Stormwater Management Plan

Upgrade to Kogarah Public School

Revision B

NSW Department of Education - Group 2

Project Reference: 132560

February 2025

Prepared For:

Department of Education (DoE)

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REV	ISSUE/AMENDMENT	WRITTEN BY	REVIEWED BY	DATE
A	REF Issue	AN/AM/YC	YC	17 01 2025
B	REF Issue Updates – Comments received	AN/AM/YC	YC	24 02 2025

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1 Introduction

The Department of Education (DoE) is the proponent and determining authority pursuant to Section 5.1 of the *Environmental Planning and Assessment Act 1979* (the Act).

The site is owned by the Minister for Education.

This Stormwater Management Plan has been prepared to support the Review of Environmental Factors (REF) being prepared on behalf of the NSW Department of Education (DoE) for the proposed Kogarah Public School upgrade (the activity).

The purpose of the REF is to assess the potential environmental impacts of the activity prescribed by State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&I SEPP) as "development permitted without consent" on land carried out by or on behalf of a public authority (NSW DoE) under Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act). The activity is to be undertaken pursuant to Chapter 3, Part 3.4, Clause 3.37 of the T&I SEPP.

This document has been prepared in accordance with the Guidelines for Division 5.1 assessments (the Guidelines) by the Department of Planning, Housing and Infrastructure (DPHI) as well as the Addendum guidelines for schools.

The proposed activity is for upgrades to the existing Kogarah Public School at 24B Gladstone Street, Kogarah (the site).

The purpose of this report is to provide information on how the new proposed upgrade will affect stormwater run-off and to demonstrate the measures that have been taken to minimise the impact on the surrounding buildings.

2 Site Description

Kogarah Public School is located at 24B Gladstone Street, Kogarah and contains a site area of 1.644ha per Detail Survey. The school is accommodated within the following allotments:

- Lots 1-3 DP 999122;
- Lot 1 DP 179779;
- Lot 1 DP 667959;
- Lot 2 DP 175247; and
- Lot A DP 391026.

The site is irregular in shape with existing vehicular access and the car park provided from Gladstone Street along the south-western boundary. Pedestrian access is provided from Gladstone Street and Princes Highway. The site accommodates eight (8) permanent buildings and number of modular school buildings with play areas largely confined to the centre and north-eastern portions of the site.

Development surrounding the site includes:

- North: Residential flat building at 71 Regent Street, retail tenancies orientated to Princes Highway (39-43 Princes Highway) and a smaller residential flat building at No 41 Princes Highway;
- East: Princes Highway and further to a mix of commercial and mid-rise residential development;
- South: St Paul's Church complex comprising St Paul's Childcare Centre, St Paul's Anglican Church and a residential flat building located at 24-30 Gladstone Street; and
- West: A mix of single dwelling and residential flat building development with Regent Street beyond.

The site is zoned SP2 Educational Establishment in accordance with Georges River Local Environmental Plan 2021 (GRLEP).

An aerial image of the site is provided in Figure 1.

Figure 1: Aerial image of the site (Nearmap, 2024)

Proposed Activity Description

The proposed Kogarah Public School upgrade works include the following:

- Demolition of existing playground facilities and Covered Outdoor Learning Area (COLA) in addition to footings and services associated with former demountable buildings;
- Tree removal;
- Construction of a new three storey Classroom building and attached amenities facilities;
- Construction of a single storey Hall with attached Covered Outdoor Learning Area;
- New pedestrian pathway connections providing access throughout the site;
- Service upgrades; and
- Site landscaping works.

Any works relating to the existing demountables will be undertaken via a separate planning pathway.

An extract of the proposed Site Plan is provided in Figure 2.

