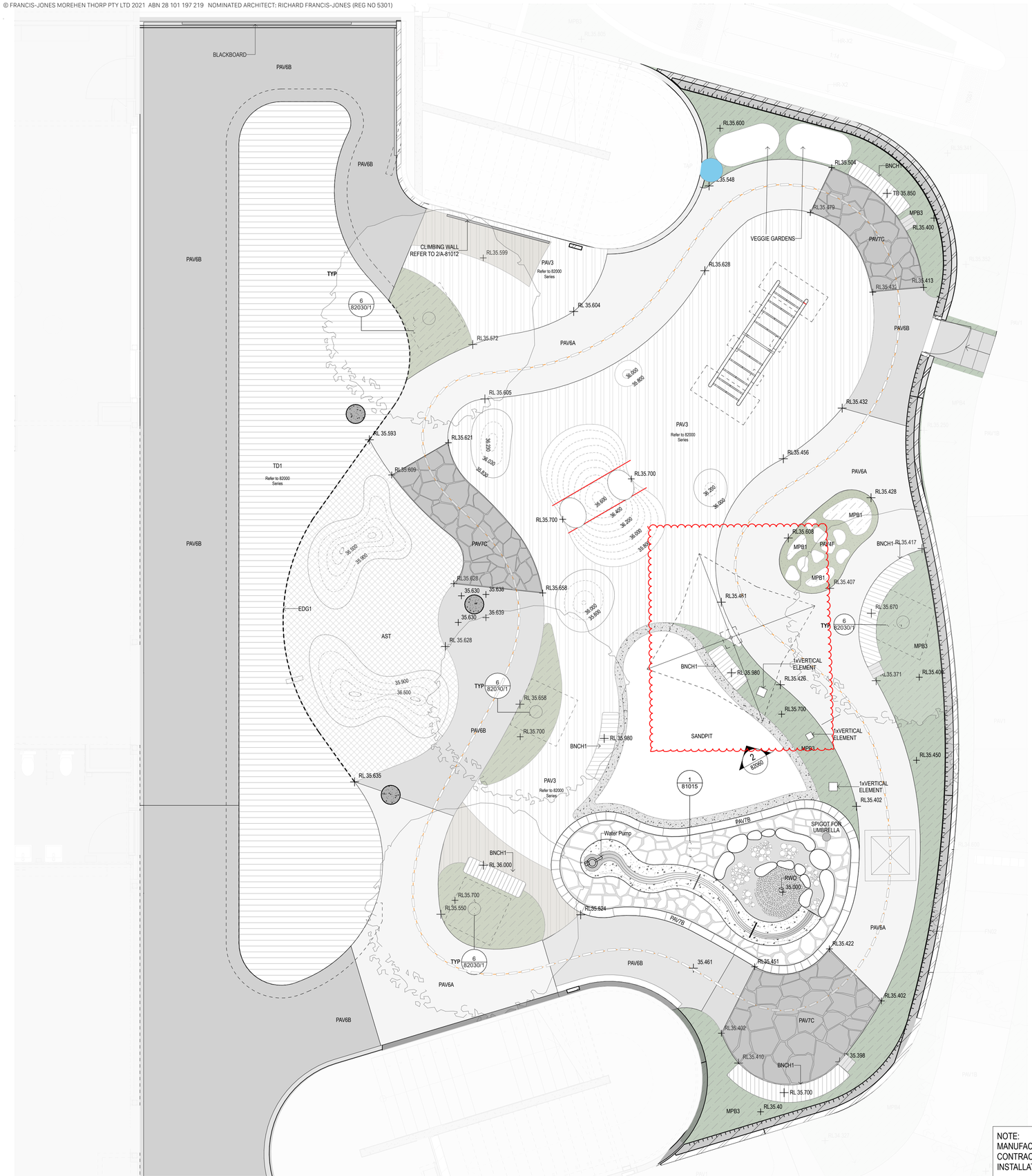
Darlington Public School
Golden Grove Street
Darlington NSW 2008

Landscape Play Areas and Sections — **Scale** 1:50 @ A1
Preschool Outdoor Area - Set Out 02

Project Code DTPS — **First Issued** 15/3/21

Sheet No. A-81014 — **Rev** H

For Construction



1 PLAN PRESCHOOL OUTDOOR AREA
1:50

REFER TO A-81000 LANDSCAPE DRAWING SERIES

NOTE:
MANUFACTURER'S FALL ZONE:
CONTRACTOR TO PROVIDE IN-SITU TESTING AND CERTIFICATION OF FALL ZONES, EQUIPMENT INSTALLATION AND SOFTFALL

fjmtstudio

0 0.5 1.0 2.0m

General notes
- All dimensions and existing conditions shall be checked and verified by the contractor before proceeding with the work.
- All levels relative to 'Australian Height Datum'.
- Do not scale drawings.
- Use figured dimensions only.

Legend

FOOTING PLACEMENT
SITE BOUNDARY
EXTENT OF WORKS
200 Contours
EX RL Existing Relative Level
FFL Finished Floor Level (internal)
RL Relative Level
SSL Structural Slab Level
TREE ID# Existing tree to be retained (Stage 2)
TREE ID# Existing treeto be removed (Stage 2)
Structural Root Zone
Tree Protection Zone
Proposed tree in Garden Bed
Garden Bed - MPB
Timber Decking - TD1/2
Rubber Softfall - PAV3
Astroturf - AST
*For Detail Profiles Refer to 82000 Series
Water Tap
Hydrant
Water Pump
*Note: Sculptures to Artwork Committe consultation. To be installed at a later date.
Surface inlet Pit
Juction Pit
Grated Drain

PAVEMENT FINISHES:

PAV1	Concrete paving
PAV1A/B/C	Colour concrete paving - Dolomite/ Arctic/ Silver Colour
PAV2	Stone paver - Granite
PAV3a/b/c	Rubber Softfall -EDPM
PAV4A	Connecting Pathways-Timber Sleepers (in ground)
PAV4B	Connecting Pathways-Stumps in ground
PAV4C	Connecting Pathways-Stone blocks, boulders
PAV4D	Connecting Pathways-Balancing steepers
PAV4E	Connecting Pathways-Recycled timber logs
PAV4F	Connecting Pathways-Stepping Stones
PAV4G	Connecting Pathways-Paver with sandblasted pattern
PAV5	Brick Pavement
PAV6A/B	Preschool - Colour Concrete Topping
PAV7A/B/C	Preschool - Stone Paving - Australian Bluestone Stone cobbles/Stone pavers/ Crazy Paving
AST	Astroturf
TD2	Timber Composite Deck Type 2
LN1	Line marking

WALLS AND FENCING:

W1	In-situ Concrete Bleacher Walls 450mm Wide
W1a	In-situ Concrete seat with composite timber top
W1b	In-situ Concrete wall/Seat 450mm wide
W1c	In-situ Concrete wall/Seat with Cistern Access Hatch
W2	In-situ Concrete Bleacher Walls 900mm wide
W3	Entry Walls 600mm
W4	Sandstone Wall
W5	Entry Wall
W6	Landscape Brick Wall
W7	Insitu Concrete Wall/Seat 300mm wide
R1	Access Ramp & Seatwall Garden
R2	Access Ramp to preschool
EDG1	Composite Timber Edge
EDG2	Concrete Edge
EDG3	Sandstone cobbles
EDG4	Feature steel inlay to COLA
FN02	Preschool Fence

ELEMENTS AND FURNITURE:

BIN1	External Litter Bin
BNCH1	Bench Seat
FP	Flagpole
HRX1	External Handrail - Double
HRX2	External Handrail - Single
FR	Feature Rock
RVG	Raised Veggie Garden
S1	Stair Type 1 - Concrete Stairs
TAP	Water Tap

PLANTING PROFILES:

