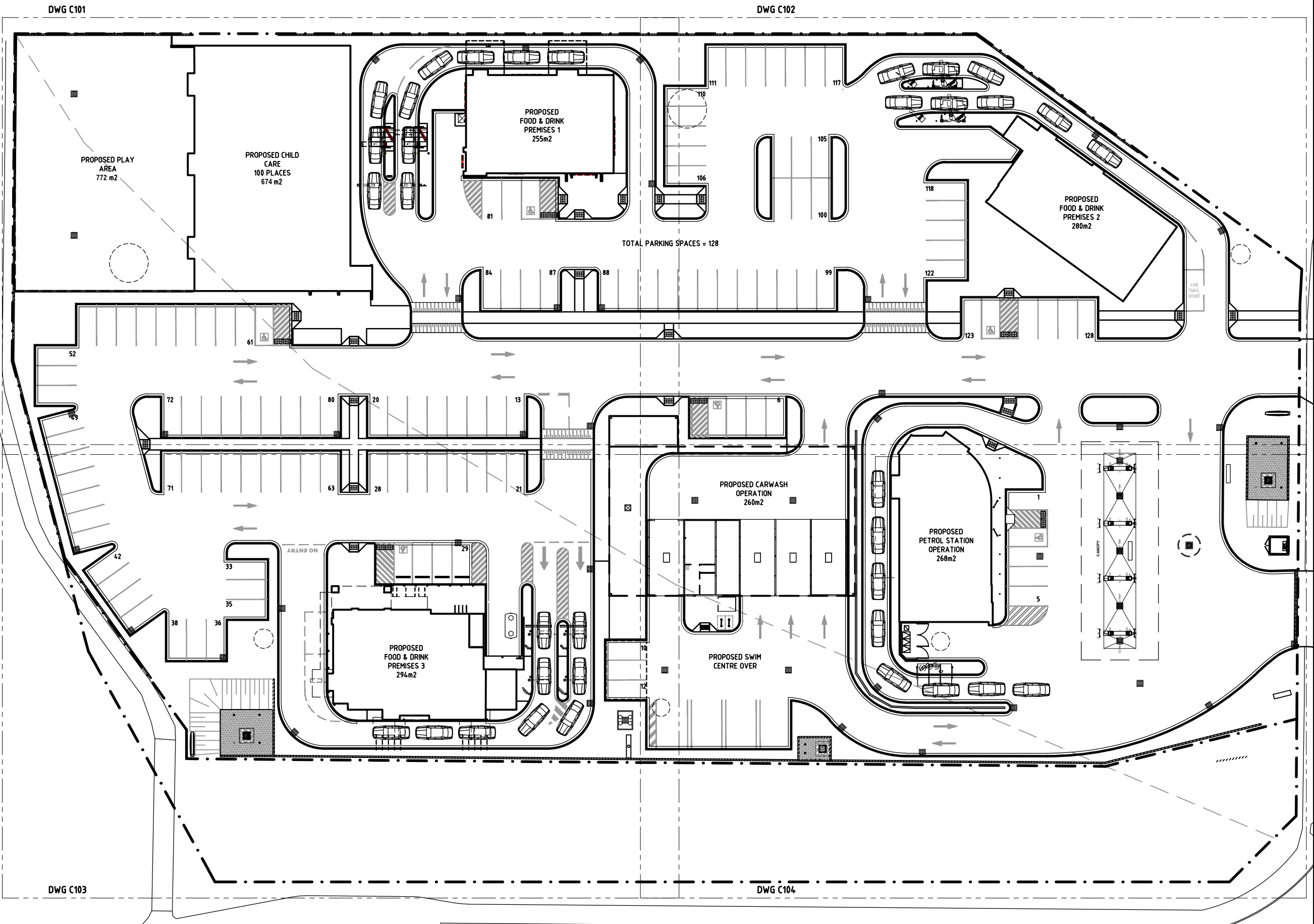
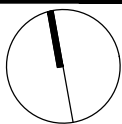


GENERAL NOTES:

