

PROJECT: WYVERN HEALTH PRIVATE HOSPITAL

PLANSET: CIVIL & DRAINAGE ENGINEERING WORKS

CLIENT: WYVERN HEALTH P/L C/- BUREAU SRH



LOCALITY PLAN
NOT TO SCALE

LGA: NORTHERN BEACHES COUNCIL

4A LAROOL ROAD, TERREY HILLS, NSW
LOT 2 DP 1145029

DRAWING LIST		
DWG NO.	REV	DWG TITLE
GENERAL		
PS05-A000	E	COVER SHEET
PS05-A050	C	DEVELOPMENT OVERVIEW PLAN
CONSTRUCTION MANAGEMENT WORKS		
PS05-B300	D	SOIL AND WATER MANAGEMENT PLAN
PS05-B305	A	SOIL AND WATER MANAGEMENT DETAILS - RUSSLE CALCULATIONS
PS05-B310	C	SOIL AND WATER MANAGEMENT DETAILS
EARTHWORKS		
PS05-C100	B	EARTHWORKS GRADING PLAN - SHEET 1
PS05-C101	B	EARTHWORKS GRADING PLAN - SHEET 2
PS05-C102	C	EARTHWORKS GRADING PLAN - SHEET 3
PS05-C500	C	EARTHWORKS CUT & FILL PLAN
ROADWORKS		
PS05-D100	B	ROADWORKS PLAN - SHEET 1
PS05-D101	B	ROADWORKS PLAN - SHEET 2
PS05-D102	C	ROADWORKS PLAN - SHEET 3
PS05-D200	A	ROADWORKS LONGITUDINAL SECTION - SHEET 1
PS05-D201	A	ROADWORKS LONGITUDINAL SECTION - SHEET 2
PS05-D202	A	ROADWORKS LONGITUDINAL SECTION - SHEET 3
PS05-D203	A	ROADWORKS LONGITUDINAL SECTION - SHEET 4
PS05-D204	B	ROADWORKS LONGITUDINAL SECTION - SHEET 5
DRAINAGE		
PS05-E100	C	DRAINAGE PLAN - SHEET 1
PS05-E101	C	DRAINAGE PLAN - SHEET 2
PS05-E102	D	DRAINAGE PLAN - SHEET 3
PS05-E200	C	DRAINAGE DETAILS - SHEET 1
PS05-E201	C	DRAINAGE DETAILS - SHEET 2
PS05-E202	C	DRAINAGE DETAILS - SHEET 3
PS05-E203	A	DRAINAGE DETAILS - SHEET 4
PS05-E204	A	DRAINAGE DETAILS - SHEET 5
PS05-E205	A	DRAINAGE DETAILS - SHEET 6
PS05-E300	C	LONGITUDINAL SECTION
PS05-E600	B	OSD CATCHMENT PLAN, MODEL LAYOUT & RESULT
PS05-E700	B	WATER QUALITY CATCHMENT PLAN, MODEL & RESULTS - SHEET 1
PS05-E701	A	WATER QUALITY CATCHMENT PLAN, MODEL & RESULTS - SHEET 2
PS05-E702	B	WATER BALANCE MODEL CATCHMENT PLAN, MODEL & RESULTS - SHEET 1
PS05-E703	A	WATER BALANCE MODEL CATCHMENT PLAN, MODEL & RESULTS - SHEET 2
FINAL CIVIL WORKS		
PS05-G210	A	RETAINING WALL DETAILS
GEOTECH AND CONTAMINATION		
PS05-JZ01	B	GROUNDWATER DIVERSION SYSTEM PLAN
PS05-JZ02	A	GROUNDWATER DIVERSION SYSTEM DETAILS
GENERAL NOTES		
PS05-ZZ00	B	GENERAL NOTES - SHEET 1
PS05-ZZ01	B	GENERAL NOTES - SHEET 2
PS05-ZZ02	B	GENERAL NOTES - SHEET 3
PS05-ZZ03	B	GENERAL NOTES - SHEET 4

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE
E	FIRE TRAIL EXTENDED TO LAROOL ROAD	22/03/2022	RK	SZ	SL	JF	
D	SOIL AND WATER MANAGEMENT PLAN UPDATED	07/03/2022	RK	RK	SL	JF	
C	UPDATED LANDSCAPE PLAN	23/09/2021	JS	AVG	SL	JF	
B	MINOR AMENDMENTS	24/08/2021	JS	AVG	SL	JF	
A	INITIAL RELEASE	24/05/2021	JS	AW/AVG/PB	SL	JF	

A1 / A3 LANDSCAPE (A1LC_02.0.0)

GRID	DATUM	PROJECT MANAGER
---	---	JF
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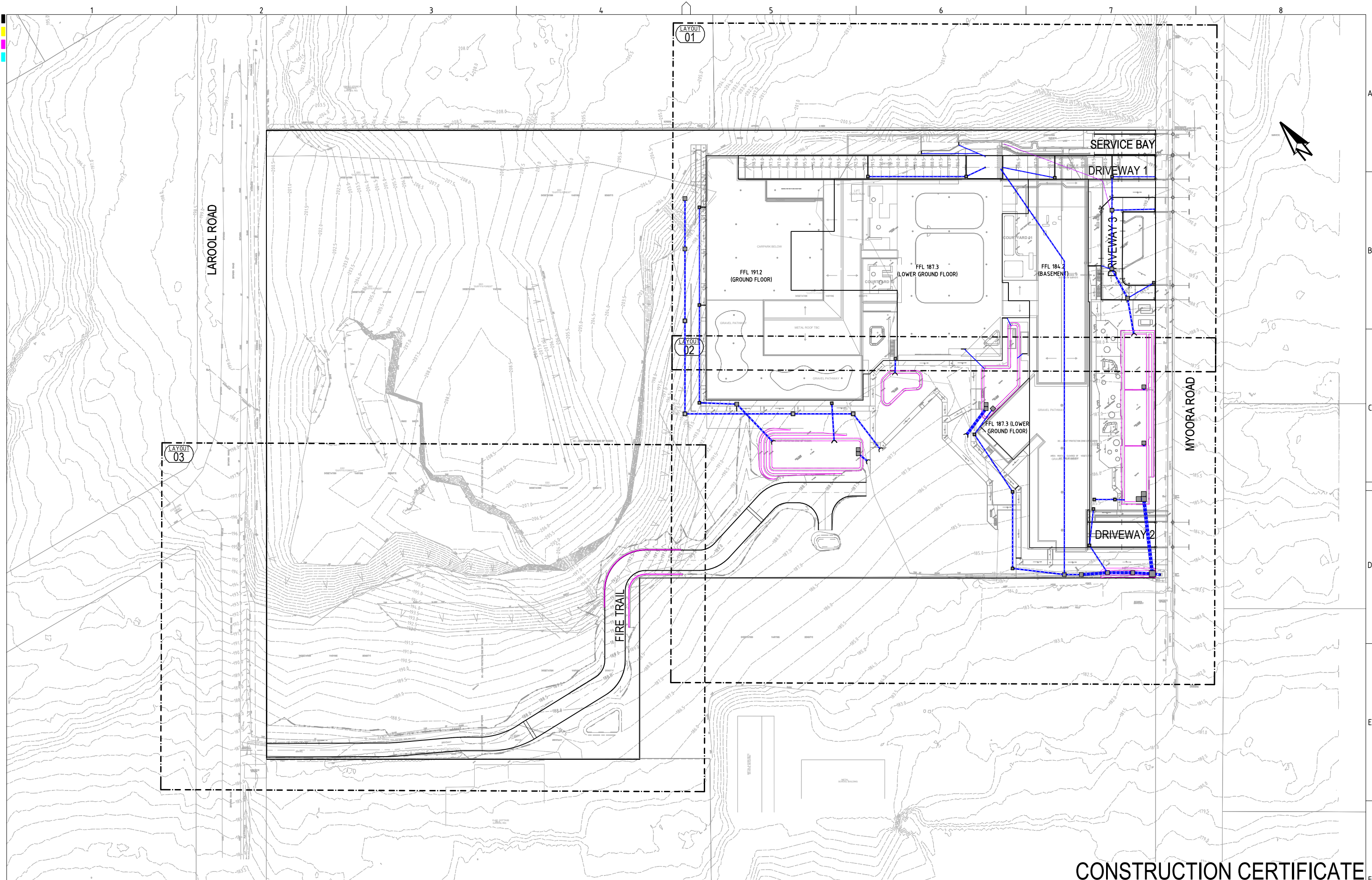
CLIENT
WYVERN HEALTH P/L C/- BUREAU SRH
PROJECT NAME/PLANSET TITLE
WYVERN HEALTH PRIVATE HOSPITAL CIVIL & DRAINAGE ENGINEERING WORKS
4A LAROOL ROAD, TERREY HILLS, NSW LOT 2 DP1145029

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CONSTRUCTION CERTIFICATE

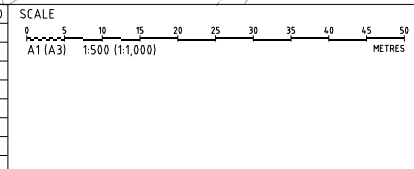
DRAWING TITLE				
COVER SHEET				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-A000	E

DRAWING ID: P1605687-PS05-R05-A000



CONSTRUCTION CERTIFICATE

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	FIRE TRAIL EXTENDED TO LAROOL ROAD	22/03/2022	RK	SZ	SL	JF
B	UPDATED LANDSCAPE PLAN	23/09/2021	JS	AVG	SL	JF
A	INITIAL RELEASE	24/05/2021	JS	AW/PB	SL	JF



GRID
GDA 94

DATUM
mAH

PROJECT MANAGER
JF

CLIENT
WYVERN HEALTH P/L C/- BUREAU SRH

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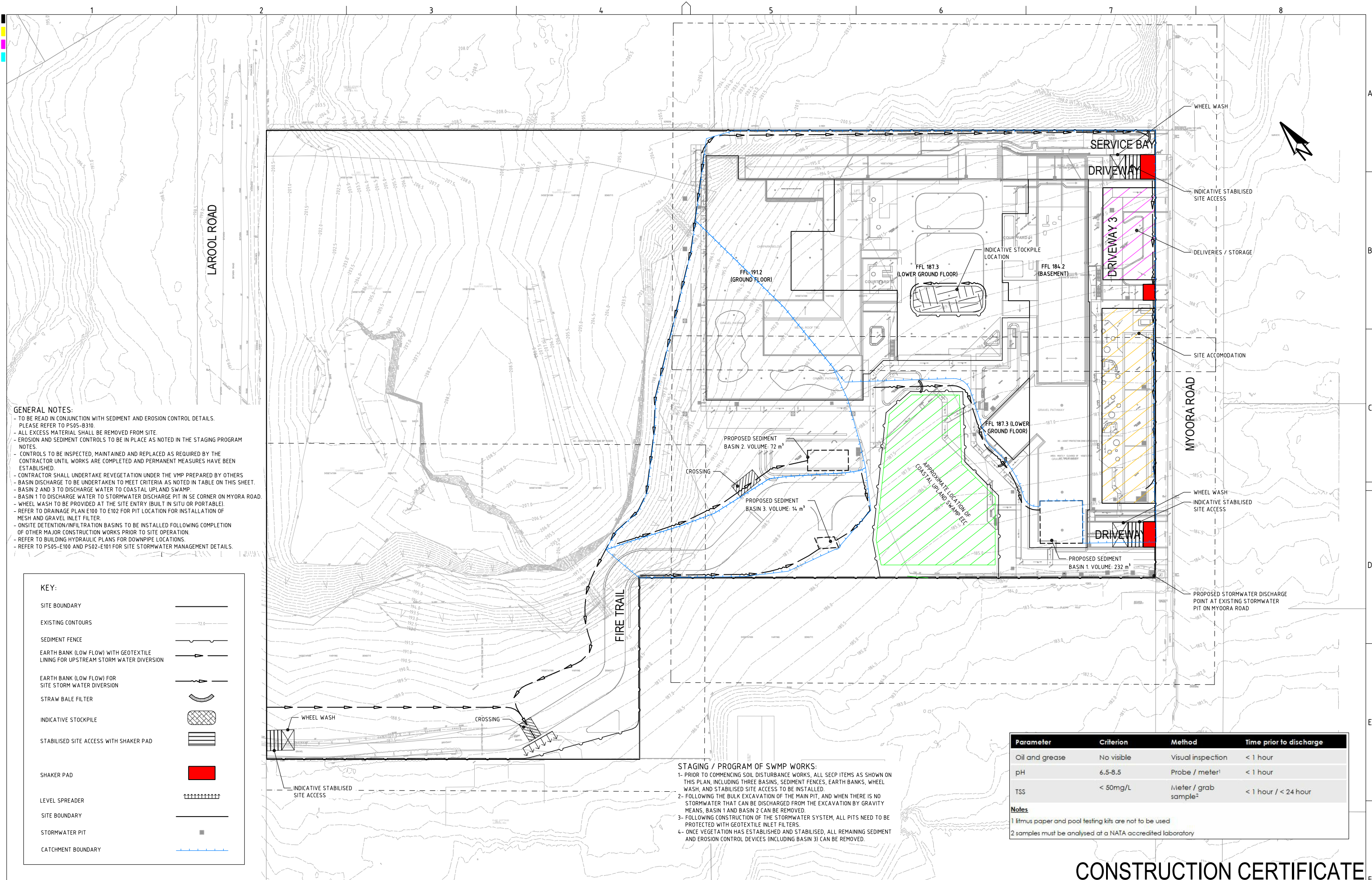
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DRAWING TITLE				
DEVELOPMENT OVERVIEW PLAN				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-A050	C



GENERAL NOTES:

- TO BE READ IN CONJUNCTION WITH SEDIMENT AND EROSION CONTROL DETAILS. PLEASE REFER TO PS05-B310.
- ALL EXCESS MATERIAL SHALL BE REMOVED FROM SITE.
- EROSION AND SEDIMENT CONTROLS TO BE IN PLACE AS NOTED IN THE STAGING PROGRAM NOTES.
- CONTROLS TO BE INSPECTED, MAINTAINED AND REPLACED AS REQUIRED BY THE CONTRACTOR UNTIL WORKS ARE COMPLETED AND PERMANENT MEASURES HAVE BEEN ESTABLISHED.
- CONTRACTOR SHALL UNDERTAKE REVEGETATION UNDER THE VMP PREPARED BY OTHERS.
- BASIN DISCHARGE TO BE UNDERTAKEN TO MEET CRITERIA AS NOTED IN TABLE ON THIS SHEET.
- BASIN 2 AND 3 TO DISCHARGE WATER TO COASTAL UPLAND SWAMP.
- BASIN 1 TO DISCHARGE WATER TO STORMWATER DISCHARGE PIT IN SE CORNER ON MYOORA ROAD.
- WHEEL WASH TO BE PROVIDED AT THE SITE ENTRY (BUILT IN SITU OR PORTABLE).
- REFER TO DRAINAGE PLAN E100 TO E102 FOR PIT LOCATION FOR INSTALLATION OF MESH AND GRAVEL INLET FILTER.
- ONSITE DETENTION/INFILTRATION BASINS TO BE INSTALLED FOLLOWING COMPLETION OF OTHER MAJOR CONSTRUCTION WORKS PRIOR TO SITE OPERATION.
- REFER TO BUILDING HYDRAULIC PLANS FOR DOWNPIPE LOCATIONS.
- REFER TO PS05-E100 AND PS02-E101 FOR SITE STORMWATER MANAGEMENT DETAILS.

KEY:

- SITE BOUNDARY
- EXISTING CONTOURS
- SEDIMENT FENCE
- EARTH BANK (LOW FLOW) WITH GEOTEXTILE LINING FOR UPSTREAM STORM WATER DIVERSION
- EARTH BANK (LOW FLOW) FOR SITE STORM WATER DIVERSION
- STRAW BALE FILTER
- INDICATIVE STOCKPILE
- STABILISED SITE ACCESS WITH SHAKER PAD
- SHAKER PAD
- LEVEL SPREADER
- SITE BOUNDARY
- STORMWATER PIT
- CATCHMENT BOUNDARY

STAGING / PROGRAM OF SWMP WORKS:

- 1- PRIOR TO COMMENCING SOIL DISTURBANCE WORKS, ALL SECP ITEMS AS SHOWN ON THIS PLAN, INCLUDING THREE BASINS, SEDIMENT FENCES, EARTH BANKS, WHEEL WASH, AND STABILISED SITE ACCESS TO BE INSTALLED.
- 2- FOLLOWING THE BULK EXCAVATION OF THE MAIN PIT, AND WHEN THERE IS NO STORMWATER THAT CAN BE DISCHARGED FROM THE EXCAVATION BY GRAVITY MEANS, BASIN 1 AND BASIN 2 CAN BE REMOVED.
- 3- FOLLOWING CONSTRUCTION OF THE STORMWATER SYSTEM, ALL PITS NEED TO BE PROTECTED WITH GEOTEXTILE INLET FILTERS.
- 4- ONCE VEGETATION HAS ESTABLISHED AND STABILISED, ALL REMAINING SEDIMENT AND EROSION CONTROL DEVICES (INCLUDING BASIN 3) CAN BE REMOVED.

Parameter	Criterion	Method	Time prior to discharge
Oil and grease	No visible	Visual inspection	< 1 hour
pH	6.5-8.5	Probe / meter ¹	< 1 hour
TSS	< 50mg/L	Meter / grab sample ²	< 1 hour / < 24 hour

Notes

1 litmus paper and pool testing kits are not to be used

2 samples must be analysed at a NATA accredited laboratory

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D	FIRE TRAIL EXTENDED TO LAROO ROAD	22/03/2022	RK	SZ	SL	JF
C	SOIL AND WATER MANAGEMENT PLAN UPDATED	07/03/2022	RK	RK	SL	JF
B	UPDATED LANDSCAPE PLAN	23/09/2021	JS	AVG	SL	JF
A	INITIAL RELEASE	24/05/2021	GM	AW/PB	SL	JF

SCALE: 0 5 10 15 20 25 30 35 40 45 50 METRES

GRID: GDA 94 DATUM: mAHD PROJECT MANAGER: JF CLIENT: WYVERN HEALTH P/L C/- BUREAU SRH

PROJECT NAME/PLANSET TITLE: WYVERN HEALTH PRIVATE HOSPITAL CIVIL & DRAINAGE ENGINEERING WORKS

4A LAROO ROAD, TERREY HILLS, NSW LOT 2 DP114-5029

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Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 Email: mail@martens.com.au Internet: www.martens.com.au

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DRAWING TITLE: SOIL AND WATER MANAGEMENT PLAN

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-B300	D

DRAWING ID: P1605687-PS05-R05-B300

4. Volume of Sediment Basins, Type D and Type F Soils

Basin volume = settling zone volume + sediment storage zone volume

Settling Zone Volume

The settling zone volume for Type F and Type D soils is calculated to provide capacity to contain all runoff expected from up to the y-percentile rainfall event. The volume of the basin's settling zone (V) can be determined as a function of the basin's surface area and depth to allow for particles to settle and can be determined by the following equation:

V = 10 x C_v x A x R_{x-day, y-%ile} (m³)

where:

10 = a unit conversion factor

C_v = the volumetric runoff coefficient defined as that portion of rainfall that runs off as stormwater over the x-day period

R_{x-day, y-%ile} = is the x-day total rainfall depth (mm) that is not exceeded in y percent of rainfall events. (See Sections 6.3.4(d), (e), (f), (g) and (h)).

A = total catchment area (ha)

Sediment Storage Zone Volume

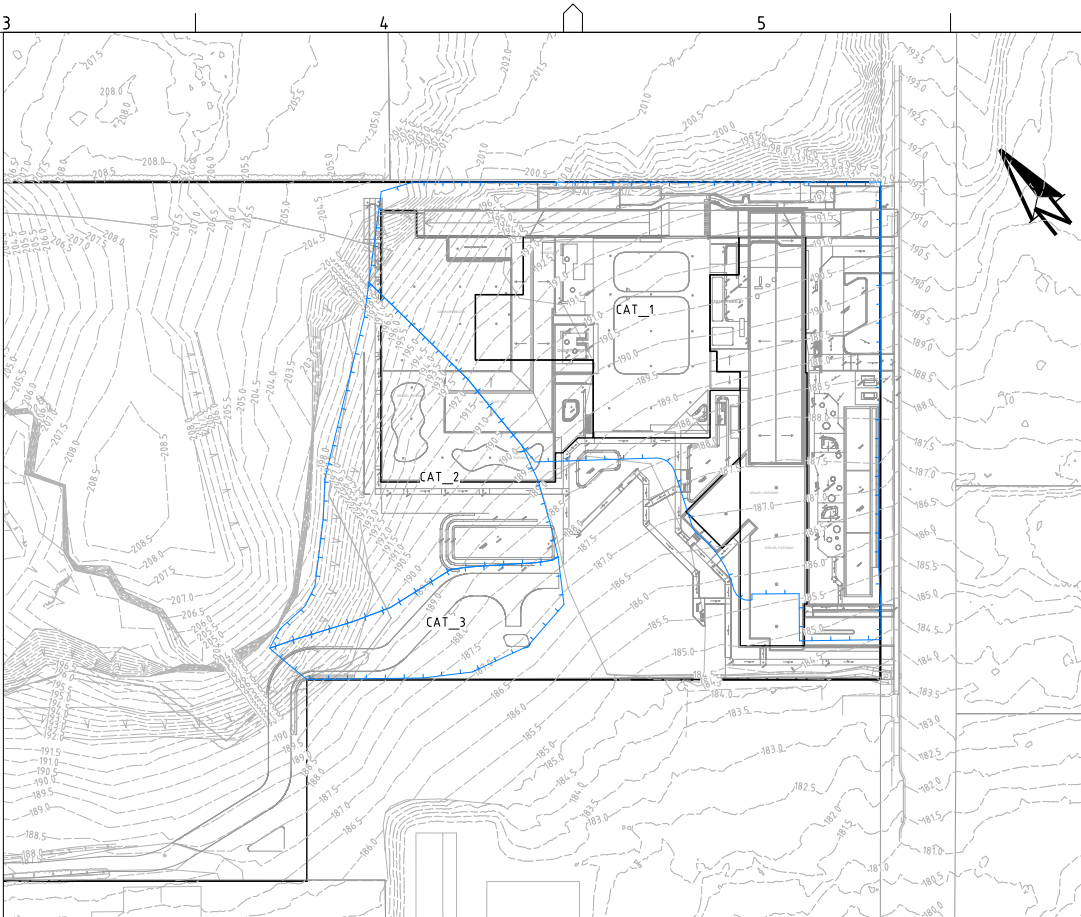
In the detailed calculation on Soil Loss Classes 1 to 4 lands, the sediment storage zone can be taken as 50 percent of the settling zone capacity. Alternately designers can design the zone to store the 2-month soil loss as calculated by the RUSLE (Section 6.3.4(i)(ii)). However, on Soil Loss Classes 5, 6 and 7 lands, the zone must contain the 2-month soil loss as calculated by the RUSLE (Section 6.3.4(i)(iii)).

Place an "X" in the box below to show the sediment storage zone design parameters used here:

☐ 50% of settling zone capacity,
☒ 2 months soil loss calculated by RUSLE

Total Basin Volume

Site	C _v	R _{x-day, y-%ile}	Total catchment area (ha)	Settling zone volume (m ³)	Sediment storage volume (m ³)	Total basin volume (m ³)
CAT_1	0.42	40	1.07	179.76	52	231.76
CAT_2	0.42	40	0.34	57.12	15	72.12
CAT_3	0.42	16	0.14	9.408	4	13.408



Note: These "Detailed Calculation" spreadsheets relate only to high erosion hazard lands as identified in figure 4.6 or where the designer chooses to use the RUSLE to size sediment basins. The "Standard Calculation" spreadsheets should be used on low erosion hazard lands as identified by figure 4.6 and where the designer chooses not to run the RUSLE in calculations.

1. Site Data Sheet

Site Name:	P1805687
Site Location:	4A Larool Rd, Terrey Hills, NSW
Precinct:	N/A
Description of Site:	Somersby (9130so) & Gymea (9130gy)

Site area	Site					Remarks
	CAT_1	CAT_2	CAT_3			
Total catchment area (ha)	1.07	0.34	0.14			
Disturbed catchment area (ha)	0.84	0.19	0.09			

Soil analysis						
% sand (fraction 0.02 to 2.00 mm)	60	60	60			Soil texture should be assessed through
% silt (fraction 0.002 to 0.02 mm)	15	15	15			mechanical dispersion only. Dispersing
% clay (fraction finer than 0.002 mm)	25	25	25			agents (e.g. Calgon) should not be used
Dispersion percentage	32.5	32.5	32.5			E.g. enter 10 for dispersion of 10%
% of whole soil dispersible	10.5625	10.5625	10.5625			See Section 6.3.3(e)
Soil Texture Group	D	D	D			See Section 6.3.3(c), (d) and (e)

Rainfall data						
Design rainfall depth (days)	5	5	3			See Sections 6.3.4 (d) and (e)
Design rainfall depth (percentile)	85	85	75			See Sections 6.3.4 (f) and (g)
x-day, y-percentile rainfall event	40	40	16			See Section 6.3.4 (h)
Rainfall intensity: 2-year, 6-hour storm	14.6	14.6	14.6			See IFD chart for the site

RUSLE Factors						
Rainfall erosivity (R-factor)	4710	4710	4710			Automatic calculation from above data
Soil erodibility (K-factor)	0.038	0.038	0.038			RUSLE data can be obtained from Appendices A, B and C
Slope length (m)	80	50	50			
Slope gradient (%)	8	12	8			
Length/gradient (LS-factor)	2.05	2.66	1.51			
Erosion control practice (P-factor)	1.3	1.3	1.3			
Ground cover (C-factor)	1	1	1			

Calculations						
Soil loss (t/ha/yr)	477	619	351			
Soil Loss Class	4	5	4			See Section 4.4.2(b)
Soil loss (m ³ /ha/yr)	367	476	270			
Sediment basin storage volume, m ³	52	15	4			See Sections 6.3.4(i) and 6.3.5 (e)

CONSTRUCTION CERTIFICATE

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DRAWING TITLE				
SOIL AND WATER MANAGEMENT DETAILS RUSLE CALCULATIONS				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-B305	A

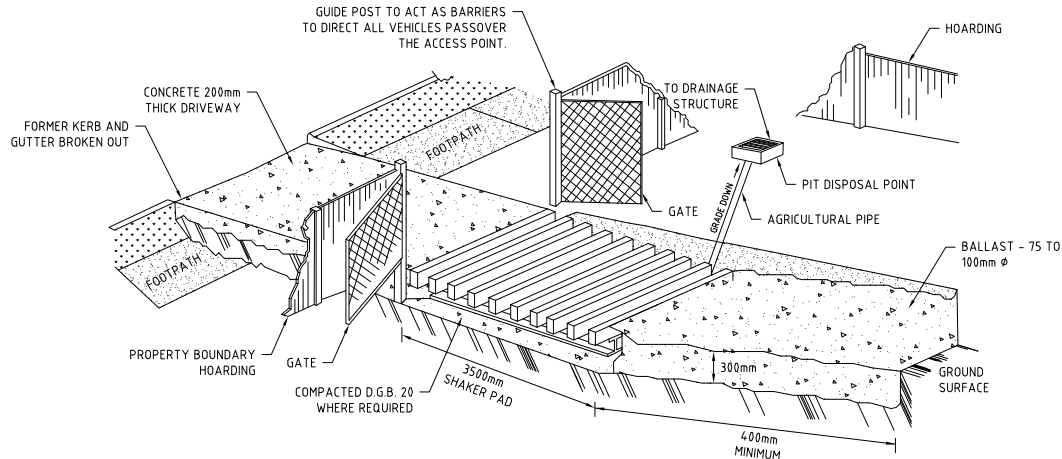
DRAWING ID: P1605687-PS05-R05-B305

STABILISED ACCESS POINT

TYPE II SAP

THE TYPE II SAP DESIGN IS MORE DEFINED IN THAT IT REQUIRES AN AREA OF BALLAST WITHIN THE SITE COMBINED WITH A SHAKER PAD; ADJACENT THE SHAKER PAD AND IN THE PUBLIC WAY IS A TEMPORARY (CONCRETE) VEHICULAR CROSSING. (SEE DIAGRAM)

STABILISED ACCESS POINT - TYPE 2



IN BOTH TYPE I AND TYPE II SAP'S, THE TEMPORARY VEHICULAR CROSSING MUST:

- CONNECT TO AN EXISTING GUTTER LAYBACK (WHERE THE KERB AND GUTTER EXIST). IF A GUTTER LAYBACK DOES NOT EXIST THEN THE CONNECTION MUST BE MADE TO THE GUTTER BY REMOVING THE ADJACENT KERB SECTION ONLY.
- CONNECT TO A DISH CROSSING (WHERE KERB AND GUTTER DOES NOT EXIST). IF A DISH CROSSING DOES NOT EXIST, THEN IT MUST BE CONSTRUCTED IN ACCORDANCE WITH DETAILS CONTAINED IN COUNCIL'S ISSUED FOOTPATH CROSSING LEVELS.

IT SHOULD BE NOTED THAT THESE TYPES OF SAPS ARE CONSIDERED TO BE APPLICABLE FOR THE MAJORITY OF ACTIVITIES HOWEVER SOME SITES MAY REQUIRE SPECIAL CONSIDERATION.

SHAKER PAD (CATTLE GRID)

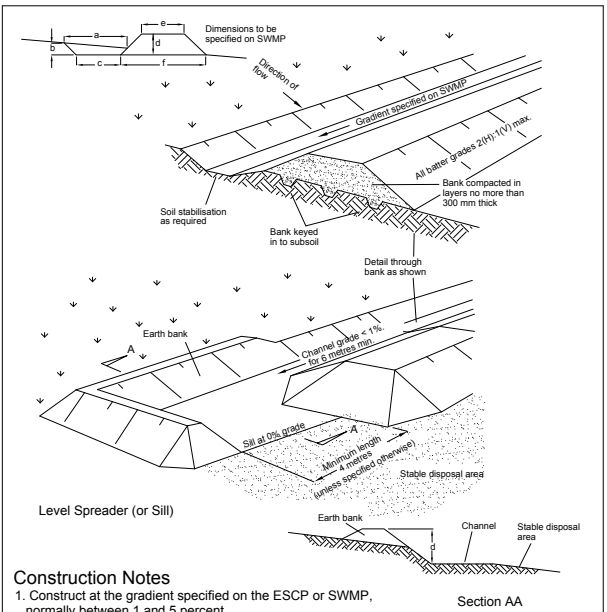
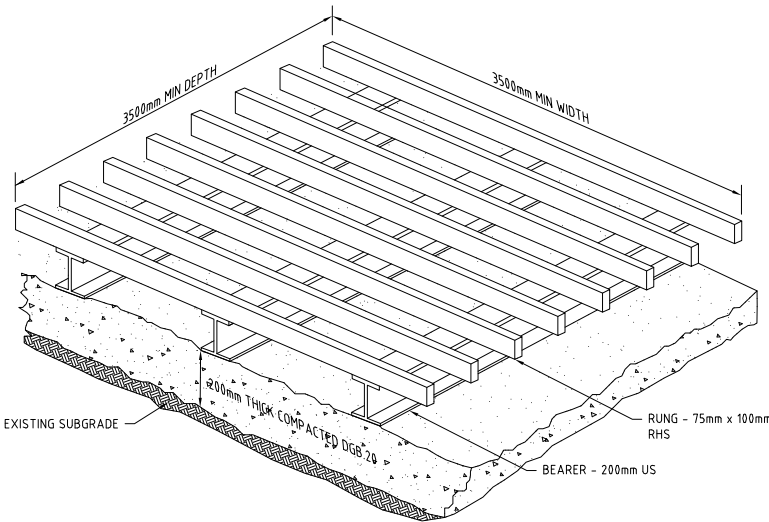
A CORRECTLY DESIGNED AND INSTALLED SHAKER PAD WILL ASSIST IN PREVENTING SEDIMENT TRANSFER FROM A SITE. ANY STABILISED ACCESS POINT (SAP) CAN BE DESIGNED WITH A SHAKER PAD (COMPULSOPRY IN TYPE II SAP'S)

SHAKER PADS CAN BE DESIGNED AND CONSTRUCTED TO ENABLE RE-USE ON FUTURE PROJECTS.

THE SHAKER PAD:

- MUST BE DESIGNED AND CERTIFIED BY A PRACTICING STRUCTURAL ENGINEER. THE CERTIFIED DESIGN SHOULD BE SUBMITTED WITH THE RELEVANT APPLICATION.
- CAN BE CONSTRUCTED FROM ANY SUITABLE MATERIAL.
- MUST BE LOCATED ON A SUITABLY PREPARED AND COMPACTED SUB-GRADE/BASE MATERIAL.
- MUST BE SITUATED SUCH THAT THE RUNGS OF THE SHAKER PAD ARE LEVEL WITH THE ADJOINING NATURAL SURFACE.
- MUST BE A MINIMUM OF 3.5m IN LENGTH.
- MUST BE A MINIMUM OF 3.5m IN WIDTH.
- MUST HAVE CLEAR SPACING BETWEEN RUNGS OF 200 - 250mm.
- RUNGS MUST HAVE A MAXIMUM WIDTH (BEARING AREA) OF 75mm.
- MUST HAVE A MINIMUM CLEAR DEPTH OF 300mm IE FORM THE TOP OF THE RUNG TO THE FINISHED SUB-GRADE/BASE LEVEL.

THE SHAKER PAD MUST BE PROVIDED WITH SUITABLE BARRIERS AT THE SIDES TO ENSURE THAT ALL TYERS OF VEHICLES LEAVING THE SITE TRAVERSE THE DEVICE.



Construction Notes

- Construct at the gradient specified on the ESCP or SWMP, normally between 1 and 5 percent
- Avoid removing trees and shrubs if possible - work around them.
- Ensure the structures are free of projections or other irregularities that could impede water flow.
- Build the drains with circular, parabolic or trapezoidal cross sections, not V-shaped, at the dimensions shown on the SWMP.
- Ensure the banks are properly compacted to prevent failure.
- Complete permanent or temporary stabilisation within 10 days of construction following Table 5.2 in Landcom (2004).
- Where discharging to erodible lands, ensure they outlet through a properly constructed level spreader.
- Construct the level spreader at the gradient specified on the ESCP or SWMP, normally less than 1 percent or level.
- Where possible, ensure they discharge waters onto either stabilised or undisturbed disposal sites within the same subcatchment area from which the water originated. Approval might be required to discharge into other subcatchments.