MPB1	Garden profile on grade - 300MM
MPB2	Garden profile on structure
MPB3	Garden profile on grade - 500MM
MPB4	Garden profile on grade - above 500MM
MUL1	Mulch
MUL2	Rock mulch

rev	date	name	by	chk
L	24/9/21	For Construction	MY M	
K	31/8/21	For Construction		JRS
J	20/8/21	For Construction		MZ
I	30/7/21	For Construction Certificate Issue		MZ
H	24/7/21	For Construction Certificate Issue	MY M	
G	8/7/21	For Construction		MZ
F	2/7/21	For Construction		MZ

Darlington Public School
Golden Grove Street
Darlington NSW 2008

Landscape Play Areas and Sections
Preschool Outdoor Area

Scale
1:50 @ A1

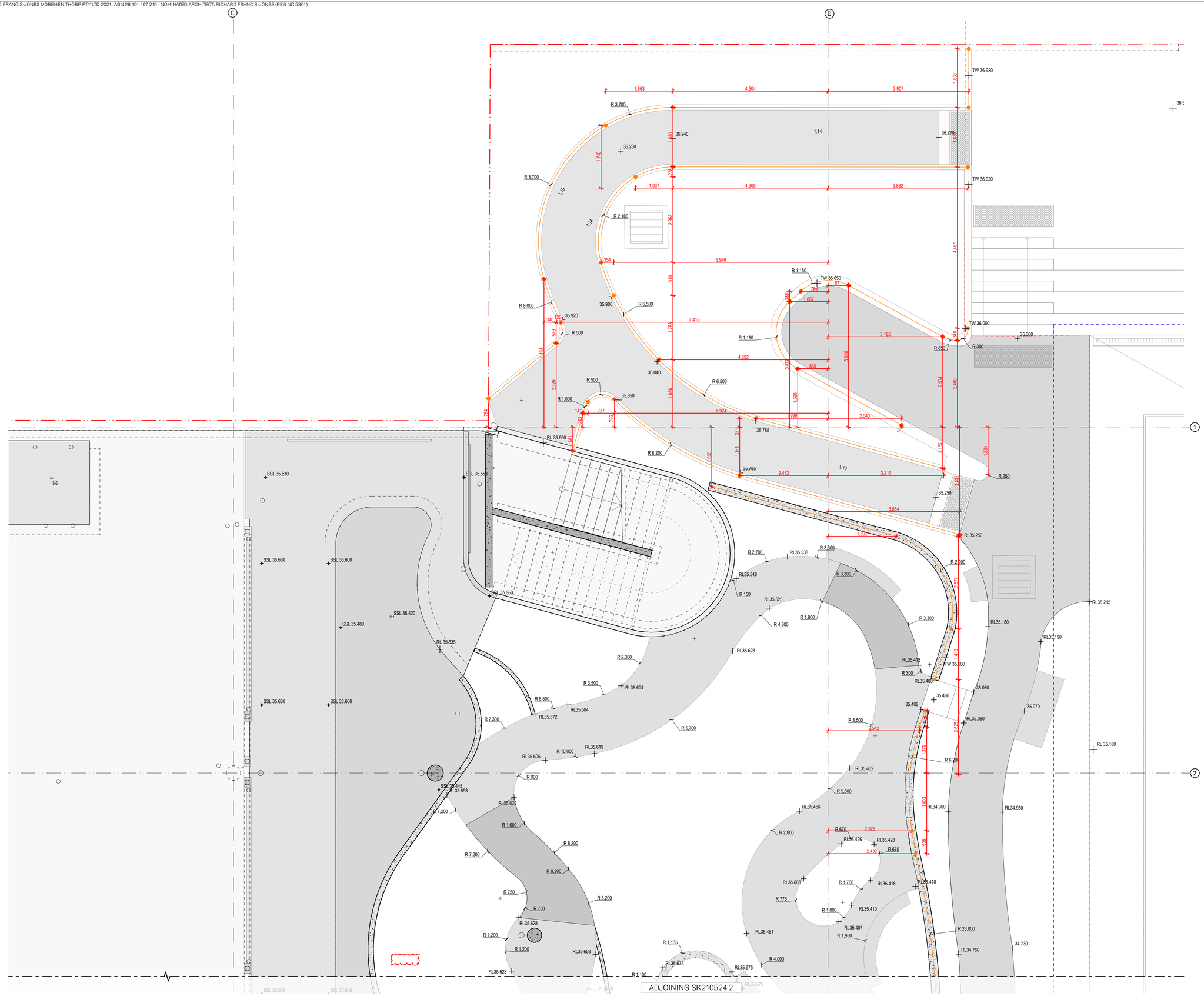
Project Code
DTPS

First Issued
7/8/20

Sheet No.
A-81011

Rev
L

For Construction



1 PLAN PRESCHOOL OUTDOOR AREA
1:50 CRITICAL LINES SET OUT

For Information

0 0.5 1.0 2.0m

GENERAL NOTES

- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK.
- ALL LEVELS RELATIVE TO 'AUSTRALIAN HEIGHT DATUM'.
- DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY.

legend

- Change of finish line
- Steel Edge
- Concrete Hob
- Block work Wall
- Block Out for trees and install tree soil prior to concrete/pavement works

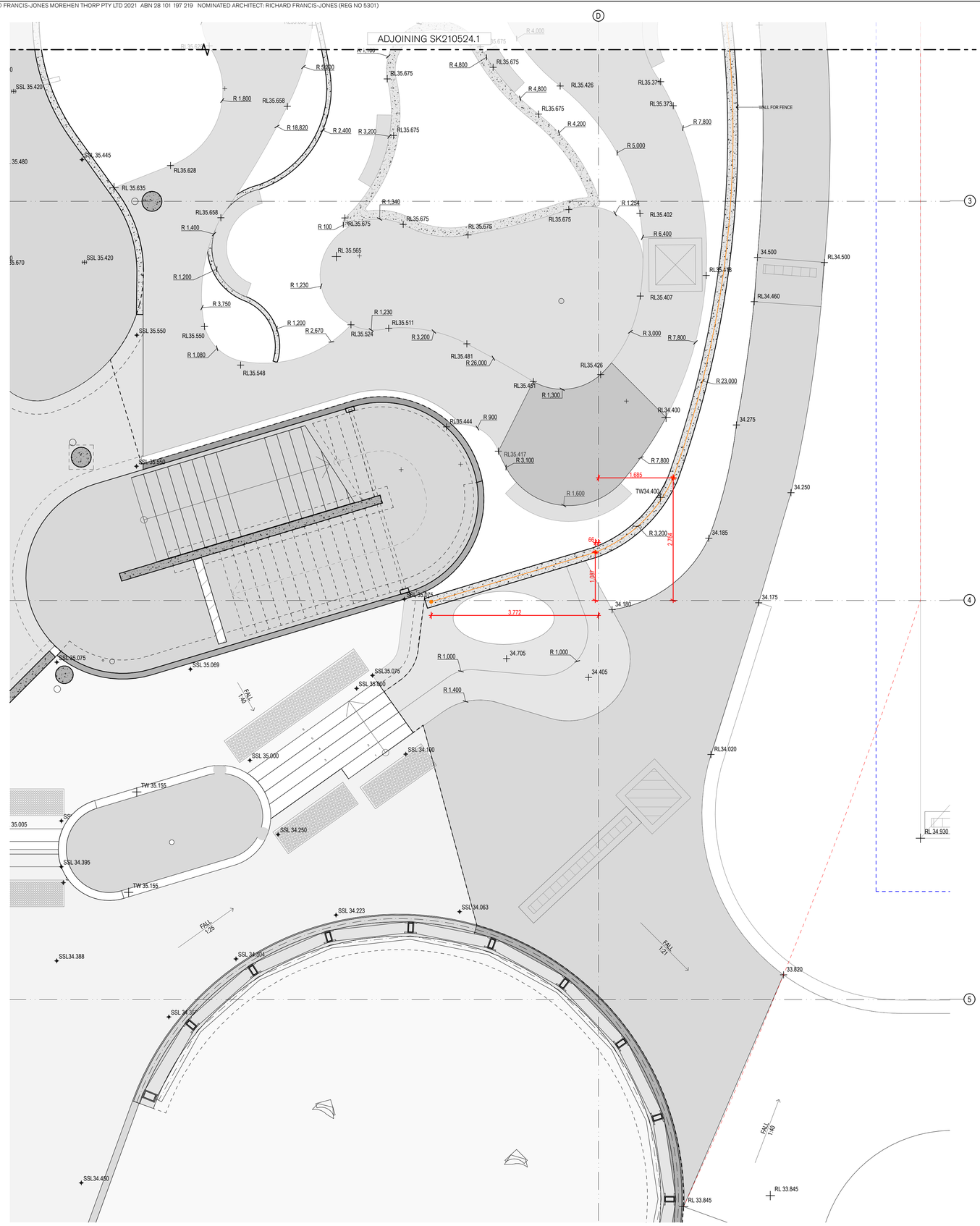
rev	date	name	by	chk

fjmt studio architecture interiors landscape urban community
sydney melbourne uk
Level 5, 70 King Street t +61 2 9251 7077 w fjmtstudio.com

project
Darlington Public School
Golden Grove Street
Darlington NSW 2008

title
SK21
Preschool Outdoor Area - Wall Set Out 01

scale	1:50 @ A1	first issued	DD/MM/YYYY
project code		sheet no.	revision
DTPS		**SK210524.1**	