- 1. SITE PLANS SHALL BE READ IN CONJUNCTION WITH ARCHITECTURAL SITE SETOUT.
- 2. REFER DWG. C110 FOR LINE SCHEDULE.
- 3. CAST IN VEHICLE DETECTOR LOOP TO BE TIED TO TOP SIDE OF STEEL REINFORCING FABRIC. MAINTAIN CONCRETE COVER TO DETECTOR LOOP IN ACCORDANCE WITH PAVEMENT DETAILS, REFER DWG. C501.
- 4. ENSURE FALLS IN DDA CARSPACE AND SHARED AREAS DO NOT EXCEED 1:40 IN ANY DIRECTION.
- 5. IO TO BE BRASS.
- 6. GENERALLY, ENSURE FALLS IN CARPARK DO NOT EXCEED 1:20.
- 7. ENSURE CROSSFALL ON FOOTPATHS, MARKED PEDESTRIAN ACCESS PATHS IS BETWEEN 1:50 AND 1:80. FALLS IN THE DIRECTION OF TRAVEL SHALL BE AS SHOWN WITH A MAXIMUM OF 1:20.



REV No.	COMMENTS	DATE	INIT.
A	DA ISSUE	01.09.21	SC
B	DA ISSUE	03.11.21	SC
C	DA ISSUE	05.11.21	SC



DA
ISSUE

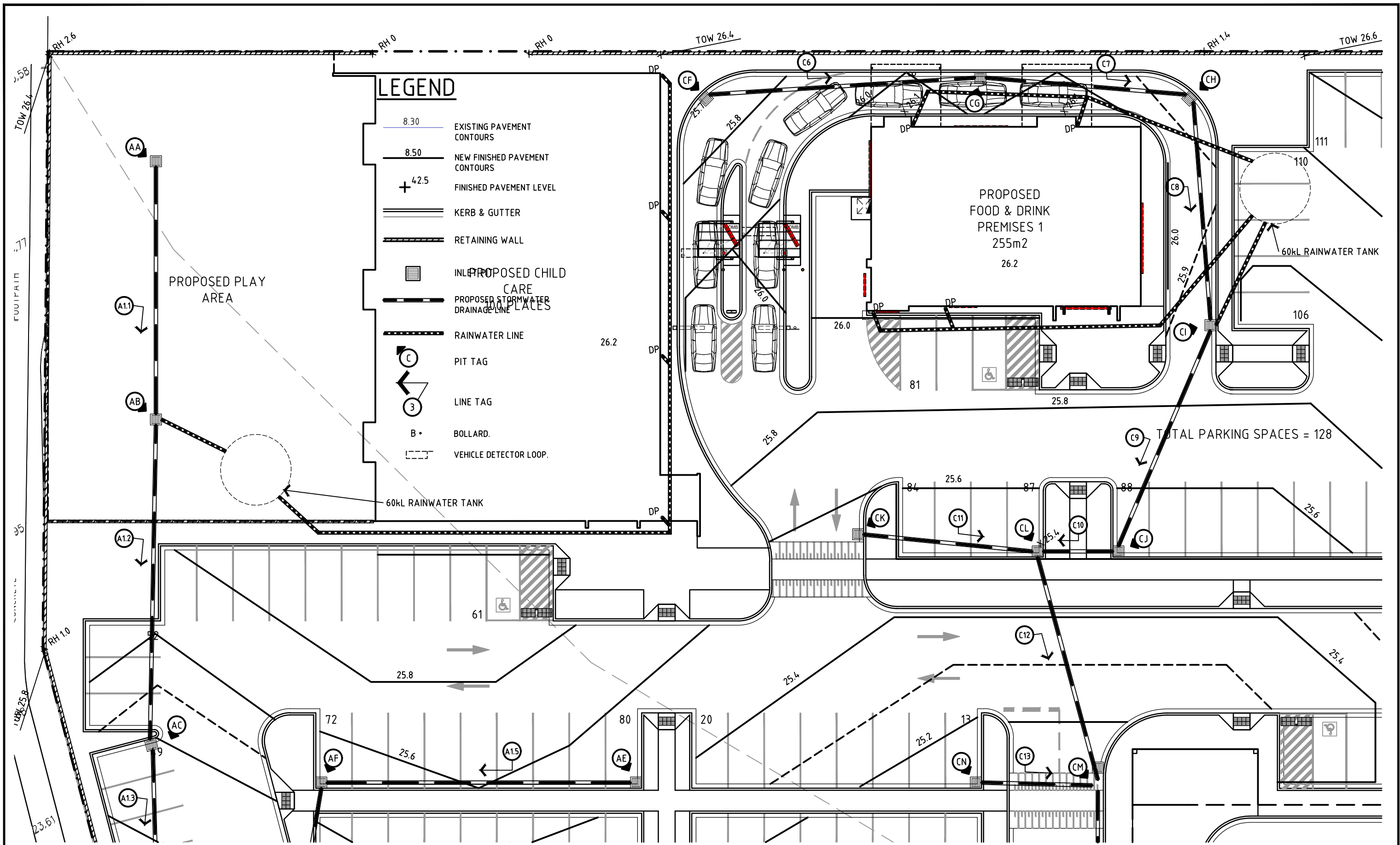
PROJECT:
PROPOSED DEVELOPMENT AT
CRANEBROOK