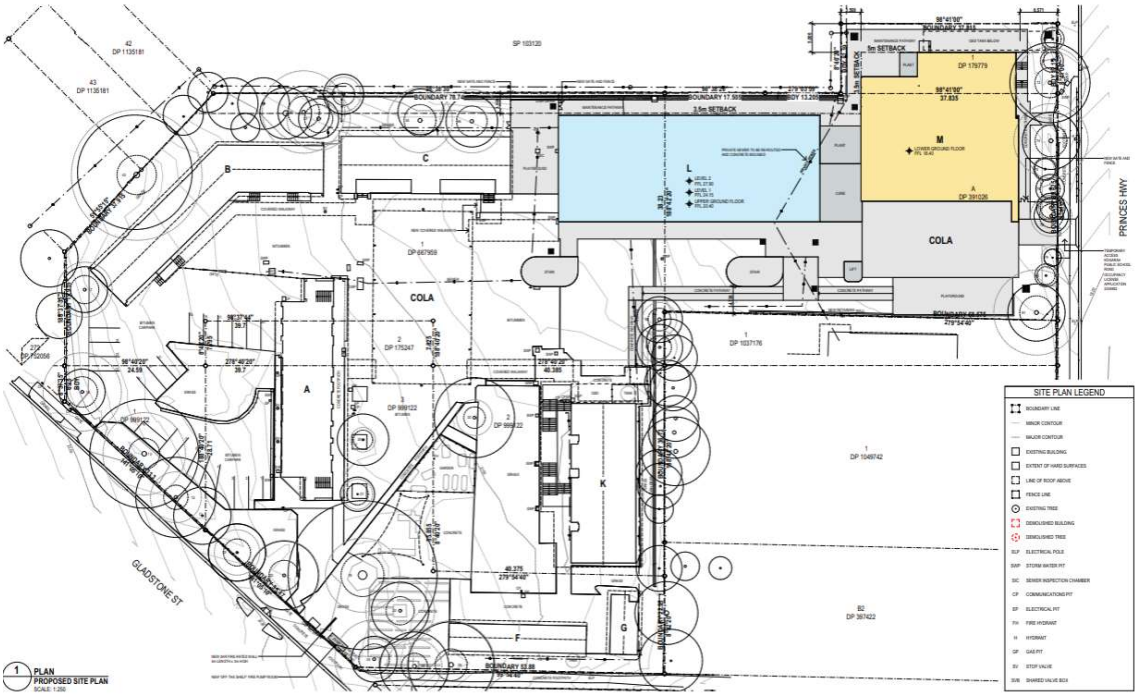


Figure 2: Extract of proposed Site Plan (Fulton Trotter, 2024)

2.1 Existing Flooding Conditions

According to the Georges River Council site, the proposed development site has not been included in a Flood Study yet.
Kogarah Public School is situated directly west of the boundary between Georges Rover LGA and Bayside LGA, and is surrounded by a series of watercourses which fall within the Bayside Council LGA. Spring Street Drain, Muddy Creek and Scarborough Ponds Flood Study in 2017 is available under this council.

The proposed site is situated at the crest between Muddy Creek and Scarborough Catchments.

Figure 3 and 4 show the 1% AEP flood depths surrounding Kogarah Public School and PMF depths surrounding the area respectively. Both events suggest that the school site is unaffected by flooding. However, surrounding roads are impacted by flooding including the intersection of Gladstone Street and Princes Highway, which would potentially be inundated by floodwaters of up to 0.5m depth in the 1% AEP event and 1m depth in the PMF. Also, Kogarah Train Station is affected by floodwater exceeding 1.5m depth over the railway lines, with potential restrictions on staff and student travel during significant flood events.

Figure 3: 1% AEP flood depths surrounding the site (Source: adapted from SSDMCSPC Flood Study)

boundary between Georges Rover LGA and Bayside LGA.

Figure 4: PMF flood depths surrounding the site (Source: adapted from SSDMCSPC Flood Study)

3 PROPOSED DEVELOPMENT

The proposed civil works development activities are discussed below.

3.1 Earthworks

The earthwork quantities associated with the proposed development are provided in the figures below:

- Cut – 588 m^3
- Fill – 54 m^3

Majority of the earthworks involve cut and will require export of approximately 534 m^3 of cut material.

3.2 Legal Point of Discharge (LPoD)

The stormwater layouts presented below have identified one existing stormwater discharge location along Princes Highway into an existing council pit.

Refer to Appendix A for the Stormwater Layout plan for the proposed development activity.

3.3 Stormwater Drainage Strategy

In support of the proposed development activity, the stormwater generated by the new proposed upgrade activity will be kept separate from the existing upstream stormwater run-off. The runoffs will be directed to the identified LPoD along Princes Highway.

Meinhardt's preliminary recommendation is that an on-site detention tank with approximately 98 m^3 storage volume is to be provided. This is to ensure that the peak discharge flows draining from the proposed development activity can be managed by the downstream drainage systems. A permissible site discharge and the minimum site storage requirement have been determined using the calculations specified in Council guidelines and discussed in *Storm Management Policy, P.41.*

Table 3 - Maximum Permissible Discharge (PSD) and Minimum Site Storage Requirements (SSR)

Site's Impervious Area Percentage upon completion of development (as calculated in accordance with Appendix A7) **	Maximum Permissible Discharge (PSD) L/s/ha	Minimum Site Storage Requirements (SSR) m^3/ha
Less than 55% (by considering drainage, landscape, and architectural plans)	OSD is not required for dwelling house, secondary dwelling, alteration, and additions to dwelling house and ancillary development for dwelling house such as garage, carport, cabana, awning, deck, swimming pool. For all other development types OSD is required.	
55% to less than 65%	182	206
65% to less than 75%	166	240
75% to less than 85%	152	270
85% or higher	136	295

** **As detailed in Appendix A7 all areas of less than 1.5 metres clearance between the outer wall of a building and the nearest adjacent property boundary are to be considered as minimum 50% impervious. This excludes the area under a roof eave overhang that is to be considered 100% impervious.**

Figure 5: Maximum Permissible Site Discharge and Minimum Site Storage Requirements (Source: adapted from *Storm Management Policy*)

A summary of the schematic stormwater drainage design is presented in the image below.