1 PLAN PRESCHOOL OUTDOOR AREA
1:50 CRITICAL LINES SET OUT

0 0.5 1.0 2.0m

GENERAL NOTES

- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK.
- ALL LEVELS RELATIVE TO 'AUSTRALIAN HEIGHT DATUM'.
- DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY.

legend

- Change of finish line
- Steel Edge
- Concrete Hob
- Block work Wall
- Block Out for trees and install tree soil prior to concrete/pavement works

- Colour Concrete - Pav6a
- Colour Concrete - Pav6b
- 100x100 Bluestone Cobbles - Pav7a
- Bluestone Pavers - Pav7b
- Bluestone Crazy Paving - Pav7c
- EJ Expansion Joint

rev	date	name	by	chk

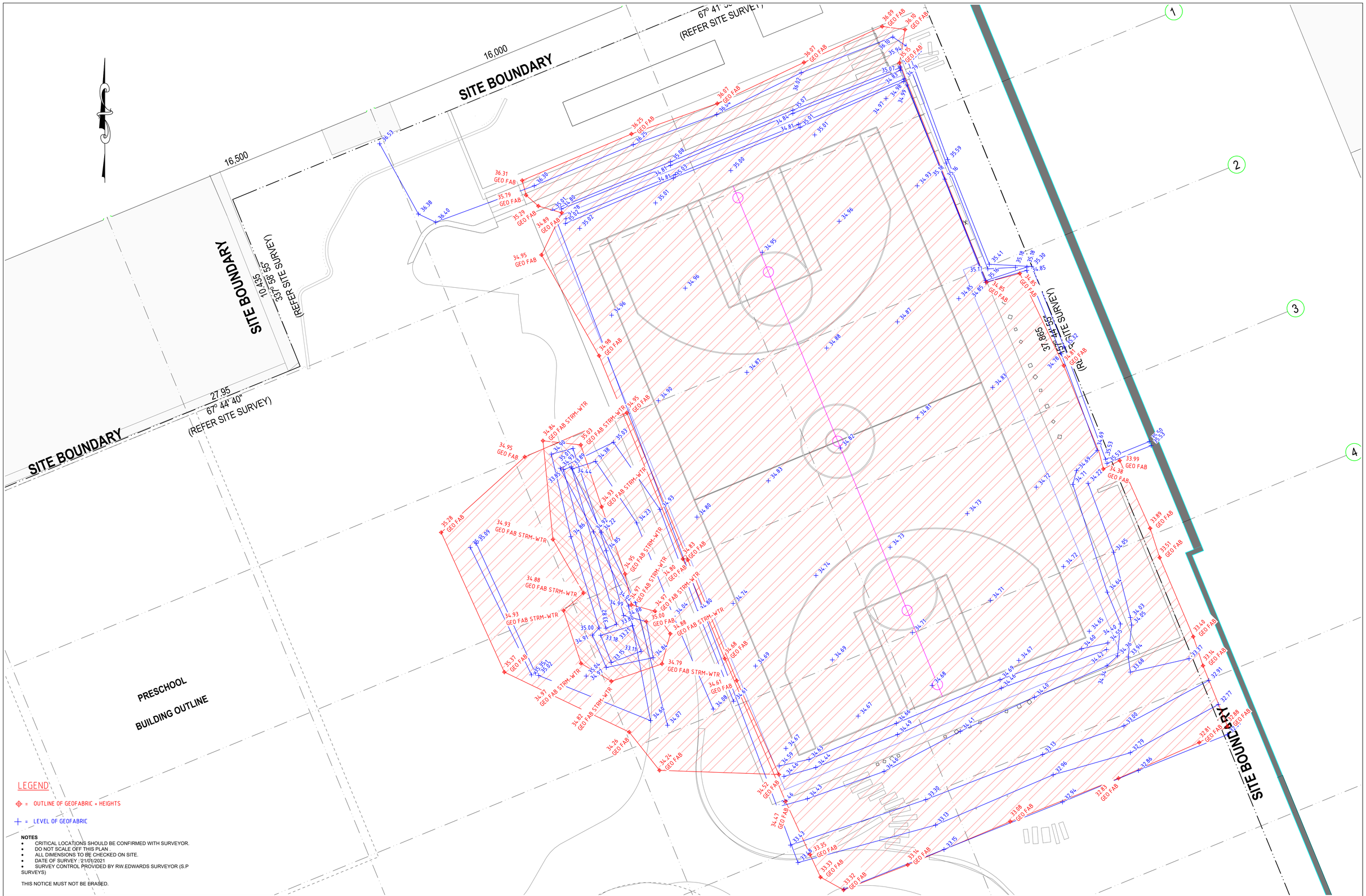
fjmt studio architecture interiors landscape urban community
sydney melbourne uk
Level 5, 70 King Street t +61 2 9251 7077 fjmtstudio.com

project
Darlington Public School
Golden Grove Street
Darlington NSW 2008

title
SK21
Preschool Outdoor Area - Wall Set Out 02

scale	1:50 @ A1	first issued	DD/MM/YYYY
project code		sheet no.	revision
DTPS		**SK210524.2**	

For Information



LEGEND

⊕ = OUTLINE OF GEOFABRIC + HEIGHTS

+ = LEVEL OF GEOFABRIC

NOTES

- CRITICAL LOCATIONS SHOULD BE CONFIRMED WITH SURVEYOR.
- DO NOT SCALE OFF THIS PLAN .
- ALL DIMENSIONS TO BE CHECKED ON SITE.
- DATE OF SURVEY :21/01/2021
- SURVEY CONTROL PROVIDED BY RW.EDWARDS SURVEYOR (S.P SURVEYS)

THIS NOTICE MUST NOT BE ERASED.

REV.	BY	DATE	DESCRIPTION	APPD.
A	DWH	27/01/2021	FOR INFORMATION	SRA

SCALES

0 3 6 Meters

1:100 @ A1

A1 Original | Co-ordinate System: MGA Zone 56 | Height Datum: A.H.D. | This sheet may be prepared using colour and may be incomplete if copied

CLIENT

Mainland Civil

The information shown on this drawing is for the purposes of this Project only. No warranty is given or implied as to its suitability for any other purpose. The Service Providers accept no liability arising from the use of this drawing and the information shown thereon for any purpose other than this Project.