CLIENT: ISSAC PROPERTY GROUP

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS AND PROJECT LEADERS
ABN 34 001 485 436

38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

OVERALL SITE PLAN		
DATE:	OCTOBER 2021	DRG.No.
SCALE:	1:500 @ A3	C100
JOB No.	210285	REV C



REV No.	COMMENTS	DATE	INIT.
A	DA ISSUE	20.10.21	SC
B	DA ISSUE	03.11.21	SC
C	DA ISSUE	05.11.21	SC



PROJECT:
PROPOSED DEVELOPMENT AT
CRANEBROOK

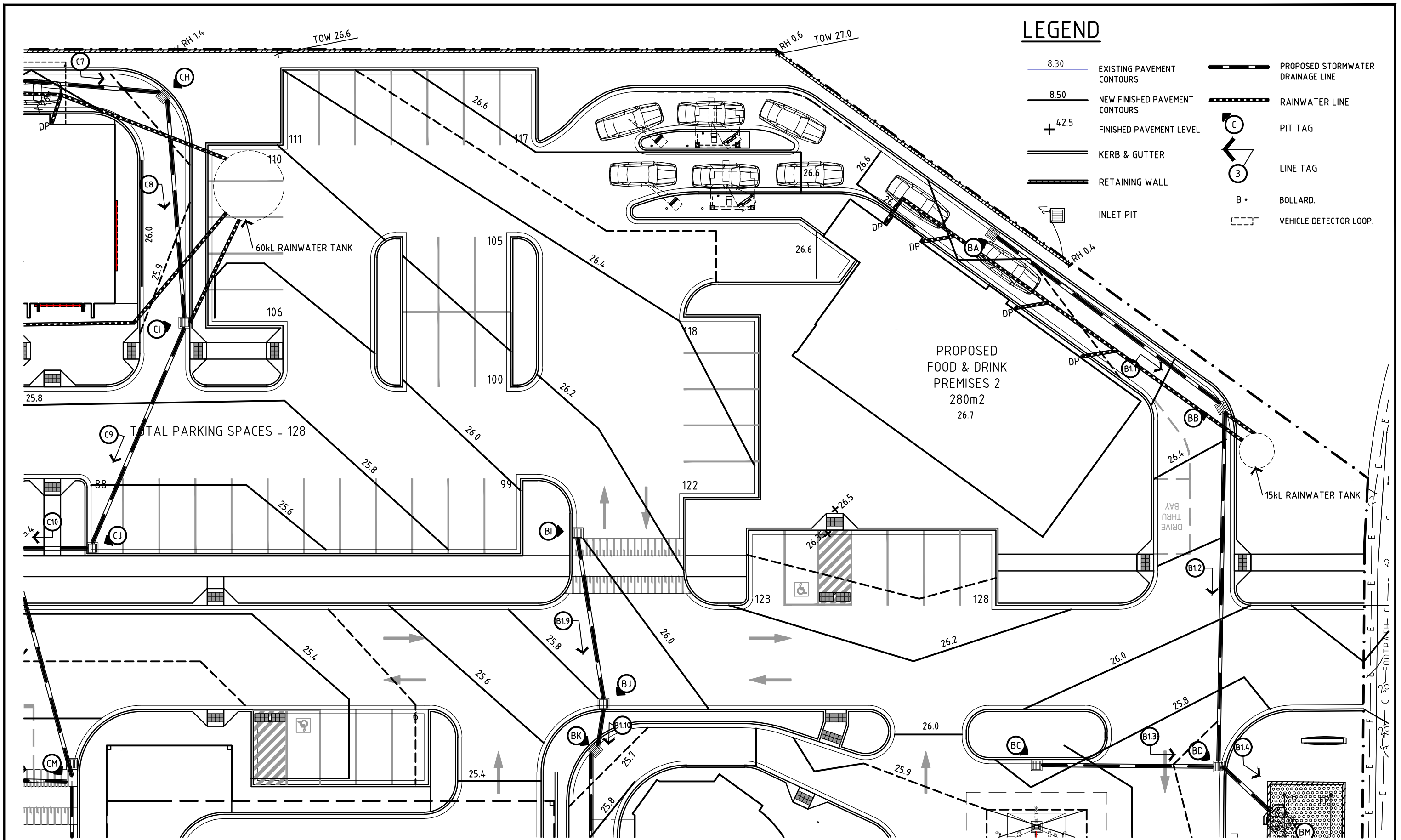
CLIENT: ISSAC PROPERTY GROUP

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS AND PROJECT LEADERS
ABN 34 001 485 436

38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
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PROPOSED DRAINAGE
PLAN - SHEET 1 OF 4