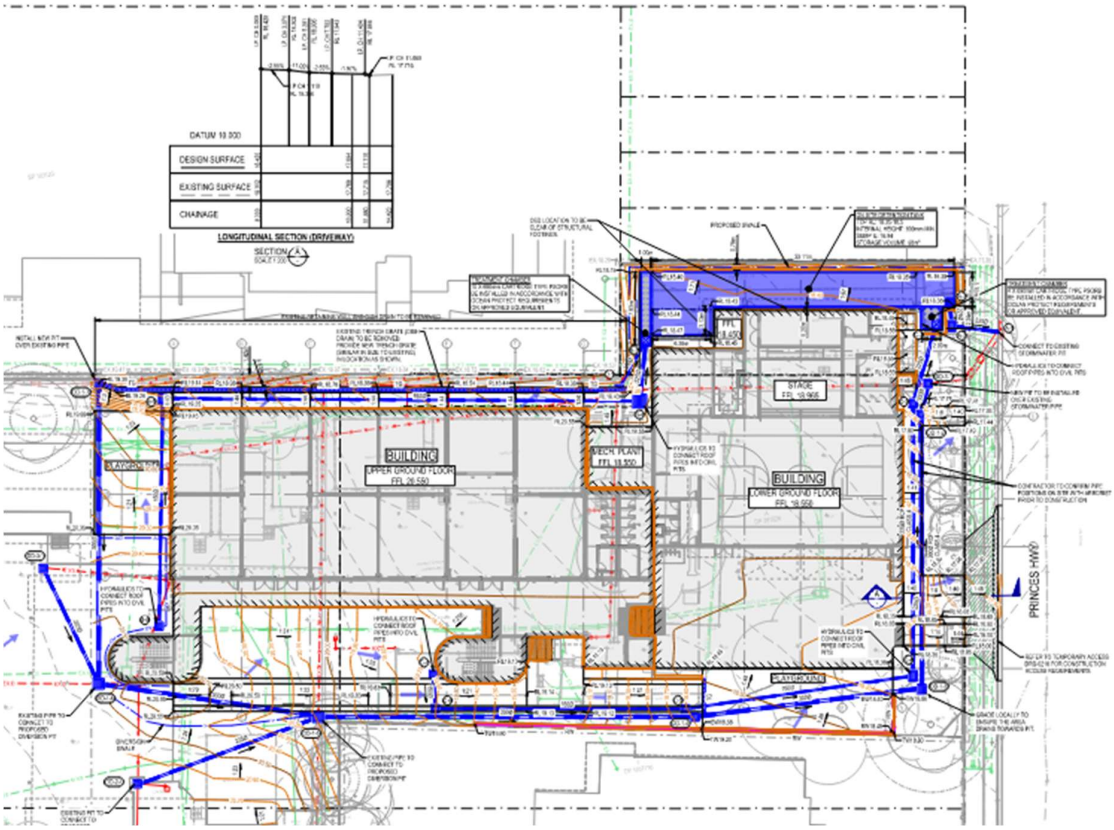


Figure 6: Site Stormwater Layout (Source: Meinhardt Stormwater Layout Plan)

3.4 Stormwater Quantity Management

The stormwater quantity analysis of the existing and developed site conditions has been undertaken with reference to the requirements and procedure outlined by:

- Stormwater Management Policy, Georges River Council
- Australian Rainfall and Run-off Volumes 1 & 2 (Aust R&R)

The following section of the report discusses the proposed development activity's impact on peak stormwater run-off from the site and compares the existing site condition to ensure a no worsening effect to downstream properties.

The hydrological model adopted was the Extended Rational Method with hyetograph input as specified in Australian Rainfall and Run-off (AR&R) Volumes 1 and 2.

The following design parameters were used in the stormwater drainage calculations:

- Design storm is 1 in 20-year ARI as per Stormwater Management Policy, Chapter 3.2.
- The Major storm considered is 1 in 100 ARI.
- Rainfall data is from BOM.
- Site area ± 0.328 Ha 100% impervious

3.4.1 Existing Catchment

Catchment Area

The existing area where the proposed building will be constructed is a built-up space with existing stormwater drainage that is to be diverted.

The existing area is mostly draining northeast towards Princes Highway at an average grade of approximately 3.3% and has an impervious factor of approximately 95%.

3.4.2 Stormwater Compliance

The developed site catchment is summarised below:

- Area – 0.328 Ha
- Total time of concentration (t_c) – 5 and 7 minutes
- Percent Impervious – 100%

This site is governed by the following two documents:

- Part 3, General Planning Considerations
- Stormwater Management Policy

Tailwater level is set 300mm above the obvert level of the council pipe if discharging to council pit/ pipe system.

Storm Event	Tailwater Level Assumptions
100yr	16.84
50yr	16.84
20yr	16.84
10yr	16.84
5yr	16.84
2yr	16.84

Table 1 – Assumed Tailwater Levels

3.4.3 Onsite Detention

The Site Storage Requirements (SSR) was used from the Georges River Council Storm Management Policy, Page 41 for the Onsite Detention calculations.

The calculations are presented below:

Site's Impervious Area Percentage upon completion of development	Minimum Site Storage Requirements (m3/ha)	Max PSD (L/s/ha)
85% or Higher	295	136
Total Development Area, ha (A)	0.3287	
SSR	295 x (A)	
SSR	96.9771	
SSR (m3)	97	
Actual OSD Storage (m3)	98	
PSD		136 x (A)
PSD (L/s)		44.7081
PSD (cubic m/s)		0.0447

Table 2 – SSR and PSD Calculation

3.4.4 Stormwater Detention

It is proposed to use an OSD Tank which will assist to mitigate the flows to meet the Permissible Site Discharge Rate. The OSD Tank will need to have a detention storage volume of about 98 cubic meters.

3.5 Stormwater Quality Management Strategy

3.5.1 Operational Phase

The stormwater quality management proposed for this portion of the development are required to achieve the following pollutant load reduction objectives:

The following Greenstar B targets

- 80 % reduction in total suspended solids load (TSS)
- 60 % reduction in total phosphorus load (TP)
- 45 % reduction in total nitrogen load (TN)
- 90 % reduction in gross pollutant load

Pollutants typically generated during the operational phase of the development activity include:

- Litter/gross pollutants
- Sediment

- Nutrients (N & P)
- Hydrocarbons (oils and grease); and
- Heavy metals.