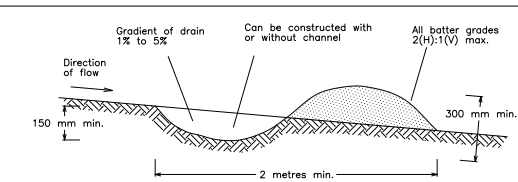
EARTH BANK HIGH FLOW) SD 5-6

Construction Notes

- Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
- Construct on the contour as low, flat, elongated mounds.
- Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
- Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
- Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

STOCKPILES

SD 4-1

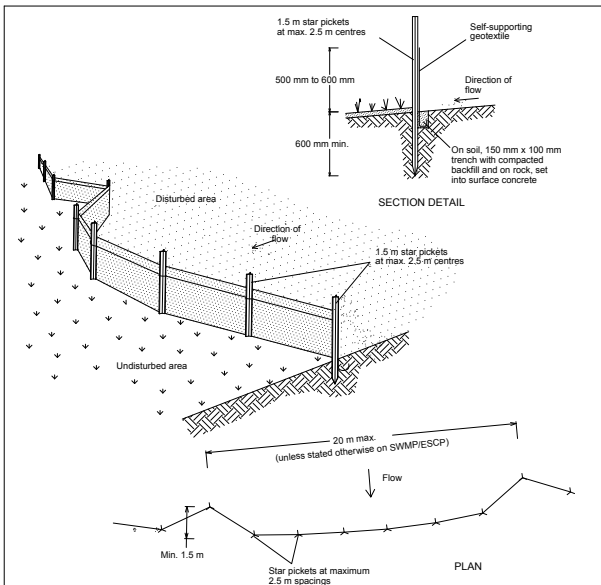


NOTE: Only to be used as temporary bank where maximum upslope length is 80 metres.

Construction Notes

- Build with gradients between 1 percent and 5 percent.
- Avoid removing trees and shrubs if possible - work around them.
- Ensure the structures are free of projections or other irregularities that could impede water flow.
- Build the drains with circular, parabolic or trapezoidal cross sections, not V shaped.
- Ensure the banks are properly compacted to prevent failure.
- Complete permanent or temporary stabilisation within 10 days of construction.

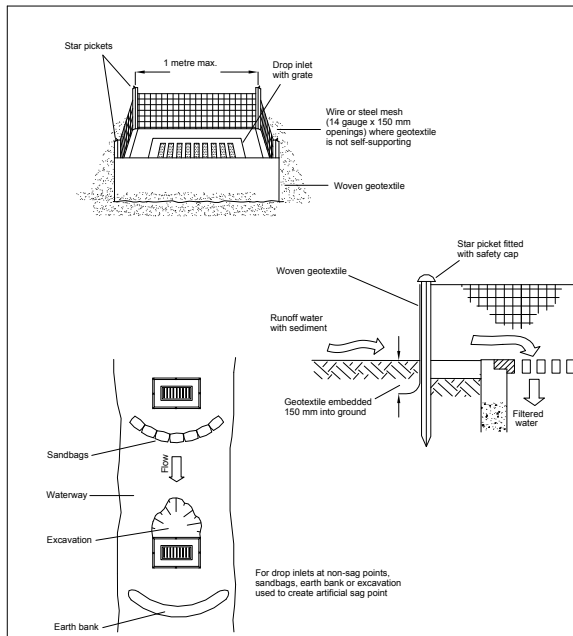
EARTH BANK (LOW FLOW) SD 5-5



Construction Notes

- Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
- Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
- Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
- Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
- Join sections of fabric at a support post with a 150-mm overlap.
- Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

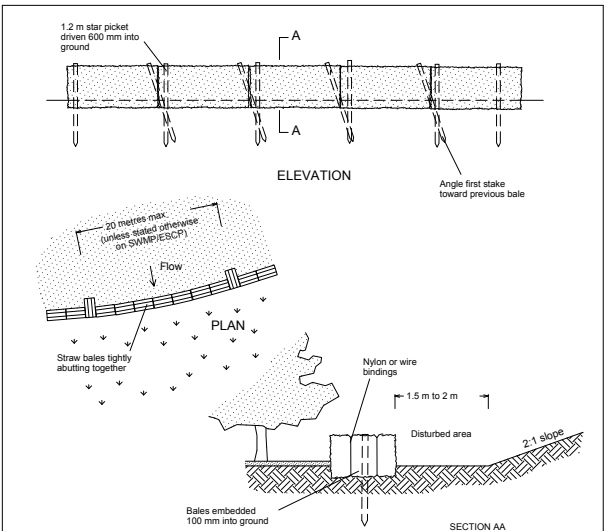
SEDIMENT FENCE SD 6-8



Construction Notes

- Fabricate a sediment barrier made from geotextile or straw bales.
- Follow Standard Drawing 6-7 and Standard Drawing 6-8 for installation procedures for the straw bales or geofabric. Reduce the picket spacing to 1 metre centres.
- In waterways, artificial sag points can be created with sandbags or earth banks as shown in the drawing.
- Do not cover the inlet with geotextile unless the design is adequate to allow for all waters to bypass it.

GEOTEXTILE INLET FILTER SD 6-12



Construction Notes

- Construct the straw bale filter as close as possible to being parallel to the contours of the site.
- Place bales lengthwise in a row with ends tightly abutting. Use straw to fill any gaps between bales. Straws are to be placed parallel to ground.
- Ensure that the maximum height of the filter is one bale.
- Embed each bale in the ground 75 mm to 100 mm and anchor with two 1.2 metre star pickets or stakes. Angle the first star picket or stake in each bale towards the previously laid bale. Drive them 600 mm into the ground and, if possible, flush with the top of the bales. Where star pickets are used and they protrude above the bales, ensure they are fitted with safety caps.
- Where a straw bale filter is constructed downslope from a disturbed batter, ensure the bales are placed 1 to 2 metres downslope from the toe.
- Establish a maintenance program that ensures the integrity of the bales is retained - they could require replacement each two to four months.

STRAW BALE FILTER SD 6-7

CONSTRUCTION CERTIFICATE

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE
C	SOIL AND WATER MANAGEMENT PLAN UPDATED	07/03/2022	RK	RK	SL	JF	
B	UPDATED LANDSCAPE PLAN	23/09/2021	JS	AVG	SL	JF	
A	INITIAL RELEASE	24/05/2021	GM	AW/PB	SL	JF	

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A1 / A3 LANDSCAPE (A1LC_02.0.0)

GRID	DATUM	PROJECT MANAGER	CLIENT
---	---	JF	WYVERN HEALTH P/L C/- BUREAU SRH
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CIVIL & DRAINAGE ENGINEERING WORKS			
4A LARROOL ROAD, TERREY HILLS, NSW			
LOT 2 DP114-5029			

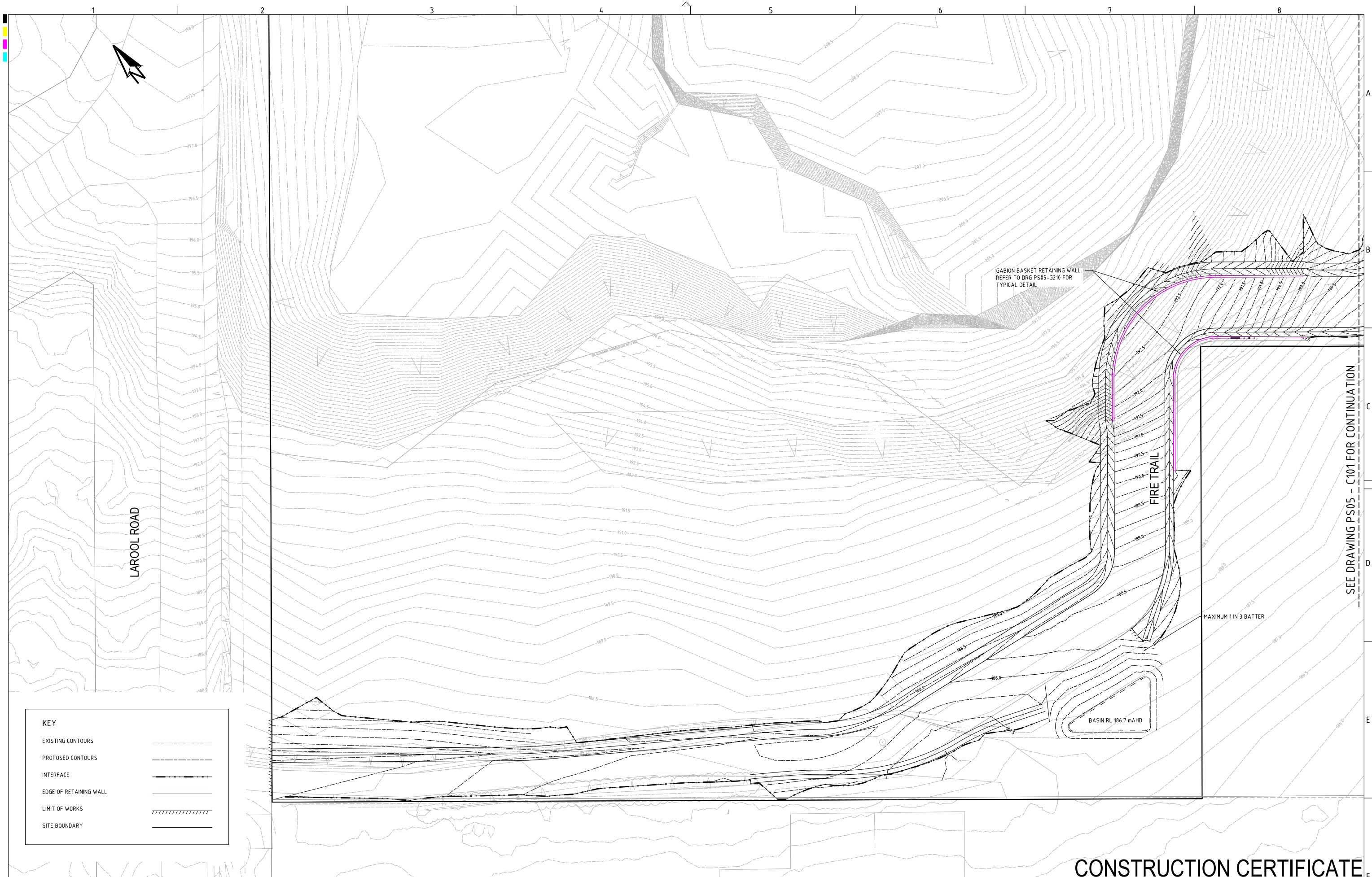
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DRAWING TITLE	PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
SOIL AND WATER MANAGEMENT DETAILS	P1605687	PS05	R05	PS05-B310	C
DRAWING ID: P1605687-PS05-R05-B310					

[illegible]

SCALE

0 2 4 6 8 10 12 14 16 18 20

A1 (A3) 1:200 (1:400) METRES

GRID	DATUM	PROJECT MANAGER
GDA 94	mAHD	JF
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CLIENT	WYVERN HEALTH P/L C/- BUREAU SRH
PROJECT NAME/PLANSET TITLE	WYVERN HEALTH PRIVATE HOSPITAL CIVIL & DRAINAGE ENGINEERING WORKS
	4A LAROOI ROAD, TERREY HILLS, NSW LOT 2 DP1145029



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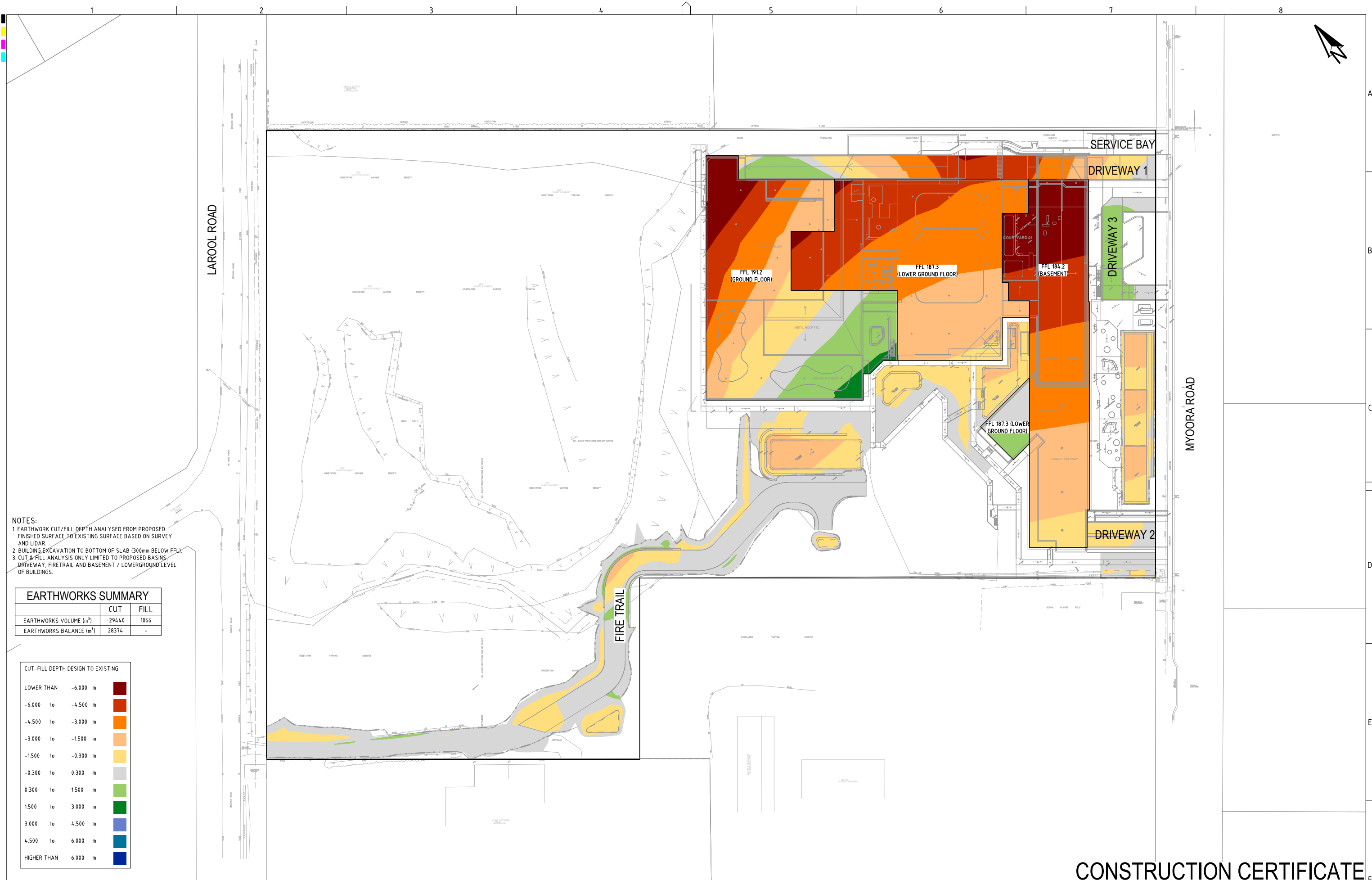
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CONSTRUCTION CERTIFICATE

DRAWING TITLE				
EARTHWORKS GRADING PLAN SHEET 3				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-C102	C

DRAWING ID: P1605687-PS05-R05-C10

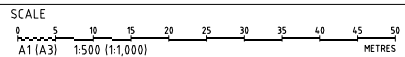


NOTES:
1. EARTHWORK CUT/FILL DEPTH ANALYSED FROM PROPOSED FINISHED SURFACE TO EXISTING SURFACE BASED ON SURVEY AND LIDAR.
2. BUILDING EXCAVATION TO BOTTOM OF SLAB (300mm BELOW FFL).
3. CUT & FILL ANALYSIS ONLY LIMITED TO PROPOSED BASINS, DRIVEWAY, FIRE TRAIL AND BASEMENT / LOWER GROUND LEVEL OF BUILDINGS.

EARTHWORKS SUMMARY		
	CUT	FILL
EARTHWORKS VOLUME (m³)	-29440	1066
EARTHWORKS BALANCE (m³)	28374	-

CUT-FILL DEPTH DESIGN TO EXISTING	
LOWER THAN	-6.000 m
-6.000 to	-4.500 m
-4.500 to	-3.000 m
-3.000 to	-1.500 m
-1.500 to	-0.300 m
-0.300 to	0.300 m
0.300 to	1.500 m
1.500 to	3.000 m
3.000 to	4.500 m
4.500 to	6.000 m
HIGHER THAN	6.000 m

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	FIRE TRAIL EXTENDED TO LAROOL ROAD	22/03/2022	RK	SZ	SL	JF
B	UPDATED LANDSCAPE PLAN	23/09/2021	JS	AVG	SL	JF
A	INITIAL RELEASE	24/05/2021	JS	AW/PB	SL	JF



GRID
GDA 94

DATUM
mAHD

PROJECT MANAGER
JF

CLIENT
WYVERN HEALTH P/L C/- BUREAU SRH

PROJECT NAME/PLANSET TITLE
WYVERN HEALTH PRIVATE HOSPITAL
CIVIL & DRAINAGE ENGINEERING WORKS
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LOT 2 DP114-5029

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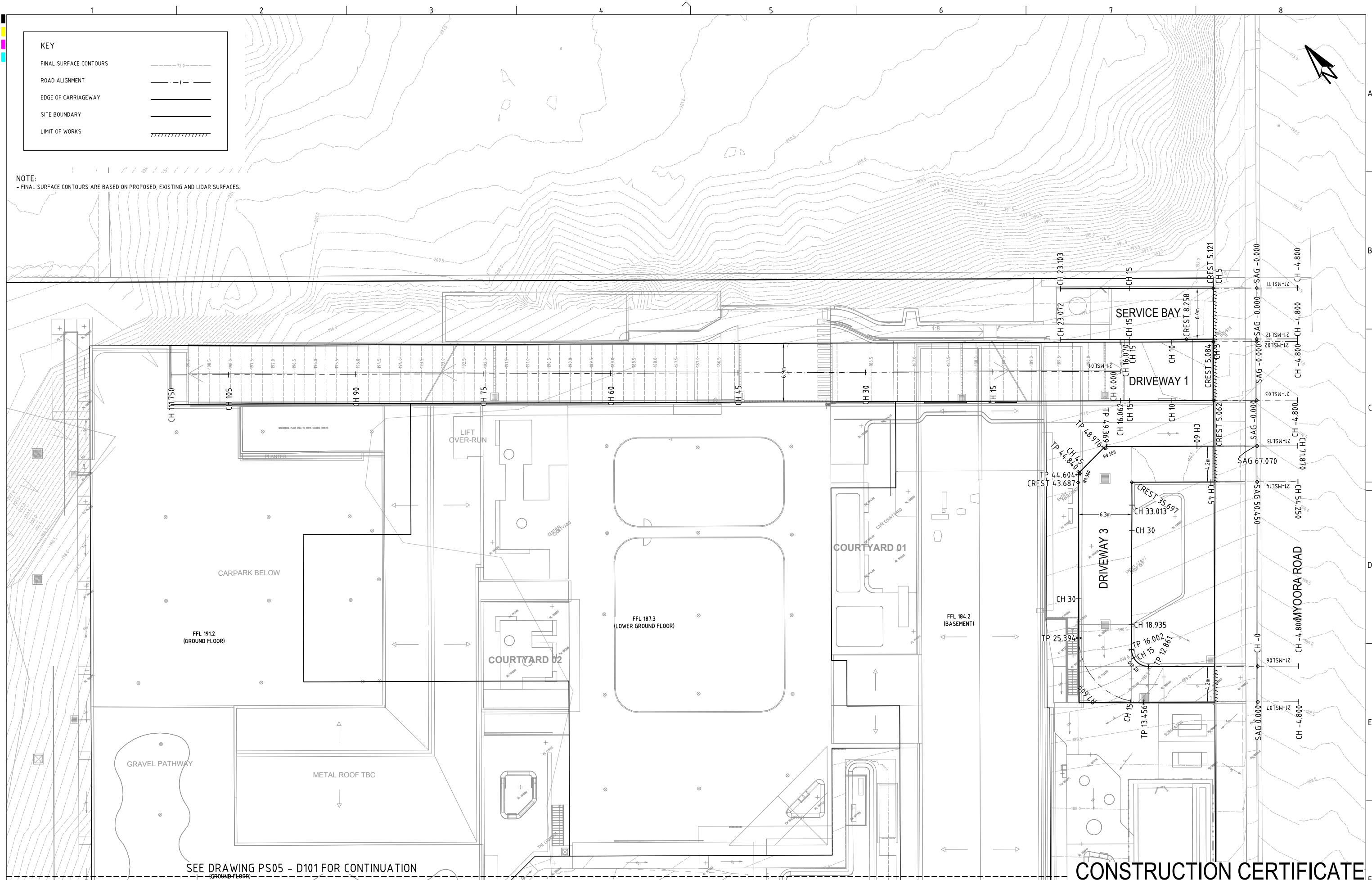
CONSTRUCTION CERTIFICATE

DRAWING TITLE				
EARTHWORKS CUT & FILL PLAN				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-C500	C

DRAWING ID: P1605687-PS05-R05-C500

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A1 / A3 LANDSCAPE (A1LC_02.0.0)



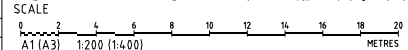
KEY	
FINAL SURFACE CONTOURS	
ROAD ALIGNMENT	
EDGE OF CARRIAGEWAY	
SITE BOUNDARY	
LIMIT OF WORKS	

NOTE:
- FINAL SURFACE CONTOURS ARE BASED ON PROPOSED, EXISTING AND LIDAR SURFACES.

SEE DRAWING PS05 - D101 FOR CONTINUATION

CONSTRUCTION CERTIFICATE

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
B	UPDATED LANDSCAPE PLAN	23/09/2021	JS	AVG	SL	JF
A	INITIAL RELEASE	24/05/2021	JS	PB	SL	JF



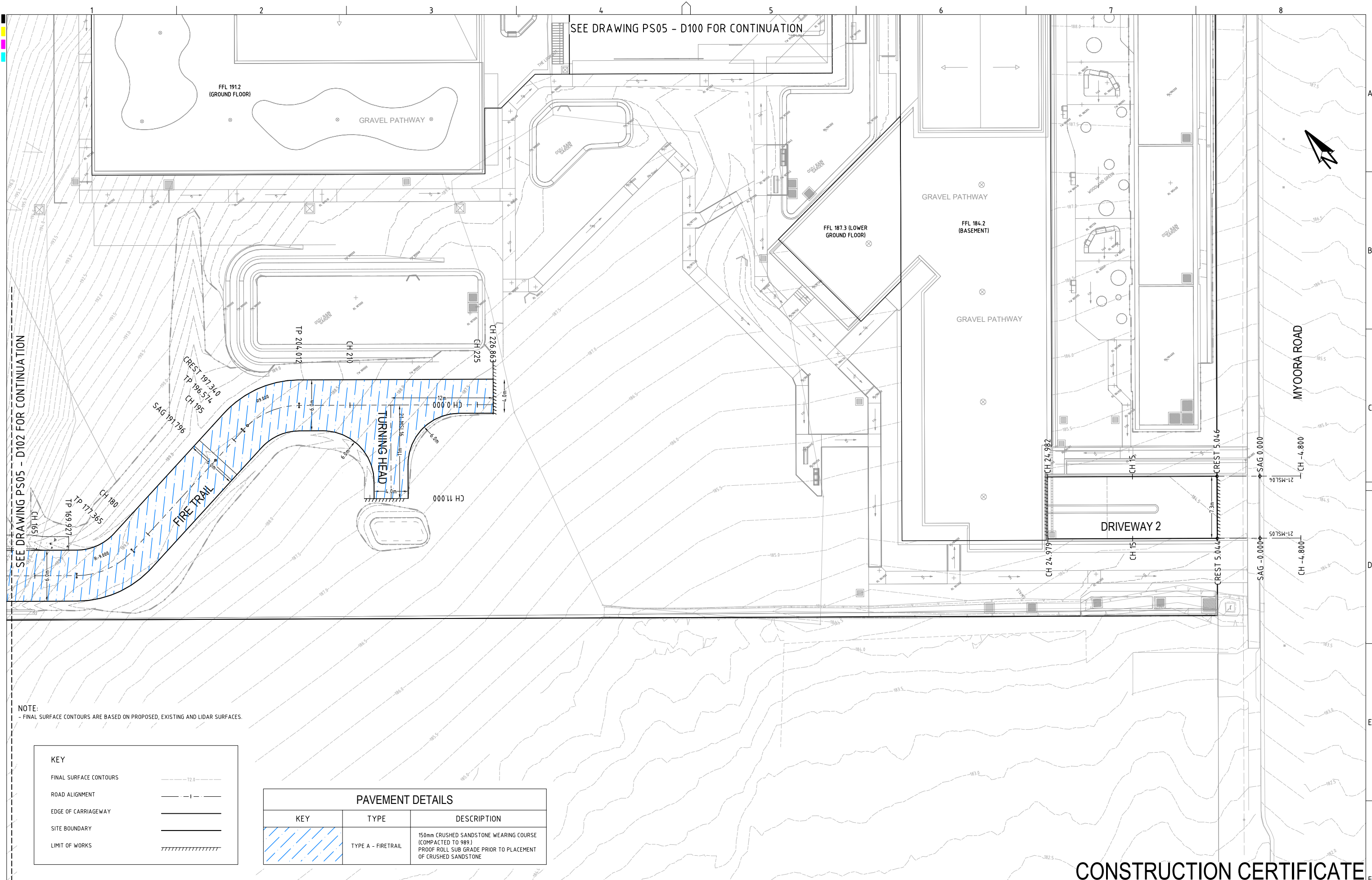
GRID	DATUM	PROJECT MANAGER
GDA 94	mAHD	JF
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PROJECT NAME/PLANSET TITLE
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4A LARROOL ROAD, TERREY HILLS, NSW LOT 2 DP114-5029

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DRAWING TITLE				
ROADWORKS PLAN SHEET 1				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-D100	B



SEE DRAWING PS05 - D102 FOR CONTINUATION

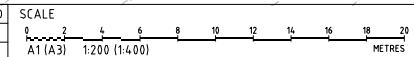
SEE DRAWING PS05 - D100 FOR CONTINUATION

NOTE:
- FINAL SURFACE CONTOURS ARE BASED ON PROPOSED, EXISTING AND LIDAR SURFACES.

KEY	
FINAL SURFACE CONTOURS	---
ROAD ALIGNMENT	---
EDGE OF CARRIAGEWAY	---
SITE BOUNDARY	---
LIMIT OF WORKS	---

PAVEMENT DETAILS		
KEY	TYPE	DESCRIPTION
	TYPE A - FIRETRAIL	150mm CRUSHED SANDSTONE WEARING COURSE (COMPACTED TO 98%) PROOF ROLL SUB GRADE PRIOR TO PLACEMENT OF CRUSHED SANDSTONE

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
B	UPDATED LANDSCAPE PLAN	23/09/2021	JS	AVG	SL	JF
A	INITIAL RELEASE	24/05/2021	JS	PB	SL	JF



GRID
GDA 94

DATUM
mAHD

PROJECT MANAGER
JF

CLIENT
WYVERN HEALTH P/L C/- BUREAU SRH

PROJECT NAME/PLANSET TITLE
WYVERN HEALTH PRIVATE HOSPITAL
CIVIL & DRAINAGE ENGINEERING WORKS

4A LARROOL ROAD, TERREY HILLS, NSW
LOT 2 DP114-5029

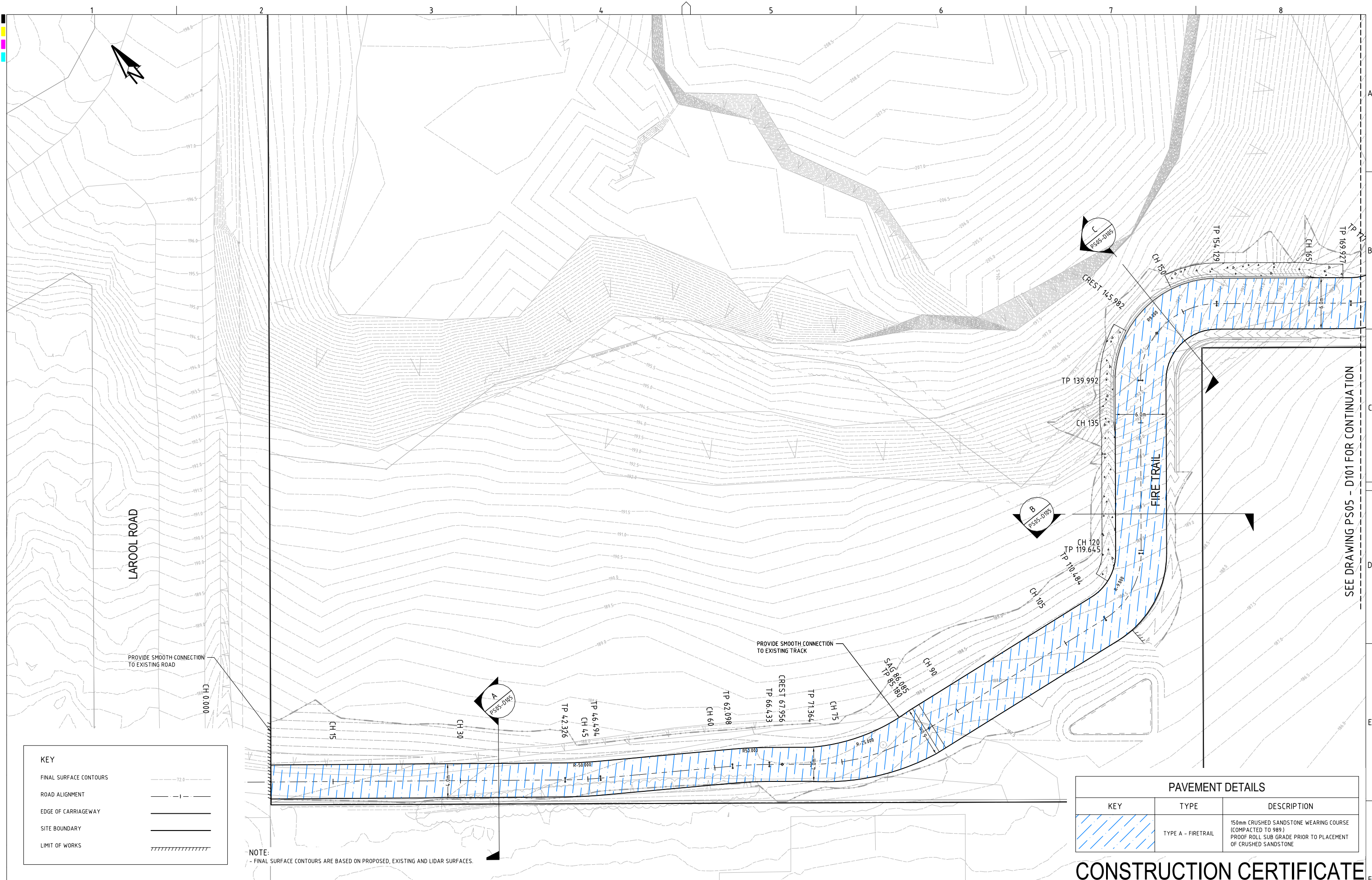
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DRAWING TITLE				
ROADWORKS PLAN SHEET 2				
PROJECT NO. P1605687	PLANSET NO. PS05	RELEASE NO. R05	DRAWING NO. PS05-D101	REVISION B

CONSTRUCTION CERTIFICATE



KEY						
FINAL SURFACE CONTOURS						
ROAD ALIGNMENT						
EDGE OF CARRIAGEWAY						
SITE BOUNDARY						
LIMIT OF WORKS						

NOTE:
- FINAL SURFACE CONTOURS ARE BASED ON PROPOSED, EXISTING AND LIDAR SURFACES.

PAVEMENT DETAILS		
KEY	TYPE	DESCRIPTION
	TYPE A - FIRETRAIL	150mm CRUSHED SANDSTONE WEARING COURSE (COMPACTED TO 98%) PROOF ROLL SUB GRADE PRIOR TO PLACEMENT OF CRUSHED SANDSTONE

CONSTRUCTION CERTIFICATE

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	FIRE TRAIL EXTENDED TO LARROOL ROAD	22/03/2022	RK	SZ	SL	JF
B	UPDATED LANDSCAPE PLAN	23/09/2021	JS	AVG	SL	JF
A	INITIAL RELEASE	24/05/2021	JS	PB	SL	JF

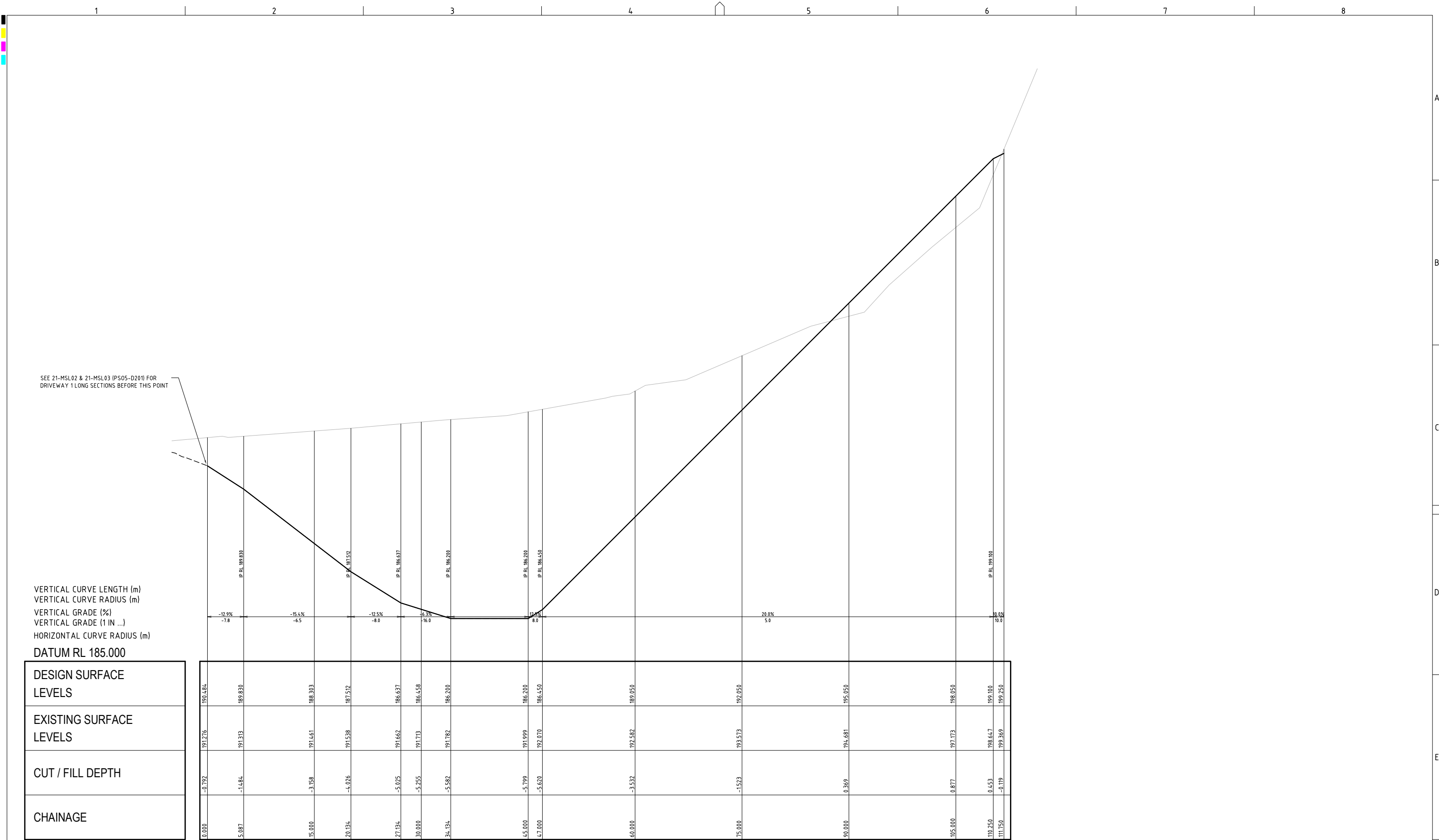
SCALE
0 2 4 6 8 10 12 14 16 18 20 METRES

GRID	DATUM	PROJECT MANAGER
GDA 94	mAHD	JF
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PROJECT NAME/PLANSET TITLE
WYVERN HEALTH PRIVATE HOSPITAL CIVIL & DRAINAGE ENGINEERING WORKS 4A LARROOL ROAD, TERREY HILLS, NSW LOT 2 DP114-5029

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DRAWING TITLE				
ROADWORKS PLAN SHEET 3				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-D102	C



DRIVEWAY 1 (21-MSL01) LONG. SECTION

SCALE: HORIZONTAL - 1:250
VERTICAL - 1:50

NOTE:
1. THIS DRIVEWAY HAS BEEN CHECKED FOR VERTICAL CLEARANCE AGAINST A B99 VEHICLE AS PER AS 2890.1.