REGISTERED SURVEYORS

CRUX SURVEYING AUSTRALIA PTY LTD CONSTRUCTION • CIVIL • CADASTRAL BRISBANE | NORTH SYDNEY | SINGAPORE

SURVEYED	DALE HODGE
DRAWN	DALE HODGE
SURVEY CHECK	SCOTT ALLISON
DRAWING CHECK	SCOTT ALLISON
APPROVED	SCOTT ALLISON 27/01/2021

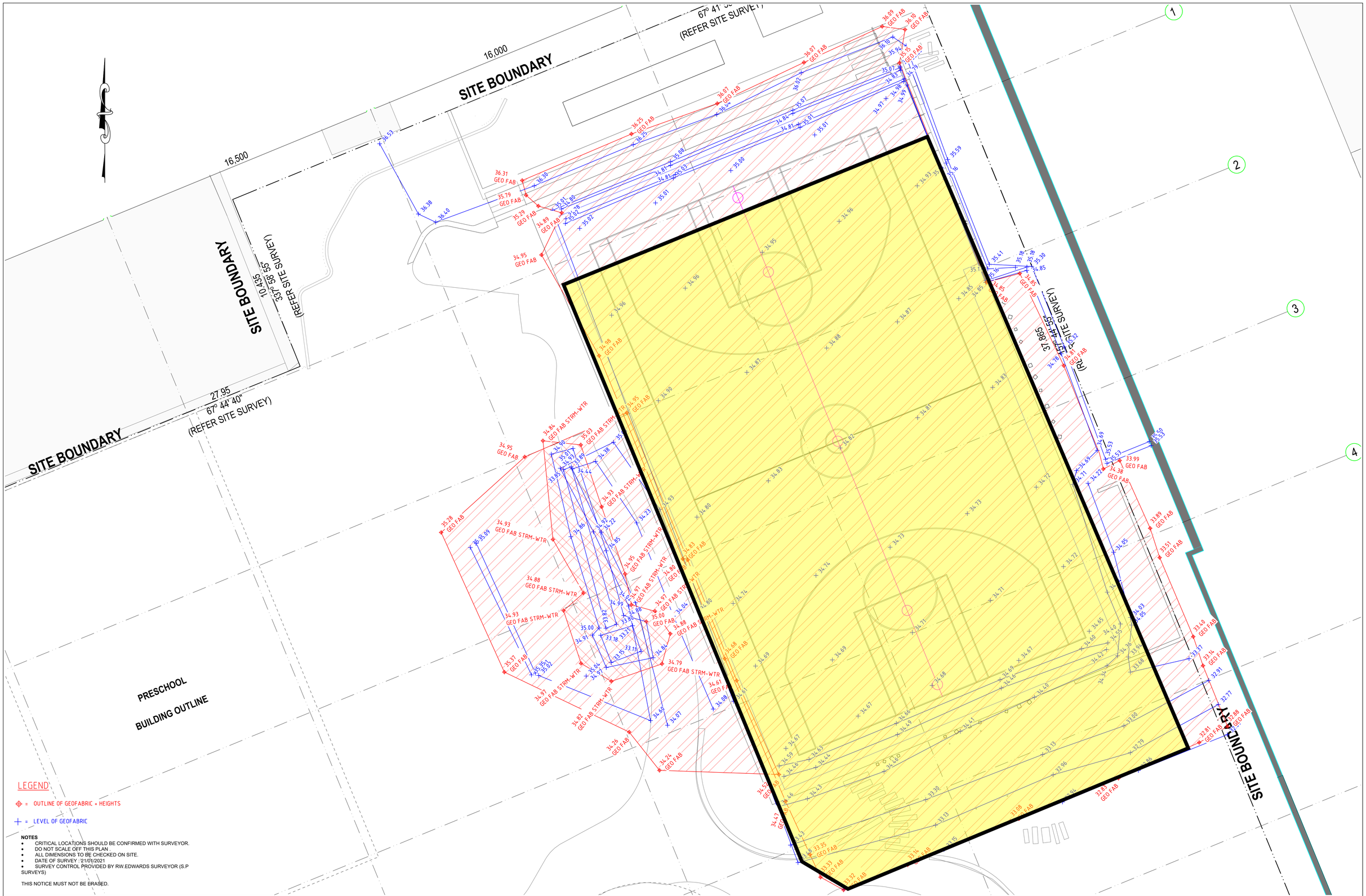
GEO-FABRIC ASBUILT

DARLINGTON PUBLIC SCHOOL
LOCAVTION OF GEOFABRIC + LEVELS

STATUS: FOR INFORMATION | SHEET 1 OF 1 | ©

CRUX Drg No. 122739-SU-WAE-002 | REV. A

Cad File: T:\122739 Darlington Public School - Mainland\Drawings\Out\WAE\122739-SU-WAE-002 [A] (Geofabric asbuilt).dwg Plot Date: 27/01/21 - 16:42 100mm AT FULL SIZE



LEGEND

⊕ = OUTLINE OF GEOFABRIC + HEIGHTS

+ = LEVEL OF GEOFABRIC

NOTES

- CRITICAL LOCATIONS SHOULD BE CONFIRMED WITH SURVEYOR.
- DO NOT SCALE OFF THIS PLAN .
- ALL DIMENSIONS TO BE CHECKED ON SITE.
- DATE OF SURVEY :21/01/2021
- SURVEY CONTROL PROVIDED BY RW.EDWARDS SURVEYOR (S.P SURVEYS)

THIS NOTICE MUST NOT BE ERASED.

REV.	BY	DATE	DESCRIPTION	APPD.
A	DWH	27/01/2021	FOR INFORMATION	SRA

SCALES

0 3 6 Meters

1:100 @ A1

A1 Original | Co-ordinate System: MGA Zone 56 | Height Datum: A.H.D. | This sheet may be prepared using colour and may be incomplete if copied

CLIENT

Mainland Civil

The information shown on this drawing is for the purposes of this Project only. No warranty is given or implied as to its suitability for any other purpose. The Service Providers accept no liability arising from the use of this drawing and the information shown thereon for any purpose other than this Project.

REGISTERED SURVEYORS

CRUX SURVEYING AUSTRALIA PTY LTD CONSTRUCTION • CIVIL • CADASTRAL BRISBANE | NORTH SYDNEY | SYDNEY

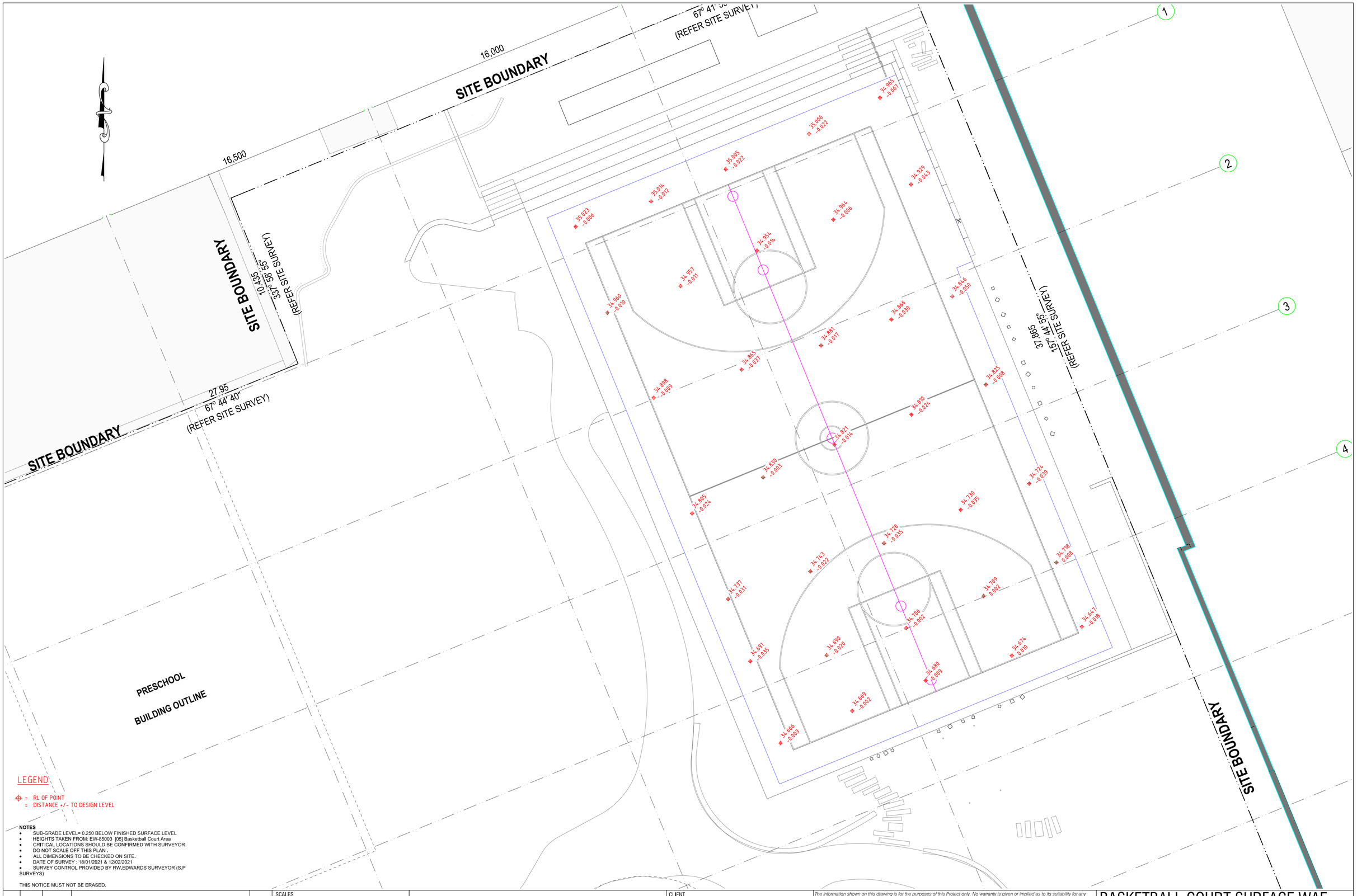
SURVEYED	DALE HODGE
DRAWN	DALE HODGE
SURVEY CHECK	SCOTT ALLISON
DRAWING CHECK	SCOTT ALLISON
APPROVED	SCOTT ALLISON 27/01/2021