DATE: OCTOBER 2021	DRG.No. C101
SCALE: 1:250 @ A3	REV C
JOB No. 210285	



REV No.	COMMENTS	DATE	INIT.
A	DA ISSUE	20.10.21	SC
B	DA ISSUE	03.11.21	SC
C	DA ISSUE	05.11.21	SC



PROJECT:
PROPOSED DEVELOPMENT AT
CRANEBROOK

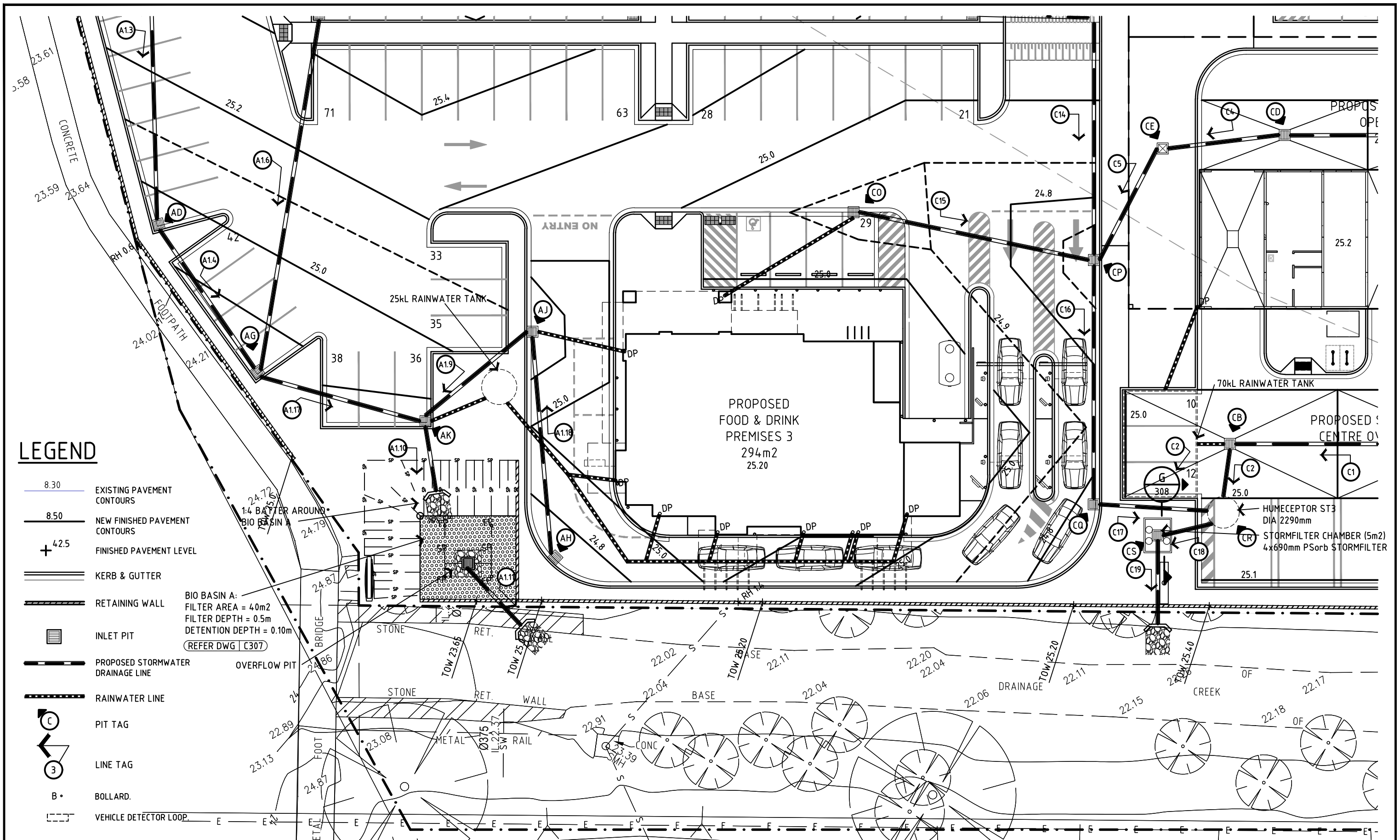
CLIENT: ISSAC PROPERTY GROUP

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS AND PROJECT LEADERS
ABN 34 001 485 436

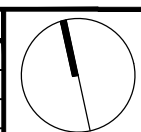
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