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
A	INITIAL RELEASE	24/05/2021	JS	PB	SL	JF

SCALE


0 2.5 5.0 7.5 10.0 12.5 15.0 17.5 20.0 22.5 25.0

A1 (A3) 1:250 (1:500)

0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0

A1 (A3) 1:50 (1:100)

GRID	DATUM	PROJECT MANAGER	CLIENT
GDA 94	mAHD	JF	WYVERN HEALTH P/L C/- BUREAU SRH
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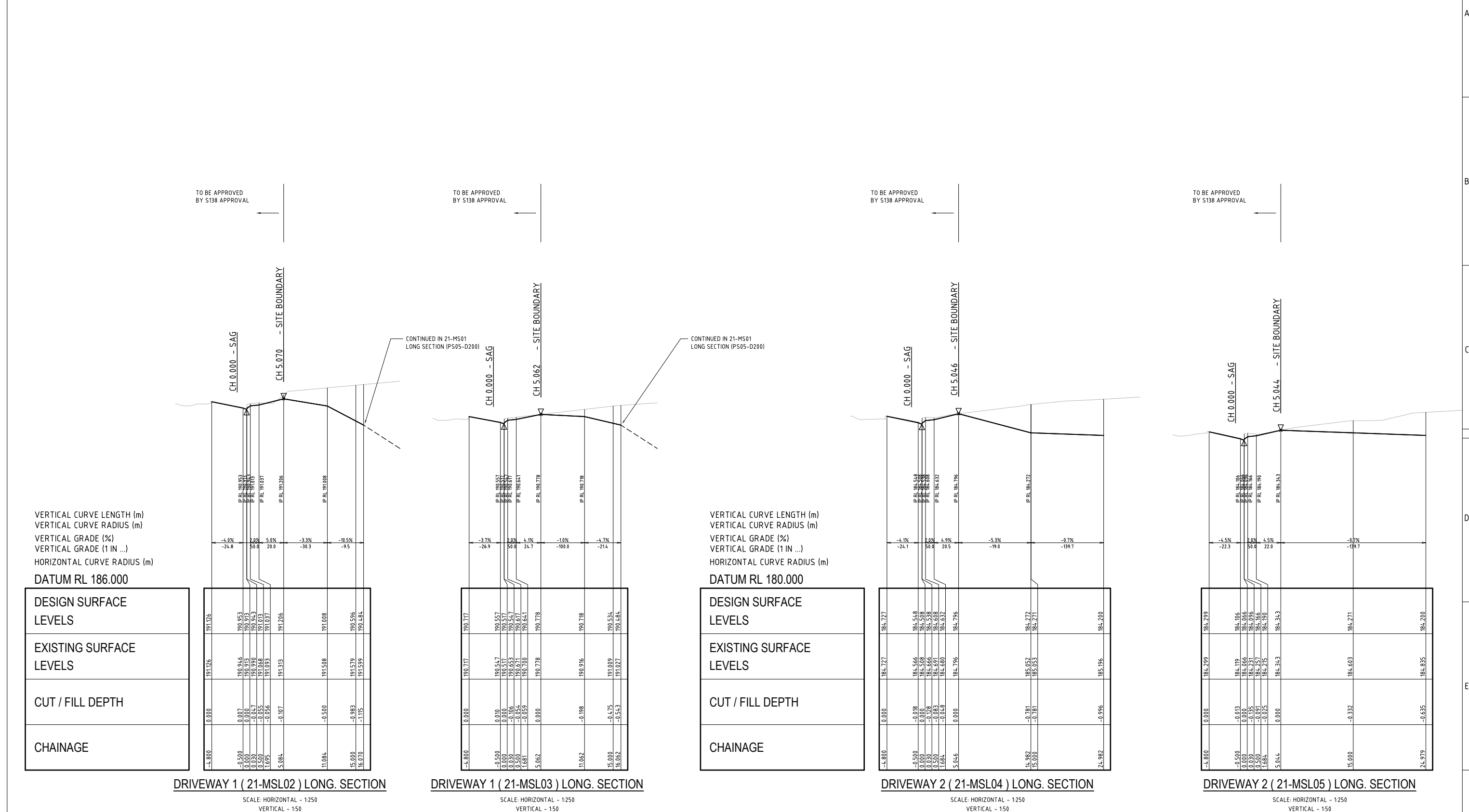


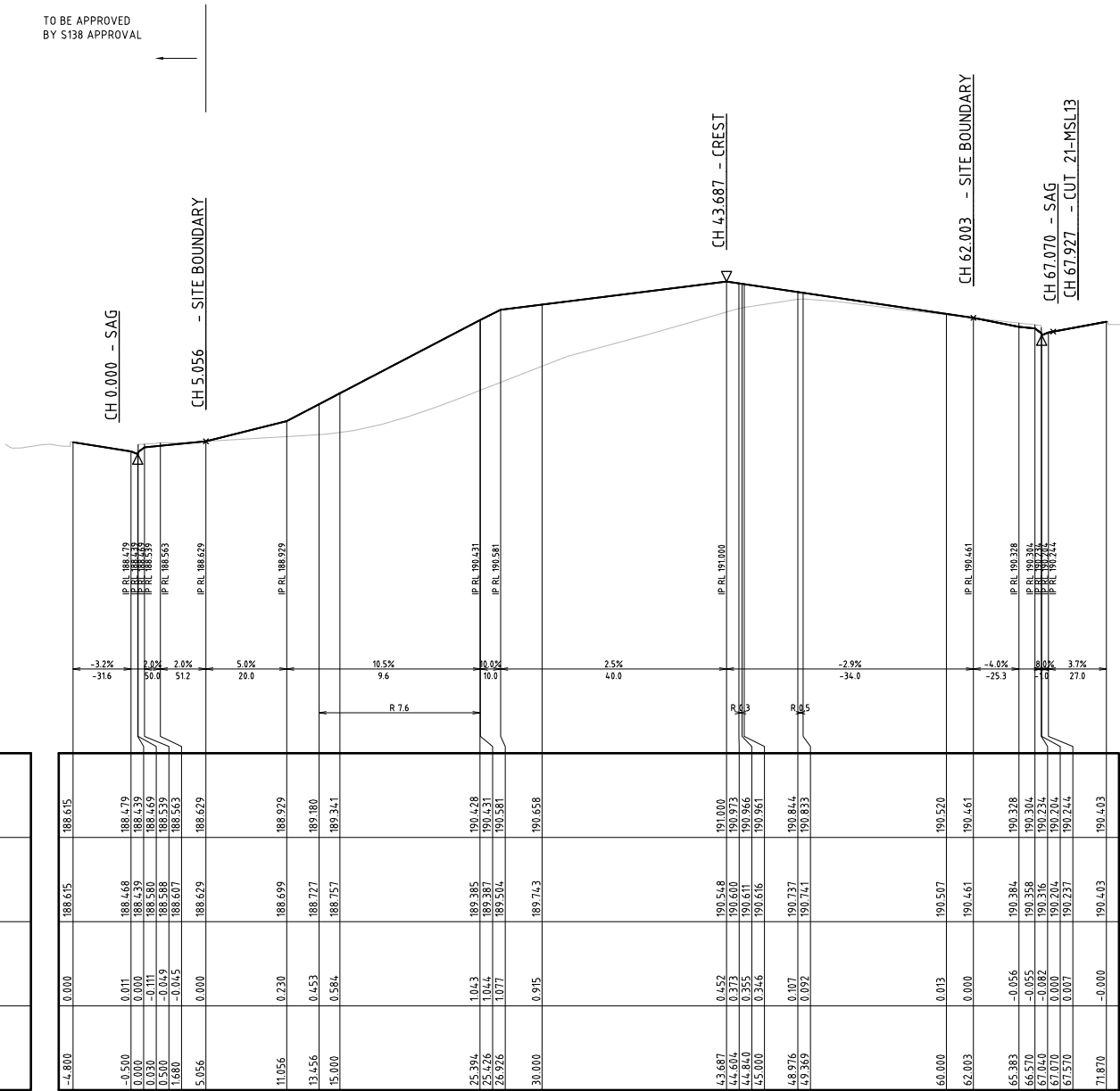
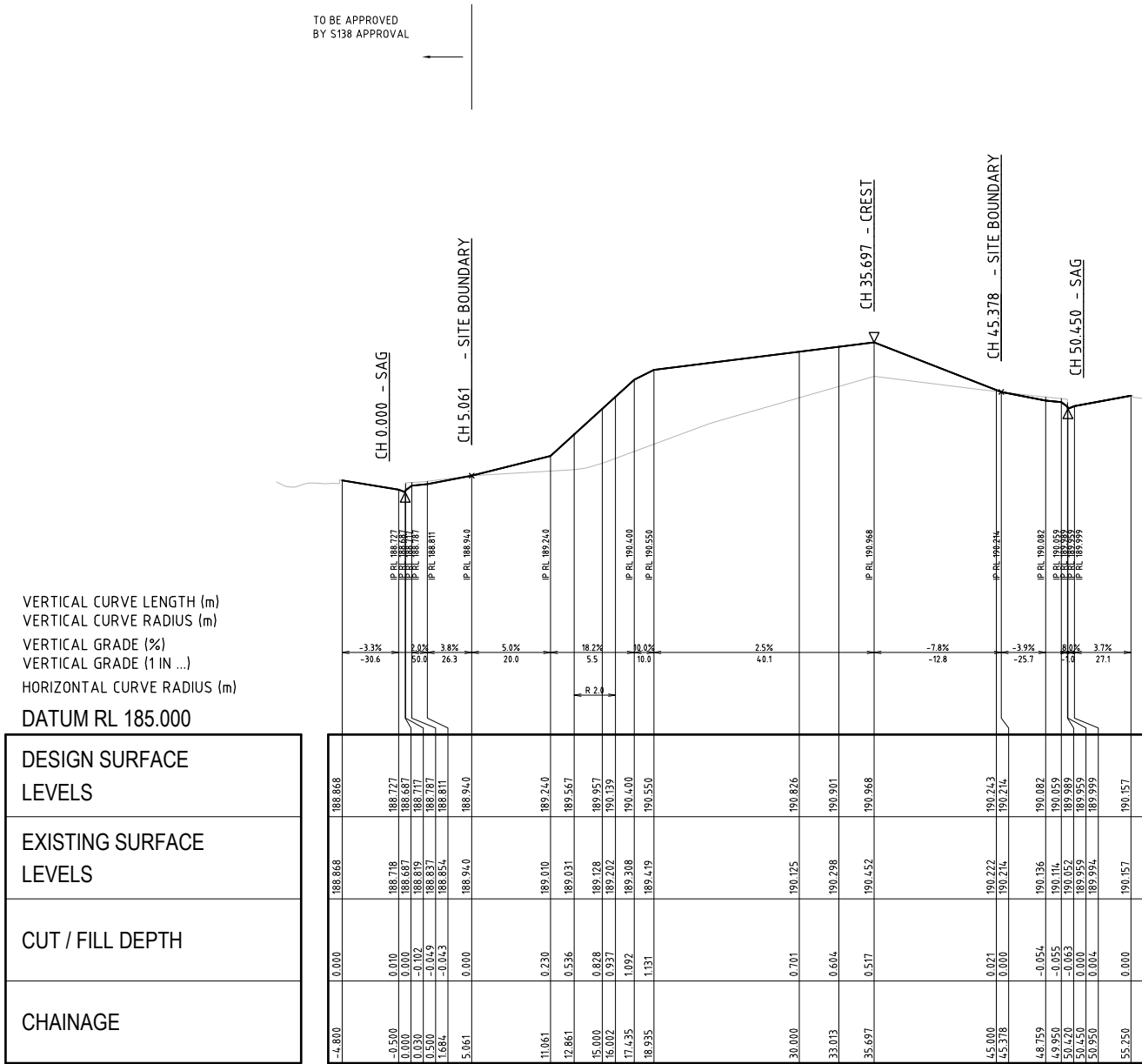
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DRAWING TITLE				
ROADWORKS LONGITUDINAL SECTION SHEET 1				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-D200	A

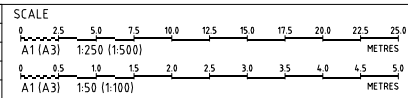
DRAWING ID: P1605687-PS05-R05-D200





NOTE:
1. THIS DRIVEWAY HAS BEEN CHECKED FOR VERTICAL CLEARANCE AGAINST A B99 VEHICLE AS PER AS 2890.1.

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPROVD
A	INITIAL RELEASE	24/05/2021	JS	PB	SL	JF



GRID	DATUM	PROJECT MANAGER	CLIENT
GDA 94	mAHD	JF	WYVERN HEALTH P/L C/- BUREAU SRH
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ROADWORKS LONGITUDINAL SECTIONS SHEET 3				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-D202	A

CONSTRUCTION CERTIFICATE

TO BE APPROVED
BY S138 APPROVAL

TO BE APPROVED
BY S138 APPROVAL

VERTICAL CURVE LENGTH (m)
VERTICAL CURVE RADIUS (m)
VERTICAL GRADE (%)
VERTICAL GRADE (1 IN ...)
HORIZONTAL CURVE RADIUS (m)
DATUM RL 187.000

DESIGN SURFACE LEVELS	191.499	191.314	191.274	191.304	191.374	191.398	191.569	191.265	191.113	190.789
EXISTING SURFACE LEVELS	191.499	191.309	191.274	191.363	191.425	191.452	191.691	192.114	192.173	192.393
CUT / FILL DEPTH	0.000	0.006	0.000	-0.059	-0.051	-0.053	-0.121	-0.849	-1.059	-1.604
CHAINAGE	-4.805	-0.500	0.000	0.500	1.000	1.500	5.121	11.210	15.000	23.103

SERVICE BAY CROSSING (21-MSL11) LONG. SECTION

SCALE: HORIZONTAL - 1:250
VERTICAL - 1:50

VERTICAL CURVE LENGTH (m)
VERTICAL CURVE RADIUS (m)
VERTICAL GRADE (%)
VERTICAL GRADE (1 IN ...)
HORIZONTAL CURVE RADIUS (m)
DATUM RL 187.000

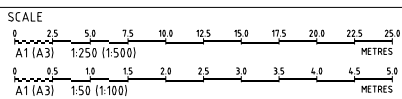
DESIGN SURFACE LEVELS	191.144	190.970	190.930	190.960	191.030	191.054	191.382	191.112	190.789
EXISTING SURFACE LEVELS	191.144	190.963	190.930	191.007	191.060	191.110	191.486	191.607	191.755
CUT / FILL DEPTH	0.000	0.007	0.000	-0.047	-0.055	-0.057	-0.104	-0.495	-0.966
CHAINAGE	-4.800	-0.500	0.000	0.500	1.000	1.697	8.258	15.000	23.072

SERVICE BAY CROSSING (21-MSL12) LONG. SECTION

SCALE: HORIZONTAL - 1:250
VERTICAL - 1:50

NOTE:
1. THIS DRIVEWAY HAS BEEN CHECKED FOR VERTICAL
CLEARANCE AGAINST A B99 VEHICLE AS PER AS 2890.1.

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
A	INITIAL RELEASE	24/05/2021	JS	PB	SL	JF



GRID
GDA 94

DATUM
mAHD

PROJECT MANAGER
JF

CLIENT
WYVERN HEALTH P/L C/- BUREAU SRH

PROJECT NAME/PLANSET TITLE
WYVERN HEALTH PRIVATE HOSPITAL
CIVIL & DRAINAGE ENGINEERING WORKS

4A LARROOL ROAD, TERREY HILLS, NSW
LOT 2 DP114-5029

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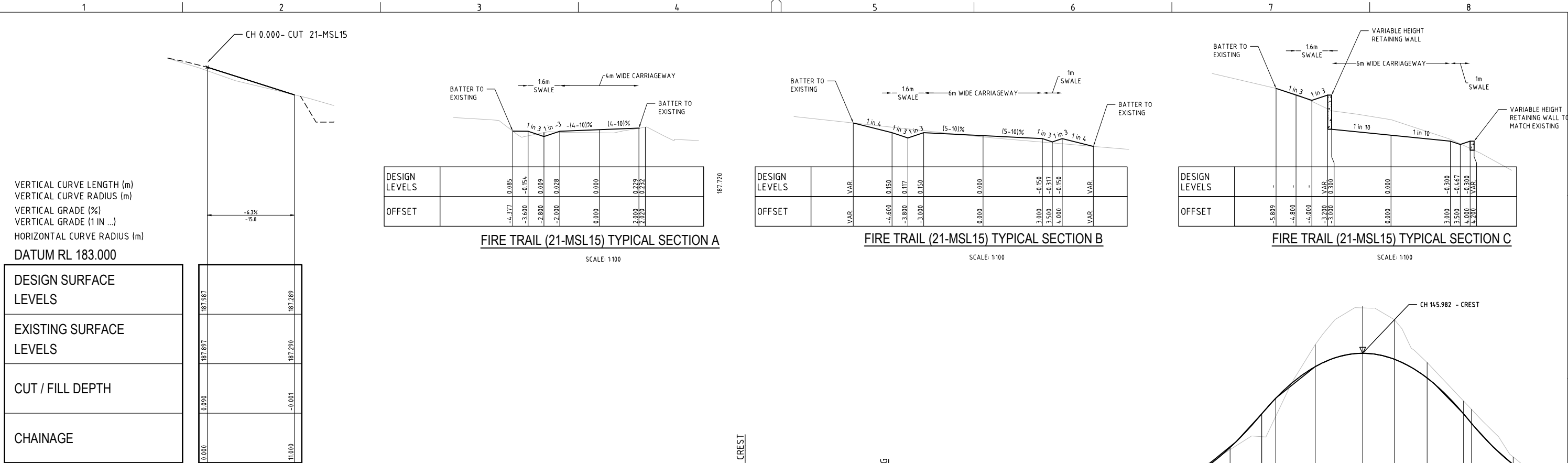
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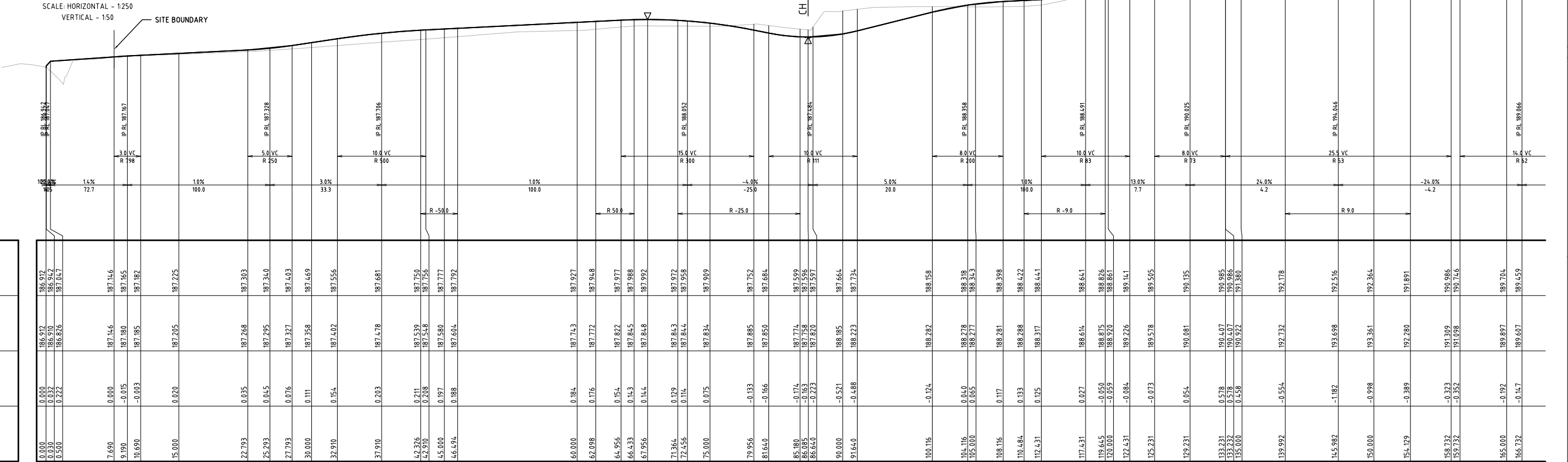
DRAWING TITLE				
ROADWORKS LONGITUDINAL SECTIONS SHEET 4				
PROJECT NO. P1605687	PLANSET NO. PS05	RELEASE NO. R05	DRAWING NO. PS05-D203	REVISION A

DRAWING ID: P1605687-PS05-R05-D203





FIRE TRAIL TURNING HEAD
(21-MSL16) LONG. SECTION

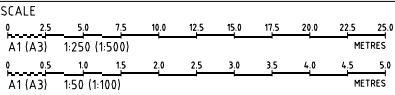


FIRE TRAIL (21-MSL15) LONG. SECTION

SCALE: HORIZONTAL - 1:250
VERTICAL - 1:50

NOTE:
1. THIS FIRETRAIL HAS BEEN CHECKED FOR VERTICAL CLEARANCE
AGAINST A HEAVY RIGID VEHICLE AS PER AS 2890.2.

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPROV
B	FIRE TRAIL EXTENDED TO LARROOL ROAD	22/03/2022	RK	SZ	SL	JF
A	INITIAL RELEASE	24/05/2021	JS	PB	SL	JF



GRID	DATUM	PROJECT MANAGER
GDA 94	mAHD	JF
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PROJECT NAME/PLANSET TITLE
WYVERN HEALTH PRIVATE HOSPITAL CIVIL & DRAINAGE ENGINEERING WORKS
4A LARROOL ROAD, TERREY HILLS, NSW LOT 2 DP1145029

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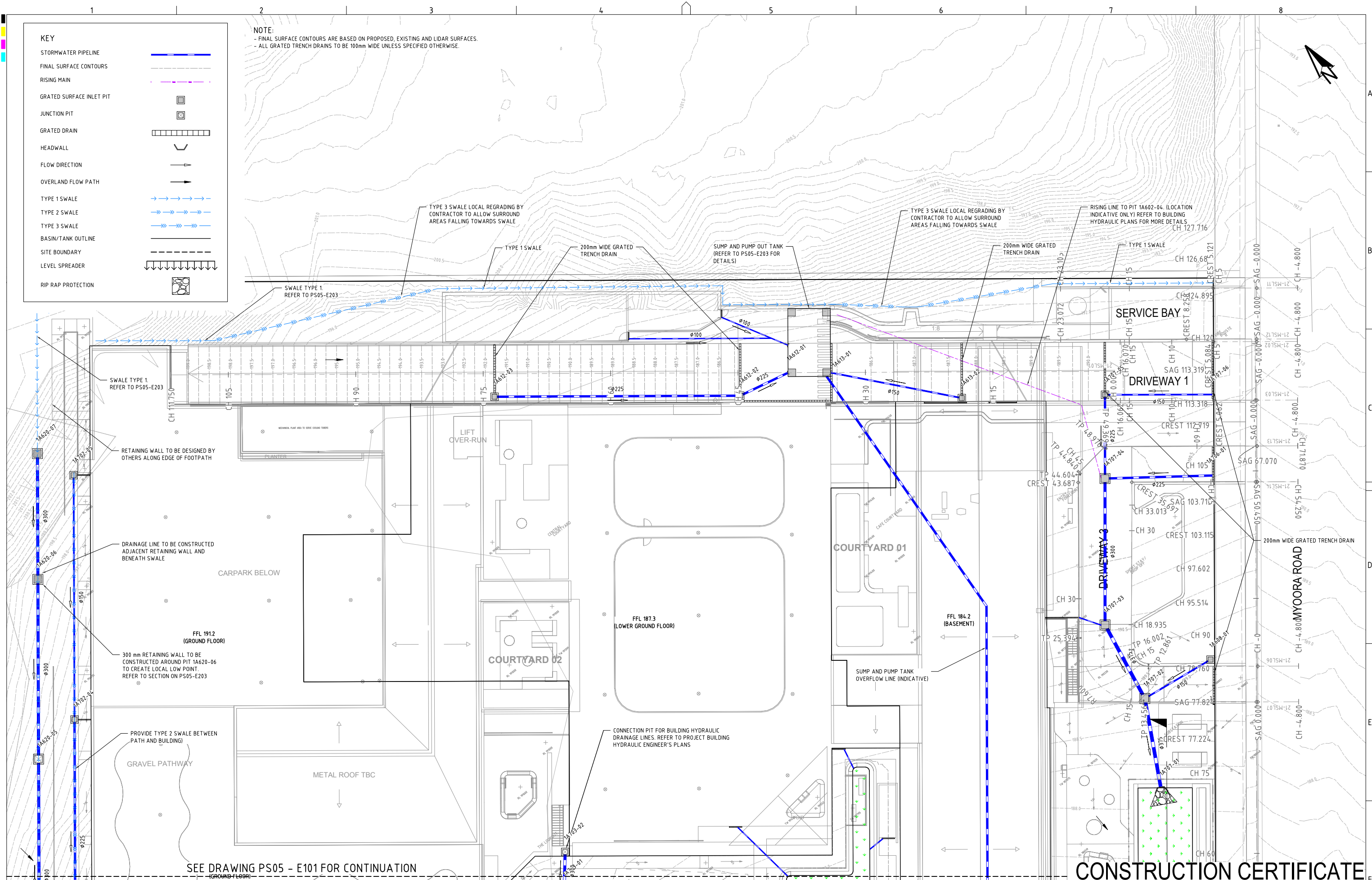
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CONSTRUCTION CERTIFICATE

DRAWING TITLE	PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
ROADWORKS LONGITUDINAL SECTIONS SHEET 5	P1605687	PS05	R05	PS05-D204	B

DRAWING ID: P1605687-PS05-R05-D204



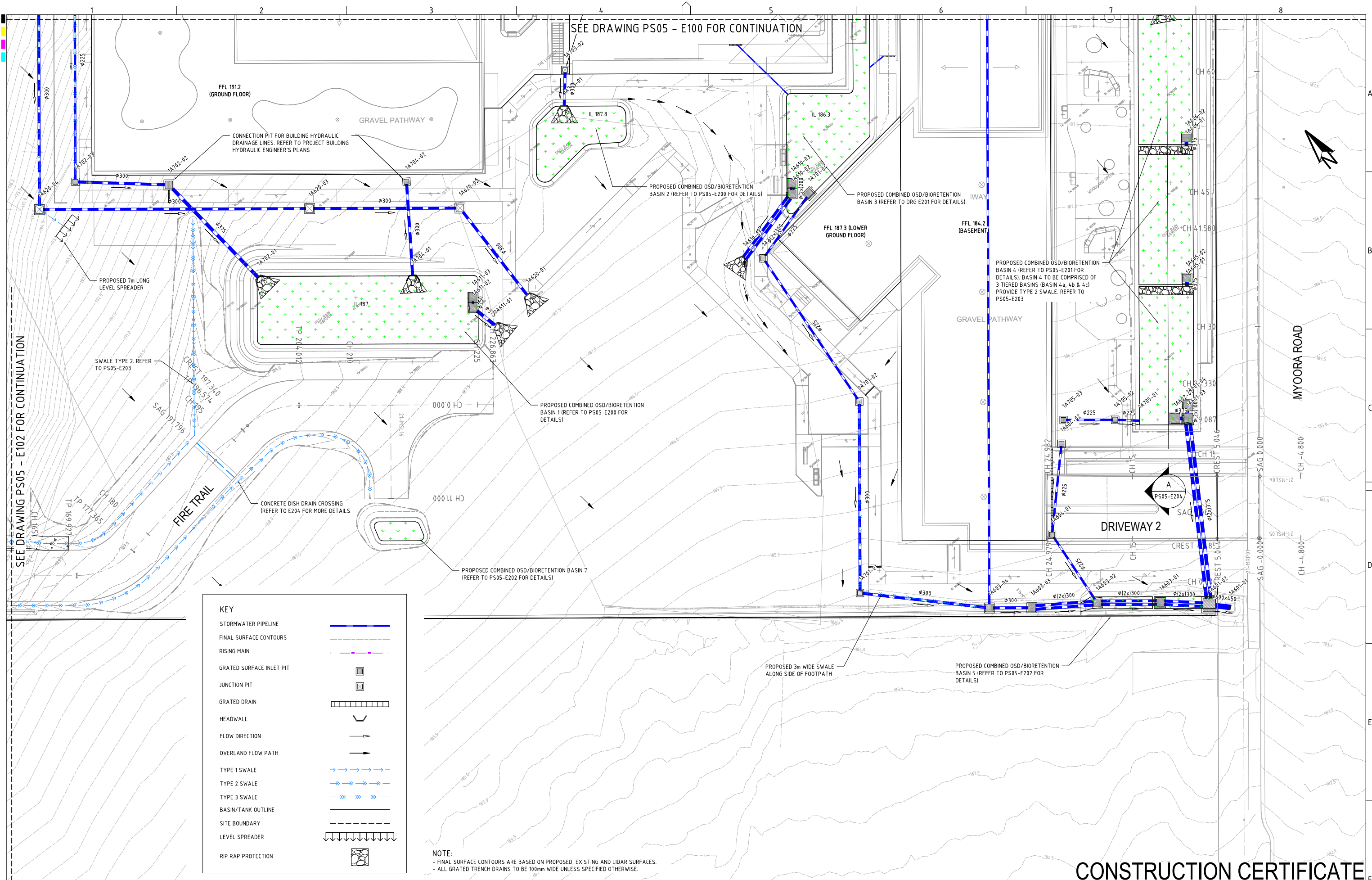
KEY

- STORMWATER PIPELINE
- FINAL SURFACE CONTOURS
- RISING MAIN
- GRATED SURFACE INLET PIT
- JUNCTION PIT
- GRATED DRAIN
- HEADWALL
- FLOW DIRECTION
- OVERLAND FLOW PATH
- TYPE 1 SWALE
- TYPE 2 SWALE
- TYPE 3 SWALE
- BASIN/TANK OUTLINE
- SITE BOUNDARY
- LEVEL SPREADER
- RIP RAP PROTECTION

NOTE:
- FINAL SURFACE CONTOURS ARE BASED ON PROPOSED, EXISTING AND LIDAR SURFACES.
- ALL GRATED TRENCH DRAINS TO BE 100mm WIDE UNLESS SPECIFIED OTHERWISE.

CONSTRUCTION CERTIFICATE

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE	GRID	DATUM	PROJECT MANAGER	CLIENT	CONSULTING ENGINEERS	DRAWING TITLE
C	UPDATED LANDSCAPE PLAN	23/09/2021	JS	AVG	SL	JF	0 2 4 6 8 10 12 14 16 18 20 METRES	GDA 94	mAHD	JF	WYVERN HEALTH P/L C/- BUREAU SRH	Martens & Associates Pty Ltd	DRAINAGE PLAN SHEET 1
B	MINOR AMENDMENTS	24/08/2021	JS	AVG	SL	JF					WYVERN HEALTH PRIVATE HOSPITAL CIVIL & DRAINAGE ENGINEERING WORKS	Environment Water Geotechnical Civil	
A	INITIAL RELEASE	24/05/2021	JS	AVG	SL	JF					4A LARROOL ROAD, TERREY HILLS, NSW LOT 2 DP114-5029	Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 Email: mail@martens.com.au Internet: www.martens.com.au	
													PROJECT NO. P1605687
													PLANSET NO. PS05
													RELEASE NO. R05
													DRAWING NO. PS05-E100
													REVISION C

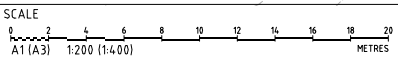


KEY

- STORMWATER PIPELINE
- FINAL SURFACE CONTOURS
- RISING MAIN
- GRATED SURFACE INLET PIT
- JUNCTION PIT
- GRATED DRAIN
- HEADWALL
- FLOW DIRECTION
- OVERLAND FLOW PATH
- TYPE 1 SWALE
- TYPE 2 SWALE
- TYPE 3 SWALE
- BASIN/TANK OUTLINE
- SITE BOUNDARY
- LEVEL SPREADER
- RIP RAP PROTECTION

NOTE:
- FINAL SURFACE CONTOURS ARE BASED ON PROPOSED, EXISTING AND LIDAR SURFACES.
- ALL GRATED TRENCH DRAINS TO BE 100mm WIDE UNLESS SPECIFIED OTHERWISE.