GEO-FABRIC ASBUILT

DARLINGTON PUBLIC SCHOOL
LOCAVTION OF GEOFABRIC + LEVELS

STATUS: FOR INFORMATION | SHEET 1 OF 1 | ©

CRUX Drg No. 122739-SU-WAE-002 | REV. A



LEGEND

= RL OF POINT
= DISTANCE +/- TO DESIGN LEVEL

NOTES

- SUB-GRADE LEVEL= 0.250 BELOW FINISHED SURFACE LEVEL
- HEIGHTS TAKEN FROM: EW-85003 [05] Basketball Court Area
- CRITICAL LOCATIONS SHOULD BE CONFIRMED WITH SURVEYOR.
- DO NOT SCALE OFF THIS PLAN .
- ALL DIMENSIONS TO BE CHECKED ON SITE.
- DATE OF SURVEY : 18/01/2021 & 12/02/2021
- SURVEY CONTROL PROVIDED BY RW.EDWARDS SURVEYOR (S.P SURVEYS)

THIS NOTICE MUST NOT BE ERASED.

REV.	BY	DATE	DESCRIPTION	APPD.
B	DWH	19/02/2021	FOR INFORMATION	SRA
A	DWH	18/02/2021	FOR INFORMATION	SRA

SCALES

0 3 6 Meters

1:100 @ A1

A1 Original | Co-ordinate System: MGA Zone 56 | Height Datum: A.H.D. | This sheet may be prepared using colour and may be incomplete if copied

CLIENT

Mainland Civil

The information shown on this drawing is for the purposes of this Project only. No warranty is given or implied as to its suitability for any other purpose. The Service Providers accept no liability arising from the use of this drawing and the information shown thereon for any purpose other than this Project.

REGISTERED SURVEYORS

CRUX SURVEYING AUSTRALIA PTY LTD CONSTRUCTION • CIVIL • CADASTRAL ARMIDALE | NORTH RICHMOND | BRISBANE

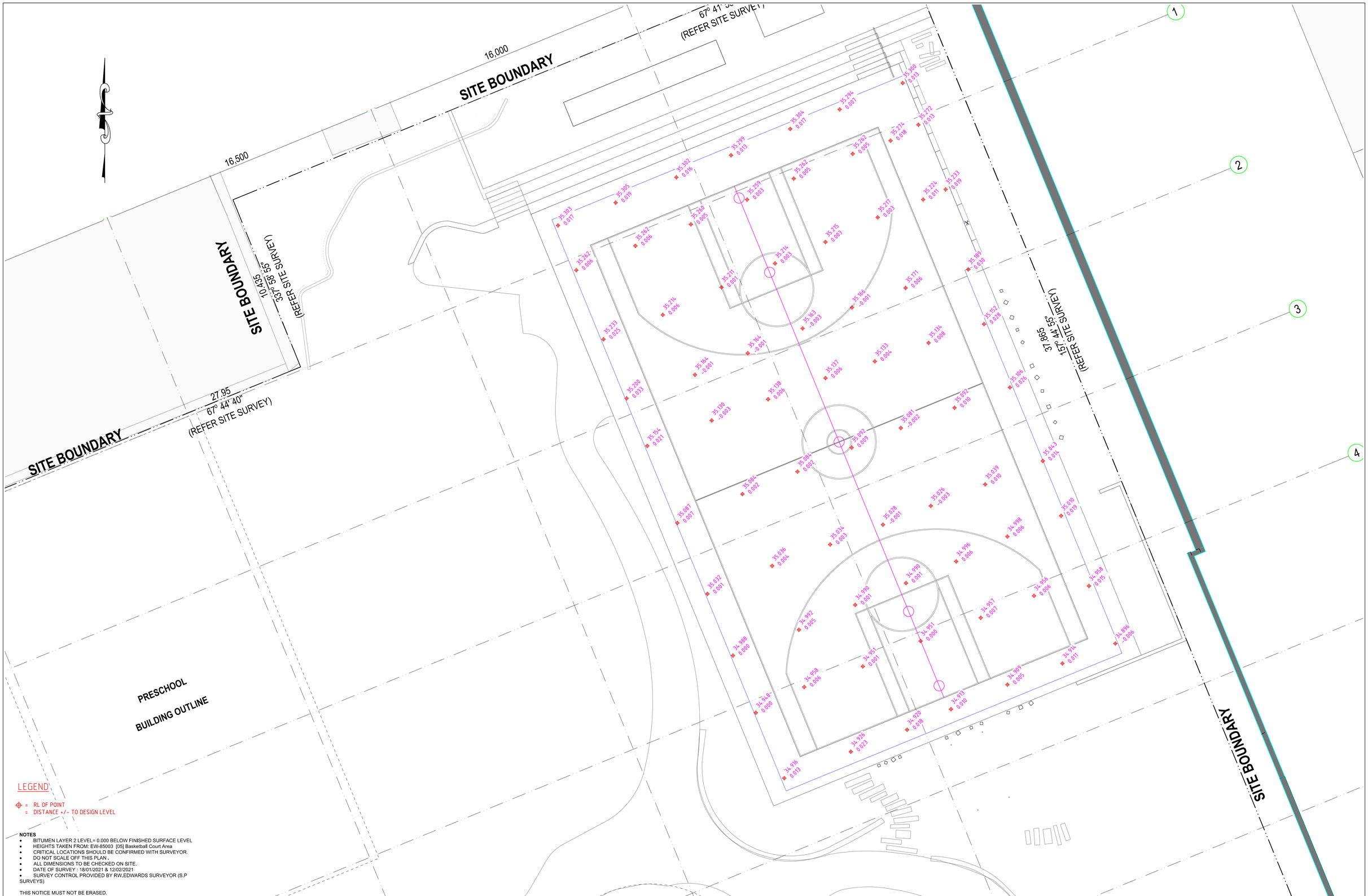
SURVEYED	DALE HODGE
DRAWN	DALE HODGE
SURVEY CHECK	SCOTT ALLISON
DRAWING CHECK	SCOTT ALLISON
APPROVED	SCOTT ALLISON 19/02/2021

BASKETBALL COURT SURFACE WAE

DARLINGTON PUBLIC SCHOOL
SUB-GRADE WAE

STATUS: FOR INFORMATION | SHEET 1 OF 5 | ©

CRUX Drg No. 122739-SU-WAE-003 | REV. B



LEGEND

⊕ = RL OF POINT
= DISTANCE +/- TO DESIGN LEVEL

NOTES

- BITUMEN LAYER 2 LEVEL= 0.000 BELOW FINISHED SURFACE LEVEL
- HEIGHTS TAKEN FROM: EW-85003 [05] Basketball Court Area
- CRITICAL LOCATIONS SHOULD BE CONFIRMED WITH SURVEYOR.
- DO NOT SCALE OFF THIS PLAN.
- ALL DIMENSIONS TO BE CHECKED ON SITE.
- DATE OF SURVEY : 18/01/2021 & 12/02/2021
- SURVEY CONTROL PROVIDED BY RW,EDWARDS SURVEYOR (S.P SURVEYS)

THIS NOTICE MUST NOT BE ERASED.