To meet these pollutant reduction targets; stormwater treatment measures are required. These treatment measures (located on site as indicated in Figure 4 below) are detailed in the attached stormwater layout plan in Appendix A and are summarised as follows:

a. North Treatment - Ten number of (10) x 690 PSorb Stormfilters or equivalent.
b. South Treatment - Four number of (4) x 690 PSorb Stormfilters or equivalent.

Stormwater modelling has been carried out using MUSIC modelling software to determine the required infrastructure needed to meet the Water Quality Objectives (WQOs) above.

3.5.2 MUSIC Model

MUSIC modelling for this development activity was carried out using the MUSIC program and data collected from Bureau of Meteorology. The developed site catchment details from the MUSIC model are outlined in the Table below.

Catchment	Area (ha)	% Effective Impervious
Roof Area	0.263	100 % Impervious

Table 3 - Developed Site MUSIC Catchment Details

The layout for the music model, including the treatment train effectiveness is detailed in Figure 6.

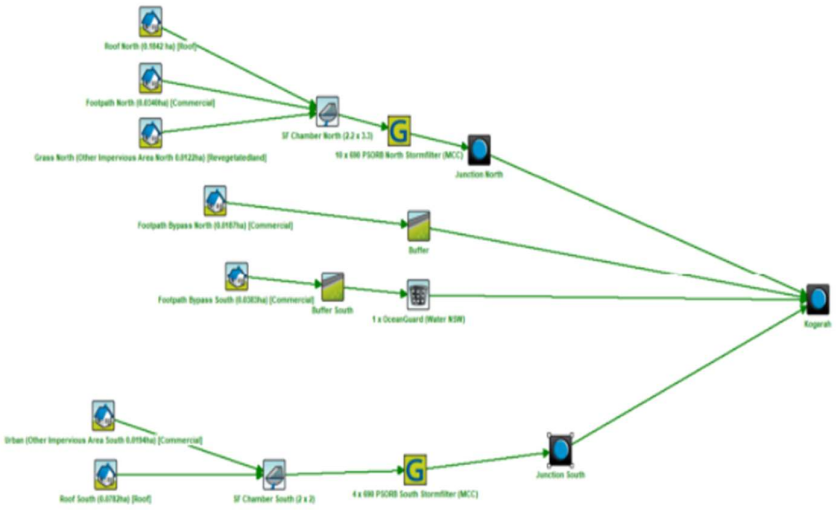
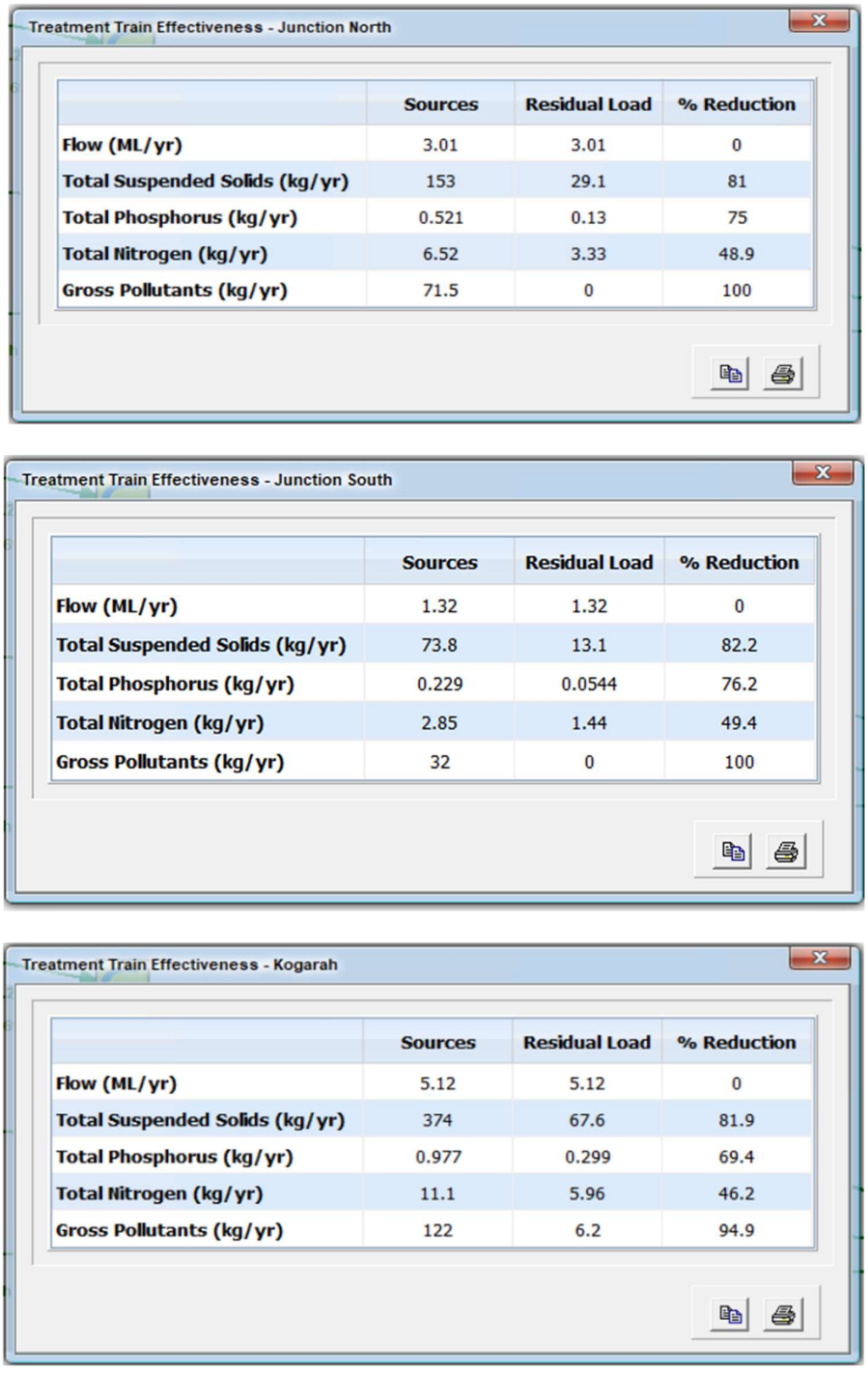