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	UPDATED LANDSCAPE PLAN	23/09/2021	JS	AVG	SL	JF
B	MINOR AMENDMENTS	24/08/2021	JS	AVG	SL	JF
A	INITIAL RELEASE	24/05/2021	JS	AVG	SL	JF



GRID
GDA 94

DATUM
mAHd

PROJECT MANAGER
JF

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CIVIL & DRAINAGE ENGINEERING WORKS

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LOT 2 DP1145029

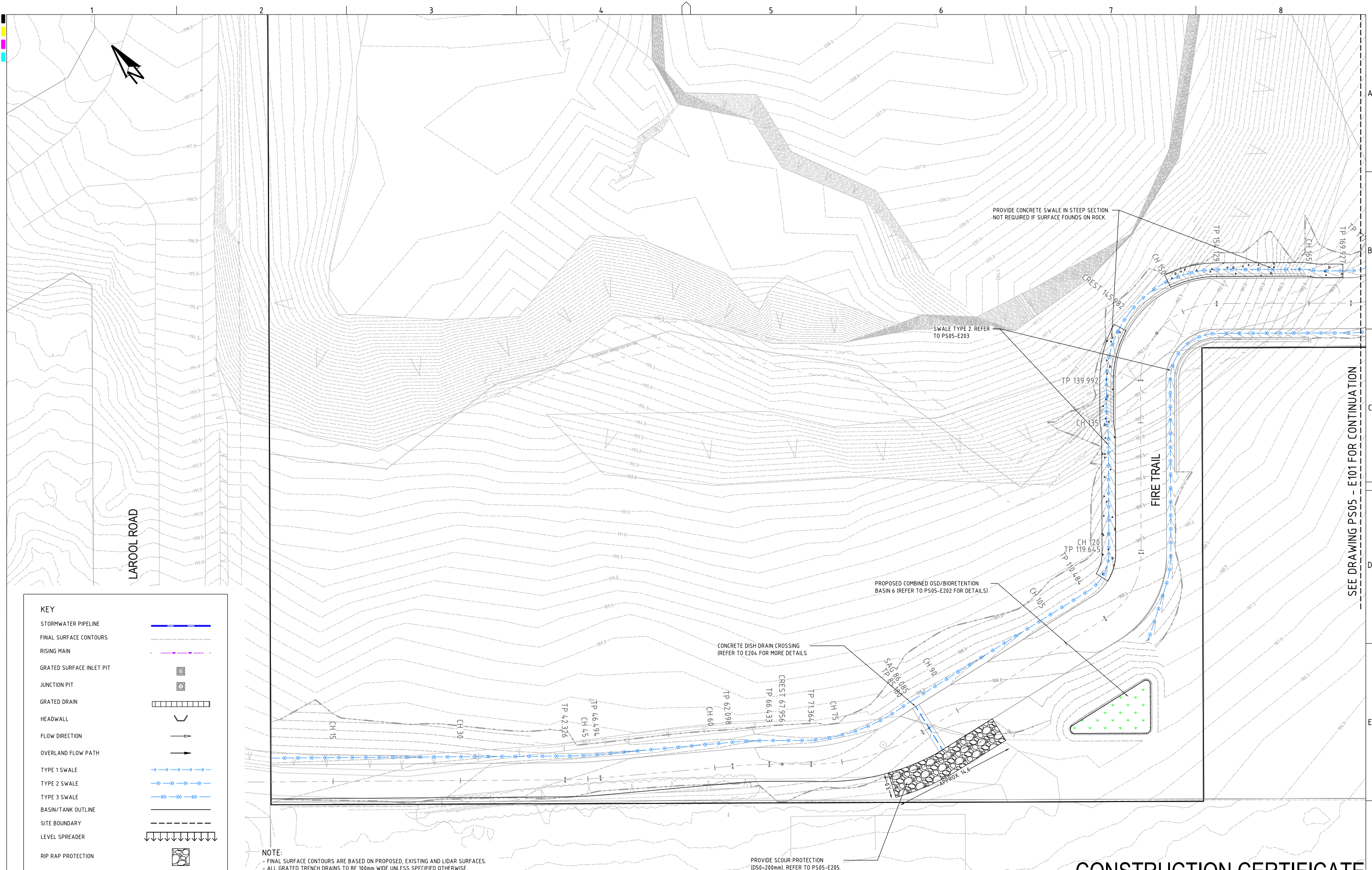
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DRAWING TITLE				
DRAINAGE PLAN SHEET 2				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-E101	C

CONSTRUCTION CERTIFICATE



KEY

STORMWATER PIPELINE

FINAL SURFACE CONTOURS

RISING MAIN

GRATED SURFACE INLET PIT

JUNCTION PIT

GRATED DRAIN

HEADWALL

FLOW DIRECTION

OVERLAND FLOW PATH

TYPE 1 SWALE

TYPE 2 SWALE

TYPE 3 SWALE

BASIN/TANK OUTLINE

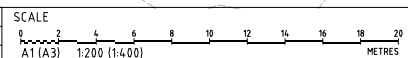
SITE BOUNDARY

LEVEL SPREADER

RIP RAP PROTECTION

NOTE:
- FINAL SURFACE CONTOURS ARE BASED ON PROPOSED, EXISTING AND LIDAR SURFACES.
- ALL GRATED TRENCH DRAINS TO BE 100mm WIDE UNLESS SPECIFIED OTHERWISE.

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
D	FIRE TRAIL EXTENDED TO LARROOL ROAD	22/03/2022	RK	SZ	SL	JF
C	UPDATED LANDSCAPE PLAN	23/09/2021	JS	AVG	SL	JF
B	MINOR AMENDMENTS	24/08/2021	JS	AVG	SL	JF
A	INITIAL RELEASE	24/05/2021	JS	AVG	SL	JF



GRID
GDA 94

DATUM
mAHD

PROJECT MANAGER
JF

CLIENT
WYVERN HEALTH P/L C/- BUREAU SRH

PROJECT NAME/PLANSET TITLE
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CIVIL & DRAINAGE ENGINEERING WORKS

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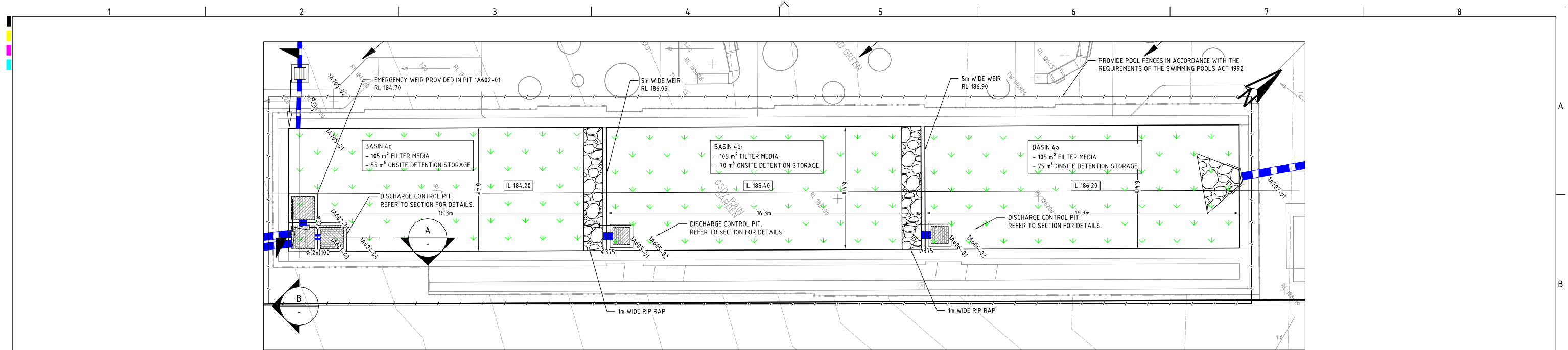
CONSTRUCTION CERTIFICATE

DRAWING TITLE				
DRAINAGE PLAN SHEET 3				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-E102	D

PRINTED: 2022-03-22 10:00:00
USER: JFARNEY

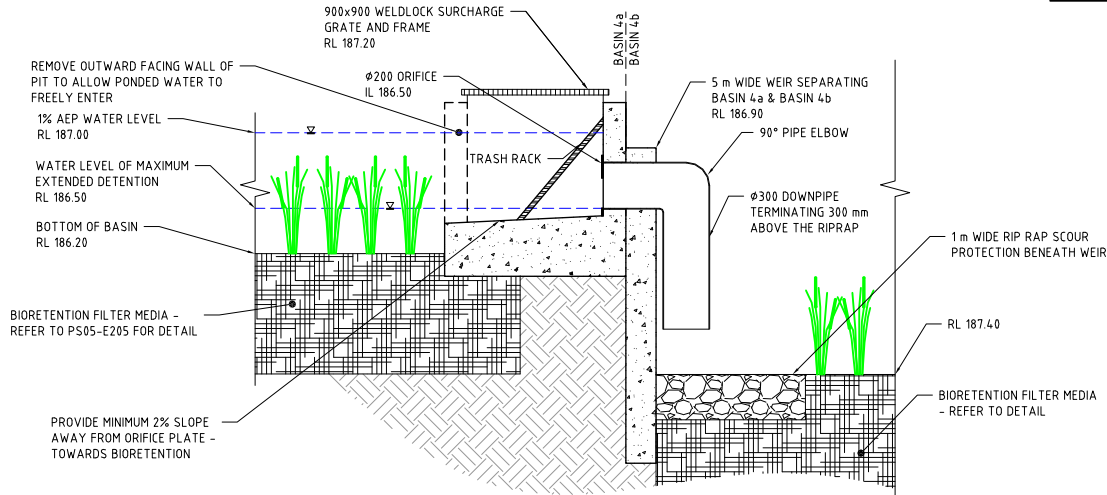
A1 / A3 LANDSCAPE (A1LC_02.0.0)

DRAWING ID: P1605687-PS05-R05-E102



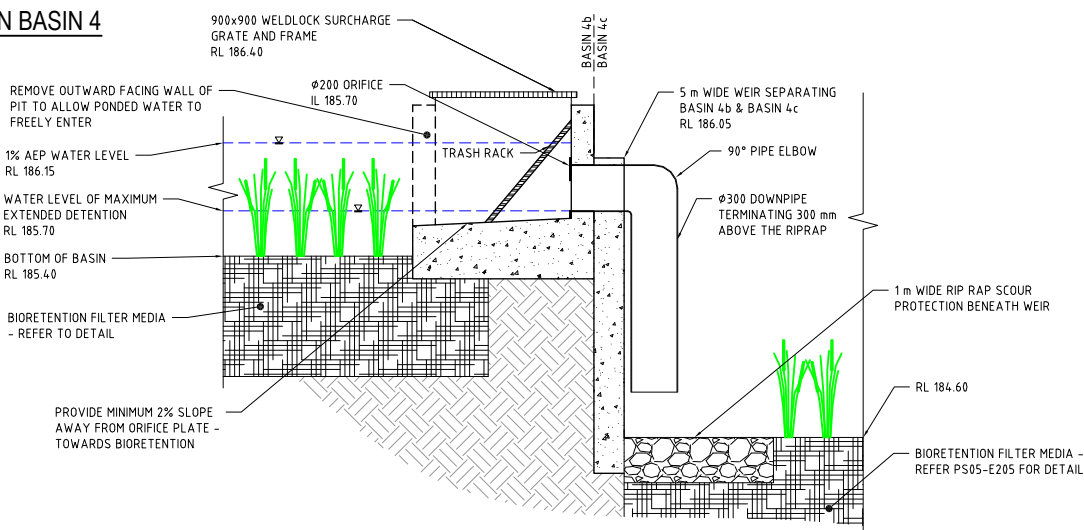
COMBINED OSD/BIORETENTION BASIN 4

SCALE 1:100



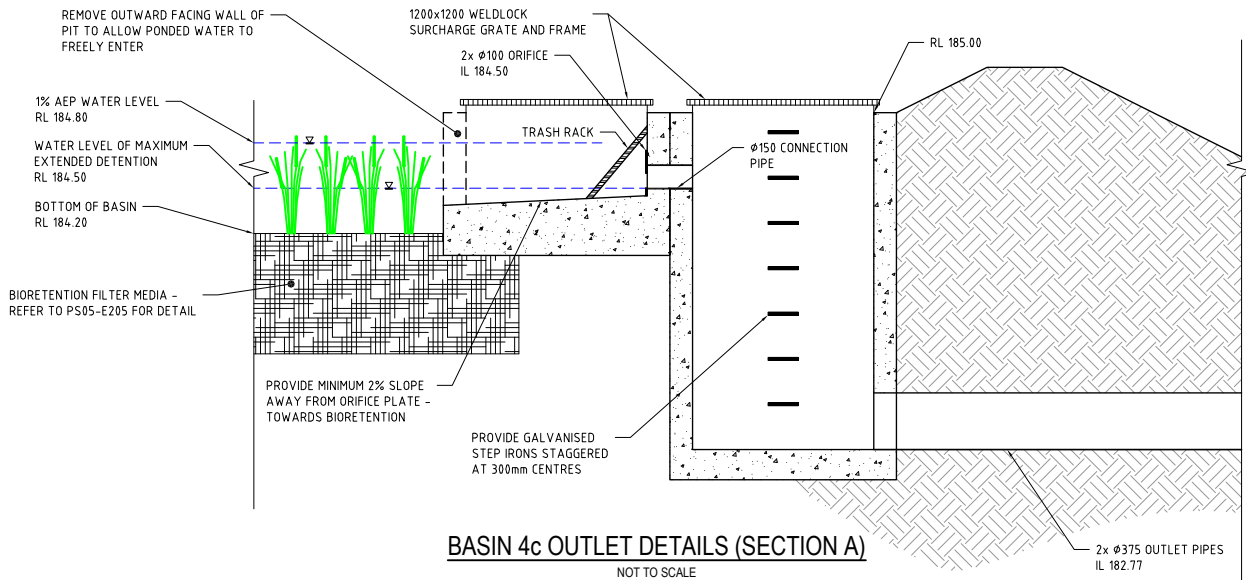
BASIN 4a OUTLET DETAILS

NOT TO SCALE



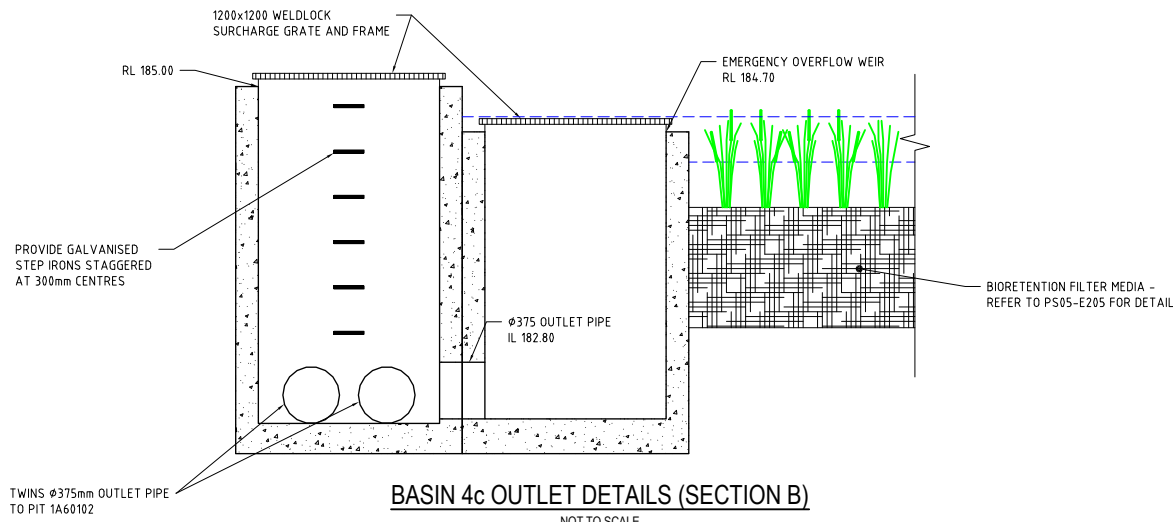
BASIN 4b OUTLET DETAILS

NOT TO SCALE



BASIN 4c OUTLET DETAILS (SECTION A)

NOT TO SCALE

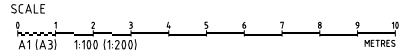


BASIN 4c OUTLET DETAILS (SECTION B)

NOT TO SCALE

CONSTRUCTION CERTIFICATE

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPROVED
C	UPDATED LANDSCAPE PLAN	23/09/2021	JS	AVG	SL	JF
B	MINOR AMENDMENTS	24/08/2021	JS	AVG	SL	JF
A	INITIAL RELEASE	24/05/2021	JS	AVG	SL	JF



GRID
GDA 94

DATUM
mAHN

PROJECT MANAGER
JF

CLIENT
WYVERN HEALTH P/L C/- BUREAU SRH

PROJECT NAME/PLANSET TITLE
WYVERN HEALTH PRIVATE HOSPITAL
CIVIL & DRAINAGE ENGINEERING WORKS

4A LARROOL ROAD, TERREY HILLS, NSW
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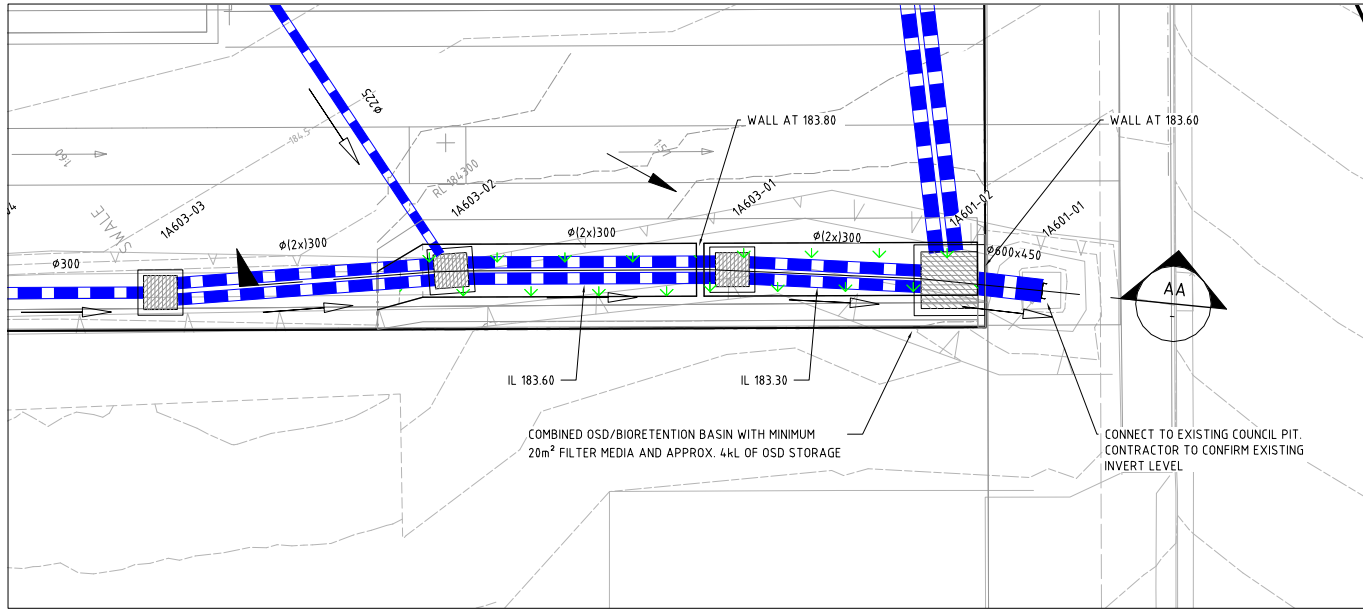
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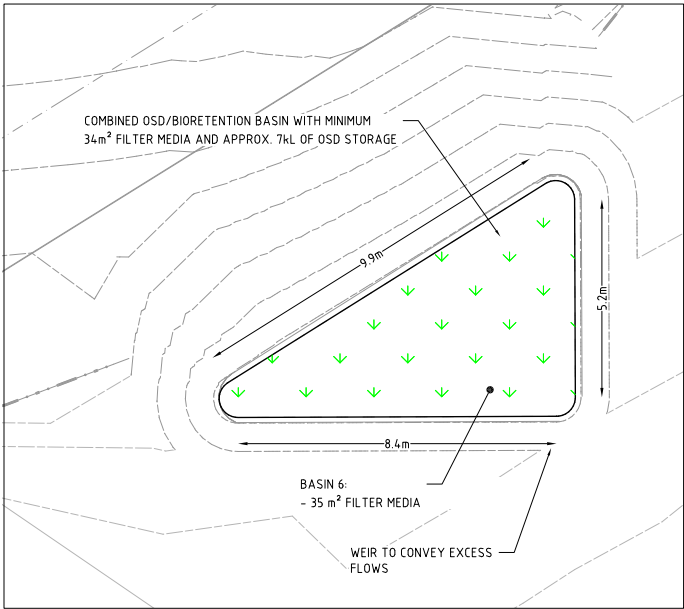
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DRAWING TITLE				
DRAINAGE DETAILS SHEET 2				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-E201	C

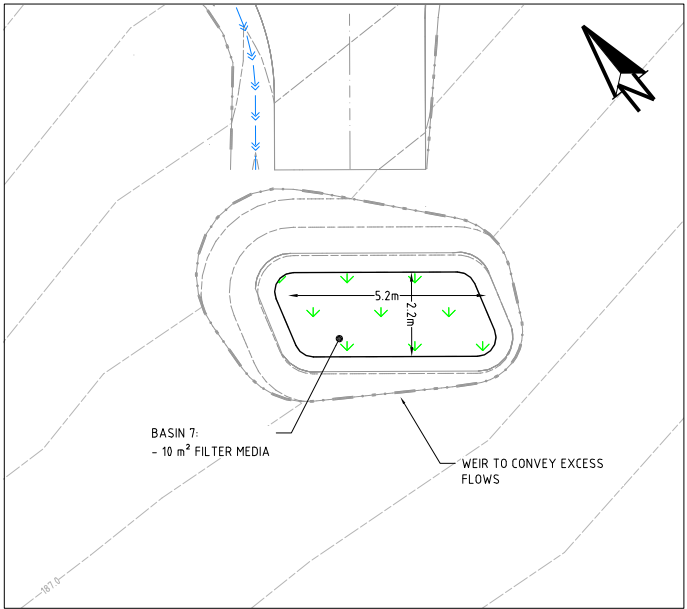
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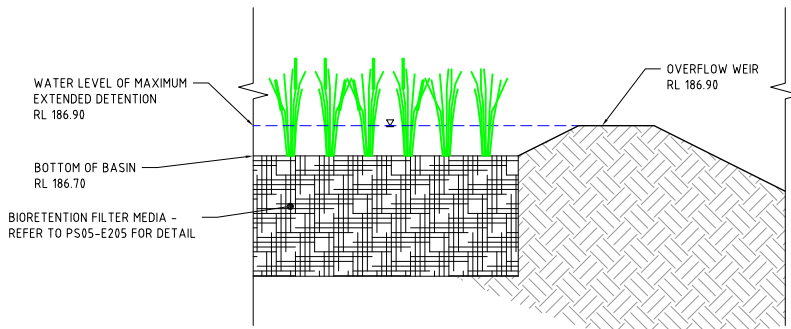
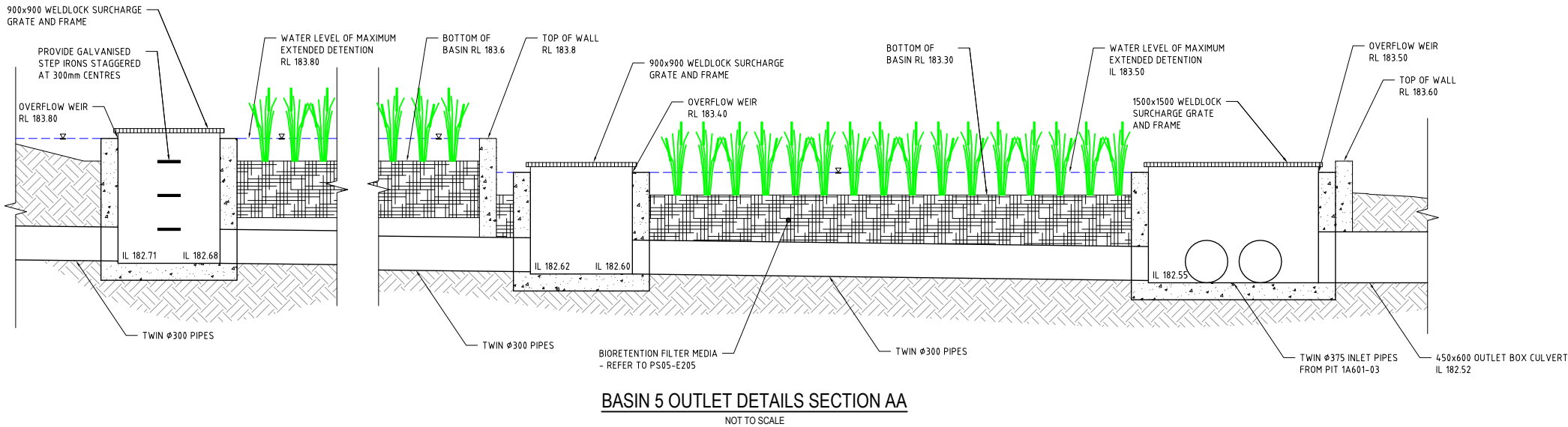
COMBINED OSD/BIORETENTION BASIN 5
SCALE 1:100



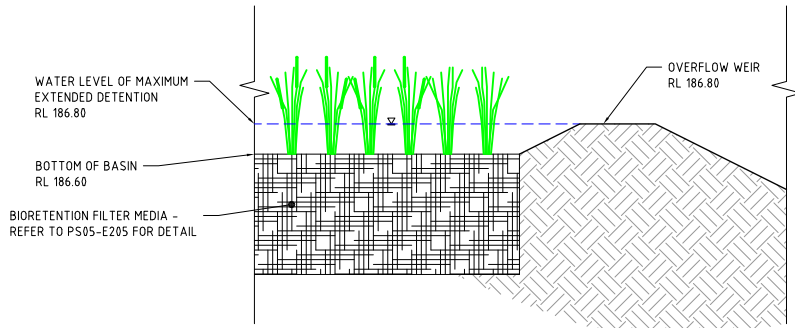
COMBINED OSD/BIORETENTION BASIN 6
SCALE 1:100



COMBINED OSD/BIORETENTION BASIN 7
SCALE 1:100

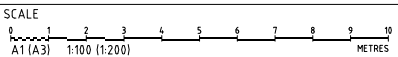


BASIN 6 OUTLET DETAILS
NOT TO SCALE



BASIN 7 OUTLET DETAILS
NOT TO SCALE

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	UPDATED LANDSCAPE PLAN	23/09/2021	JS	AVG	SL	JF
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A	INITIAL RELEASE	24/05/2021	JS	AVG	SL	JF



GRID
GDA 94

DATUM
mAHD

PROJECT MANAGER
JF

CLIENT
WYVERN HEALTH P/L C/- BUREAU SRH

PROJECT NAME/PLANSET TITLE
WYVERN HEALTH PRIVATE HOSPITAL
CIVIL & DRAINAGE ENGINEERING WORKS
4A LARROOL ROAD, TERREY HILLS, NSW
LOT 2 DP114-5029

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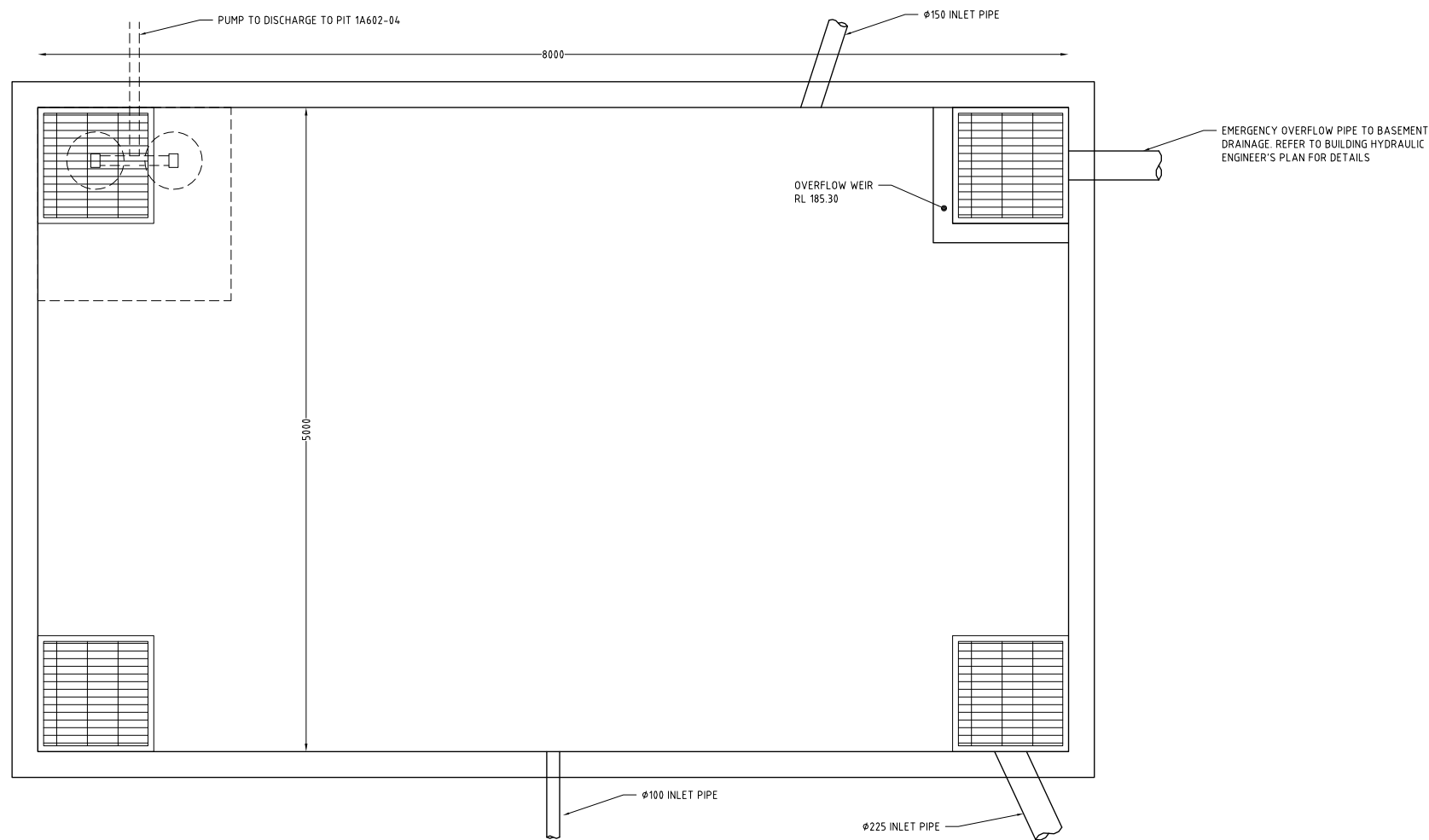
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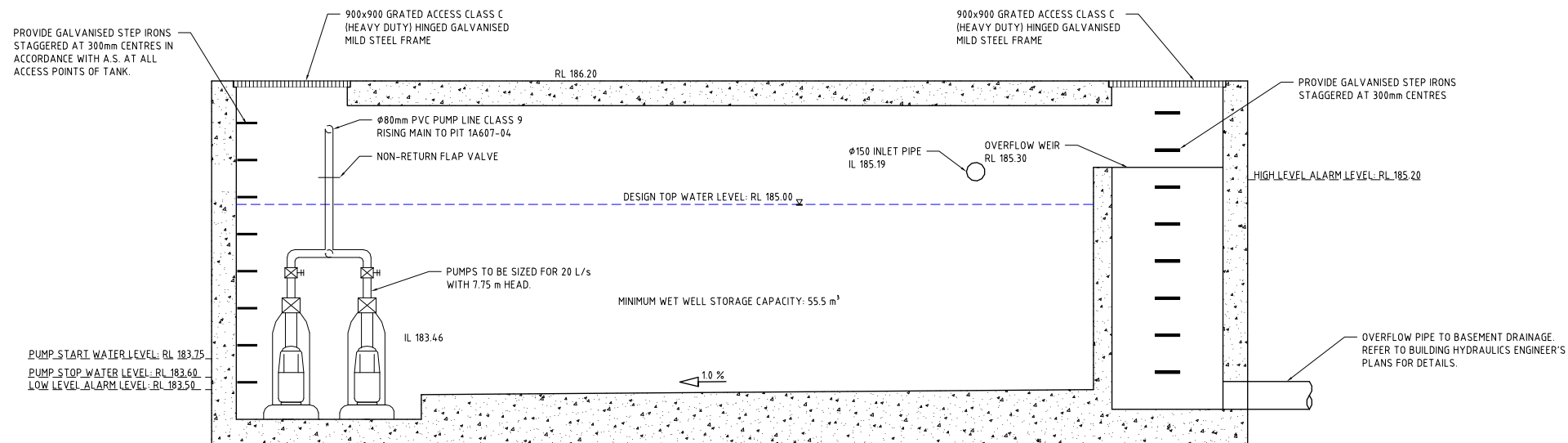
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DRAWING TITLE				
DRAINAGE DETAILS SHEET 3				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-E202	C

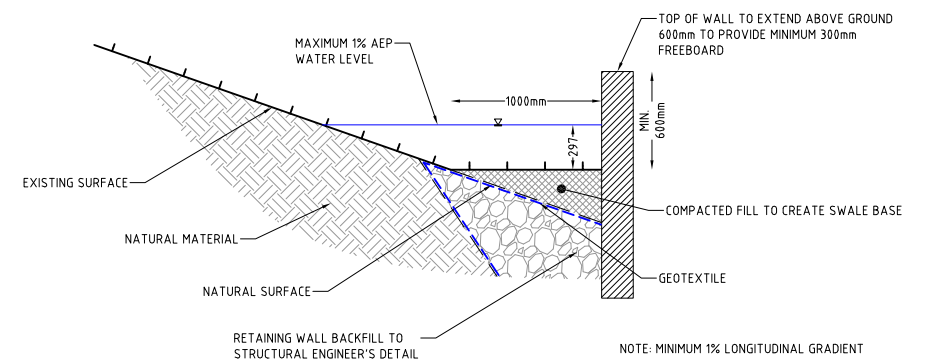
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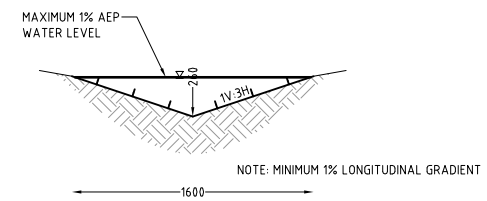
SUMP AND PUMP OUT TANK PLAN
NOT TO SCALE



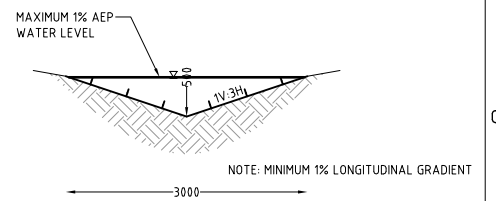
SUMP AND PUMP OUT TANK SECTION
NOT TO SCALE



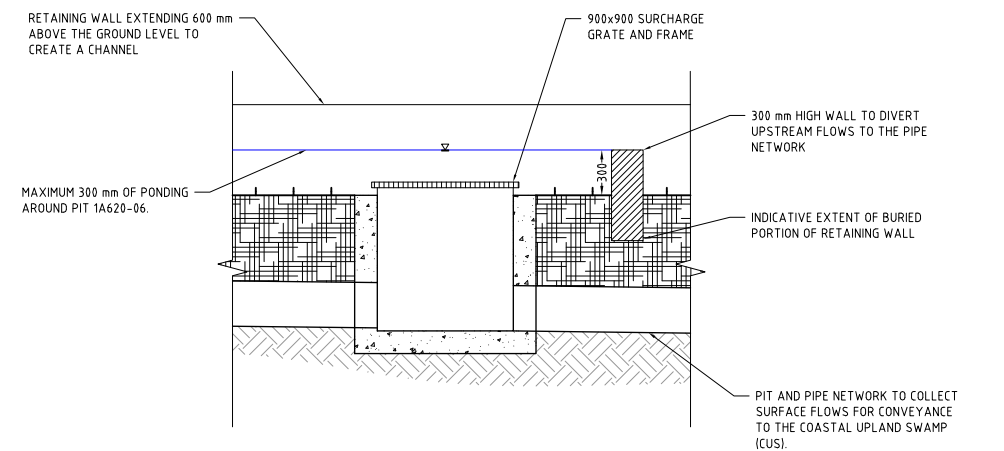
SWALE TYPE 1 - TYPICAL SECTION
NOT TO SCALE