PROPOSED DRAINAGE
PLAN - SHEET 2 OF 4

DATE: **OCTOBER 2021** DRG.No.
SCALE: 1:250 @ A3 **C102**
JOB No. **210285** REV C



REV No.	COMMENTS	DATE	INIT.
A	DA ISSUE	25.10.21	SC
B	DA ISSUE	03.11.21	SC
C	DA ISSUE	05.11.21	SC



PROJECT:
PROPOSED DEVELOPMENT AT
CRANEBROOK

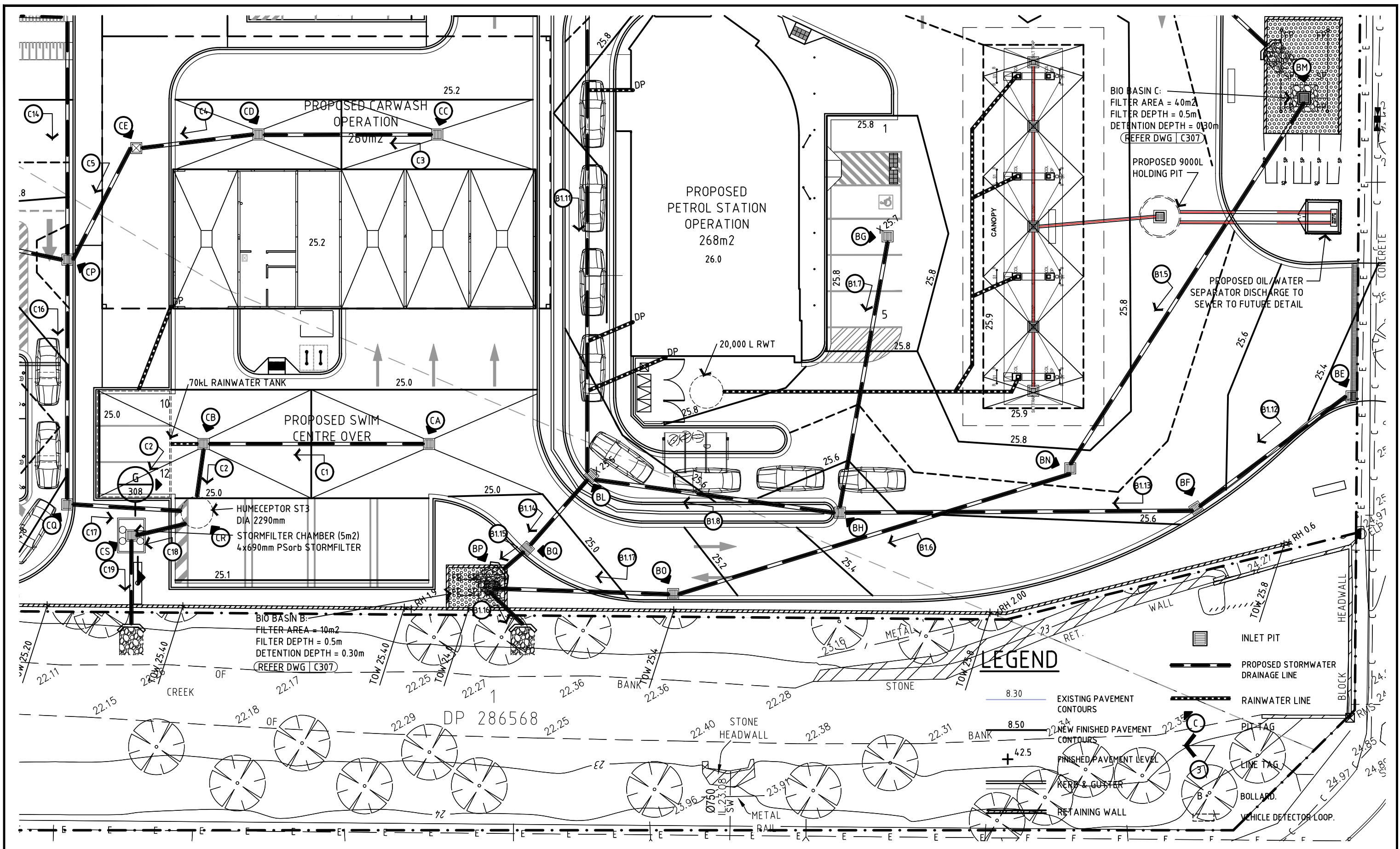
CLIENT: ISSAC PROPERTY GROUP

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS AND PROJECT LEADERS
ABN 34 001 485 436

38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

PROPOSED DRAINAGE
PLAN - SHEET 3 OF 4

DATE: **OCTOBER 2021** DRG.No.
SCALE: 1:250 @ A3 **C103**
JOB No. **210285** REV C



REV No.	COMMENTS	DATE	INIT.
A	DA ISSUE	25.20.21	SC
B	DA ISSUE	03.11.21	SC
C	DA ISSUE	05.11.21	SC



PROJECT:
PROPOSED DEVELOPMENT AT
CRANEBROOK

CLIENT: ISSAC PROPERTY GROUP

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS AND PROJECT LEADERS
ABN 34 001 485 436

38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
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FAX : (02) 9438 1224