REV.	BY	DATE	DESCRIPTION	APPD.
B	DWH	19/02/2021	FOR INFORMATION	SRA
A	DWH	18/02/2021	FOR INFORMATION	SRA

SCALES

0 3 6 Meters

1:100 @ A1

A1 Original | Co-ordinate System: MGA Zone 56 | Height Datum: A.H.D. | This sheet may be prepared using colour and may be incomplete if copied

CLIENT

Mainland Civil

REGISTERED SURVEYORS

CRUX SURVEYING AUSTRALIA PTY LTD CONSTRUCTION+CIVIL+CADASTRAL

SURVEYED	DALE HODGE
DRAWN	DALE HODGE
SURVEY CHECK	SCOTT ALLISON
DRAWING CHECK	SCOTT ALLISON
APPROVED	SCOTT ALLISON 19/02/2021

BASKETBALL COURT SURFACE WAE

DARLINGTON PUBLIC SCHOOL
BITUMEN LAYER WAE

STATUS: FOR INFORMATION | SHEET 4 OF 5 | ©

CRUX Drg No. 122739-SU-WAE-003 | REV. B

Cad File: T:\122739 Darlington Public School - Mainland\Drawings\Out\WAE\122739-SU-WAE-003 [B] (Basketball Court Surface WAE).dwg
Plot Date: 19/02/21 - 17:49
100mm AT FULL SIZE

LEGEND

= RL OF POINT
= DISTANCE +/- TO DESIGN LEVEL

NOTES

- SUB-BASE LAYER 2 LEVEL= 0.050 BELOW FINISHED SURFACE LEVEL
- HEIGHTS TAKEN FROM: EW-85003 [05] Basketball Court Area
- CRITICAL LOCATIONS SHOULD BE CONFIRMED WITH SURVEYOR.
- DO NOT SCALE OFF THIS PLAN .
- ALL DIMENSIONS TO BE CHECKED ON SITE.
- DATE OF SURVEY : 18/01/2021 & 12/02/2021
- SURVEY CONTROL PROVIDED BY RW,EDWARDS SURVEYOR (S.P SURVEYS)

THIS NOTICE MUST NOT BE ERASED.

REV.	BY	DATE	DESCRIPTION	APPD.
B	DWH	19/02/2021	FOR INFORMATION	SRA
A	DWH	18/02/2021	FOR INFORMATION	SRA

SCALES

0 3 6 Meters

1:100 @ A1

A1 Original | Co-ordinate System: MGA Zone 56 | Height Datum: A.H.D. | This sheet may be prepared using colour and may be incomplete if copied

CLIENT

Mainland Civil

REGISTERED SURVEYORS

CRUX SURVEYING AUSTRALIA PTY LTD CONSTRUCTION • CIVIL • CADASTRAL

SURVEYED	DALE HODGE
DRAWN	DALE HODGE
SURVEY CHECK	SCOTT ALLISON
DRAWING CHECK	SCOTT ALLISON
APPROVED	SCOTT ALLISON 19/02/2021

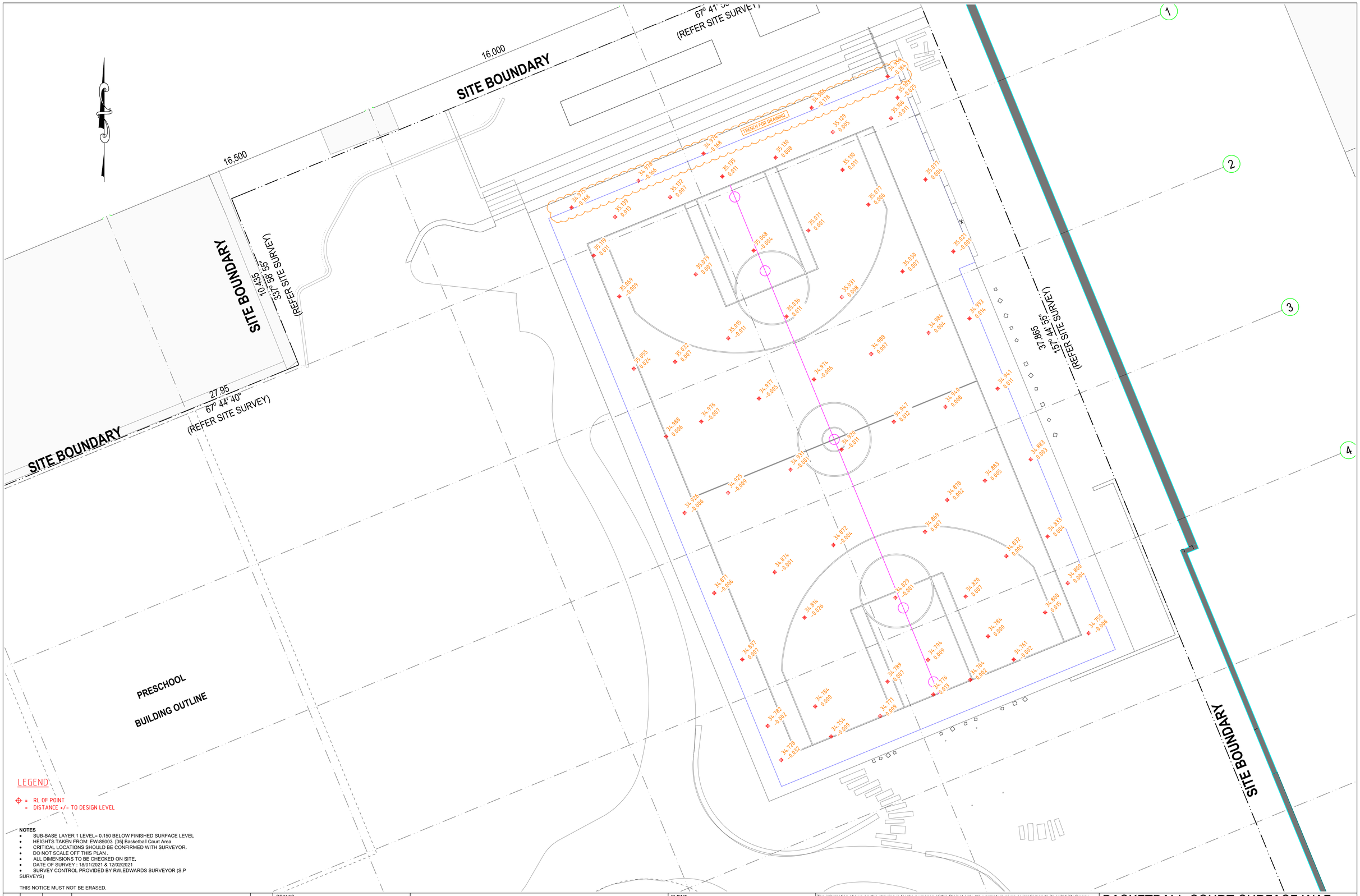
BASKETBALL COURT SURFACE WAE

DARLINGTON PUBLIC SCHOOL
SUB-BASE LAYER 2 WAE

STATUS: FOR INFORMATION | SHEET 3 OF 5 | ©

CRUX Drg No. 122739-SU-WAE-003 | REV. B

Cad File: T:\122739 Darlington Public School - Mainland\Drawings\Out\WAE\122739-SU-WAE-003 [B] (Basketball Court Surface WAE).dwg
Plot Date: 19/02/21 - 17:49
100mm AT FULL SIZE



LEGEND

⊕ = RL OF POINT
= DISTANCE +/- TO DESIGN LEVEL

NOTES

- SUB-BASE LAYER 1 LEVEL = 0.150 BELOW FINISHED SURFACE LEVEL
- HEIGHTS TAKEN FROM: EW-85003 [05] Basketball Court Area
- CRITICAL LOCATIONS SHOULD BE CONFIRMED WITH SURVEYOR.
- DO NOT SCALE OFF THIS PLAN.
- ALL DIMENSIONS TO BE CHECKED ON SITE.
- DATE OF SURVEY : 18/01/2021 & 12/02/2021
- SURVEY CONTROL PROVIDED BY RW,EDWARDS SURVEYOR (S.P SURVEYS)

THIS NOTICE MUST NOT BE ERASED.