SWALE TYPE 2 - TYPICAL SECTION
NOT TO SCALE



SWALE TYPE 3 - TYPICAL SECTION
NOT TO SCALE



PIT 1A620-06 SECTION
NOT TO SCALE

CONSTRUCTION CERTIFICATE

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE
A	INITIAL RELEASE	24/05/2021	JS	AVG	SL	JF	

GRID	DATUM	PROJECT MANAGER
GDA 94	mAHD	JF

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PROJECT NAME/PLANSET TITLE
WYVERN HEALTH PRIVATE HOSPITAL CIVIL & DRAINAGE ENGINEERING WORKS
4A LARROOL ROAD, TERREY HILLS, NSW LOT 2 DP114-5029



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DRAWING TITLE				
DRAINAGE DETAILS SHEET 4				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-E203	A

DRAWING ID: P1605687-PS05-R05-E203

0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000



CONFINED SPACE DANGER SIGN

NOTES:

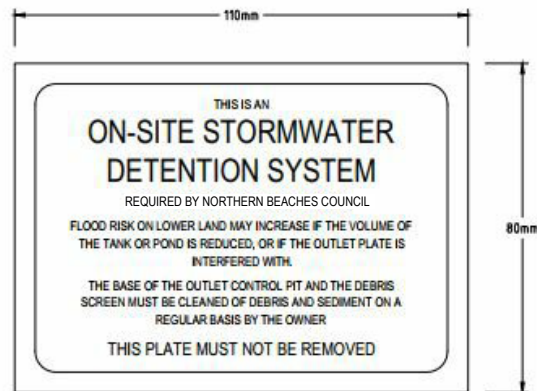
1. A CONFINED SPACE DANGER SIGN SHALL BE PLACED NEXT TO EACH AND EVERY ACCESS POINT SO THAT THEY ARE VISIBLE TO PERSONS ENTERING ANY BELOW GROUND TANK OR PIT.
2. COLOURS:
 - "DANGER" AND BACKGROUND - WHITE
 - ELLIPTICAL AREA - RED
 - RECTANGLE CONTAINING ELLIPSE - BLACK
 - LETTERING AND BORDER - BLACK
3. MINIMUM DIMENSIONS OF THE SIGN:
 - LARGE ENTRIES: - 300mm x 450mm
 - SMALL ENTRIES: - 250mm x 180mm
4. SIGN TO BE MADE FROM COLOUR BONDED ALUMINIUM OR POLYPROPYLENE.
5. SIGN FIXED USING HILTI CHEMSETS OR EXPOXY



ON SITE STORMWATER DETENTION WARNING SIGN

NOTES:

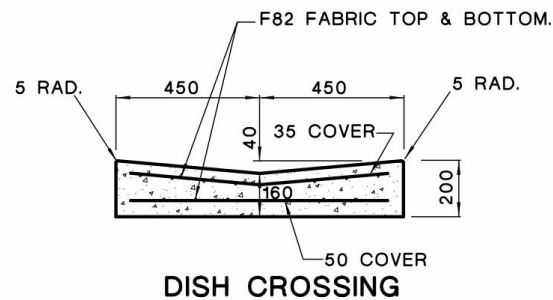
1. SIGN SHALL BE PLACED IN A CLEAR AND VISIBLE LOCATION AT EACH DETENTION BASIN.
2. COLOURS:
 - TRIANGLE AND "WARNING" - RED
 - WATER - BLUE
 - FIGURE AND LETTERING - BLACK
3. SIGN TO BE MADE FROM COLOUR BONDED ALUMINIUM OR POLYPROPYLENE.
4. SIGN FIXED USING HILTI CHEMSETS OR EXPOXY



ON SITE STORMWATER
DETENTION SYSTEM SIGN

NOTES:

1. CORNERS SQUARE
2. COLOURS:
 - ETCHED AND FILLED BLACK LEDGEND ON A NATURAL SILVER BACKGROUND.
3. CONSTRUCTED FROM ALUMINIUM 0.9mm MILL.
4. THIS SIGN SHALL BE PLACED IN A VISIBLE LOCATION NEAR A DISCHARGE CONTROL PIT OR AT THE ACCESS TO ONE.
5. SIGN FIXED USING HILTI CHEMSETS OR EXPOXY



REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
A	INITIAL RELEASE	24/05/2021	JS	AVG	SL	JF

SCALE
0 1 2 3 4 5 6 7 8 9 10
A1 (A3) 1:100 (1:200) METRES

GRID
GDA 94

DATUM
mAHD

PROJECT MANAGER
JF

CLIENT
WYVERN HEALTH P/L C/- BUREAU SRH

PROJECT NAME/PLANSET TITLE
WYVERN HEALTH PRIVATE HOSPITAL
CIVIL & DRAINAGE ENGINEERING WORKS
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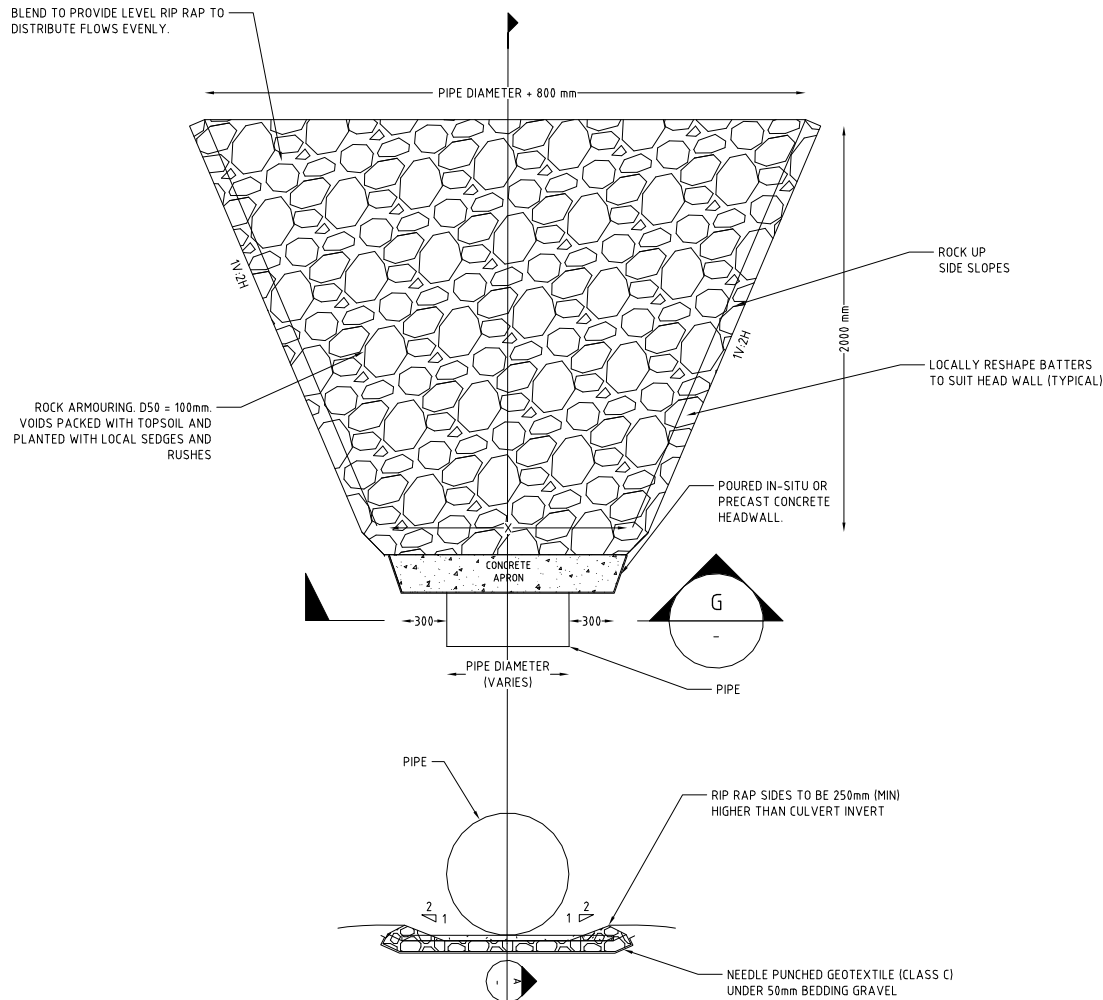
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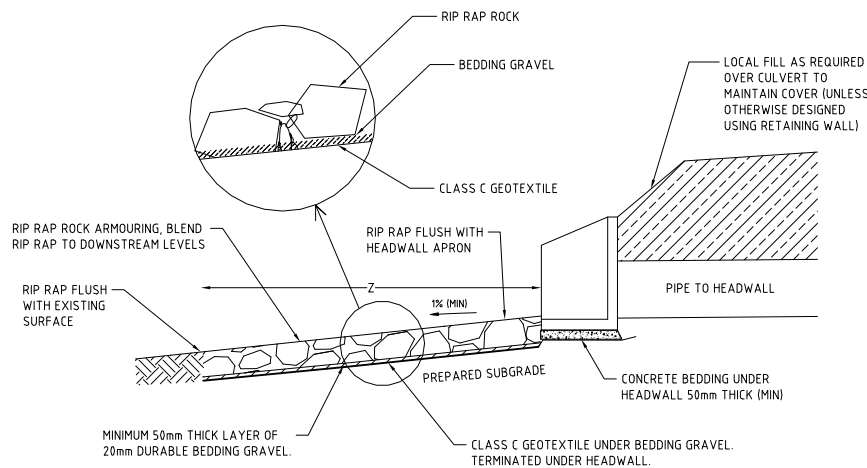
DRAWING TITLE				
DRAINAGE DETAILS SHEET 5				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-E204	A

DRAWING ID: P1605687-PS05-R05-E204



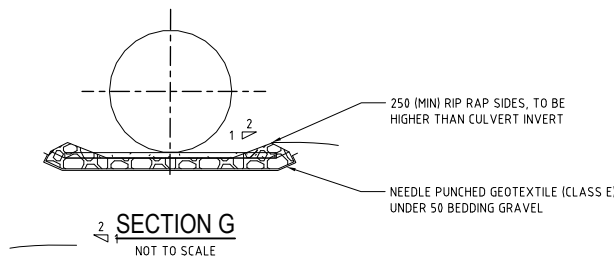
HEAD WALL OUTLET AND RIP RAP PLAN

NOT TO SCALE



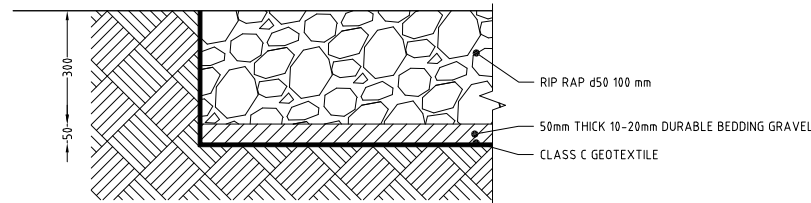
HEAD WALL OUTLET AND RIP RAP - SECTION A

NOT TO SCALE



SECTION G

NOT TO SCALE



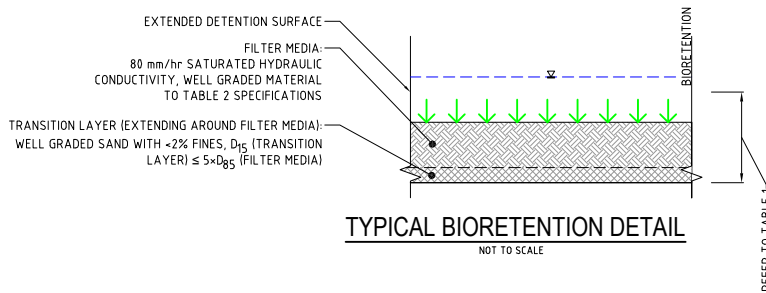
RIP RAP DETAIL

SCALE 1:10

HEADWALL AND RIP RAP NOTES:

1. COMPACT THE SUBGRADE FILL TO THE DENSITY OF THE SURROUNDING UNDISTURBED MATERIAL.
2. PREPARE A SMOOTH, EVEN FOUNDATION FOR THE STRUCTURE THAT WILL ENSURE THAT GEOTEXTILE DOES NOT SUSTAIN SERIOUS DAMAGE WHEN COVERED WITH ROCK.
3. SHOULD ANY MINOR DAMAGE TO THE GEOTEXTILE OCCUR, REPAIR IT BEFORE SPREADING ANY AGGREGATE. FOR REPAIRS, PATCH ONE PIECE OF FABRIC OVER THE DAMAGE, WITH ALL JOINTS AND PATCHES OVERLAPPING 300mm (MIN).
4. RIP-RAP MEAN SIZE (Ø50) TO BE PROVIDED AS BLENDED RANGE OF DIAMETERS BEDDED ON 50mm LAYER OF 10-20mm AGGREGATE OVER CLASS C GEOTEXTILE.
5. A 50mm (MIN) LAYER OF 10-20mm GRAVEL IS TO BE USED FOR BEDDING, UNLESS SPECIFIED OTHERWISE ON THE PLAN.
6. BEDDING GRAVEL IS TO BE UNDERLAIN BY CLASS C GEOTEXTILE, UNLESS SPECIFIED OTHERWISE ON THE PLAN.
7. RIP-RAP KEYED INTO BANKS & BED 300mm (MIN).
8. ALL ROCK PLACED IN DRAINAGE LINES AND AT OUTLETS IS TO BE UNWEATHERED SOUND ROCK AND TO BE UNDERLAIN BY BEDDING GRAVEL AND GEOTEXTILE.
9. RIP RAP AND CHANNEL ROCK MATERIAL (OTHER THAN ROCK STEPS AND DROP STRUCTURES) IS SPECIFIED IN TERMS OF Ø50 ROCK SIZE, MEASURED ALONG THE B-AXIS DIMENSION. THIS IS THE MEDIUM SIZE OF ROCK WITHIN THE LAYER. THE LARGEST AND SMALLEST ROCK SHALL NOT DIFFER FROM THIS FIGURE BY MORE THAN 50%.
10. ALL ROCK IS TO BE HAND PLACED TO ENSURE GOOD BEDDING OF INDIVIDUAL ROCKS AND TIGHT INTERLOCKING OF ADJACENT ROCKS.
11. ALL ROCK IS TO BE APPROVED BY THE SUPERINTENDENT PRIOR TO USE. UNWEATHERED SANDSTONE IS PREFERRED, OTHER NATURAL ROCK SHALL BE CONSIDERED ON RECEIPT OF SAMPLES.
12. RECYCLED AGGREGATES MAY BE USED FOR BEDDING GRAVEL AND BURIED ROCK ELEMENTS FOLLOWING APPROVAL BY THE SUPERINTENDENT.

TABLE 1			
	BASINS 1,2,3 & 4	BASINS 5	BASINS 6 & 7
EXTENDED DETENTION DEPTH	300mm	200mm	200mm
FILTER MEDIA	500mm	300mm	500mm
TRANSITION LAYER	100mm	100mm	100mm

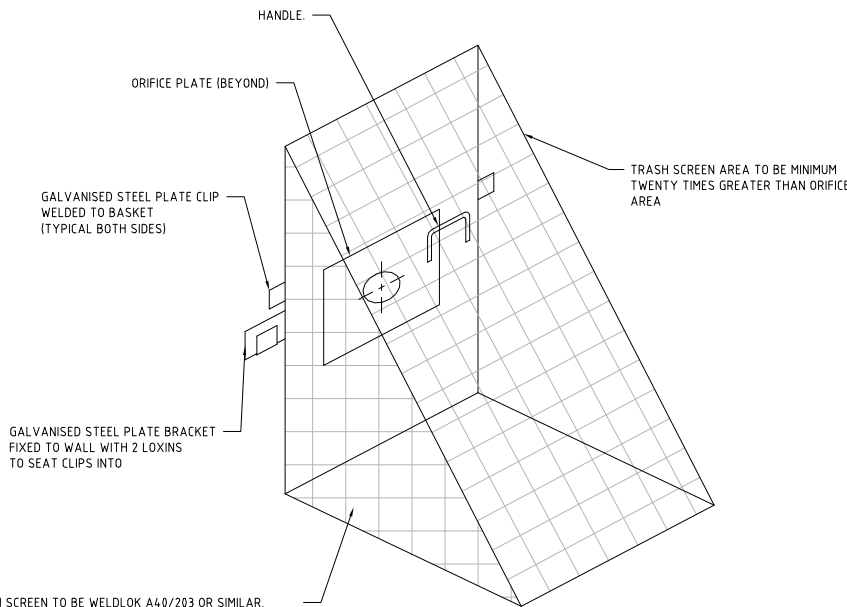


TYPICAL BIORETENTION DETAIL

NOT TO SCALE

TABLE 2		
	% w/w	RETAINED (mm)
CLAY & SILT	< 3%	< 0.05 mm
VERY FINE SAND	5 - 30 %	0.05 - 0.15 mm
FINE SAND	10 - 30 %	0.15 - 0.25 mm
MEDIUM SAND	40 - 60 %	0.25 - 0.50 mm
COARSE SAND	< 25 %	0.50 - 1.00 mm
VERY COARSE SAND	0 - 10 %	1.00 - 2.00 mm
FINE GRAVEL	< 3 %	2.00 - 3.40 mm

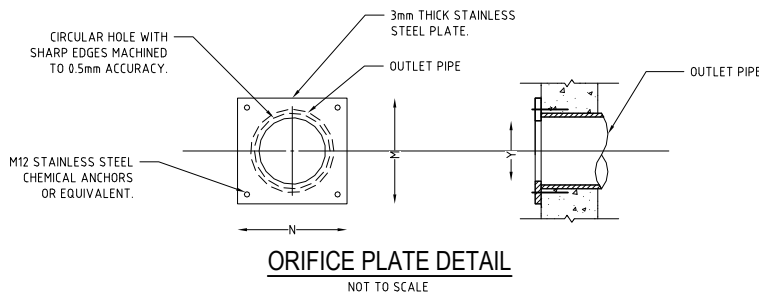
- 1- BASED ON CRC FOR WATER SENSITIVE CITIES (2015) 'ADOPTION GUIDELINES FOR STORMWATER BIOFILTRATION SYSTEMS'.
- 2- FILTER MEDIA SPECIFICATION TO BE CONFIRMED AND APPROVED BY HORTICULTURIST.



TRASH SCREEN DETAIL


NOT TO SCALE

TRASH SCREEN TO BE WELDLOK A40/203 OR SIMILAR. TRASH SCREEN TO BE MINIMUM 20 TIMES THE ORIFICE AREA TO REDUCE THE PERFORMANCE LOSS THROUGH THE SCREEN



BASIN	PLATE DIMENSION (mm)	ORIFICE DIAMETER (mm)
	M	Y
1	450x450	250
3	(2x) 400x400	(2x) 200
4a	400x400	200
4b	400x400	200
4c	(2x) 300x300	(2x) 100

CONSTRUCTION CERTIFICATE

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE	GRID	DATUM	PROJECT MANAGER	CLIENT	Consulting Engineers		DRAWING TITLE		
A	INITIAL RELEASE	24/08/2021	JS	AVG	SL	JF	0 0.25 0.50 0.75 1.00 1.25 1.50 1.75 2.00 2.25 2.50 A1 (A3) 1:25 (1:50) METRES			JF	WYVERN HEALTH P/L C/- BUREAU SRH	 Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 Email: mail@martens.com.au Internet: www.martens.com.au	Environment Water Geotechnical Civil	DRAINAGE DETAILS SHEET 6		
											PROJECT NAME/PLANSET TITLE WYVERN HEALTH PRIVATE HOSPITAL CIVIL & DRAINAGE ENGINEERING WORKS 4 A LARROOL ROAD, TERREY HILLS, NSW LOT 2 DP114-5029			PROJECT NO. P1605687	PLANSET NO. PS05	RELEASE NO. R05
								DISCLAIMER & COPYRIGHT This plan must not be used for construction unless signed as approved by principal certifying authority. All measurements in millimetres unless otherwise specified. This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd. (C) Copyright Martens & Associates Pty Ltd								

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A1 / A3 LANDSCAPE (A1/LC_v02.0.0)

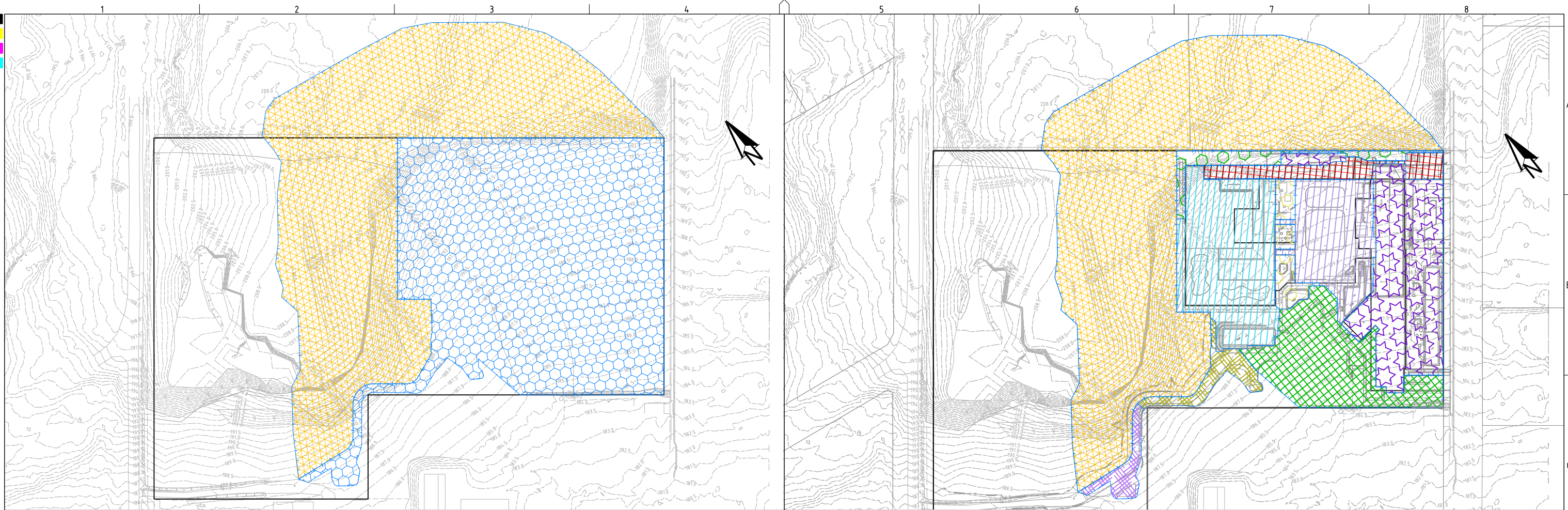
DRAWING ID: P1605687-PS05-R05-E205

PIT SCHEDULE

Pit		INTERNAL		INLET		OUTLET		PIT		REMARKS	
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH
1A601-04	RAISED GRATE SURFACE INLET PIT 1200x1200	335130.235	6270955.412	1.20	1.20	-	-	(2x)100	184.500	185.000	0.500
1A601-03	RAISED GRATE SURFACE INLET PIT 1200x1200	335129.305	6270954.238	1.20	1.20	(2x)100	184.500	(2x)375	182.766	185.000	2.234
1A601-02	RAISED GRATE SURFACE INLET PIT 1500x1500	335117.528	6270935.539	1.50	1.50	(2x)375	182.545	600x450	182.525	183.500	0.975
1A601-01	PIPE CONNECTION	335119.261	6270933.779	0.00	0.00	600x450	182.500	-	-	182.950	0.450
setout level to maximum pipe obvert											
Pit		INTERNAL		INLET		OUTLET		PIT		REMARKS	
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH
1A602-01	RAISED GRATE SURFACE INLET PIT 1200x1200	335128.130	6270955.177	1.20	1.20	-	-	375	182.801	182.794	1.899
1A601-03	RAISED GRATE SURFACE INLET PIT 1200x1200	335129.305	6270954.238	1.20	1.20	375	182.786	-	-	185.000	2.234
Pit		INTERNAL		INLET		OUTLET		PIT		REMARKS	
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH
1A603-04	GRADED SURFACE INLET PIT 900x900	335097.154	6270951.532	0.90	0.90	-	-	300	182.864	183.950	1.086
1A603-03	RAISED GRATE SURFACE INLET PIT 900x900	335101.057	6270948.407	0.90	0.90	300	182.814	(2x)300	183.922	183.922	1.128
1A603-02	RAISED GRATE SURFACE INLET PIT 900x900	335107.411	6270944.024	0.90	0.90	(2x)300	182.717	(2x)300	182.697	183.800	1.103
1A603-01	RAISED GRATE SURFACE INLET PIT 900x900	335113.227	6270939.367	0.90	0.90	(2x)300	182.622	(2x)300	182.602	183.500	0.898
1A601-02	RAISED GRATE SURFACE INLET PIT 1500x1500	335117.528	6270935.539	1.50	1.50	(2x)300	182.545	-	-	183.500	0.975
Pit		INTERNAL		INLET		OUTLET		PIT		REMARKS	
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH
1A604-02	GRADED SURFACE INLET PIT 600x600	335115.890	6270961.231	0.60	0.60	-	-	225	183.413	185.405	1.992
1A604-01	GRADED SURFACE INLET PIT 600x600	335108.309	6270953.599	0.60	0.60	225	183.306	225	183.286	184.204	0.918
1A603-02	RAISED GRATE SURFACE INLET PIT 900x900	335107.411	6270944.024	0.90	0.90	225	182.944	-	-	183.800	1.103
Pit		INTERNAL		INLET		OUTLET		PIT		REMARKS	
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH
1A605-02	RAISED GRATE SURFACE INLET PIT 900x900	335139.615	6270967.118	0.90	0.90	-	-	375	184.611	186.400	1.789
1A605-01	OUTLET	335139.021	6270966.376	0.00	0.00	375	184.600	-	-	184.975	0.375
setout level to maximum pipe obvert											
Pit		INTERNAL		INLET		OUTLET		PIT		REMARKS	
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH
1A606-02	RAISED GRATE SURFACE INLET PIT 900x900	335149.929	6270979.997	0.90	0.90	-	-	375	186.500	187.200	0.700
1A606-01	OUTLET	335149.335	6270979.256	0.00	0.00	375	185.400	-	-	185.775	0.375
setout level to maximum pipe obvert											
Pit		INTERNAL		INLET		OUTLET		PIT		REMARKS	
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH
1A608-01	GRADED SURFACE INLET PIT 600x600	335171.372	6271002.051	0.60	0.60	-	-	150	188.217	189.000	0.783
1A707-02	GRADED SURFACE INLET PIT 900x900	335162.477	6271003.345	0.90	0.90	150	-	-	-	-	-
Setout level to landscape architect plans											
Pit		INTERNAL		INLET		OUTLET		PIT		REMARKS	
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH
1A610-03	RAISED GRATE SURFACE INLET PIT 900x900	335110.440	6271004.970	0.90	0.90	-	-	(2x)200	186.600	(2x)300	186.550
1A610-02	RAISED GRATE SURFACE INLET PIT 900x900	335109.691	6271004.033	0.90	0.90	(2x)200	186.600	(2x)300	186.550	186.950	0.400
1A610-01	HEADWALL	335100.513	6271001.636	0.00	0.00	(2x)300	186.455	-	-	186.755	0.300
setout level to maximum pipe obvert											
Pit		INTERNAL		INLET		OUTLET		PIT		REMARKS	
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH
1A611-03	RAISED GRATE SURFACE INLET PIT 900x900	335072.786	6271018.138	0.90	0.90	-	-	250	187.300	188.000	0.700
1A611-02	RAISED GRATE SURFACE INLET PIT 900x900	335072.036	6271017.201	0.90	0.90	250	187.300	375	187.250	188.000	0.750
1A611-01	HEADWALL	335072.756	6271013.917	0.00	0.00	375	187.216	-	-	187.591	0.375
setout level to maximum pipe obvert											
Pit		INTERNAL		INLET		OUTLET		PIT		REMARKS	
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH
1A612-03	GRADED SURFACE INLET PIT 600x600	335125.200	6271079.045	0.60	0.60	-	-	225	190.749	191.783	1.034
1A612-02	GRADED SURFACE INLET PIT 600x600	335147.788	6271060.976	0.60	0.60	225	185.231	225	185.211	186.200	0.989
1A612-01	PIPE CONNECTION	335153.862	6271059.547	0.00	0.00	225	185.148	-	-	186.200	1.052
Pit		INTERNAL		INLET		OUTLET		PIT		REMARKS	
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH
1A613-02	GRADED SURFACE INLET PIT 600x600	335167.906	6271044.384	0.60	0.60	-	-	150	186.683	187.739	1.055
1A613-01	PIPE CONNECTION	335157.764	6271056.421	0.00	0.00	150	185.192	-	-	186.202	1.010
Pit		INTERNAL		INLET		OUTLET		PIT		REMARKS	
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH
1A620-07	RAISED GRATE SURFACE INLET PIT 900x900	335079.121	6271107.636	0.90	0.90	-	-	300	200.658	202.032	1.373
1A620-06	RAISED GRATE SURFACE INLET PIT 900x900	335069.861	6271096.082	0.90	0.90	300	197.078	300	197.058	198.256	1.198
1A620-05	JUNCTION PIT 900x900	335056.649	6271079.577	0.90	0.90	300	196.206	300	196.129	197.084	0.955
1A620-04	JUNCTION PIT 900x900	335039.553	6271058.228	0.90	0.90	300	193.411	300	192.837	194.286	1.449
1A620-03	JUNCTION PIT 900x900	335064.385	6271038.341	0.90	0.90	300	188.155	300	188.135	189.388	1.253
1A620-02	JUNCTION PIT 900x900	335078.195	6271027.281	0.90	0.90	300	187.605	300	187.585	188.675	1.090
1A620-01	HEADWALL	335077.923	6271014.316	0.00	0.00	300	187.455	-	-	187.755	0.300
setout level to maximum pipe obvert											
Pit		INTERNAL		INLET		OUTLET		PIT		REMARKS	
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH
1A701-04	RAISED GRATE SURFACE INLET PIT 900x900	335111.265	6271002.772	0.90	0.90	-	-	225	-	-	-
Setout level to landscape architect plans											
1A701-03	GRADED SURFACE INLET PIT 600x600	335102.269	6271000.249	0.60	0.60	225	-	225	-	-	-
Setout level to landscape architect plans											
1A701-02	GRADED SURFACE INLET PIT 600x600	335100.486	6270980.041	0.60	0.60	225	-	300	-	-	-
Setout level to landscape architect plans											
1A701-01	GRADED SURFACE INLET PIT 600x600	335086.406	6270962.461	0.60	0.60	300	-	300	-	-	-
Setout level to landscape architect plans											
1A603-04	GRADED SURFACE INLET PIT 900x900	335097.154	6270951.532	0.90	0.90	300	182.953	-	-	183.950	1.086
Pit		INTERNAL		INLET		OUTLET		PIT		REMARKS	
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH
1A702-05	GRADED SURFACE INLET PIT 600x600	335080.838	6271102.982	0.60	0.60	-	-	150	-	-	-
Setout level to landscape architect plans											
1A702-04	GRADED SURFACE INLET PIT 600x600	335062.869	6271080.545	0.60	0.60	150	-	225	-	-	-
Setout level to landscape architect plans											
1A702-03	GRADED SURFACE INLET PIT 600x600	335044.901	6271058.108	0.60	0.60	225	-	300	-	-	-
Setout level to landscape architect plans											
1A702-02	GRADED SURFACE INLET PIT 900x900	335053.237	6271050.920	0.90	0.90	300	-	375	-	-	-
Setout level to landscape architect plans											
1A702-01	HEADWALL	335054.585	6271035.803	0.00	0.00	375	-	-	-	-	-
Setout level to landscape architect plans											
NOTE: 1. XY SETOUT TO PIT CENTRE 2. SETOUT LEVEL TO PIT COVER LEVEL 3. WHERE PIPE INVERTS ARE NOT SPECIFIED, 1% MINIMUM PIPE GRADE TO BE ACHIEVED SMD MINIMUM PIPE COVER IN ACCORDANCE WITH AS3500											

PIT SCHEDULE

				INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A703-02	JUNCTION PIT 600x600	335098.038	6271032.153	0.60	0.60	-	-	300	-	-	-	Setout level to landscape architect plans
1A703-01	HEADWALL	335095.277	6271028.904	0.00	0.00	300	-	-	-	-	-	Setout level to landscape architect plans
Pit				INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A704-02	GRATED SURFACE INLET PIT 600x600	335075.240	6271033.644	0.60	0.60	-	-	300	-	-	-	Setout level to landscape architect plans
1A704-01	HEADWALL	335068.859	6271024.572	0.00	0.00	300	-	-	-	-	-	Setout level to landscape architect plans
Pit				INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A705-03	GRATED SURFACE INLET PIT 600x600	335117.833	6270963.257	0.60	0.60	-	-	225	-	-	-	Setout level to landscape architect plans
1A705-02	GRATED SURFACE INLET PIT 600x600	335122.585	6270959.452	0.60	0.60	225	-	225	-	-	-	Setout level to landscape architect plans
1A705-01	OUTLET	335124.741	6270957.584	0.00	0.00	225	-	-	-	-	-	Setout level to landscape architect plans
Pit				INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A706-01	PIPE CONNECTION	335184.706	6271019.100	0.00	0.00	-	-	225	-	-	-	Setout level to landscape architect plans
1A707-04	GRATED SURFACE INLET PIT 900x900	335175.080	6271026.427	0.90	0.90	225	-	-	-	-	-	Setout level to landscape architect plans
Pit				INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A707-06	PIPE CONNECTION	335190.901	6271026.363	0.00	0.00	-	-	150	-	-	-	Setout level to landscape architect plans
1A707-05	GRATED SURFACE INLET PIT 600x600	335181.268	6271034.100	0.60	0.60	150	-	225	-	-	-	Setout level to landscape architect plans
1A707-04	GRATED SURFACE INLET PIT 900x900	335175.080	6271026.427	0.90	0.90	225	-	300	-	-	-	Setout level to landscape architect plans
1A707-03	GRATED SURFACE INLET PIT 900x900	335164.275	6271013.029	0.90	0.90	300	-	375	-	-	-	Setout level to landscape architect plans
1A707-02	GRATED SURFACE INLET PIT 900x900	335162.477	6271003.345	0.90	0.90	375	-	375	-	-	-	Setout level to landscape architect plans
1A707-01	HEADWALL	335157.361	6270994.009	0.00	0.00	375	-	-	-	-	-	Setout level to landscape architect plans
NOTE:												
1. XY SETOUT TO PIT CENTRE												
2. SETOUT LEVEL TO PIT COVER LEVEL												
3. WHERE PIPE INVERTS ARE NOT SPECIFIED, 1% MINIMUM PIPE GRADE TO BE ACHIEVED SMD MINIMUM PIPE COVER IN ACCORDANCE WITH AS3500												