Figure 7 - MUSIC Layout and Treatment Effectiveness for Developed Site

The results are presented below:



Treatment Train Effectiveness - Junction North

	Sources	Residual Load	% Reduction
Flow (ML/yr)	3.01	3.01	0
Total Suspended Solids (kg/yr)	153	29.1	81
Total Phosphorus (kg/yr)	0.521	0.13	75
Total Nitrogen (kg/yr)	6.52	3.33	48.9
Gross Pollutants (kg/yr)	71.5	0	100

Treatment Train Effectiveness - Junction South

	Sources	Residual Load	% Reduction
Flow (ML/yr)	1.32	1.32	0
Total Suspended Solids (kg/yr)	73.8	13.1	82.2
Total Phosphorus (kg/yr)	0.229	0.0544	76.2
Total Nitrogen (kg/yr)	2.85	1.44	49.4
Gross Pollutants (kg/yr)	32	0	100

Treatment Train Effectiveness - Kogarah

	Sources	Residual Load	% Reduction
Flow (ML/yr)	5.12	5.12	0
Total Suspended Solids (kg/yr)	374	67.6	81.9
Total Phosphorus (kg/yr)	0.977	0.299	69.4
Total Nitrogen (kg/yr)	11.1	5.96	46.2
Gross Pollutants (kg/yr)	122	6.2	94.9

Figure 8 - MUSIC Results for Developed Activity

The developed site treatment train effectiveness is also outlined in the table below.

Pollutants	Reduction Targets (%)	North Results (%)	South Results (%)	Overall Results (%)
	Green Star (B)			
Total Suspended Solids (kg/yr) TSS	80	81	82.2	81.9
Total Phosphorus (kg/yr) TP	60	75	76.2	69.4
Total Nitrogen (kg/yr) TN	45	48.9	49.4	46.2
Gross Pollutants (kg/yr)	90	100	100	94.9

Table 4 - Treatment Reduction Target Results

Based on the MUSIC modelling results in the table above, the proposed treatment train achieves the required pollutant load reduction objectives for all pollutants. The treatment train is considered adequate for the development activity including compliance with Greenstar (B).

3.6 Construction Phase

Pollutants typically generated during construction phase are described in Table 5 below.

Pollutant	Sources
Litter (Gross Pollutants)	Paper, construction packaging, food packaging, cement bags.
Sediment	Unprotected exposed soils and stockpiles during earthworks and building.
Hydrocarbons	Fuel and oil spills, leaks from construction equipment.
Toxic materials	Cement slurry, asphalt prime, solvents, cleaning agents, wash waters.
pH altering substances	Acid sulphate soils, cement slurry and wash waters.

Table 5 - Pollutants typically generated during the construction phase

4 Erosion and Sediment Control

Management of stormwater run-off during construction is necessary to avoid pollution of downstream waterways from sediment and gross pollutant loading.

Please refer to Appendix A for the initial Erosion and Sediment Control Plan. This plan will be used as a live document as construction progress on site by the contractor.

Impacts of inadequate erosion and sediment control downstream from the site include:

- traffic safety problems;
- blocked drains;

- local flooding problems;
- aesthetic pollution of drainage paths; and
- damage to local ecosystems.

Best practice erosion and sediment controls must be installed to minimise the discharge of sediment laden run-off during construction. Erosion and sediment control plans shall be developed during detailed design phase and must be continually maintained and amended as required to minimise environmental harm.

Erosion and sediment control plans are based on three sets of control measures:

- drainage control;
- erosion control; and
- sediment control.

These control measures must be maintained in an effective operational condition. Sediment disposal from site is to occur to the satisfaction of council. Defects in erosion and sediment control devices, such as sediment fences, are to be inspected and documented. Upon Inspection, the Contractor is to determine whether the device should be replaced or repaired. Documentation is to include how the damage was caused and what measures can be implemented to reduce the possibility of repeat occurrences. Any damage to either permanent or temporary water quality control structures or devices is to be immediately rectified at the contractor's expense.

Other measures include, but is not limited to the following:

- Temporary access to site with shaker pad
- An indicative stockpile area with sediment fence around it during construction.
- Geotextile inlet pit filters or sandbags to be placed around existing stormwater pits.

The design of these measures is to be in accordance with the Landcom "Blue Book".

The effectiveness of the erosion and sediment control devices can be monitored by visual audits. All ESC measures are to be inspected:

- at least daily (when work is occurring on site) or weekly (when work is not occurring on site);
- within 24 hours of expected rain; and
- within 18 hours of a rainfall event (i.e. an event of sufficient intensity and duration to mobilise sediment on site).

Drainage paths are to be inspected to ensure the sediment fences are not being bypassed as a result of soil erosion.