REV.	BY	DATE	DESCRIPTION	APPD.
B	DWH	19/02/2021	FOR INFORMATION	SRA
A	DWH	18/02/2021	FOR INFORMATION	SRA

SCALES

0 3 6 Meters

1:100 @ A1

A1 Original | Co-ordinate System: MGA Zone 56 | Height Datum: A.H.D. | This sheet may be prepared using colour and may be incomplete if copied

CLIENT

Mainland Civil

REGISTERED SURVEYORS

CRUX SURVEYING AUSTRALIA PTY LTD CONSTRUCTION+CIVIL+CADASTRAL BRISBANE | NORTH SYDNEY | BRISBANE

SURVEYED	DALE HODGE
DRAWN	DALE HODGE
SURVEY CHECK	SCOTT ALLISON
DRAWING CHECK	SCOTT ALLISON
APPROVED	SCOTT ALLISON 19/02/2021

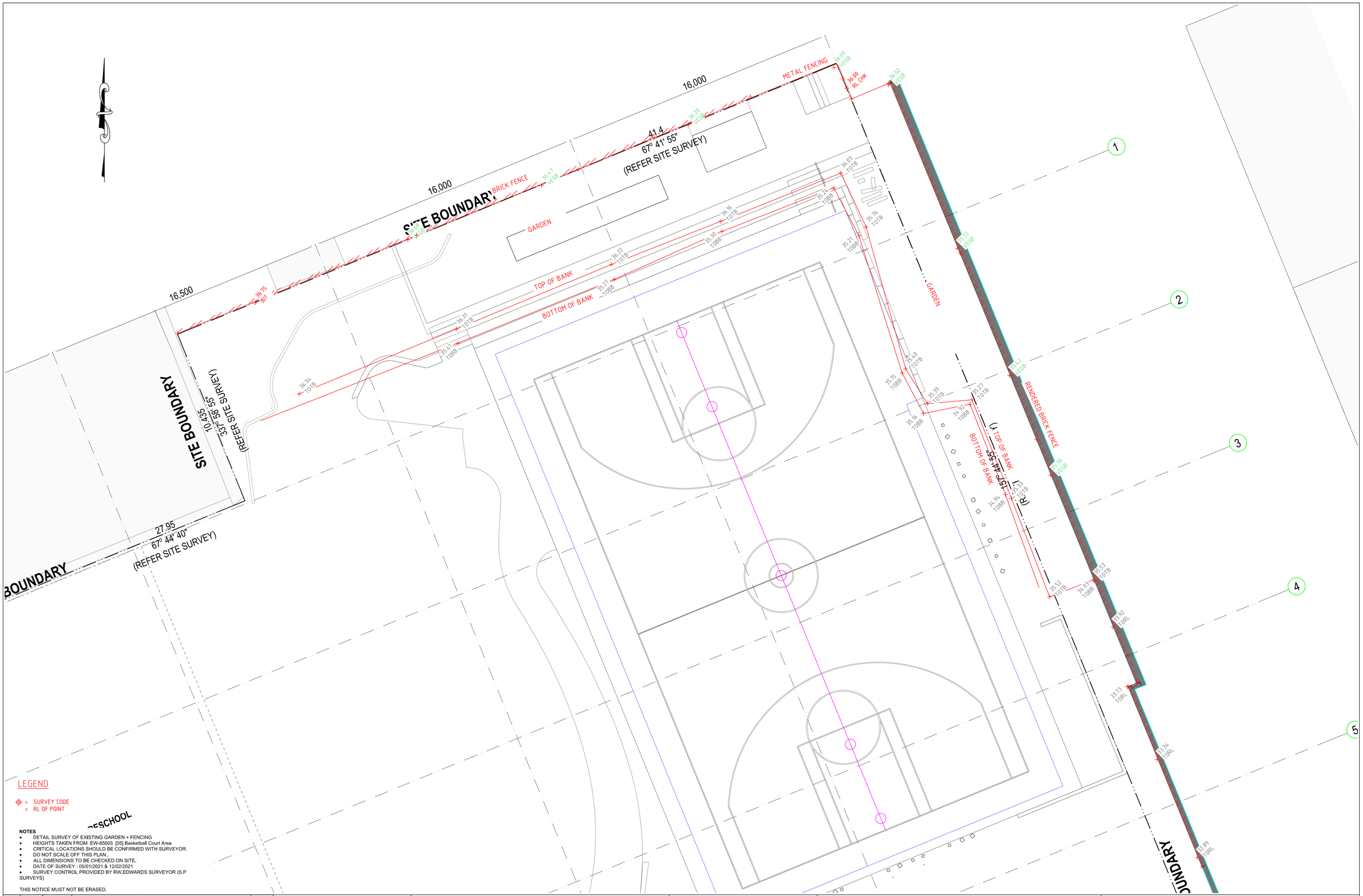
BASKETBALL COURT SURFACE WAE

DARLINGTON PUBLIC SCHOOL
SUB-BASE LAYER 1 WAE

STATUS: FOR INFORMATION | SHEET 2 OF 5 | ©

CRUX Drg No. 122739-SU-WAE-003 | REV. B

Cad File: T:\122739 Darlington Public School - Mainland\Drawings\Out\WAE\122739-SU-WAE-003 [B] (Basketball Court Surface WAE).dwg
Plot Date: 19/02/21 - 17:49
100mm AT FULL SIZE



LEGEND

= SURVEY CODE
= RL OF POINT

NOTES

- DETAIL SURVEY OF EXISTING GARDEN + FENCING
- HEIGHTS TAKEN FROM: EW-85003 (05) Basketball Court Area
- CRITICAL LOCATIONS SHOULD BE CONFIRMED WITH SURVEYOR.
- DO NOT SCALE OFF THIS PLAN .
- ALL DIMENSIONS TO BE CHECKED ON SITE.
- DATE OF SURVEY : 05/01/2021 & 12/02/2021
- SURVEY CONTROL PROVIDED BY RW,EDWARDS SURVEYOR (S.P SURVEYS)

THIS NOTICE MUST NOT BE ERASED.