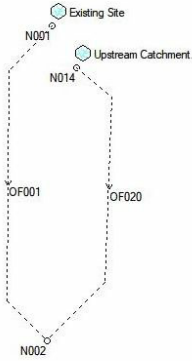
PRE-DEVELOPMENT CATCHMENT PLAN
SCALE 1:1000

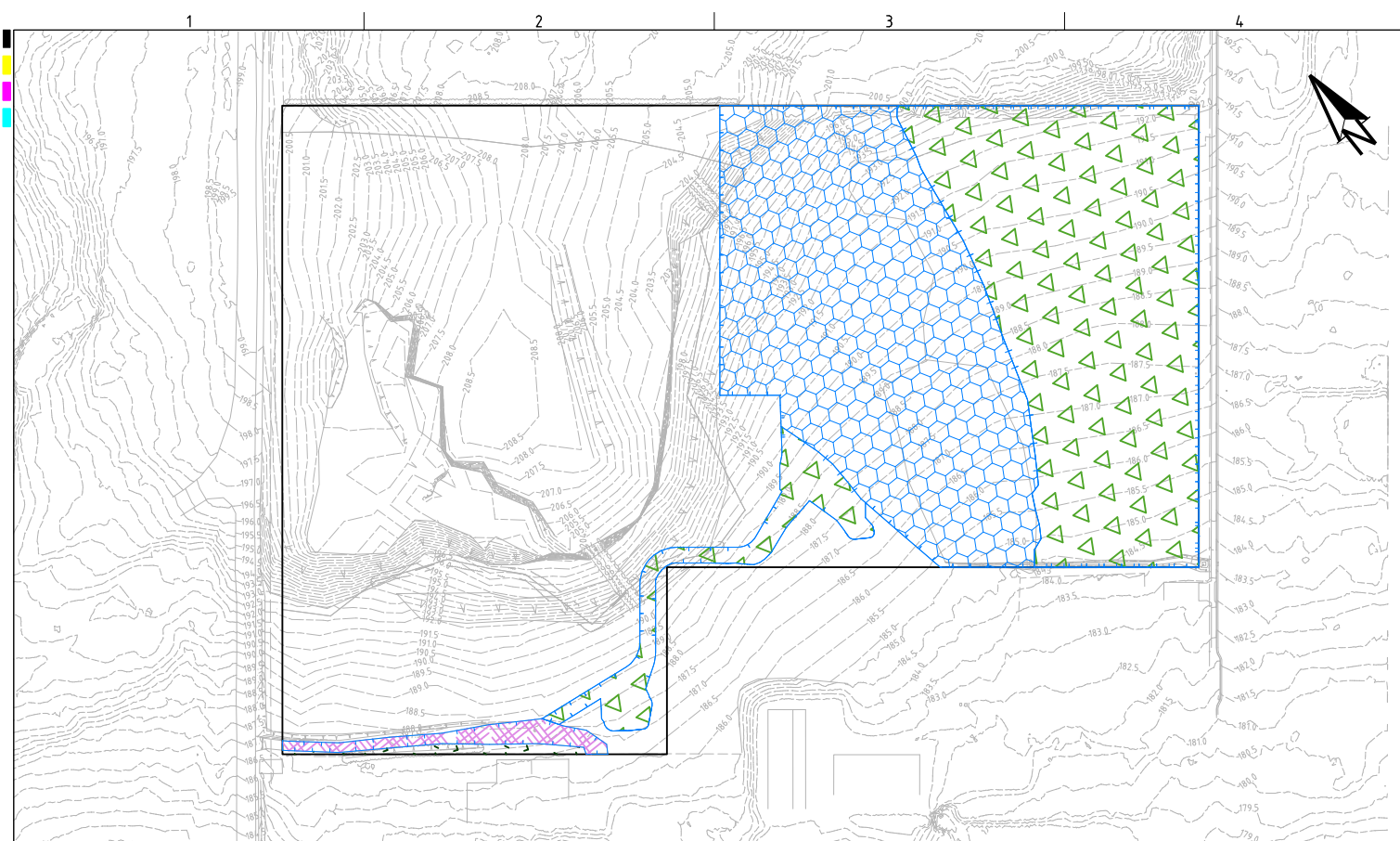
POST-DEVELOPMENT CATCHMENT PLAN
SCALE 1:1000

PRE-DEVELOPMENT CATCHMENT			
KEY	DRAINS NODE	AREA (ha)	% PAVED
	Existing Site	1.731	0%
	Upstream Catchment	1.797	0%
TOTAL AREA		3.528	= 100% OF TOTAL AREA
TOTAL IMPERVIOUS AREA		0	= 0% OF TOTAL AREA
TOTAL PERVIOUS AREA		3.528	= 100% OF TOTAL AREA

POST DEVELOPMENT			
KEY	DRAINS NODE	AREA (ha)	% PAVED
	Catchment Basin 1	0.401	81%
	Catchment Basin 2	0.069	45%
	Catchment Basin 3	0.247	85%
	Catchment Basin 4	0.416	70%
	Catchment Basin 5	0.317	12%
	Driveway Catchment	0.104	100%
	Fire Trail 1	0.044	55%
	Fire Trail 2	0.061	45%
	Landscape	0.072	0%
	Upstream Catchment	1.797	0%
TOTAL AREA		3.528	= 100% OF TOTAL AREA
TOTAL IMPERVIOUS AREA		1.051	= 30% OF TOTAL AREA
TOTAL PERVIOUS AREA		2.477	= 70% OF TOTAL AREA

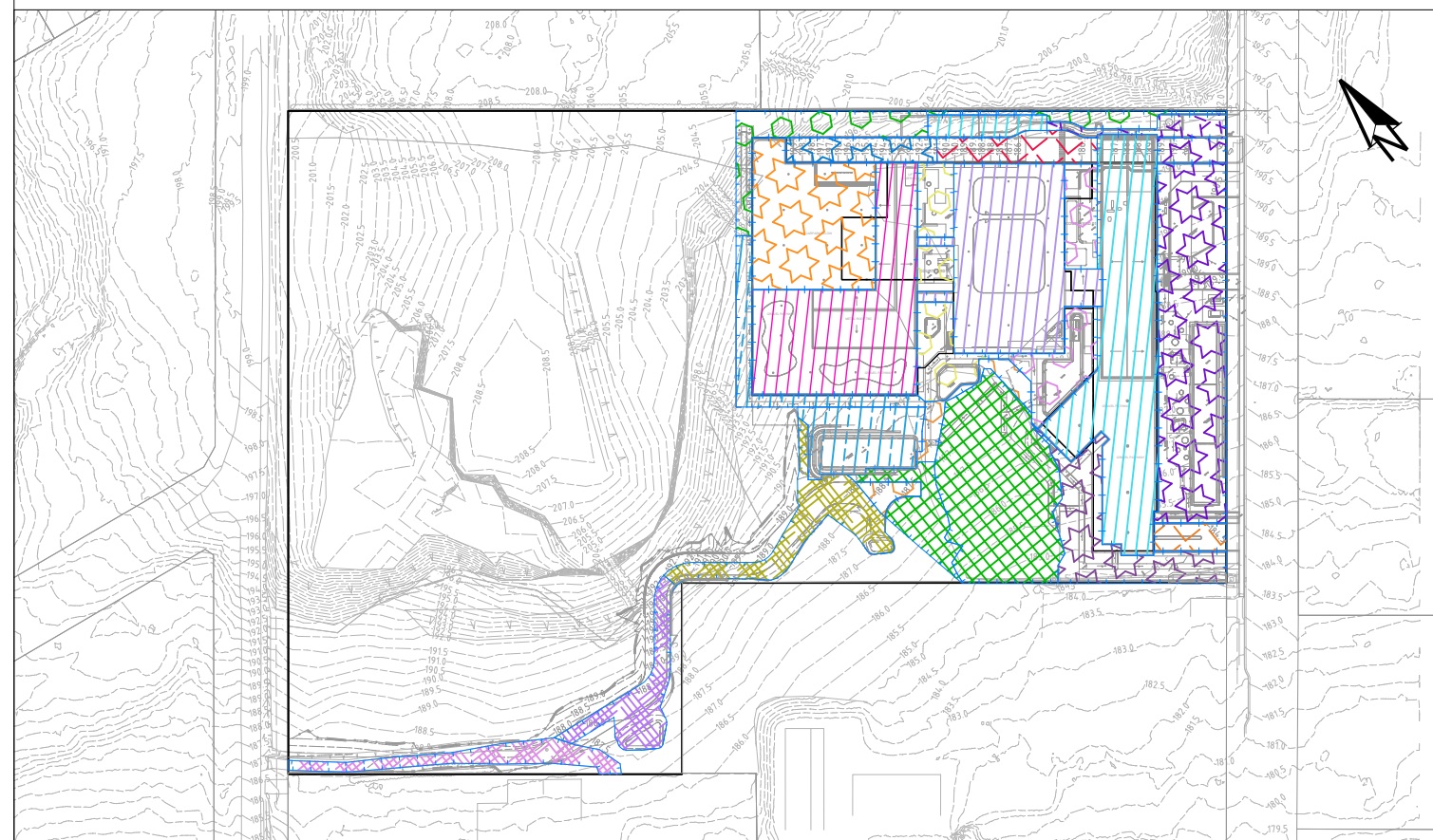
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	1 YR ARI			2 YR ARI			5 YR ARI			10 YR ARI			20 YR ARI			50 YR ARI			100 YR ARI		
	Pre Peak	Post Peak	Difference	Pre Peak	Post Peak	Difference	Pre Peak	Post Peak	Difference	Pre Peak	Post Peak	Difference	Pre Peak	Post Peak	Difference	Pre Peak	Post Peak	Difference	Pre Peak	Post Peak	Difference
Storm	Flow (cu/m/s)	Flow (cu/m/s)	(cu/m/s)	Flow (cu/m/s)	Flow (cu/m/s)	(cu/m/s)	Flow (cu/m/s)	Flow (cu/m/s)	(cu/m/s)	Flow (cu/m/s)	Flow (cu/m/s)	(cu/m/s)	Flow (cu/m/s)	Flow (cu/m/s)	(cu/m/s)	Flow (cu/m/s)	Flow (cu/m/s)	(cu/m/s)	Flow (cu/m/s)	Flow (cu/m/s)	(cu/m/s)
5	0	0	0	0.06	0.021	-0.039	0.135	0.052	-0.083	0.179	0.065	-0.114	0.238	0.097	-0.141	0.32	0.141	-0.179	0.371	0.172	-0.199
10	0.027	0.014	-0.013	0.128	0.041	-0.087	0.256	0.098	-0.158	0.325	0.123	-0.202	0.421	0.182	-0.239	0.556	0.26	-0.296	0.636	0.311	-0.325
15	0.038	0.02	-0.018	0.169	0.069	-0.1	0.333	0.141	-0.192	0.418	0.19	-0.228	0.525	0.253	-0.272	0.662	0.314	-0.348	0.752	0.362	-0.39
20	0.072	0.026	-0.046	0.21	0.084	-0.126	0.387	0.184	-0.203	0.488	0.237	-0.251	0.633	0.3	-0.333	0.791	0.35	-0.441	0.881	0.402	-0.479
25	0.083	0.036	-0.047	0.222	0.103	-0.119	0.421	0.219	-0.202	0.529	0.275	-0.254	0.672	0.342	-0.33	0.777	0.373	-0.404	0.869	0.47	-0.399
30	0.063	0.026	-0.037	0.201	0.092	-0.109	0.392	0.198	-0.194	0.504	0.257	-0.247	0.633	0.319	-0.314	0.752	0.358	-0.394	0.844	0.431	-0.413
45	0.057	0.034	-0.023	0.193	0.084	-0.109	0.368	0.173	-0.195	0.474	0.227	-0.247	0.606	0.302	-0.304	0.722	0.372	-0.35	0.804	0.461	-0.343
60	0.107	0.048	-0.059	0.256	0.135	-0.121	0.402	0.234	-0.168	0.484	0.281	-0.203	0.588	0.39	-0.198	0.69	0.541	-0.149	0.774	0.681	-0.093
90	0.116	0.071	-0.045	0.297	0.174	-0.123	0.441	0.272	-0.169	0.525	0.332	-0.193	0.634	0.528	-0.106	0.731	0.643	-0.088	0.83	0.814	-0.016
120	0.131	0.075	-0.056	0.305	0.173	-0.132	0.512	0.269	-0.243	0.602	0.379	-0.223	0.72	0.536	-0.184	0.836	0.64	-0.196	0.932	0.782	-0.15
180	0.042	0.041	-0.001	0.2	0.11	-0.09	0.304	0.188	-0.116	0.365	0.252	-0.113	0.446	0.384	-0.062	0.52	0.445	-0.075	0.586	0.499	-0.087
270	0.072	0.059	-0.013	0.174	0.111	-0.063	0.293	0.222	-0.071	0.348	0.299	-0.049	0.422	0.373	-0.049	0.485	0.411	-0.074	0.544	0.472	-0.072
360	0.052	0.052	0	0.139	0.1	-0.039	0.215	0.211	-0.004	0.253	0.252	-0.001	0.31	0.297	-0.013	0.351	0.335	-0.016	0.402	0.384	-0.018





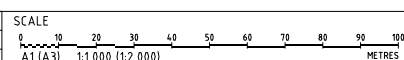
PRE-DEVELOPMENT CATCHMENT PLAN

SCALE 1:1000



POST-DEVELOPMENT CATCHMENT PLAN

SCALE 1:100

[illegible]

GRID	DATUM	PROJECT MANAGER
		JF
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CLIENT
WYVERN HEALTH P/L C/- BUREAU SRH

PROJECT NAME/PLANSET TITLE
**WYVERN HEALTH PRIVATE HOSPITAL
CIVIL & DRAINAGE ENGINEERING WORKS**

4A LARROL ROAD, TERREY HILLS, NSW
LOT 2, DP1145029



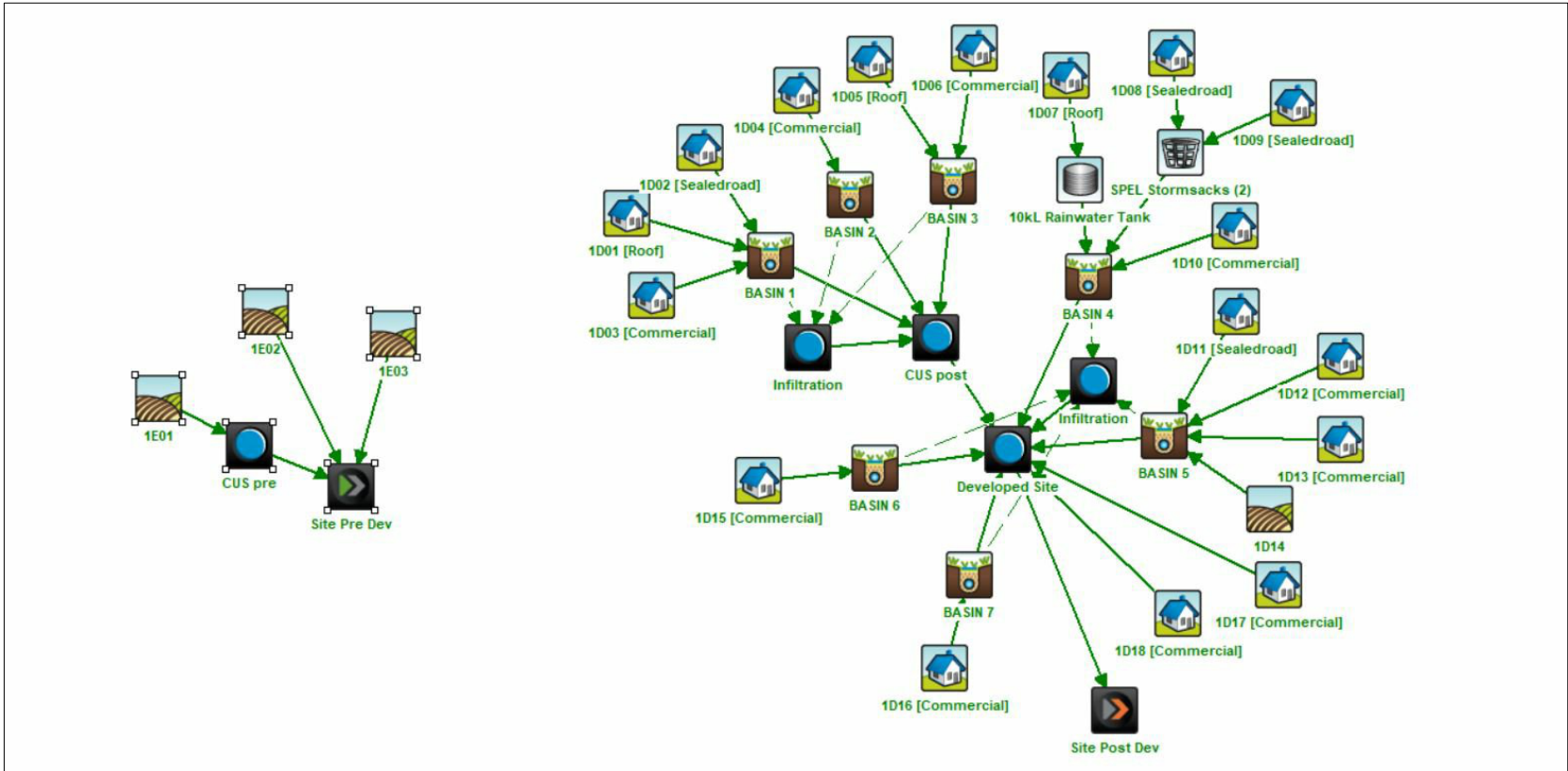
Consulting Engineers
Environment
Water
Geotechnical
Civil

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Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE				
WATER QUALITY CATCHMENT PLAN, MODEL & RESULTS SHEET 1				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-E700	B

DRAWING ID: P1605687-PS05-R05-E700

CONSTRUCTION CERTIFICATE



MUSIC MODELLING RESULTS (P1605687MUS03V05)

MUSIC MODELLING RESULTS (NORBE) FOR THE CUS (P1605687MUS03V04)			
PARAMETER	PRE-DEVELOPMENT	POST-DEVELOPMENT	% CHANGE
Total Suspended Solids (kg/yr)	206.00	59.80	-70.97%
Total Phosphorus (kg/yr)	1.06	0.496	-53.21%
Total Nitrogen (kg/yr)	9.09	5.35	-41.14%

MUSIC MODELLING RESULTS (NORBE) FOR THE DEVELOPED SITE (P1605687MUS03V04)			
PARAMETER	PRE-DEVELOPMENT	POST-DEVELOPMENT	% CHANGE
Total Suspended Solids (kg/yr)	345.00	239.00	-30.72%
Total Phosphorus (kg/yr)	1.62	1.28	-20.99%
Total Nitrogen (kg/yr)	13.00	12.90	-0.77%

MUSIC MODELLING RESULTS (TTE) FOR THE DEVELOPED SITE (P1605687MUS03V04)			
PARAMETER	Source	Residual Load	% Reduction
Total Suspended Solids (kg/yr)	1710.00	239.00	86.0
Total Phosphorus (kg/yr)	3.89	1.28	67.1
Total Nitrogen (kg/yr)	23.6	12.90	60.4
Gross Pollutants (kg/yr)	353.00	11.00	96.9

CONSTRUCTION CERTIFICATE

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
A	INITIAL RELEASE	19/08/2021	JS	EZ	SL	JF

A1 / A3 LANDSCAPE (A1LC_v02.0.0)

GRID	DATUM	PROJECT MANAGER	CLIENT
		JF	WYVERN HEALTH P/L C/- BUREAU SRH
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All measurements in millimetres unless otherwise specified.		CIVIL & DRAINAGE ENGINEERING WORKS	
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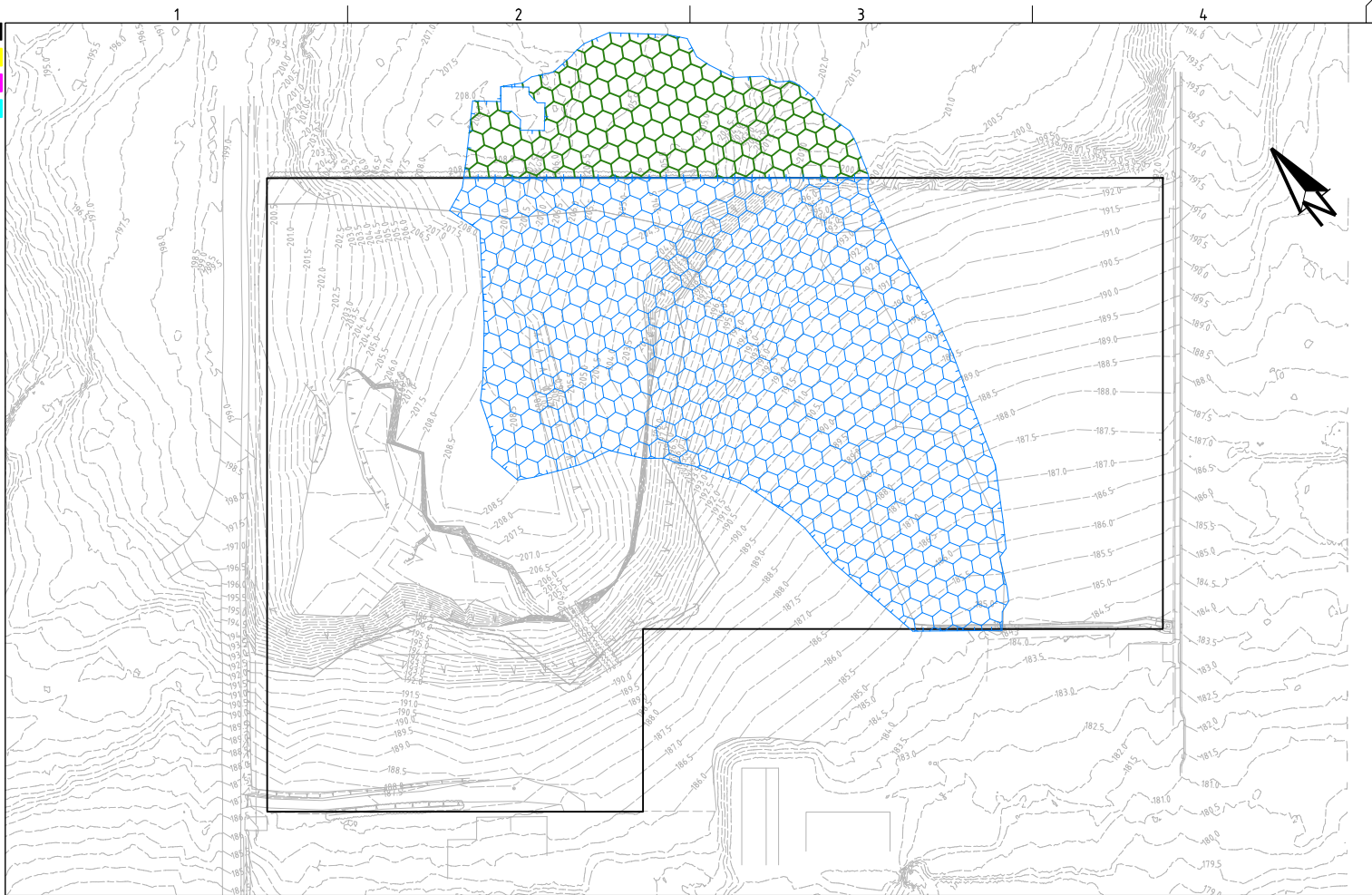
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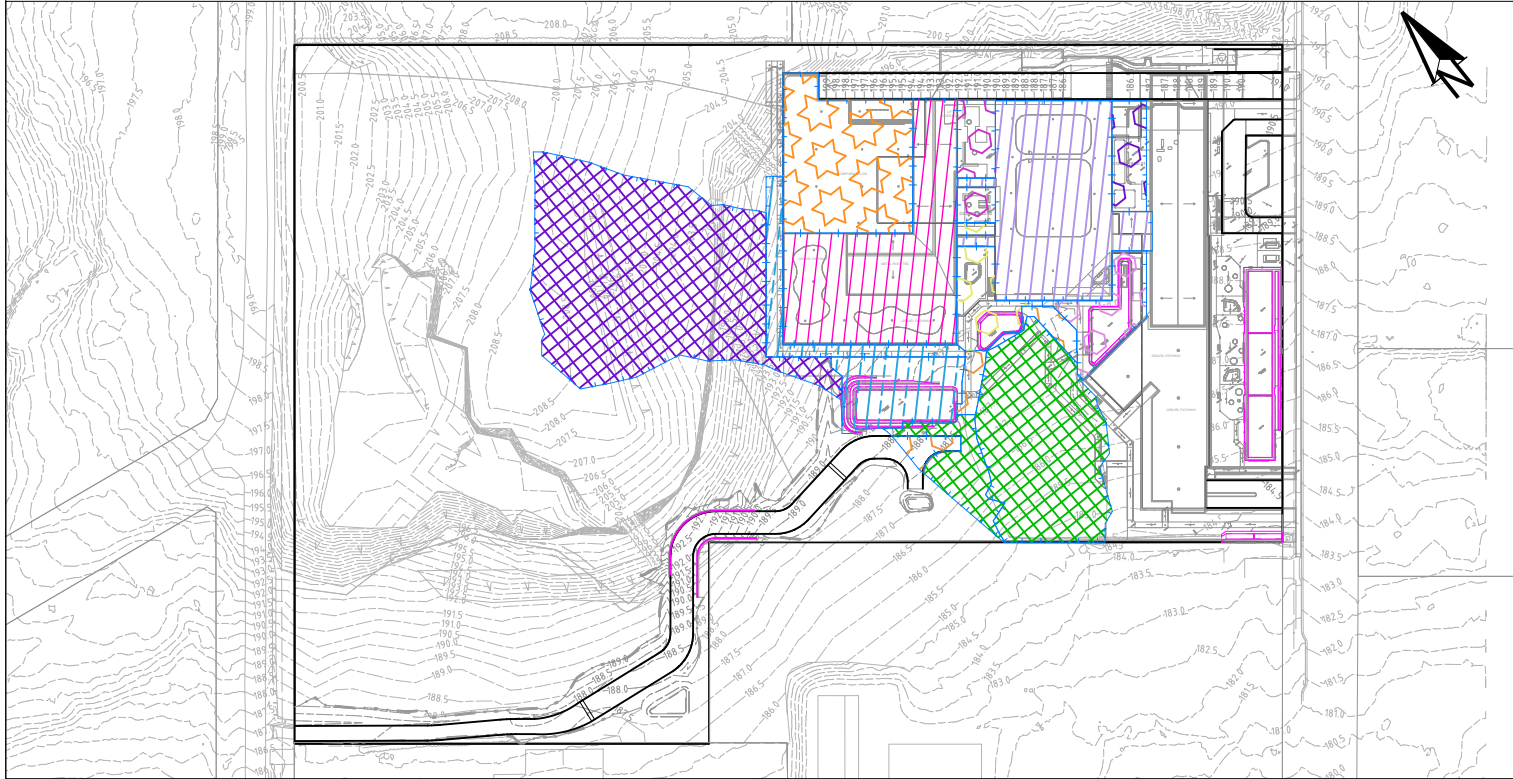
DRAWING TITLE				
WATER QUALITY CATCHMENT PLAN, MODEL & RESULTS SHEET 2				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-E701	A

DRAWING ID: P1605687-PS05-R05-E701

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PRE-DEVELOPMENT CATCHMENT PLAN
SCALE 1:1000



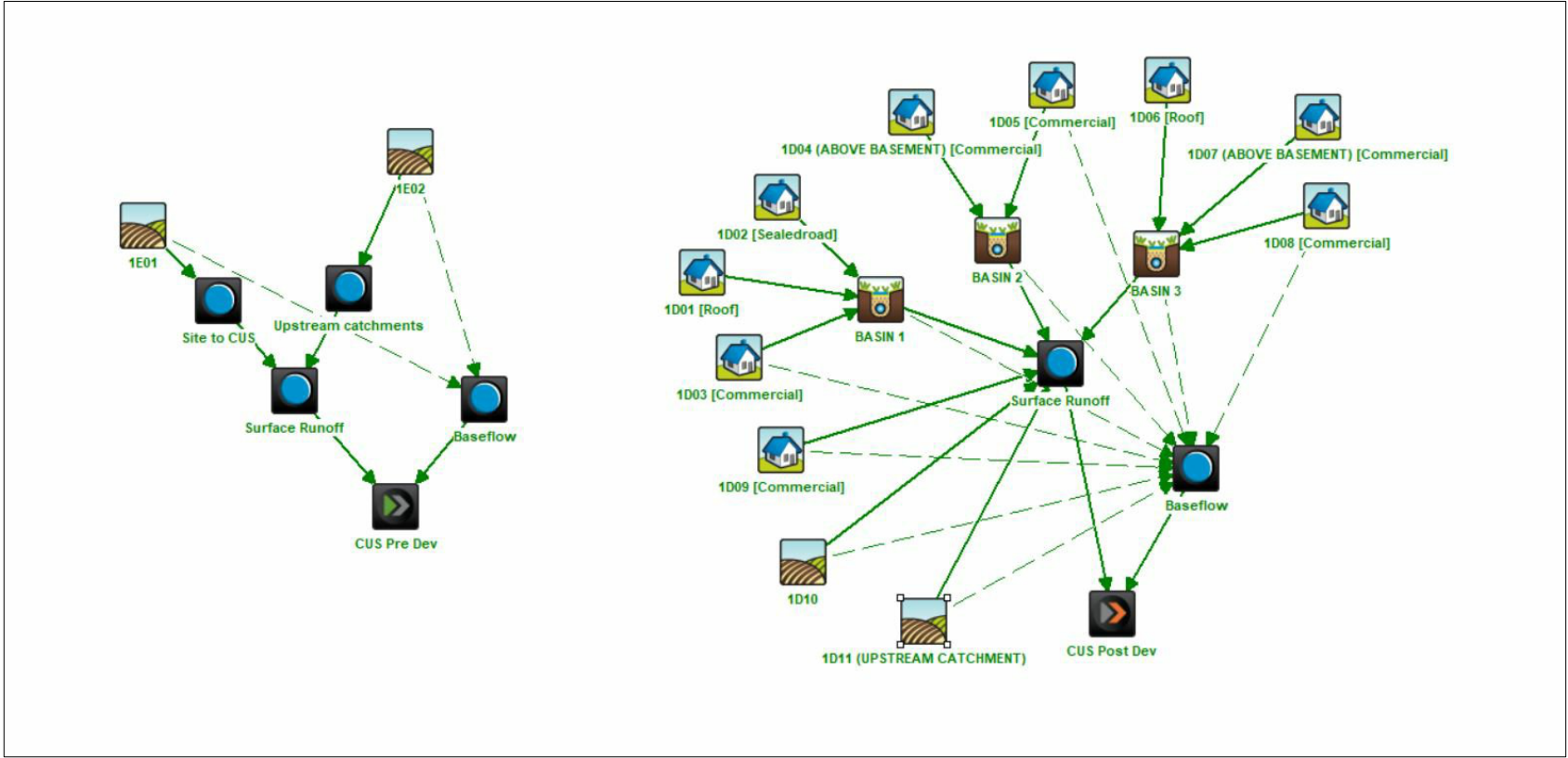
POST-DEVELOPMENT CATCHMENT PLAN
SCALE 1:1000

PRE DEVELOPMENT MUSIC CATCHMENT DETAILS (P1605687MUS04V04)					
KEY	DESCRIPTION	MUSIC NODE ID	AREA (ha)	IMPERVIOUS %	MUSIC NODE REFERENCE
	EXISTING SITE TO CUS	1E01	1.370	0	NSW MUSIC Modelling Guidelines 2015
	UPSTREAM GROUND TO CUS	1E02	0.345	5	NSW MUSIC Modelling Guidelines 2015
	TOTAL AREA				
		TOTAL - OVERALL		1.714	= 100 % OF OVERALL AREA
		TOTAL - IMPERVIOUS		0.017	= 1 % OF OVERALL AREA
		TOTAL - PERVIOUS		1.697	= 99 % OF OVERALL AREA

POST DEVELOPMENT MUSIC CATCHMENT DETAILS (P1605687MUS04V04)					
KEY	DESCRIPTION	MUSIC NODE ID	AREA (ha)	IMPERVIOUS %	MUSIC NODE REFERENCE
BIORETENTION BASIN 1					
	ROOF	1D01	0.177	100	NSW MUSIC Modelling Guidelines 2015
	SEALED ROAD	1D02	0.128	100	NSW MUSIC Modelling Guidelines 2015
	LANDSCAPE	1D03	0.096	20	NSW MUSIC Modelling Guidelines 2015
BIORETENTION BASIN 2					
	LANDSCAPE (ABOVE BASEMENT)	1D04	0.03	30	NSW MUSIC Modelling Guidelines 2015
	LANDSCAPE	1D05	0.038	50	NSW MUSIC Modelling Guidelines 2015
BIORETENTION BASIN 3					
	ROOF	1D06	0.18	100	NSW MUSIC Modelling Guidelines 2015
	LANDSCAPE (ABOVE BASEMENT)	1D07	0.027	65	NSW MUSIC Modelling Guidelines 2015
	LANDSCAPE	1D08	0.04	30	NSW MUSIC Modelling Guidelines 2015
CATCHMENTS BYPASSING BIORETENTION BASIN 1, 2 & 3					
	DEVELOPED SITE TO CUS	1D09	0.028	40	NSW MUSIC Modelling Guidelines 2015
	UNDEVELOPED SITE TO CUS	1D10	0.196	0	NSW MUSIC Modelling Guidelines 2015
	UPSTREAM SITE TO CUS	1D11	0.315	0	NSW MUSIC Modelling Guidelines 2015
	TOTAL AREA				
		TOTAL - OVERALL		1.256	= 100 % OF OVERALL AREA
		TOTAL - IMPERVIOUS		0.573	= 46 % OF OVERALL AREA
		TOTAL - PERVIOUS		0.682	= 54 % OF OVERALL AREA