Sediment laden run-off shall be prevented from entering neighbouring properties. This shall be achieved by landscaping disturbed areas immediately after and prior to a rainfall event.

5 Maintenance and Monitoring Requirements

Periodic maintenance and monitoring of stormwater devices proposed in this report is crucial to ensure effective operation and design life.

Inspect field inlet grates, pits and underground pipes for blockage or damage at least 6 monthly or after significant rainfall event. The gross pollutant filter baskets within inlet pits and bioretention basin shall be inspected and maintained preferably by the manufacturer to avoid damage to units and to ensure adequate cleaning and record keeping. For the first 12 months routine inspections of treatment devices shall be carried out monthly with routine clean out at alternate months. Results of the initial 12 months maintenance program shall be used to determine future maintenance intervals. Refer to manufactures maintenance and monitoring methodology for specific details.

Maintenance of ESC measures must occur in accordance with Table 6 where applicable.

ESC Measure	Maintenance Trigger	Timeframe for Completion of Maintenance
Sediment basins (where applicable)	When settled sediment exceeds the volume of the sediment storage zone	Within 7 days of the inspection.
Other ESC measures	The capacity of ESC measures falls below 75%.	By the end of the day.

Table 6 - ESC Maintenance Requirements

Sediment accumulation on ESC devices is to be removed and disposed of to the satisfaction of Council.

6 Mitigation Measures

Mitigation measures are required for a Review of Environmental Factors (REF) and are actions or measures to avoid, minimise, rectify (by repairing, rehabilitating or restoring) and/or reduce or eliminate over time (by preservation and maintenance) the adverse environmental impacts of a Division 5.1 Activity under the EP&A Act.

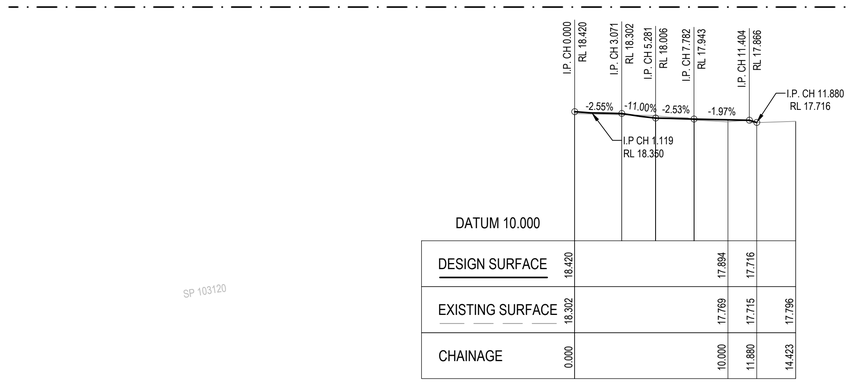
The following mitigation measures discussed throughout this report are summarised as follows:

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
Stormwater Quality Management	Section 3.5	Stormwater runoffs generated by the proposed development activity will be collected via the proposed drainage system and will then be treated in a northern and southern chamber with a total of 14-units of 690 PSorb Stormfilters or equivalent.	The proposed development activity will generate an increase in pollutants, so it is required to reduce them to meet Greenstar B Pollutant Load reduction targets before the stormwater runoff leaves the property.
Stormwater Quantity Management	Section 3.4	The proposed development activity flow rate is mitigated by implementing the use of On-site Detention Tank.	The Georges River Council requires a Permissible Site Discharge for new/additional developments, and it is specified in Stormwater Management Policy, page 41. Therefore, the use of OSD is required to temporarily detain stormwater runoff and limit the discharge flow rate leaving the site.
Erosion and Sediment Control	Section 4	Construction pollutants will be mitigated by installing erosion and sediment control devices such as hay bales, sediment fences and geotextile pit filters in the site.	It is necessary to manage stormwater runoff during construction to avoid pollution of downstream waterways from sediment and gross pollutant loading.
Overland Flow Management	Appendix A (Civil Siteworks) Stormwater Surface Flows	The whole site is assessed to identify the runoff flow directions during minor and major storm events. Stormwater runoff will be collected through a pit and pipe drainage system and will be mitigated by using OSD Tank. External catchment flows will be diverted by a diversion channel and will not be catered for by the proposed development activity's piped system.	The proposed development activity requires design and diversion of surface flows to keep water away from the building.

Appendix A:

Civil Siteworks Plan, and

Erosion and Sediment Control Plan



LONGITUDINAL SECTION (DRIVEWAY)

SECTION A
SCALE 1:200

LEGEND

ITEM	DESCRIPTION
21.20	EXISTING SURFACE CONTOURS
21.00	PROPOSED SURFACE CONTOURS
+21.20	EXISTING SURFACE SPOT LEVELS
+21.20	PROPOSED SURFACE SPOT LEVELS
+ TW19.60	TOP OF WALL LEVEL
+ BW18.40	BOTTOM OF WALL AT GROUND LEVEL
CL19.60	PIT COVER LEVEL
	TITLE BOUNDARY
SD	PROPOSED CONCRETE SPOONDRAIN
RW	PROPOSED RETAINING WALL
EX.D	EXISTING STORMWATER DRAIN
225Ø	PROPOSED STORMWATER DRAIN AND FLOW DIRECTION
AG	PROPOSED 100Ø UPVC AGRICULTURAL DRAIN CLASS 400
>	PROPOSED DIVERSION SWALE
EXI	EXISTING STORMWATER PIT
EXR	EXISTING STORMWATER PIT TO BE MODIFIED
1	PROPOSED STORMWATER PIT
TG	TRENCH GRATE
	OVERLAND FLOW ARROW
EX.S	EXISTING SEWER
EX.G	EXISTING GAS
EX.W	EXISTING WATER
EX.W(R)	EXISTING RECYCLED WATER
EX.E	EXISTING ELECTRICITY
EX.E O/H	EXISTING OVERHEAD ELECTRICITY
EX.E U/V	EXISTING LOW VOLTAGE ELECTRICITY
EX.E H/V	EXISTING HIGH VOLTAGE ELECTRICITY
EX.T	EXISTING TELECOM CABLE
EX.FO	EXISTING FIBRE OPTIC CABLE
EX.NBN	EXISTING NBN COMMS CABLE
X X	EXISTING FEATURES TO BE REMOVED