REV.	BY	DATE	DESCRIPTION	APPD.
A	DWH	18/02/2021	FOR INFORMATION	SRA

SCALES

0 3 6 Meters

1:100 @ A1

A1 Original | Co-ordinate System: MGA Zone 56 | Height Datum: A.H.D. | This sheet may be prepared using colour and may be incomplete if copied

CLIENT

Mainland Civil

REGISTERED SURVEYORS

CRUX SURVEYING AUSTRALIA PTY LTD CONSTRUCTION • CIVIL • CADASTRAL ADELAIDE | MOUNT BARKER | ADELAIDE

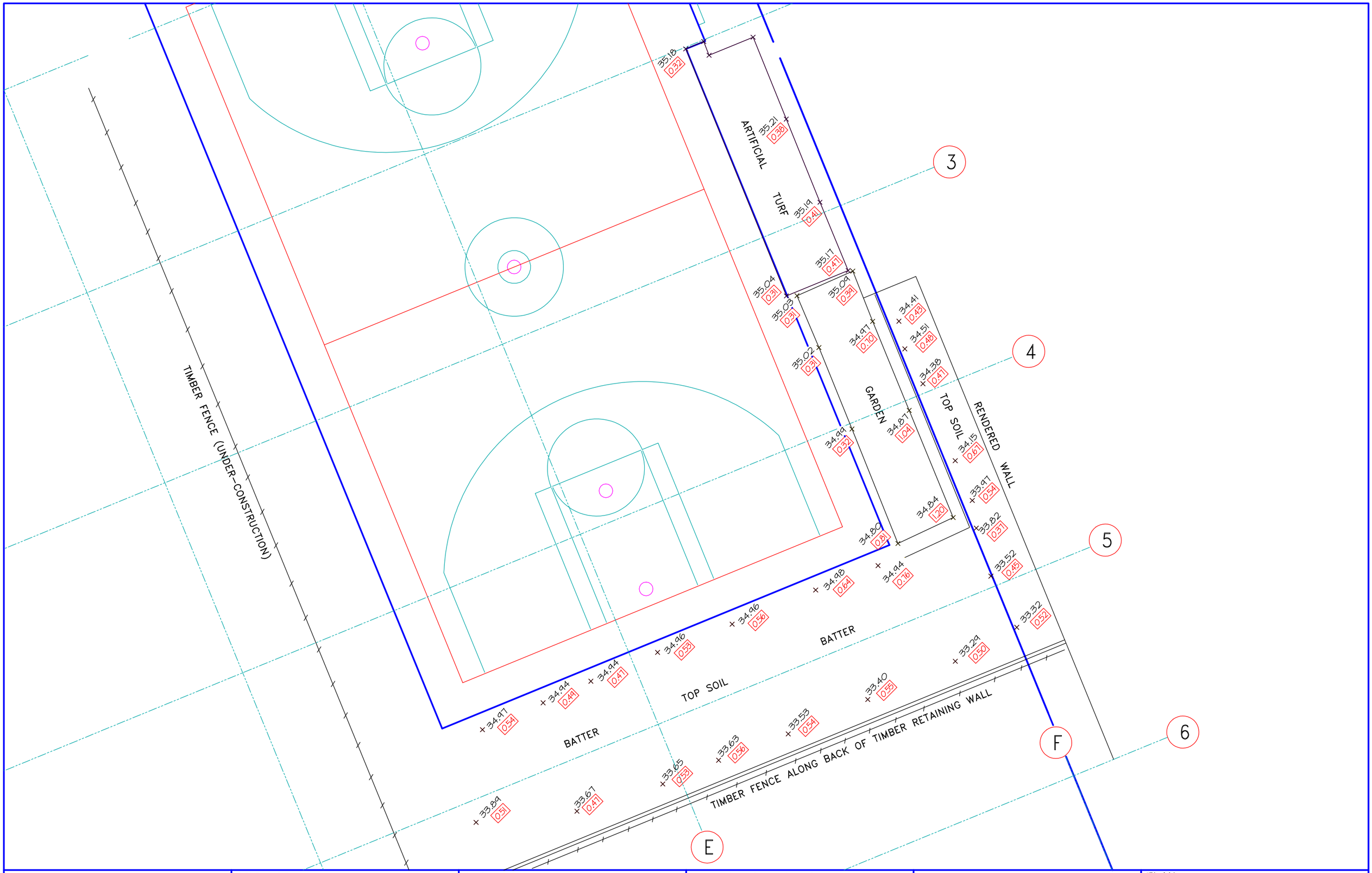
SURVEYED	DALE HODGE	
DRAWN	DALE HODGE	
SURVEY CHECK	SCOTT ALLISON	
DRAWING CHECK	SCOTT ALLISON	
APPROVED	SCOTT ALLISON	18/02/2021

BASKETBALL COURT SURFACE WAE

DARLINGTON PUBLIC SCHOOL
EXISTING GARDEN AREA

STATUS: FOR INFORMATION | SHEET 6 OF 6 | ©

CRUX Drg No. 122739-SU-WAE-003 | REV. A



DRAWING STATUS

PROJECT:

DARLINGTON PUBLIC SCHOOL

GOLDEN GROVE STREET
DARLINGTON NSW 2008

CLIENT:

A.W. EDWARDS PTY LTD

BUILDERS AND CONTRACTORS
131 SAILORS BAY ROAD
NORTHBRIDGE NSW 2063
Ph (02) 9958 1474 Fax (02) 9958 6208

S.P. SITE SETOUT PTY LTD
CONSTRUCTION SURVEYING
UNIT 36/9 HOYLE AVENUE
CASTLE HILL 2154
Mobile: 0411 315 379
Telephone: (02) 9659 3316
Facsimile: (02) 9659 3318
Email: stephen@spsite.com.au

SCALE	1:75 (A1)
DATE	23/02/2021
DATUM	A.H.D
CADD FILE REF	AWE/DARLINGTON
DWG No:	SP1208-014R2.PRO

PLAN:

DEPTH OF FILL TO GEOFABRIC LAYER

Environmental Management Plan

A.W. Edwards Pty Ltd

Stage 1 Area, Darlington Public School

Appendix B – Site Inspection Checklist

APPENDIX B – Environmental Checklist

Environmental Consultant Name:	Environmental Consultant Company:
Date and Time of the Inspection:	Weather (rainfall in the last 24 hrs):
Site owner's (DoE) representative:	**Note:** This checklist must be forwarded to the Site owner's representative after each round of inspection within 2 weeks following the inspection.
Outcome = Complying/Not Complying	
Environmental Consultant Comments & Recommendations for Further Investigation, Rectification or Remediation (if required):	

Item No.	Description	Yes	No	Comments & Description Notes
1.	Has there been any excavation on-site within the capping area or through site boundaries shown on Figure 2 of the Long Term EMP?			

Item No.	Description	Yes	No	Comments & Description Notes
	If Yes go to Item 2 below. If No go to Item 3.			
2.	Visually inspect the surface of the excavation footprint and note down the indicators of potential contamination.			
	Were asbestos containing materials (ACM) identified on the surface?			
	Was there any soils carried to the site from excavations at the site borders? If yes indicate the location on a figure.			
	If foreign materials or potentially contaminated soils (e.g. material carried to site through excavations at site borders) are identified at the excavation areas. Collect 1 soil sample per 10 m x 10 m grid within the excavation footprint (collect 1 sample per 10 m for linear trenches) and submit to a NATA Accredited Laboratory for AF/FA testing (and lead for any excavations near northern boundary). Were the samples collected and submitted to the laboratory as per above?			
	Was contamination identified during visual inspection or in above samples? If, yes notify site owner (DoE) and provide advice regarding further investigations and remediation (where required).			
3.	Was the entire site surface has been inspected in 25 m x 25 m grids searching for ACM & potential other indicators of contamination? Take at least 4 photographs showing the capping area and 4 photographs showing the soil condition at the rest of the site.			
4.	Were there any areas within the capping are where marker layer is coming off?			

Item No.	Description	Yes	No	Comments & Description Notes
5.	Were there any areas where cap integrity has been compromised? If yes please provide details for required rectification works.			
6.	Was the northern boundary retaining wall intact? Note down any maintenance requirements.			
7.	Has there been any material importation to the site? If yes request source site reports from site manager and plan undertaking necessary due-diligence validation sampling.			
8.	Were there any areas where vegetation distress was apparent?			
9.	Was there any evidence of subsiding (e.g. cracks, depressions, slumping)?			
10.	Was there any indicators of erosion or sediment run-off?			
11.	Was there any evidence of dust generation?			
12.	Has there been any environmental incidents reported to School's principal during the past 6 months?			
13.	Has there been any other visual or olfactory evidence of contamination noted during the inspection? Please describe if any.			
14.	Has there been any genuine health and environmental risk identified during the inspection? If yes provide a written notification to the site owner within 24 hours.			

Item No.	Description	Yes	No	Comments & Description Notes
15.	Were there any areas identified requiring further investigation, remediation, or cap rectification? If yes provide a written notification to the site owner within 24 hours.			

Environmental Management Plan

A.W. Edwards Pty Ltd

Stage 1 Area, Darlington Public School

Appendix C – Correspondence with DoE regarding Enforcement (to be provided)