CONSTRUCTION CERTIFICATE

REV		DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE	GRID	DATUM	PROJECT MANAGER	CLIENT	martens & Associates Pty Ltd		Consulting Engineers		DRAWING TITLE			
B		UPDATED LANDSCAPE PLAN	23/09/2021	JS	AVG	SL	JF				JF	WYVERN HEALTH P/L C/- BUREAU SRH		Environment Water Geotechnical Civil	Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 Email: mail@martens.com.au Internet: www.martens.com.au	WATER BALANCE MODEL CATCHMENT PLAN, MODEL & RESULTS SHEET 1				
A		INITIAL RELEASE	19/08/2021	JS	EZ	SL	JF													
								DISCLAIMER & COPYRIGHT		PROJECT NAME/PLANSET TITLE										
								This plan must not be used for construction unless signed as approved by principal certifying authority. All measurements in millimetres unless otherwise specified. This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd. (C) Copyright Martens & Associates Pty Ltd		WYVERN HEALTH PRIVATE HOSPITAL CIVIL & DRAINAGE ENGINEERING WORKS 4A LARROOL ROAD, TERREY HILLS, NSW LOT 2 DP114-5029										
A1 / A3 LANDSCAPE (A1&C_v02.0.0)																				

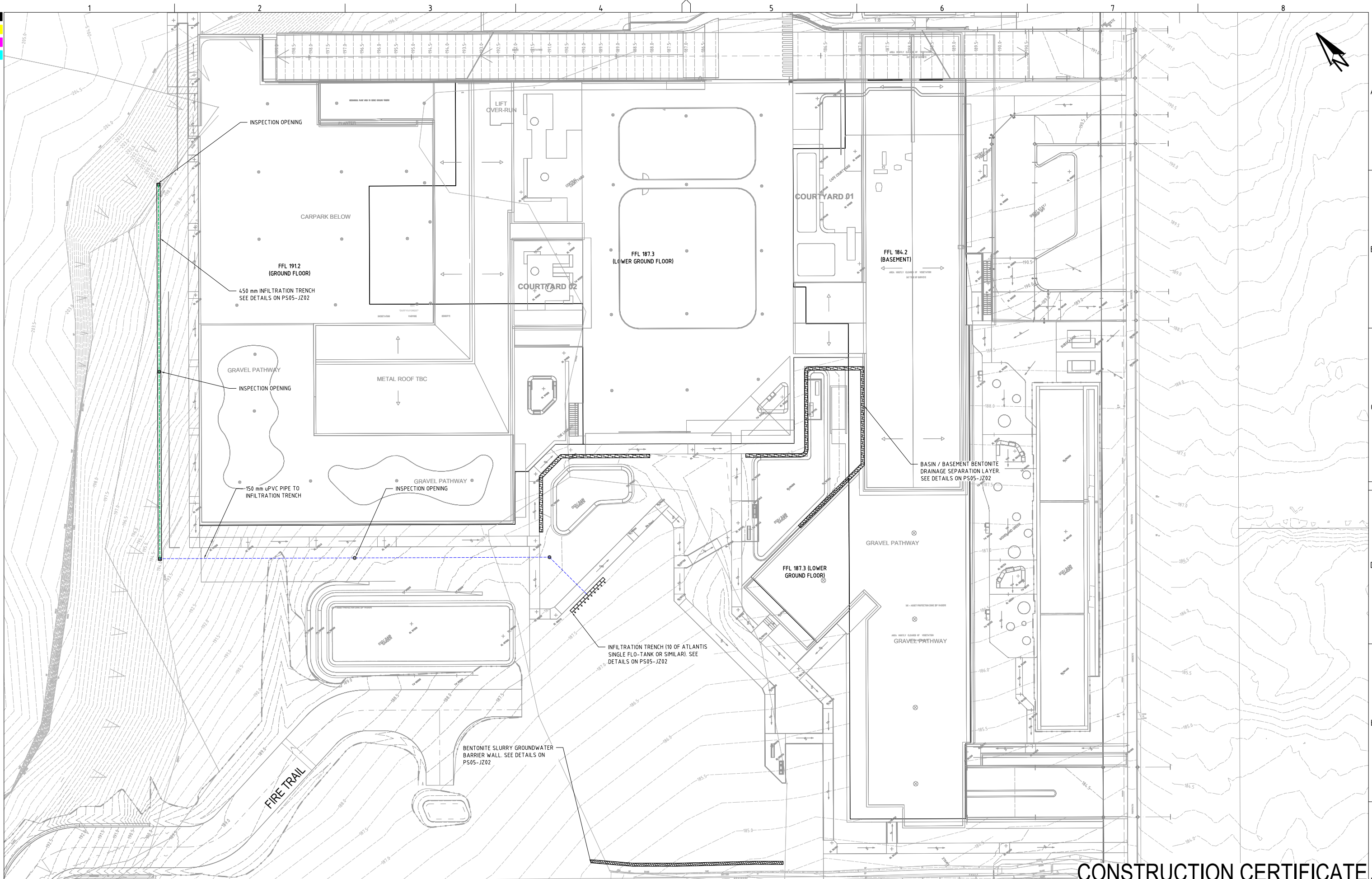


WATER BALANCE MODELLING LAYOUT (P1605687MUS03V04)

MUSIC MODELLING RESULTS FOR THE CUS (P1605687MUS04V04)			
PARAMETER	PRE-DEVELOPMENT	POST-DEVELOPMENT	VOLUMETRIC RUNOFF COEFFICIENT
Surface Flow (ML/yr)	0.513	0.462	0.901
Groundwater Flow (ML/yr)	7.830	8.430	1.077
Total Flow (ML/yr)	8.343	8.892	1.066

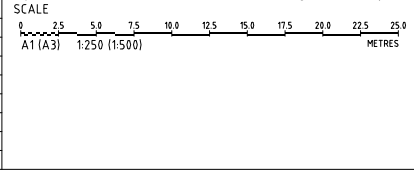
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A	INITIAL RELEASE	19/08/2021	JS	EZ	SL	JF	WYVERN HEALTH P/L C/- BUREAU SRH													
							DISCLAIMER & COPYRIGHT											PROJECT NAME/PLANSET TITLE		
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CONSTRUCTION CERTIFICATE

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
B	UPDATED LANDSCAPE PLAN	23/09/2021	JS	AVG	SL	JF
A	INITIAL RELEASE	24/05/2021	JCF	JCF	SL	JF



GRID GDA 94 DATUM mAHD PROJECT MANAGER JF CLIENT WYVERN HEALTH P/L C/- BUREAU SRH PROJECT NAME/PLANSET TITLE WYVERN HEALTH PRIVATE HOSPITAL CIVIL & DRAINAGE ENGINEERING WORKS 4A LARROOL ROAD, TERREY HILLS, NSW LOT 2 DP1145029

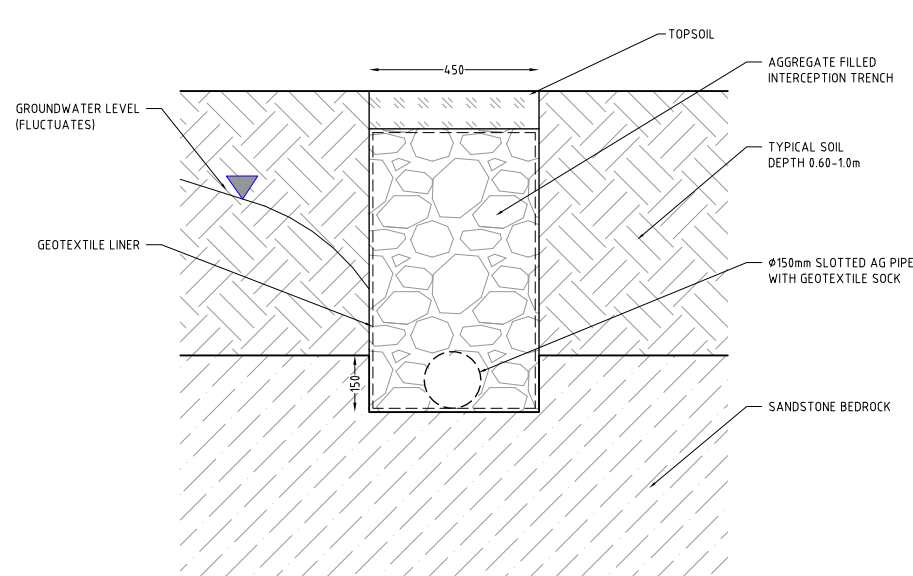
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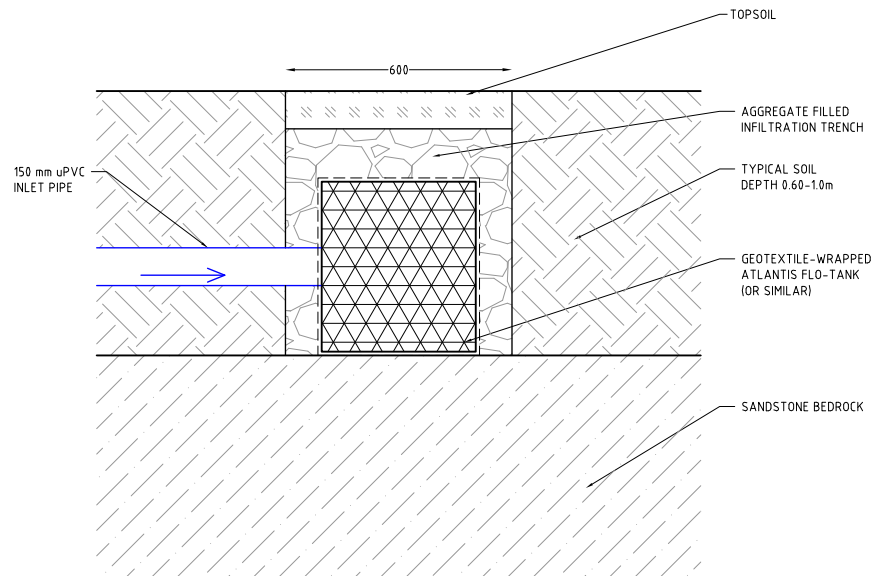
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DRAWING TITLE				
GROUNDWATER DIVERSION SYSTEM PLAN				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-JZ01	B



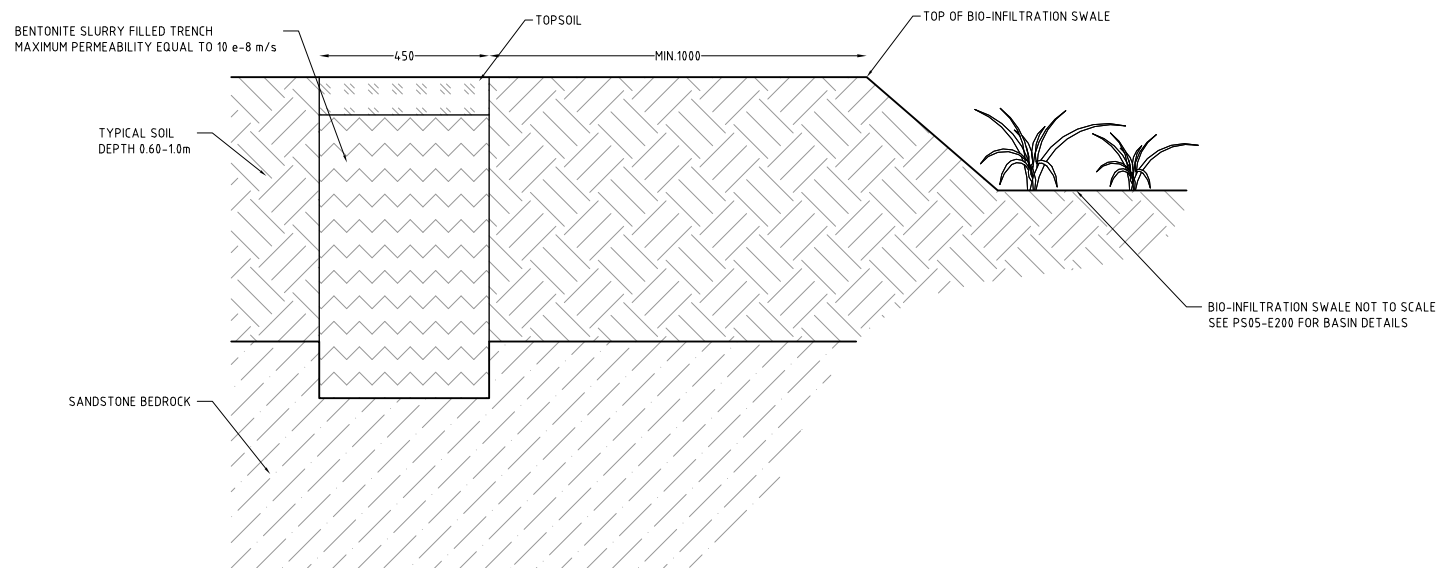
INTERCEPTION TRENCH TYPICAL SECTION 1

NOT TO SCALE



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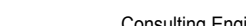
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BENTONITE SLURRY GROUNDWATER BARRIER TYPICAL SECTION

NOT TO SCALE

CONSTRUCTION CERTIFICATE

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE	GRID	DATUM	PROJECT MANAGER	CLIENT	<div><div>Consulting Engineers Environment Water Geotechnical Civil</div></div> <div>Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8787 Email: mail@martens.com.au Internet: www.martens.com.au</div>	DRAWING TITLE GROUNDWATER DIVERSION SYSTEM DETAILS			
A	INITIAL RELEASE	24/05/2021	JCF	JCF	SL	JF		---	---	JF	WYVERN HEALTH P/L C/- BUREAU SRH					
											PROJECT NAME/PLANSET TITLE					
											WYVERN HEALTH PRIVATE HOSPITAL					
											CIVIL & DRAINAGE ENGINEERING WORKS					
											4A LARROOL ROAD, TERREY HILLS S, NSW					
											LOT 2 DP114-5029					
A1 / A3 LANDSCAPE (A/LC_v02.0.0.0)																

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GENERAL NOTES

1

ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH, AND THESE NOTES ARE TO BE READ IN CONJUNCTION WITH THE RELEVANT AUSTRALIAN STANDARDS, NORTHERN BEACHES COUNCIL'S ENGINEERING GUIDE FOR DEVELOPMENT AND CIVIL WORKS SPECIFICATION, AND ALL PROJECT CONSULTANT'S PLANS AND REPORTS.

2

SURVEY INFORMATION SHOWN AND DESIGN LEVELS BASED ON SURVEY INFORMATION PROVIDED BY NORTON SURVEY PARTNERS.

3

PRIOR TO COMMENCING ANY WORKS, THE CONTRACTOR SHALL CARRY OUT A 'DIAL BEFORE YOU DIG' FOR A SERVICES SEARCH. THE CONTRACTOR SHALL THEN ARRANGE FOR ALL SERVICES TO BE PHYSICALLY LOCATED, IDENTIFIED AND CLEARLY MARKED WITHIN THE WORKS AREA PRIOR TO THE COMMENCEMENT OF ANY WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED TO SUCH SERVICES DURING THE COURSE OF THE WORKS. ANY SERVICE LOCATION SHOWN ON THE FOLLOWING DRAWINGS ARE INDICATIVE ONLY AND THE POSITION AND DEPTH INDICATED SHOULD NOT BE RELIED UPON.

4

THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS, SPECIFICATIONS AND WRITTEN INSTRUCTIONS THAT MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. THE CONTRACTOR SHALL ENSURE THAT THEY HAVE THE LATEST DRAWING REVISION PRIOR TO COMMENCING ANY WORKS.

5

IF THE CONTRACTOR HAS ANY QUESTIONS, REQUIRES CLARIFICATION ON ANY ISSUE, OR FINDS ANY DISCREPANCIES WITHIN THESE DRAWINGS, THE CONTRACTOR SHALL ADVISE THE SUPERINTENDENT BEFORE PROCEEDING.

6

ALL SET OUT DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR ON SITE BEFORE WORK COMMENCES. DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS. ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.

7

LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).

8

ALL MATERIALS AND WORKMANSHIP USED SHALL BE IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS, BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES OR GEOTECHNICAL ENGINEER'S SPECIFICATIONS, EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATIONS. WHERE THE CONTRACTOR BELIEVES THAT NECESSARY DIMENSIONS ARE NOT SHOWN, REFER THE MATTER TO THE DESIGN CONSULTANT.

9

CERTIFICATES ARE TO BE ISSUED ON COMPLETION CONFIRMING THAT THE WORKS COMPLY WITH THE CONSTRUCTION CERTIFICATE (IF ISSUED), ALL PLANS AND SPECIFICATIONS AND IN ACCORDANCE WITH THE REVIEW OF ENVIRONMENTAL FACTORS.

10

DURING CONSTRUCTION, THE WORKS SITE SHALL BE MAINTAINED DAILY IN A SAFE AND STABLE CONDITION. PERIMETER SAFETY FENCING, TEMPORARY BRACING, BENCHING OF EXCAVATIONS AND BATTERS SHALL BE PROVIDED BY THE CONTRACTOR TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.

11

THE CONTRACTOR IS TO NOTIFY THE SUPERINTENDENT AND ENGINEER IF IT BECOMES EVIDENT THAT CONDITIONS ON SITE (INCLUDING ENCOUNTERING OF GROUNDWATER) HAVE POTENTIAL TO NEGATIVELY IMPACT ON THE INTENDED ENGINEERING DESIGN.

12

ALL CONSTRUCTION WORK SHALL BE CARRIED OUT SO THAT AT ANY TIME THE AMENITY OF ADJOINING PROPERTIES ARE NOT COMPROMISED – I.E. DISCHARGE OF ADDITIONAL OR POLLUTED STORMWATER RUNOFF, ALL WEATHER ACCESS TO THE PROPERTY, NOISE, DUST, BUILDING WASTE ETC.

13

THE CONTRACTOR SHALL PLACE CONDUITS WHERE REQUIRED BY THE RELEVANT UTILITY SERVICE AUTHORITIES AND SHALL UNDERTAKE ALL UTILITY ADJUSTMENTS AS DIRECTED NECESSARY FOR THE COMPLETION OF THE WORKS.

14

THE CONTRACTOR SHALL MAINTAIN AND RESTORE ANY DAMAGE WHICH MAY HAVE BEEN CAUSED BY THE CONSTRUCTION OF THE 'WORKS' TO EXISTING ROAD SURFACES, ROADSIDE DRAINAGE OR UTILITY SERVICES.

15

ALL DISTURBED AREAS OUTSIDE THE NOMINATED WORKS AREA SHALL BE REINSTATED BY THE CONTRACTOR TO THE DIRECTION OF THE SUPERINTENDENT.

16

THE CONTRACTOR SHALL ENSURE THAT A SMOOTH CONNECTION IS MADE TO ALL EXISTING ENGINEERING WORKS AND NATURAL SURFACES.

17

EROSION AND SEDIMENT CONTROLS IN ACCORDANCE WITH APPROVED EROSION SEDIMENT CONTROL PLAN ARE TO BE IN PLACE AT ALL TIMES. CONTROLS TO BE INSPECTED, MAINTAINED AND REPLACED AS REQUIRED BY THE CONTRACTOR UNTIL WORKS ARE COMPLETED AND PERMANENT MEASURES HAVE BEEN ESTABLISHED.

18

PROVISION IS TO BE MADE FOR MAINTAINING TRAFFIC FLOW IN PUBLIC ROADS AT ALL TIMES. TRAFFIC CONTROL MEASURES ARE TO BE IN ACCORDANCE WITH COUNCIL GUIDELINES AND ANY SPECIFIC APPROVED CONSTRUCTION TRAFFIC MANAGEMENT PLAN (CTMP) FOR THE WORKS.

19

THE CONTRACTOR IS TO ENSURE THAT NO BUILDING MATERIALS, STOCKPILES OR FILL ENCROACHES UPON ADJACENT PROPERTY OR RETAINED TREES FOR THE DURATION OF THE WORKS.

20

THE SUPERINTENDENT MUST BE NOTIFIED IMMEDIATELY, SHOULD THE PRESENCE OF ASBESTOS OR SOIL CONTAMINATION, BE IDENTIFIED DURING DEMOLITION OR CONSTRUCTION WORKS.

21

A SUFFICIENT SUPPLY OF APPROPRIATE SPILL CONTROL EQUIPMENT MUST BE KEPT ON THE PREMISES AT ALL TIMES. MATERIALS USED IN THE CLEAN UP OF A SPILL MUST BE DISPOSED OF TO AN APPROPRIATELY LICENSED WASTE FACILITY.

22

ALL ABOVE GROUND STORAGES OF HAZARDOUS MATERIALS, OILS, CHEMICALS OR FERTILISERS MUST BE BUNDED. THE BUND IS TO BE MADE FROM AN IMPERVIOUS MATERIAL AND MUST BE COVERED AND LARGE ENOUGH TO HOLD THE CONTENTS OF THE LARGEST CONTAINER PLUS 10%.

23

THE COST OF REPAIRING ANY DAMAGE CAUSED TO COUNCIL'S ASSETS AS A RESULT OF CONSTRUCTION WORKS ASSOCIATED WITH THE APPROVED DEVELOPMENT IS TO BE MET IN FULL BY THE CONTRACTOR PRIOR TO THE ISSUE OF A CERTIFICATE OF PRACTICAL COMPLETION.

24

TEMPORARY CLOSET ACCOMMODATION IS TO BE PROVIDED AT THE WORK SITE AT ALL TIMES AT THE RATE OF ONE CLOSET FOR EVERY 20 PERSONS AND BE LOCATED WHOLLY WITHIN THE BOUNDARIES OF THE PROPERTY. PERMANENT FACILITIES ARE TO BE PROVIDED IN ACCORDANCE WITH PART F2.1, F2.4 AND F2.5 OF THE BUILDING CODE OF AUSTRALIA.

25

PROJECT PLANS AND SPECIFICATION TO BE READ IN CONJUNCTION WITH ALL ADVICE REGARDING THE SITE.

26

ANY VARIATIONS OR AMBIGUITY BETWEEN THIS SPECIFICATION, DESIGN DOCUMENTS, AUSTRALIAN STANDARDS AND OTHER RELEVANT DOCUMENTS SHALL BE REFERRED TO THE SUPERINTENDENT FOR APPROVAL PRIOR TO PROCEEDING WITH WORKS.

27

CONTRACTOR TO BE PROVIDED WITH A SINGLE 2D .DWG DESIGN FILE FOR CONSTRUCTION PURPOSES. PROVISION OF A DIGITAL SURFACE OR OTHER DIGITAL DATA SHOULD NOT BE ASSUMED BY THE CONTRACTOR.

28

WAE PLANS ARE TO BE PROVIDED BY THE CONTRACTOR THAT CLEARLY DELINEATES ALL ITEMS REFERRED TO IN THE DEVELOPMENT CONSENT CONDITIONS.

29

THE CONTRACTOR SHALL CONTACT COUNCIL IN WRITING A MINIMUM OF SEVEN (7) DAYS PRIOR TO COMMENCING WORK AND APPLY FOR A SECTION 138 CONSENT (SECTION 138 OF THE ROADS ACT FOR APPROVAL TO WORK ON A PUBLIC ROAD) AND INCLUDE COPIES OF CURRENT PUBLIC LIABILITY INSURANCE FOR A VALUE OF \$20,000,000 AND PAYMENT OF THE CURRENT FEE. REFERENCES FOR PREVIOUS WORK EXPERIENCE MAY BE REQUESTED BY COUNCIL.

CONTRACTOR REINSPECTING COMPLETED WORKS IF INSTRUCTED BY THE SUPERINTENDENT.

4

AT COMPLETION OF EACH STAGE OF WORKS, THE CONTRACTOR SHALL CERTIFY THAT THOSE WORKS HAVE BEEN UNDERTAKEN AND COMPLETED IN ACCORDANCE WITH THE DRAWINGS, SPECIFICATIONS, AND INSTRUCTIONS ISSUED DURING THE COURSE OF THE CONTRACT.

5

THE CONTRACTOR SHALL OBTAIN AND KEEP ON SITE AT ALL RELEVANT MATERIAL SAFETY DATA SHEETS (MSDS) THAT ARE APPLICABLE FOR MATERIALS BEING USED ON THE SITE. ALL TRANSPORTATION, STORAGE, USE OF, AND DISPOSAL OF THESE MATERIALS SHALL BE IN ACCORDANCE WITH MSDS. THE LOCATION OF THESE MSDS SHALL BE MADE KNOWN TO ALL PERSONS DURING THE SITE INDUCTION AND ARE TO BE ACCESSIBLE AT ALL TIMES TO ALL SITE PERSONNEL.

6

ATTENTION IS DRAWN TO THE WORK HEALTH AND SAFETY (WHS) ACT 2011 (NSW) AND ITS REGULATIONS, WHICH REQUIRES THAT EMPLOYERS ENSURE THE HEALTH, SAFETY AND WELFARE OF ALL PERSONS WORKING ON OR VISITING THE SITE.

7

ANY REFERENCES TO THE OH&S ACT, OHS REGULATIONS, AND OHS IN THESE SPECIFICATIONS SHALL MEAN THE OCCUPATIONAL HEALTH AND SAFETY ACT 2000, OR THE WORK HEALTH AND SAFETY ACT (WHS) 2011 FROM THE TIME OF ITS ENACTMENT, OR ANY COMPARABLE REGULATION UNDER THE WORK HEALTH AND SAFETY ACT 2011.

8

THE CONTRACTOR SHALL AT ALL TIMES EXERCISE ALL NECESSARY AND REASONABLE SAFETY PRECAUTIONS APPROPRIATE TO ENSURE THE SAFETY OF ALL PERSONS ON THE WORK SITE OR IN THE VICINITY OF THE WORKS.

9

THE CONTRACTOR SHALL IMPLEMENT A WHS SYSTEM AND MAINTAIN ALL THE REQUIREMENTS OF THE RELEVANT WHS ACT, SUCH AS LOG BOOKS RECORDING OF: PERSONNEL INDUCTIONS, PERSONNEL SIGN-IN AND SIGN-OUT, INJURIES ETC, AND FIRST AID STATIONS AND TOOL BOX MEETINGS ETC.

10

THE CONTRACTOR SHALL PROVIDE A SECURE PERIMETER FENCE AROUND THE SITE TO EXCLUDE THE PUBLIC, PLUS SAFETY FENCING AROUND EXCAVATIONS WITHIN THE SITE, AND ANY OTHER FENCING THAT IS REQUIRED TO ENSURE THE SAFETY OF SITE PERSONNEL / VISITOR PEDESTRIANS, ANIMALS AND VEHICLES.

11

THE LAND AND ADJOINING AREAS ARE TO BE KEPT IN A CLEAN AND TIDY CONDITION AT ALL TIMES. LITTER AND RUBBISH SHALL BE PLACED IN CONTAINERS AND REMOVED FROM THE SITE. A WASTE STORAGE CONTAINER IS TO BE PROVIDED AT THE COMMENCEMENT OF THE BUILDING WORK.

12

THE WORK SITE IS TO BE KEPT LIT BETWEEN SUNSET AND SUNRISE IF IT IS LIKELY TO BE A SOURCE OF DANGER TO PERSONS USING A PUBLIC PLACE OR UPON INSTRUCTION BY THE SUPERINTENDENT TO ENHANCE THE SAFETY AND SECURITY OF THE AREA IN WHICH THE WORK IS LOCATED.

13

ANY HOARDING, FENCE OR AWNING IS TO BE REMOVED WHEN NO LONGER REQUIRED.

EXISTING SERVICES

1

PRIOR TO COMMENCING ANY WORKS, THE CONTRACTOR SHALL CARRY OUT A 'DIAL BEFORE YOU DIG' FOR A SERVICES SEARCH. THE CONTRACTOR SHALL THEN ARRANGE FOR ALL SERVICES TO BE PHYSICALLY LOCATED, IDENTIFIED AND CLEARLY MARKED WITHIN THE WORKS AREA PRIOR TO THE COMMENCEMENT OF ANY WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED TO SUCH SERVICES DURING THE COURSE OF THE WORKS.

2

ANY SERVICE LOCATION SHOWN ON THE DESIGN PLANS ARE INDICATIVE ONLY AND THE POSITION AND DEPTH INDICATED SHOULD NOT BE RELIED UPON.

3

ALL CARE IS TO BE EXERCISED WHEN EXCAVATING NEAR EXISTING UTILITY SERVICES. MANUAL EXCAVATION PARALLEL TO THE SERVICE IS RECOMMENDED AND MECHANICAL DIGGING IS NOT TO BE CARRIED OUT OVER OR NEAR ANY ELECTRICAL / TELECOMMUNICATIONS CABLES OR GAS PIPES. EXCAVATIONS ARE TO BE UNDERTAKEN IN ACCORDANCE WITH THE REQUIREMENTS OF THE NSW WORK COVER CODE OF EXCAVATION 2000.

4

DURING THE EXECUTION OF WORKS, THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF ALL EXISTING UTILITY SERVICES. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED TO THE EXISTING SERVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE RELEVANT UTILITY

SERVICE PROVIDER, AT NO COST TO THE PRINCIPAL OR OTHER PROPERTY OWNER.

5

WHERE IT IS NECESSARY TO REMOVE, DIVERT OR CUT INTO ANY EXISTING UTILITY SERVICE, AND ON COMPLETION OF THE NEW 'WORKS, THE CONTRACTOR SHALL GIVE AT LEAST THREE (3) DAYS NOTICE OF THE REQUIREMENTS TO THE SUPERINTENDENT, WHO WILL ADVISE WHAT ARRANGEMENTS SHOULD BE MADE FOR THE ALTERATION OF SUCH EXISTING WORKS.

6

PRIOR TO THE COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL OBTAIN THE SUPERINTENDENT'S APPROVAL OF THE PROGRAMME FOR THE RELOCATION / CONSTRUCTION OF TEMPORARY SERVICES.

7

ALL NEW OR EXCAVATED EXISTING UTILITY SERVICES THAT CROSS EXISTING AND FUTURE ROADS/PAVEMENTS SHALL HAVE APPROPRIATE WARNING TAPES AND/OR WIRES PLACED IN ACCORDANCE WITH THE RELEVANT STANDARDS AND THEN BE BACKFILLED WITH DGB20 MATERIAL TO SUBGRADE LEVEL AND COMPACTED TO 98% STANDARD DENSITY RATIO, SUBJECT TO PRIOR APPROVAL FROM THE RELEVANT AUTHORITY.

8

ON COMPLETION OF SERVICES INSTALLATION, ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION, INCLUDING NATURE STRIPS, FOOTPATHS, CONCRETE AND GRAVEL AREAS, KERBS AND ROAD PAVEMENTS.

9

THE CONTRACTOR SHALL ALLOW FOR THE EXCAVATION, CAPPING OFF AND REMOVAL IF REQUIRED OF ALL EXISTING SERVICES IN AREAS AFFECTED BY THE WORKS WITHIN THE CONTRACT AREA AS SHOWN ON THE DRAWINGS UNLESS DIRECTED OTHERWISE BY THE SUPERINTENDENT. ALL SERVICES WORKS ARE TO BE COMPLETED TO REGULATORY AUTHORITY STANDARDS AND APPROVAL.

10

THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES AS REQUIRED TO MAINTAIN THAT SERVICE TO ANY PROPERTY OR BUILDING IN OPERATION DURING THE CONSTRUCTION WORKS, TO THE SATISFACTION AND APPROVAL OF THE SUPERINTENDENT. WHEN ALL NEW WORKS / DIVERSIONS ARE COMPLETED, COMMISSIONED AND INSPECTED, THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY UTILITY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT.

11

INTERRUPTION TO EXISTING UTILITY SERVICES SHALL BE CARRIED OUT SO AS NOT TO CAUSE ANY INCONVENIENCE OR DAMAGE TO ADJACENT PROPERTIES. THE CONTRACTOR IS RESPONSIBLE FOR GAINING PERMISSION OF THE SUPERINTENDENT FOR TIME OF INTERRUPTION.

12

THE CONTRACTOR SHALL MAINTAIN THE EXISTING STORMWATER DRAINAGE FLOWS THROUGH THE SITE AT ALL TIMES, AND MAKE DUE ALLOWANCE FOR ALL SUCH FLOWS AT ALL TIMES.

13

THE CONTRACTOR SHALL ENSURE THAT APPROPRIATE UTILITY SERVICES ABOVE GROUND MARKERS ARE PLACED IN ACCORDANCE WITH SERVICE PROVIDER AND COUNCIL SPECIFICATIONS.

14

ALL NEW AND REPLACEMENT UTILITY SERVICES SHALL BE LAID AT THE DEPTH AND POSITION WITHIN THE SERVICES TRENCH IN ACCORDANCE WITH RELEVANT AUTHORITY REQUIREMENTS AND SPECIFICATIONS OR AS DIRECTED IN THE DETAILED DRAWINGS.

15

SERVICES TRENCHES TO BE GRADED AT A MINIMUM OF 1% TO EITHER SUBSOIL OR STORMWATER DRAINAGE LINES.

16

THE CONTRACTOR SHALL ENSURE THAT ALL LOCATED AND NEW UTILITY SERVICES WITHIN AND OUTSIDE THE SITE ARE SURVEYED BY A DULY QUALIFIED SURVEYOR AS PART OF THE 'WORK AS EXECUTED' RECORDS.

CONSTRUCTION MATERIALS

1

MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS, COUNCIL SPECIFICATIONS AND WITH THE BY-LAWS AND ORDINANCE REQUIREMENTS OF THE RELEVANT BUILDING AUTHORITY, EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATIONS.

2

SUFFICIENT NOTICE SHALL BE GIVEN BY THE CONTRACTOR TO THE SUPERINTENDENT TO ENABLE MATERIALS THAT ARE TO BE BROUGHT ON SITE TO BE EXAMINED AND TESTED AS REQUIRED. ALL MATERIALS ARE TO BE STACKED IN A SUITABLE MANNER TO FACILITATE EXAMINATION.