**PROPOSED DRAINAGE
PLAN - SHEET 4 OF 4**

DATE: OCTOBER 2021 **DRG.No.** C104
SCALE: 1:250 @ A3 **REV C**
JOB No. 210285

LINE SCHEDULE

TAG	UPSTREAM INVERT	SIZE	MATERIAL	LENGTH (m)	GRADE (ACTUAL)	DOWNSTREAM INVERT	NOTES
A1.1	25.30	225	UPVC	17.7	1:197	25.21	
A1.2	25.20	300	UPVC	22.6	1:38	24.61	
A1.3	24.60	300	UPVC	17.0	1:44	24.21	
A1.4	24.20	300	UPVC	12.0	1:41	23.91	
A1.5	24.65	225	UPVC	21.8	1:150	24.51	
A1.6	24.50	225	UPVC	25.4	1:43	23.91	
A1.7	23.90	300	UPVC	12.9	1:129	23.80	
A1.8	24.05	225	UPVC	15.6	1:173	23.96	
A1.9	23.95	225	UPVC	9.5	1:63	23.80	
A1.10	23.75	300	UPVC	4.6	1:46	23.65	
A1.11	22.60	300	UPVC	6.0	1:12	22.10	
B1.1	25.75	225	UPVC	20.0	1:200	25.65	
B1.2	25.64	225	UPVC	25.1	1:40	25.01	
B1.3	25.10	225	UPVC	12.3	1:137	25.01	
B1.4	24.99	300	UPVC	3.0	1:100	24.96	
B1.5	23.91	225	UPVC	30.0	1:100	23.79	
B1.6	23.77	375	UPVC	30.0	1:100	23.47	
B1.7	25.05	225	UPVC	19.4	1:50	24.66	
B1.8	24.45	300	UPVC	17.4	1:193	24.36	
B1.9	25.25	225	UPVC	11.6	1:48	25.01	
B1.10	25.00	225	UPVC	2.6	1:65	24.96	
B1.11	24.90	225	UPVC	34.7	1:119	24.61	
B1.12	24.70	225	UPVC	12.3	1:137	24.61	
B1.13	24.60	300	RRJ RCP	25.8	1:130	24.40	
B1.14	23.95	375	RRJ RCP	2.0	1:40	23.90	
B1.15	23.88	375	RRJ RCP	2.0	1:100	23.86	
B1.16	22.81	375	RRJ RCP	3.0	1:4	22.10	
B1.17	23.45	375	RRJ RCP	11.0	1:100	23.34	
C1	24.20	225	UPVC	15.4	1:170	24.11	
C2	24.10	225	UPVC	4.0	1:150	23.97	
C3	24.35	225	UPVC	12.1	1:135	24.26	
C4	24.25	225	UPVC	8.0	1:200	24.21	
C5	24.20	225	UPVC	9.0	1:180	24.15	
C6	25.06	225	UPVC	19.0	1:190	24.96	
C7	24.95	225	UPVC	14.4	1:160	24.86	
C8	24.85	225	UPVC	15.6	1:173	24.76	
C9	24.75	225	UPVC	16.8	1:88	24.56	
C10	24.55	300	UPVC	5.0	1:125	24.51	
C11	24.75	225	UPVC	12.2	1:87	24.61	
C12	24.50	300	UPVC	16.6	1:87	24.31	