THESE PLANS ARE BASED UPON THE EXISTING CONDITIONS SURVEY PREPARED BY ASTREA, REFERENCE No A4048-TOPO & A4048-UTIL DATED JANUARY 2024.

THESE DESIGN PLANS SHALL BE READ IN CONJUNCTION WITH GEOTECHNICAL REPORT No.32976LTrptRev2KPS DATED 7 MAY, 2020 PREPARED BY JKGeotechnics. THE PROVISIONS AND RECOMMENDATIONS CONTAINED WITHIN THE REPORT ARE TO BE STRICTLY COMPLIED WITH. ALL COMPACTION REQUIREMENT RESULTS SHALL BE CARRIED OUT IN ACCORDANCE WITH GEOTECHNICAL REPORT RECOMMENDATIONS.

NOTE:
RCP CLASS 2 STW PIPES IN NON TRAFFIC AREAS UNLESS OTHERWISE NOTED.

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WARNING
PROPOSED SERVICES
THE LOCATION AND EXTENT OF PROPOSED SERVICES IS INDICATIVE ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION. REFER TO AUTHORISED DOCUMENTATION BY RELEVANT AUTHORITY FOR CONSTRUCTION DETAILS

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

REV	DESCRIPTION	BY	DES	CHKD	DATE
P1	50% SCHEMATIC DESIGN	D.H	R.B	Y.C	22.11.24
P2	80% SCHEMATIC DESIGN	D.H	R.B	Y.C	13.12.24
P3	95% SCHEMATIC DESIGN	D.H	R.B	Y.C	18.12.24
P4	100% SCHEMATIC DESIGN	D.H	R.B	Y.C	15.01.25
P5	100% SCHEMATIC DESIGN	D.H	R.B	Y.C	20.01.25
P6	100% SCHEMATIC DESIGN	D.H	R.B	Y.C	23.01.25
P7	100% SCHEMATIC DESIGN	D.H	R.B	Y.C	24.01.25
P8	100% SCHEMATIC DESIGN	D.H	R.B	Y.C	06.02.25
T1	TENDER ISSUE	D.H	R.B	Y.C	12.02.25

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SCALE 1:200 @ A1 ; SCALE 1:400 @ A3

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CLIENT: NSW GOVERNMENT School Infrastructure NSW