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REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE
B	MINOR AMENDMENTS	24/08/2021	JS	AVG	SL	JF	
A	INITIAL RELEASE	24/05/2021	JS	AW	SL	JF	

GRID	DATUM	PROJECT MANAGER	CLIENT
---	---	JF	WYVERN HEALTH P/L C/- BUREAU SRH

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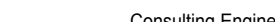
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DRAWING TITLE				
GENERAL NOTES SHEET 1				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1605687	PS05	R05	PS05-ZZ00	B

DRAWING ID: P1605687-PS05-R05-ZZ00

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE	GRID	DATUM	PROJECT MANAGER	CLIENT	 <div> Consulting Engineers Environment Water Geotechnical Civil </div>	DRAWING TITLE <div>GENERAL NOTES</div> <div>SHEET 2</div>			
B	MINOR AMENDMENTS	24/08/2021	JS	AVG	SL	JF		---	JF	WYVERN HEALTH P/L C/- BUREAU SRH	<div> martens & Associates Pty Ltd </div>					
A	INITIAL RELEASE	24/05/2021	JS	AW	SL	JF				PROJECT NAME/PLANSET TITLE WYVERN HEALTH PRIVATE HOSPITAL CIVIL & DRAINAGE ENGINEERING WORKS 4A LARROD ROAD, TERREY HILLS, NSW LOT 2 DP1145029						
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	1	2	3	4	5	6	7	8		
	3	THE CONTRACTOR MUST RECEIVE THE SUPERINTENDENT'S WRITTEN AUTHORITY TO PROCEED PRIOR TO DELIVERY OF PAVEMENT MATERIALS TO SITE.		PIPE PRIOR TO ACCESS BY 15TONNE EXCAVATOR AND COMPACTION WHEEL. 550MM FOR 10 TONNE VIBRATORY SMOOTH DRUM ROLLER.		6	CONTRACTOR TO ENSURE THAT RELEVANT AGREEMENTS AND ARRANGEMENTS ARE IN PLACE BETWEEN REQUIRED AGENCIES AND SERVICE PROVIDERS (E.G. TELSTRA, AUSGRID, COUNCIL) FOR ALL WORKS.	15	SOIL AND WATER MANAGEMENT PLANS ARE TO BE FOLLOWED FOR ALL DISTURBED SITES AND ADHERED TO AT ALL TIMES DURING THE CONSTRUCTION AND MAINTENANCE PERIODS.	
	4	FIELD DENSITY TESTS SHALL BE CARRIED OUT IN ACCORDANCE WITH AS1289.5.3.1, OR, WITH THE SUPERINTENDENT'S CONCURRENCE, WITH A NUCLEAR DENSITY METER IN ACCORDANCE WITH RELEVANT STANDARDS.	19	THE CONTRACTOR IS TO UNDERTAKE ALL PAVEMENT SEALING WORKS IN ACCORDANCE WITH THE PAVEMENT DESIGN WITHIN THE CIVIL WORKS ENGINEERING PLANS AND COUNCIL'S SPECIFICATION FOR ROADWORKS.		7	CONTRACTOR SHALL ENSURE THAT APPROPRIATE UTILITY SERVICES ABOVE GROUND MARKERS AND BELOW GROUND PROTECTION / IDENTIFICATION MEASURES ARE PLACED IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS, SERVICE PROVIDER REQUIREMENTS AND COUNCIL SPECIFICATIONS.	16	100 YEAR FLOW PATHS TO BE FORMED AT TIME OF CONSTRUCTION.	
	5	TESTING OF THE SUBGRADE SHALL BE PERFORMED BY PROOF-ROLLING, UTILISING A MINIMUM 12 TONNE STATIC MASS SMOOTH DRUM ROLLER WITHOUT VIBRATION, UNDER THE SUPERVISION OF COUNCIL. ADEQUATE COMPACTION IS INDICATED BY NO VISIBLE DEFLECTION (WITH THE HUMAN EYE) DURING EACH PASS OF THE ROLLER. SUBGRADE PROOF-ROLLING SHALL BE SUPPLEMENTED BY COMPACTIVE TESTING AS PER AS 3798.		PAVEMENT - ACCEPTANCE OF COMPACTED LAYERS		8	BASE OF SERVICES TRENCHES TO BE GRADED AT A MINIMUM OF 1% TO EITHER SUBSOIL OR STORMWATER DRAINAGE LINES.		REVEGETATION OF DISTURBED AREAS	
	6	PAVEMENT MATERIAL SHALL NOT BE SPREAD UPON AN UNDERLYING SUBGRADE OR PAVEMENT LAYER THAT HAS NOT RECEIVED THE APPROPRIATE COMPACTION CERTIFICATION.	3	ACCEPTANCE OF WORK, WITH RESPECT TO COMPACTION, SHALL BE BASED ON DENSITY TESTING OF THE WORK IN 'LOTS' WITH A LOT DEFINED AS: <ul style="list-style-type: none">COVERING A SINGLE LAYER OF WORK CONSTRUCTED UNDER UNIFORM CONDITIONS IN A CONTINUOUS OPERATION;FOR UNBOUND MATERIALS MAY BE EQUAL TO A DAYS OUTPUT USING THE SAME MATERIAL.		9	CONTRACTOR SHALL ENSURE THAT ALL LOCATED AND NEW UTILITY SERVICES WITHIN AND OUTSIDE THE SITE ARE SURVEYED BY A DULY QUALIFIED SURVEYOR AS PART OF THE "WORK AS EXECUTED" RECORDS.	1	ALL EARTHWORK AREAS ARE TO BE REINSTATED BY THE CONTRACTOR TO THE DIRECTION AND SATISFACTION OF THE SUPERINTENDENT. AS A MINIMUM, ALL AREAS EXCLUDING PAVEMENT AND ROCK LINED AREAS OR OTHER AREAS NOMINATED FOR SPECIFIC LANDSCAPING ARE TO BE FINISHED WITH 150 MM THICK LAYER OF SITE SOURCED (OR APPROVED EXTERNAL SUPPLY TOPSOIL) AND SPRAY GRASSED OR TURFED ASAP FOLLOWING COMPLETION OF WORKS IN ANY ONE AREA.	
	7	UNBOUND MATERIALS SHALL NOT BE SPREAD UPON AN UNDERLYING PAVEMENT LAYER WHICH HAS A MOISTURE CONTENT EXCEEDING 90%, THE LABORATORY OPTIMUM MOISTURE CONTENT OR WHICH HAS BECOME RUTTED OR MIXED WITH FOREIGN MATTER. THE UNDERLYING LAYER SHALL BE CORRECTED TO COMPLY BEFORE SPREADING THE NEXT LAYER OF PAVEMENT.	4	THE SUPERINTENDENT SHALL ASSESS COMPACTION OF EACH LOT BASED ON RANDOM SAMPLING OF TEST LOCATIONS FOR IN-SITU DRY DENSITY TESTING.				2	ALL TRAFFIC IS TO BE EXCLUDED FROM NEWLY RE-VEGETATED AREAS BY THE ERECTION OF SUITABLE TEMPORARY BARRIER FENCING.	
	8	THE COST OF CORRECTING AN UNDERLYING LAYER TO COMPLY SHALL BE BORNE BY THE CONTRACTOR.	5	THE CONTRACTOR SHALL ARRANGE FOR TESTING TO ASSESS COMPACTION ON THE BASIS OF 10 TESTS PER 5000 SQ.M WITH A MINIMUM OF 6 TESTS PER LOT, AND PRESENT THE RESULTS TO THE SUPERINTENDENT FOR APPROVAL.				3	SITE SEDIMENT AND EROSION CONTROL MEASURES ARE TO BE MAINTAINED UNTIL THE VEGETATION IS ESTABLISHED OR OTHERWISE DIRECTED BY THE SUPERINTENDENT OR ENGINEER.	
	9	EACH LAYER OF MATERIAL SHALL BE DEPOSITED AND SPREAD IN A CONCURRENT OPERATION AND, AFTER COMPACTION, THE FINISHED SURFACE LEVELS OF THE BASE AND SUBBASE COURSES SHALL BE WITHIN THE PERMITTED TOLERANCES STATED IN COUNCILS SPECIFICATION WITHOUT SUBSEQUENT ADDITION OF MATERIAL. THE THICKNESS OF EACH COMPACTED LAYER SHALL BE NEITHER LESS THAN 100MM NOR MORE THAN 150MM FOR ALL PAVEMENT LAYER TYPES, UNLESS APPROVED BY THE SUPERINTENDENT.	6	THE COSTS OF ALL TESTING FOR COMPACTION ASSESSMENT SHALL BE BORNE BY THE CONTRACTOR.				4	THE CONTRACTOR IS RESPONSIBLE FOR THE REVEGETATED AREAS FOR THE PERIOD SPECIFIED IN THE CONTRACT.	
	10	WHEN SPREAD FOR COMPACTION PROCESS THE MOISTURE CONTENT OF THE BASE OR SUBBASE MATERIALS SHALL BE IN THE RANGE OF 60-90% OF LABORATORY OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH AS1289.5.2.	7	ACCEPTABLE COMPACTION PERFORMANCE STANDARDS ARE SUMMARISED AS FOLLOWS: <ul style="list-style-type: none">BASE AND SUBBASE MIN 98 % MODIFIED COMPACTIVE EFFORT. REFER TO COUNCILS SPECIFICATION FOR ROADWORK & DRAINAGE ASSOCIATED WITH SUBDIVISION OR OTHER DEVELOPMENT.SUBGRADE TO BE 100 % STANDARD COMPACTIVE EFFORT.FILL TO BE 95 % STANDARD COMPACTIVE EFFORT.					TREES	
	11	EACH LAYER OF THE BASE AND SUBBASE COURSES SHALL BE UNIFORMLY COMPACTED OVER ITS ENTIRE AREA AND DEPTH TO SATISFY THE REQUIREMENT OF RELATIVE COMPACTION SET OUT IN COUNCILS ROADWORKS SPECIFICATION.		PAVEMENT - PROPERTY ENTRANCE		1	STORMWATER TO BE IN ACCORDANCE WITH COUNCIL REQUIREMENTS AND THE LATEST VERSION OF THE FOLLOWING APPLICABLE STANDARDS: A AS/NZS 3500 (ALL PARTS) B AS/NZS 2566.1 C AS/NZS 2566.2 D AS/NZS 5065 E AS1597.1 OR AS1597.2 F AS 4139 G AS 3725 H AS/NZS 1254 I AS/NZS 2032	1	ALL TREE PROTECTION REQUIREMENTS IF OUTLINED IN A PROJECT BIODIVERSITY AND CONSERVATION MANAGEMENT PLAN (BCMP) OR VEGETATION MANAGEMENT PLAN (VMP) ARE TO BE COMPLIED WITH ALONG WITH THE REQUIREMENTS OF THE PROJECT REF.	
	12	WATERING AND COMPACTION PLANT SHALL NOT BE ALLOWED TO STAND ON THE PAVEMENT BEING COMPACTED.		1	REINFORCING SHALL HAVE APPROXIMATELY 30MM TOP COVER AND SHOULD BE SUPPORTED DURING CONSTRUCTION BY BAR CHAIRS AT 1 METER CENTRES. THE REINFORMENT SHOULD NOT BE CONTINUOUS THROUGH A CONTROL JOINT.	2	THE PLAN DOES NOT COVER ANY BASMENT AND ROOF DRAINAGE DESIGN (IE. GUTTER, DOWPIPE, SLUNG PIPE AND SUB-SOIL LINE) AND ANY DRAINAGE DESIGN WITHIN AREA WHICH IS ROOFED OR ABOVE BASEMENT. THESE SHOULD BE READ IN ACCORDANCE WITH BUILDING HYDRAULIC ENGINEERS PLANS.	2	A TREE RETENTION PLAN IS TO BE KEPT ON SITE INDICATING TREES TO BE RETAINED AND AREAS LEFT UNDISTURBED THAT ARE TO BE CORDONED OFF FROM CONSTRUCTION WORKS.	
	13	ON SECTIONS OF PAVEMENT WITH ONE-WAY CROSSFALL, COMPACTION SHALL BEGIN AT THE LOW SIDE OF THE PAVEMENT AND PROGRESS TO THE HIGH SIDE. ON CROWNED SECTIONS, COMPACTION SHALL BEGIN AT THE SIDES AND PROGRESS TOWARDS THE CROWN. EACH PASS OF THE ROLLERS SHALL BE PARALLEL WITH THE ROADWAY CENTRELINE AND UNIFORMLY OVERLAP EACH PRECEDING PASS. THE OUTER METRE OF BOTH SIDES OF THE PAVEMENT SHALL RECEIVE AT LEAST TWO MORE PASSES BY THE COMPACTION PLANT THAN THE REMAINDER OF THE PAVEMENT.		2	A 150MM THICK COMPACTED, GRANULAR SUB-BASE SHALL BE PROVIDED FOR ALL COMMERCIAL FOOTWAY CROSSINGS. A 50MM THICK COMPACTED, GRANULAR SUB-BASE SHALL BE PROVIDED UNDER ALL OTHER CONCRETE FOOTWAY CROSSINGS.	3	ALL PIPES TO BE 150MM UPVC SEWER GRADE UNLESS NOTED OTHERWISE.	3	PRIOR TO WORK COMMENCING, TREE PROTECTION FENCING MUST BE ERECTED AROUND THE TREES THAT ARE TO BE RETAINED AT A 3M SETBACK. THE TREE FENCING MUST BE CONSTRUCTED OF 1.8 METRE CYCLONE CHAINMESH FENCE'. THE TREE PROTECTION FENCING MUST BE MAINTAINED IN GOOD WORKING ORDER UNTIL THE COMPLETION OF ALL BUILDING OR DEVELOPMENT WORKS. A STATEMENT OF COMPLIANCE FROM A QUALIFIED TREE SURGEON OR ENVIRONMENTAL CONSULTANT SHALL BE SUBMITTED TO THE PCA PRIOR TO THE ISSUE OF THE CONSTRUCTION CERTIFICATE. PENALTIES APPLY FOR NON-COMPLIANCE.	
	14	AT LOCATIONS WHERE IT WOULD BE IMPRACTICABLE TO USE SELF PROPELLED COMPACTION PLANT, COMPACTION SHALL BE ACHIEVED BY HAND-OPERATED PLANT APPROVED BY THE SUPERINTENDENT.		3	MASTIC JOINTS 5MM THICK ARE TO BE PROVIDED AT THE PROPOERTY BOUNDARY AND AT THE REAR OF THE GUTTER CROSSING (LAYBACK). DUMMY JOINTS SHALL BE PROVIDED AT EITHER SIDE OF THE FOOTWAY WHERE APPLICABLE.	4	ALL GRADIENTS FOR STORMWATER PIPES TO BE NOT LESS THAN 1.0% UNLESS NOTED OTHERWISE.	4	TO PREVENT DAMAGE TO TREE ROOTS, EXCAVATION (FOR SERVICES AND OTHER WORKS), CHANGE OF SOIL LEVEL (CUT OR FILL), PARKING (VEHICLES OR PLANT), OR PLACEMENT OF BUILDING MATERIALS (INCLUDING DISPOSAL OF CEMENT SLURRY AND WASTE WATER) WITHIN THE SPECIFIED TREE PROTECTION SETBACKS, AND WITHIN 3M OF ALL OTHER TREES TO BE RETAINED ONSITE, IS STRICTLY FORBIDDEN. NO TREE ROOTS LOCATED WITHIN THE SPECIFIED TREE SETBACK/S, SHALL BE SEVERED OR INJURED IN THE PROCESS OF ANY SITE WORKS DURING THE CONSTRUCTION OR LANDSCAPING PHASES OF THE APPROVED PROJECT. THE APPLICANT SHALL ENSURE THAT ALL UNDERGROUND SERVICES (I.E. WATER, DRAINAGE, GAS, AND SEWER) SHALL NOT BE LAID WITHIN 3M OF ANY TREE LOCATED ON THE PROPERTY PROTECTED UNDER COUNCIL'S TREE PRESERVATION ORDER OR LISTED FOR PROTECTION IN THE APPROVED PROJECT BCMP/VMP.	
	15	IF ANY UNSTABLE AREAS DEVELOP DURING ROLLING, THE UNSTABLE MATERIAL SHALL BE REJECTED AND REMOVED FOR THE FULL DEPTH OF THE LAYER, DISPOSED OF AND REPLACED WITH FRESH MATERIAL. THIS OPERATION WILL BE AT THE COST OF THE CONTRACTOR.		4	CONCRETE CROSSOVERS SHOULD USUALLY HAVE A BROOM FINISH UNLESS IT HAS A GRADIENT STEEPER THAN 1 (VERTICAL) TO 5 (HORIZONTAL) WHEN IT SHOULD BE FINISHED WITH A WOODEN FLOAT. THE FINISH IS TO BE A UNIFORM, NON-SLIP SURFACE. ALL EDGES ARE TO BE ROUNDED WITH A 5MM EDGING TOOL.	5	MINIMUM SLOPE FOR PAVED AREAS SHALL BE 0.5%, FOR LANDSCAPED AREAS MINIMUM SLOPE SHALL BE 1% AND GRADED TOWARDS THE GRATED PITS.			
	16	THE PLACEMENT OF SUBSEQUENT LAYERS SHALL NOT BE ALLOWED UNTIL THE REQUISITE TESTING HAS BEEN COMPLETED AND THE TEST RESULTS FOR EACH LAYER HAVE BEEN ACCEPTED BY THE SUPERINTENDENT.		5	ANY DAMAGED, DEFACED OR OTHERWISE UNSATISFACTORY SECTION SHALL BE REMOVED AND REPLACED.	6	PIPELINES AND DRAINAGE LINES IN ROADS AND TRAFFICABLE AREAS MUST BE BACKFILLED WITH APPROVED GRANULAR MATERIAL UNLESS OTHERWISE APPROVED BY COUNCIL/ENGINEER.			
	17	ANY UNBOUND MATERIAL IN A LAYER THAT HAS ATTAINED THE SPECIFIED RELATIVE COMPACTION BUT SUBSEQUENTLY BECOMES WETTED UP SHALL BE DRIED OUT AND, IF NECESSARY, UNIFORMLY RECOMPACTED AND TRIMMED TO MEET THE SPECIFIED DENSITY REQUIREMENTS AND LEVEL TOLERANCES.		6	DRIVEWAYS/LAYBACKS SHALL HAVE A MINIMUM 1.0M CLEARANCE FROM POWER AND LIGHT POLES AND STORMWATER DRAINS, AND 6.0M CLEARANCE FROM KERB RETURN TRANSITION POINTS.	7	ALL EXCAVATIONS WITHIN THE INFLUENCE OF BUILDINGS AND SERVICES SHALL BE UNDERTAKEN WITH THE KNOWLEDGE OF THE STRUCTURAL ENGINEER.			
	18	COVER/LIVE LOADING REQUIREMENTS IN ACCORDANCE WITH AS/NZS 3725:2007. MINIMUM 500MM COMPACTED FILL REQUIRED OVER CLASS 3			UTILITIES	8	THE DETENTION AND DRAINAGE SYSTEM SHALL BE MAINTAINED AT REGULAR INTERVALS AND THE CONTRACTOR SHALL MAKE NECESSARY ARRANGEMENTS.			
					3	TELSTRA AND ELECTRICAL SERVICES LOCATIONS SHOWN ON CIVIL PLANS AND ARE INDICATIVE ONLY.	9	CONNECTION OF DISCHARGE PIPE TO EXISTING COUNCIL KERB AND GUTTER, PIPE OR KERB INLET PIT SHALL BE CARRIED OUT IN ACCORDANCE WITH COUNCIL'S REQUIREMENTS.		
					4	CONTRACTOR TO ENSURE THAT DETAILED ELECTRICAL AND SERVICE DESIGNS AND REQUIREMENTS ARE OBTAINED PRIOR TO CONSTRUCTION.	10	PROVIDE GALVANISED STEP IRONS IN ALL PITS OVER 1.2-METRES DEEP AS MEASURED FROM THE TOP OF GRATE TO THE PIT INVERT.		
					5	ALL UTILITY WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS, SERVICE PROVIDER REQUIREMENTS AND COUNCIL SPECIFICATIONS.	11	THREE (3) METRES OF SUBSOIL DRAINAGE WRAPPED IN GEOTEXTILE STOCKING MUST BE PROVIDED TO ALL DOWNSTREAM PITS & HEADWALLS		
							12	MANUFACTURER'S CERTIFICATE SHALL BE OBTAINED BY THE BUILDER FOR PIPES, PRE-CAST PITS, HEADWALLS AND GRATES FOR THE STRUCTURAL ADEQUACY RELATING TO ITS LOCATION.		
							13	ADEQUATE PROVISION IS TO BE MADE TO PREVENT SCOURING AND SEDIMENTATION FOR ALL DRAINAGE WORKS IN ACCORDANCE WITH COUNCIL'S REQUIREMENTS.		
							14	CATCH DRAINS MUST BE CONSTRUCTED AS REQUIRED BY THE APPROVED PLANS OR PCA.		

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B	MINOR AMENDMENTS	24/08/2021	JS	AVG	SL	JF		---	---	JF	WYVERN HEALTH P/L C/- BUREAU SRH		GENERAL NOTES SHEET 3			
A	INITIAL RELEASE	24/05/2021	JS	AW	SL	JF					PROJECT NAME/PLANSET TITLE	PROJECT NO. PLANSET NO. RELEASE NO. DRAWING NO. REVISION				
								DISCLAIMER & COPYRIGHT			WYVERN HEALTH PRIVATE HOSPITAL	PS05 R05 PS05-ZZ02 B				
								This plan must not be used for construction unless signed as approved by principal certifying authority.			CIVIL & DRAINAGE ENGINEERING WORKS					
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SEDIMENT AND EROSION CONTROL PLAN

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TEMPORARY SEDIMENTATION AND EROSION CONTROLS (SEC) ARE TO BE CONSTRUCTED PRIOR TO COMMENCEMENT OF ANY WORK TO ELIMINATE THE DISCHARGE OF SEDIMENT FROM THE SITE. THE CONTROLS ARE TO BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF LANDCOM'S "MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION", VOLUME 1, 4TH EDITION, MARCH 2004, (THE BLUE BOOK).

THE CONTRACTOR IS TO INFORM ALL SUBCONTRACTORS OF THEIR RESPONSIBILITIES IN RELATION TO SEC.

THE CONTRACTOR SHALL REGULARLY MAINTAIN SEC DEVICES AND REMOVE ACCUMULATED SILT FROM SUCH DEVICES BEFORE NO MORE THAN 60% OF THEIR SEDIMENT STORAGE CAPACITY IS LOST. ALL THE SILT REMOVED SHALL BE DISPOSED OF AS DIRECTED BY THE SUPERINTENDENT.

NO SILT IS TO BE PLACED OUTSIDE THE LIMIT OF WORKS. THE PERIOD FOR MAINTAINING THESE DEVICES SHALL BE AT LEAST UNTIL ALL DISTURBED AREAS ARE REVEGETATED AND FURTHER AS MAY BE DIRECTED BY THE SUPERINTENDENT OR ENGINEER.

AREAS OF SITE DISTURBANCE ARE TO BE MINIMISED AT ANY ONE TIME WITH DEVELOPMENT STAGED SUCH THAT A NEW AREA IS NOT TO COMMENCE UNTIL THE PREVIOUS DISTURBED AREA IS FULLY STABILISED.

ALL WORKS MUST BE PERFORMED IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLAN.

THE CONTRACTOR SHALL PROTECT OVERLAND FLOW PATHS, DRAINS, ADJOINING LAND AND DOWNSTREAM WATER QUALITY FROM SEDIMENTATION. ACCORDINGLY, SEDIMENT AND EROSION CONTROL MEASURES MUST BE IMPLEMENTED PRIOR TO EXCAVATION, AND MAINTAINED DURING CONSTRUCTION.

ACCESS TO AND EXIT FROM THE SITE SHALL BE RESTRICTED TO ONE DESIGNATED APPROVED AREA. INCLUDE ADEQUATE MEASURES TO REMOVE SOIL FROM VEHICLES LEAVING THE SITE SO AS TO MAINTAIN PUBLIC ROADS IN A CLEAN CONDITION.

VEGETATION NOT DIRECTLY AFFECTED BY THE PROPOSAL MUST BE PROTECTED BY A "NO GO" BOUNDARY TO FACILITATE THE FILTRATION AND COLLECTION OF RUNOFF POLLUTION EMANATING FROM THE WORKS. CONTRACTOR TO ENSURE THAT NO SPOIL OR FILL ENCROACHES UPON ADJACENT BUSHLAND FOR THE DURATION OF THE WORKS.

ALL DISTURBED AREAS ARE TO BE STABILISED BY TURFING, MULCHING, PAVING OR OTHERWISE SUITABLY STABILISED WITHIN 30 DAYS OF COMPLETION.

DISTURBED AREAS OUTSIDE THE SPECIFIED WORKS AREAS SHALL BE REHABILITATED/REINSTATED BY THE CONTRACTOR USING APPROVED METHODS OF EROSION MITIGATION SUCH AS MULCHING WITH INDIGENOUS PLANT SPECIES OR OTHER SUITABLE APPROVED STABILISING PROCESSES WITHIN SEVEN DAYS AS DIRECTED BY THE SUPERINTENDENT.

TOPSOIL IS TO BE LIGHTLY ROLLED TO AVOID EROSION.

THE FOLLOWING SEDIMENT CONTROL MEASURES ARE REQUIRED TO BE PROVIDED IN CONJUNCTION WITH THE ATTACHED SEDIMENT AND EROSION CONTROL PLAN.

ALL RUNOFF AND EROSION CONTROLS ARE TO BE INSTALLED BEFORE ANY WORKS ARE CARRIED OUT AT THE SITE.

ALL CONTAMINATED SURFACE WATERS AND DEBRIS FROM THE SITE MUST BE SCREENED, COLLECTED AND POLLUTANTS CAPTURED WITHIN THE SITE.

STORMWATER INLETS AND DRAINS RECEIVING STORMWATER MUST BE PROTECTED AT ALL TIMES DURING WORK ON SITE.

MOVEMENT OF WATER MUST BE CONTROLLED BY DIVERTING UPSLOPE CLEAN SURFACE RUNOFF (VIA DIVERSION DRAINS AND SEDIMENT FENCING) AROUND THE DISTURBED AREAS.

CONTAMINATION OF SURFACE WATERS ON DOWNSLOPE LANDS MUST BE MITIGATED BY INSTALLING SEDIMENT CONTROL FENCES DOWNSLOPE OF THE DISTURBED AREAS TO CAPTURE SEDIMENT AND DEBRIS ESCAPING FROM THE SITE.

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GEOFABRIC SEDIMENT FENCING MUST BE INSTALLED PARALLEL TO THE PROPOSED WORKS OR ALONG THE NATURAL CONTOURS OF THE SITE.

SEDIMENT FENCING MUST BE SECURED BY POST (WHERE METAL STAR PICKETS ARE USED, PLASTIC SAFETY CAPS SHALL BE USED) AT TWO-METRE INTERVALS WITH THE GEOTEXTILE FABRIC EMBEDDED 200MM INTO SOIL. ONE METRE RETURNS MUST BE INSTALLED AT TWENTY-METRE INTERVALS ALONG THE SEDIMENT FENCING.

STOCKPILES OF TOPSOIL, SAND, AGGREGATE, SPOIL OR OTHER MATERIAL SHALL BE STORED CLEAR OF ANY DRAINAGE PATH OR EASEMENT, NATURAL WATERCOURSE, FOOTPATH, KERB OR ROAD SURFACE AND SHALL HAVE MEASURES IN PLACE TO THE SATISFACTION OF THE SUPERINTENDENT ACTING REASONABLY, TO PREVENT THE MOVEMENT OF SUCH MATERIAL OFF SITE.

DRIVEWAY ACCESS PATHS MUST BE STABILISED WITH NEEDLE-PUNCHED GEOTEXTILE COVERED BY A MINIMUM 150MM THICK LAYER OF COARSE GRAVEL, AGGREGATE, OR RECYCLED CRUSHED CONCRETE.

SEDIMENT TRAPS ARE TO BE INSTALLED DOWNSLOPE OF THE SITE TO FACILITATE THE CAPTURE OF SEDIMENT.

STREET SWEEPING MUST BE UNDERTAKEN AS REQUIRED DURING AND AFTER EXCAVATION AND CONSTRUCTION UNTIL THE SITE IS FULLY ESTABLISHED.

THE CONTRACTOR SHALL MAINTAIN DUST CONTROL UNTIL FINAL COMPLETION OF WORKS.

DURING WINDY WEATHER, LARGE, DISTURBED, UNPROTECTED AREAS SHALL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.

EROSION AND SEDIMENT CONTROL MEASURES MUST BE MAINTAINED IN GOOD WORKING ORDER, AND BE REPAIRED OR REPLACED THROUGHOUT THE COURSE OF WORKS ON SITE.

THE CONTRACTOR'S RESPONSIBILITY IS TO ENSURE ALL NECESSARY MEASURES ARE TAKEN SO AS TO PROTECT ALL DISTURBED AREA. ALL ADDITIONAL COSTS ARE TO BE REFLECTED IN THE CONTRACT PRICE EVEN IF SUCH MEASURES ARE NOT INDICATED ON THE SEDIMENT AND EROSION CONTROL PLAN.

THE CONTRACTOR MUST COMMENCE REHABILITATION IMMEDIATELY FOLLOWING ANY SITE DISTURBANCE INCLUDING REGRADING, FORMATION AND REVEGETATION WORKS.

THE CONTRACTOR SHALL REGULARLY WATER REVEGETATED AREAS UNTIL EFFECTIVE COVER HAS PROPERLY ESTABLISHED AND VEGETATION IS GROWING VIGOROUSLY. MAINTENANCE IS TO CONTINUE UNTIL ALL VEGETATION IS WELL ESTABLISHED AND INDEPENDENT OF FURTHER WATER APPLICATIONS.

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CONTRACTOR TO PROVIDE A CERTIFICATE OF COMPLIANCE THAT THE GEOTEXTILE COMPLIES WITH TEST RESULTS REPORTED ON NATA ENDORSED TEST DOCUMENTS; THE CERTIFICATE MUST NOT BE MORE THAN 12 MONTHS OLD.

AT ALL JOINS GEOTEXTILES ARE TO BE LAPPED BY NOT LESS THAN 300 MM OR GREATER IF SPECIFIED BY MANUFACTURER. WHERE UNDERLYING MATERIAL IS < CBR 2 LAP IS TO BE INCREASED AS SPECIFIED BY ENGINEER OR SUPPLIER.

WHERE INITIAL LAYER OVER GEOTEXTILE HAS D50<150 MM THE INITIAL LAYER OF PLACED LOOSE MATERIAL IS TO BE A MINIMUM OF 300 MM OR 3 TIMES THE D50 (WHICHEVER THE GREATER).

WHERE INITIAL LAYER OVER GEOTEXTILE HAS D50>150 MM THE INITIAL LAYER OF PLACED LOOSE MATERIAL IS TO BE A MINIMUM OF 500 MM OR 2 TIMES THE D50 (WHICHEVER THE GREATER).

PLANT AND EQUIPMENT ARE NOT TO TRAVERSE PLACED GEOTEXTILE WITHOUT SUPERINTENDENTS PERMISSION UNTIL FIRST LAYER OF COVER MATERIAL IS PLACED.

PRE-COMMENCEMENT BRIEFING

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A PRE-CONSTRUCTION MEETING IS TO BE HELD BETWEEN PROJECT ENGINEERS, THE SUPERINTENDENT AND CONTRACTOR SO ALL PARTIES INVOLVED UNDERSTAND EARTHWORK REQUIREMENTS AND POTENTIAL DIFFICULTIES.

LINES OF COMMUNICATION ARE TO BE CLEARLY DEFINED AT THIS MEETING.

HERITAGE

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SHOULD ANY POTENTIAL ARCHAEOLOGICAL DEPOSIT LIKELY TO CONTAIN ABORIGINAL ARTEFACTS BE IDENTIFIED DURING THE PLANNING OR HISTORICAL ASSESSMENT STAGE, APPLICATION SHALL BE MADE BY A SUITABLY QUALIFIED ARCHAEOLOGIST TO THE NATIONAL PARKS AND WILDLIFE SERVICE (NPWS) FOR AN EXCAVATION PERMIT FOR ABORIGINAL RELICS.

THE APPLICANT SHALL COMPLY WITH THE CONDITIONS AND REQUIREMENTS OF ANY EXCAVATION PERMIT REQUIRED, AND ARE TO ENSURE THAT ALLOWANCE FOR COMPLIANCE WITH THESE CONDITIONS AND REQUIREMENTS INTO THE DEVELOPMENT PROGRAM.

SHOULD ANY HISTORICAL RELICS BE UNEXPECTEDLY DISCOVERED IN ANY AREAS OF THE SITE, THEN ALL EXCAVATION OR DISTURBANCE TO THE AREA IS TO STOP IMMEDIATELY AND THE HERITAGE COUNCIL OF NSW SHOULD BE INFORMED IN ACCORDANCE WITH SECTION 146 OF THE HERITAGE ACT 1977.

SHOULD ANY ABORIGINAL RELICS BE UNEXPECTEDLY DISCOVERED IN ANY AREAS OF THE SITE, THEN ALL EXCAVATION OR DISTURBANCE TO THE AREA IS TO STOP IMMEDIATELY AND THE NATIONAL PARK AND WILDLIFE SERVICE (NPWS) SHOULD BE INFORMED IN ACCORDANCE WITH SECTION 91 OF THE NATIONAL PARK AND HERITAGE ACT, 1974.

IN THE UNLIKELY EVENT THAT SKELETAL REMAINS ARE IDENTIFIED, WORK MUST CEASE IMMEDIATELY IN THE VICINITY OF THE REMAINS AND THE AREA CORDONED OFF. THE PROPONENT WILL NEED TO CONTACT THE NSW POLICE CORONER TO DETERMINE IF THE MATERIAL IS OF ABORIGINAL ORIGIN. IF DETERMINED TO BE ABORIGINAL, THE PROPONENT MUST CONTACT THE OEH ENVIROLINE 131555, A SUITABLY QUALIFIED ARCHAEOLOGIST AND REPRESENTATIVES OF THE LOCAL REGISTERED ABORIGINAL PARTIES TO DETERMINE AN ACTION PLAN FOR THE MANAGEMENT OF SKELETAL REMAINS, FORMULATE MANAGEMENT RECOMMENDATIONS AND TO ASCERTAIN WHEN WORK CAN RECOMMENCE.

GEOTEXTILES

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GEOTEXTILES SHALL BE NON-WOVEN, NEEDLE PUNCHED, CONTINUOUS FILAMENT AND POLYESTER.

ALL GEOTEXTILE USED ARE TO COMPLY WITH AS 3706.

GEOTEXTILES WITH THE FOLLOWING MINIMUM PROPERTIES TO RTA R63 SHALL BE USED WHERE SPECIFIED WITHIN THE PLANS:-

CLASS	GRAB TENSILE STRENGTH (N) Q	TRAPEZOIDAL TEAR STRENGTH (N) Q	CBR BURST STRENGTH (N)	G RATING (-) Q	PORE SIZE (UM) MEAN	FLOW RATE (L/M ² /S) MEAN
A	500	180	1720	900	≤ 120	>50
B	700	250	2250	1350	≤ 120	>50
C	900	350	3200	2000	≤ 120	>50
D	1200	450	4400	3000	≤ 120	>50
E	1600	650	6400	4500	≤ 120	>50

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GEOTEXTILE MUST BE DELIVERED TO THE SITE AT LEAST 14 DAYS PRIOR TO COMMENCEMENT OF INSTALLATION.

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USER: JSMANZ


REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
B	MINOR AMENDMENTS	24/08/2021	JS	AVG	SL	JF
A	INITIAL RELEASE	24/05/2021	JS	AW	SL	JF

SCALE

GRID	DATUM	PROJECT MANAGER	CLIENT
---	---	JF	WYVERN HEALTH P/L C/- BUREAU SRH

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PROJECT NAME/PLANSET TITLE
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CIVIL & DRAINAGE ENGINEERING WORKS
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DRAWING TITLE GENERAL NOTES SHEET 4				
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P1605687	PS05	R05	PS05-ZZ03	B

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CONSTRUCTION CERTIFICATE