C13	24.35	225	UPVC	8.0	1:200	24.31	
C14	24.30	300	UPVC	16.6	1:38	23.86	
C15	24.10	225	RRJ RCP	16.8	1:84	23.90	
C16	23.85	375	RRJ RCP	16.8	1:120	23.71	
C17	23.70	375	RRJ RCP	8.5	1:180	23.65	
C18	23.62	375	RRJ RCP	4.0	1:100	23.58	
C19	23.43	375	RRJ RCP	6.0	1:5	22.10	

PIT SCHEDULE

TAG	TYPE	SIZE	RL TOP	IL	NOTES
AA	INLET	600x600	25.90	25.30	
AB	INLET	600x600	25.90	25.20	
AC	INLET	600x600	25.40	24.70	
AD	INLET	600x600	24.90	24.20	
AE	INLET	600x600	25.45	24.65	
AF	INLET	600x600	25.5	24.50	
AG	INLET	600x600	24.70	23.90	
AH	INLET	600x600	24.70	24.05	
AJ	INLET	600x600	24.85	23.95	
AK	INLET	900x900	24.70	23.75	
AL	BIO OUTLET	900x900	23.75	22.60	
BA	INLET	600x600	26.40	25.75	
BB	INLET	600x600	26.50	25.64	
BC	INLET	600x600	25.75	25.10	
BD	INLET	600x600	25.65	25.00	
BE	INLET	600x600	25.35	24.70	
BF	INLET	900x600	25.65	24.60	
BG	INLET	600x600	25.70	25.05	
BH	INLET	900x600	25.50	24.45	
BI	INLET	600x600	26.00	25.25	
BJ	INLET	600x600	25.80	25.00	
BK	INLET	600x600	25.65	24.90	
BL	INLET	900x600	25.50	24.35	
BM	BIO OUTLET	900x900	25.26	23.91	
BN	JUNCTION	1200x1200	25.70	23.77	
BO	JUNCTION	1200x1200	25.10	23.45	
BP	BIO OUTLET	900x900	24.16	22.81	
BQ	INLET	900x900	24.90	23.88	
CA	INLET	600x600	24.95	24.20	
CB	INLET	600x600	24.95	24.10	
CC	INLET	600x600	25.10	24.35	
CD	INLET	600x600	25.10	24.25	
CE	INLET	600x600	25.00	24.20	
CF	INLET	600x600	25.70	25.05	
CG	INLET	600x600	25.90	24.10	
CH	INLET	600x600	25.80	24.85	
CI	INLET	900x600	25.85	24.75	
CJ	INLET	600x600	25.40	24.50	
CK	INLET	600x600	25.50	24.75	
CL	INLET	600x600	25.40	24.55	
CM	INLET	600x600	25.10	24.30	
CN	INLET	600x600	25.10	24.35	
CO	INLET	600x600	24.85	24.10	
CP	INLET	600x600	24.65	23.85	
CQ	INLET	900x600	24.70	23.70	
CR	HUMECEPTOR	ST3	25.18	-	
CS	FILTER CHAMBER	-	25.25	23.43	