PROJECT: KOGARAH PUBLIC SCHOOL
24B GLADSTONE STREET, KOGARAH, NSW

TITLE: CIVIL SITEWORKS PLAN

STATUS: **TENDER ISSUE**
NOT TO BE USED FOR CONSTRUCTION

DRAWN	DESIGNED	CHECKED	APPROVED	DATE	SCALE @ A1
D.H	R.B	Y.C			1:200

PROJECT No	DRAWING No	REV
132560	KOPS-MHT-00-00-DR-C-0101	T1

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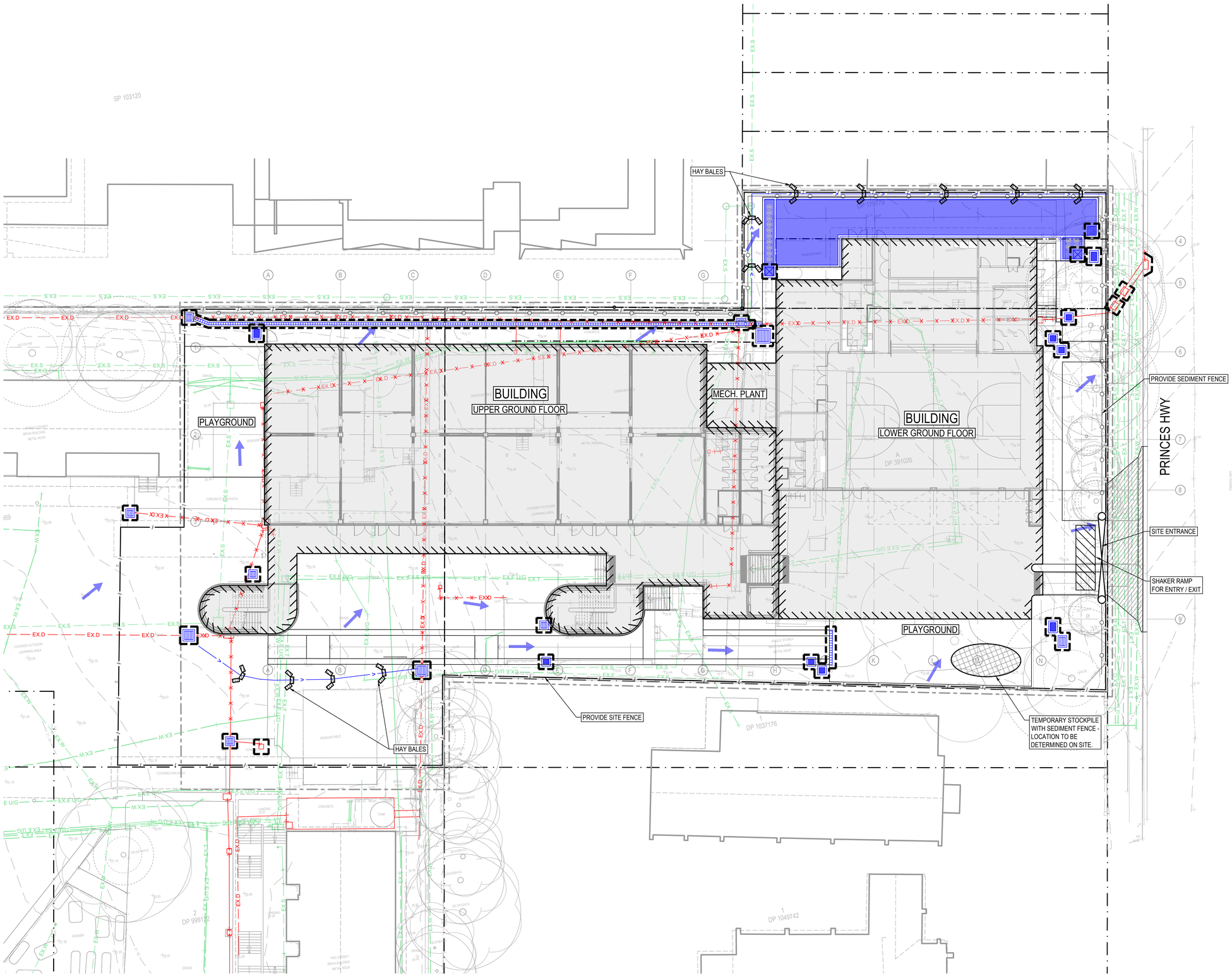

LEGEND

ITEM	DESCRIPTION
156.6	EXISTING SURFACE CONTOURS
	TITLE BOUNDARY
EX.D	EXISTING STORMWATER DRAIN
	EXISTING STORMWATER PIT
EX.S	EXISTING SEWER
EX.G	EXISTING GAS
EX.W	EXISTING WATER
EX.W(R)	EXISTING RECYCLED WATER
EX.E	EXISTING ELECTRICITY
EX.E O/H	EXISTING OVERHEAD ELECTRICITY
EX.E L/V	EXISTING LOW VOLTAGE ELECTRICITY
EX.E H/V	EXISTING HIGH VOLTAGE ELECTRICITY
EX.T	EXISTING TELECOM CABLE
EX.FO	EXISTING FIBRE OPTIC CABLE
EX.NBN	EXISTING NBN COMMS CABLE
X X	EXISTING FEATURES TO BE REMOVED
	EXISTING TREE
	HOARDING/SECURITY FENCE
	SEDIMENT FENCE
	BUILDING OUTLINE
	SITE ACCESS GATE
	SHAKER RAMP FOR ENTRY/EXIT
	TEMPORARY STOCKPILE (LOCATION TBC ON-SITE)
	GEOTEXTILE PIT FILTER / FILTER SURROUND INSTALLED ON EXISTING PIT
	SANDBAGS INSTALLED ON EXISTING PIT
	OVERLAND FLOW ARROW
	PROPOSED DIVERSION SWALE
	HAY BALES

NOTE:
THIS DRAWING IS TO BE READ IN CONJUCTION WITH THE STORMWATER PLAN.

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WARNING
BEWARE OF UNDERGROUND SERVICES

THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

REV	DESCRIPTION	BY	DES	CHKD	DATE
P1	50% SCHEMATIC DESIGN	D.H	R.B	Y.C	22.11.24
P2	80% SCHEMATIC DESIGN	D.H	R.B	Y.C	13.12.24
P3	95% SCHEMATIC DESIGN	D.H	R.B	Y.C	18.12.24
P4	100% SCHEMATIC DESIGN	D.H	R.B	Y.C	16.01.25
P5	100% SCHEMATIC DESIGN	D.H	R.B	Y.C	20.01.25
P6	100% SCHEMATIC DESIGN	D.H	R.B	Y.C	24.01.25
P7	100% SCHEMATIC DESIGN	D.H	R.B	Y.C	06.02.25
T1	TENDER ISSUE	D.H	R.B	Y.C	12.02.25

0 2 4 6 8 10m
SCALE 1:200 @ A1 ; SCALE 1:400 @ A3

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CLIENT: NSW GOVERNMENT School Infrastructure NSW

PROJECT: KOGARAH PUBLIC SCHOOL
24B GLADSTONE STREET, KOGARAH, NSW

TITLE: EROSION AND SEDIMENT CONTROL PLAN

STATUS: **TENDER ISSUE**
NOT TO BE USED FOR CONSTRUCTION

DRAWN	DESIGNED	CHECKED	APPROVED	DATE	SCALE @ A1
D.H	R.B	Y.C			1:200

PROJECT No	DRAWING No	REV
132560	KOPS-MHT-00-00-DR-C-0060	T1

DWG FILE: X:\132560...\KOPS-MHT-00-00-DR-C-0060.dwg - MH PLOT TIME: 12 Feb 2025, 4:56pm