STORMWATER RUNOFF CALCULATIONS

USING FORMULA $Q = 0.00028 CAI$
WHERE Q = DISCHARGE IN LITRES PER SECOND
 C = A RUNOFF COEFFICIENT (SEE TABLE)
 A = CATCHMENT AREA IN SQ.M.
 I = RAINFALL INTENSITY IN MILLIMETRES PER HOUR
 $100 I_5$ = 322 MM/HR FOR 100 YEAR RETURN PERIOD 5 MINUTE DURATION STORM

CIRCULATION ISSUE

Revisions			General Notes			Drawing Notes			PRELIMINARY ISSUE NOT TO BE USED DURING CONSTRUCTION			North			Architect ABN 34 001 485 436 Richmond+Ross CONSULTING ENGINEERS AND PROJECT LEADERS 38 Willoughby Road Crows Nest NSW 2065 TEL: (02) 9490 9600 FAX: (02) 94381224			Consultants ISAAC PROPERTY GROUP			Project IPD CRANE BROOK			Scale N/A			Series		
A DA ISSUE			14-10-21 SC												Drawing			NOTES AND SCHEDULES											
Issue Description			Date			Chk Int									Location 1 RENSHAW STREET CRANE BROOK NSW 2749			Project Number			Drawing Number			Issue					
																		210285			C110			A					

EROSION AND SEDIMENTATION CONTROL NOTES

Erosion and Sediment Control Notes

The following notes may not be relevant to each development.

General

- ESCP refers to Erosion and Sediment Control Plan and SWMP refers to Soil and Water Management Plan.
- ESC refers to erosion and sediment control.
- Sediment, includes, but is not limited to, clay, silt, sand, gravel, soil, mud, cement, and ceramic waste.
- Any reference to the Blue Book refers to Managing Urban Stormwater – Soils and Construction. Landcom, 2004.
- Any reference to the IECA White Books (2008) refers to IECA 2008. Best Practice Erosion and Sediment Control. Books 1–6.International Erosion Control Association (Australasia). Picton NSW.
- Any material deposited in any conservation area from works associated with the development shall be removed immediately by measures involving minimal ground and/or vegetation disturbance and no machinery, or following directions by Council and/or within a timeframe advised by Council.

The ESCP

- The ESCP and its associated ESC measures shall be constantly monitored, reviewed, and modified as required to correct deficiencies. Council has the right to direct changes if, in its opinion, the measures that are proposed or have been installed are inadequate to prevent pollution.
- Prior to any activities onsite, the responsible person(s) is to be nominated. The responsible person(s) shall be responsible for the ESC measures onsite. The name, address and 24 hour contact details of the person(s) shall be provided to Council in writing. Council shall be advised within 48 hours of any changes to the responsible person(s), or their contact details, in writing.
- At least 14 days before the natural surface is disturbed in any new stage, the contractor shall submit to the Certifier, a plan showing ESC measures for that Stage. The degree of design detail shall be based on the disturbed area.
- At any time, the ESC measures onsite shall be appropriate for the area of disturbance and its characteristics including soils (in accordance with those required for the site as per DCP).
- The implementation of the ESCP shall be supervised by personnel with appropriate qualifications and/or experience in ESC on construction sites.
- The approved ESCP shall be available on-site for inspection by Council officers while work activities are occurring.
- The approved ESCP shall be up to date and show a timeline of installation, maintenance and removal of ESC measures.
- All ESC measures shall be appropriate for the Sediment Type(s) of the soils onsite, in accordance with the Blue Book, IECA White Books or other current recognised industry standard for ESC for Australian conditions.
- Adequate site data, including soil data from a NATA approved Laboratory, shall be obtained to allow the preparation of an appropriate ESCP, and allow the selection, design and specification of required ESC measures.
- All works shall be carried out in accordance with the approved ESCP (as amended from time to time) unless circumstances arise where:
 - compliance with the ESCP would increase the potential for environmental harm; or
 - circumstances change during construction and those circumstances could not have been foreseen; or
 - Council determines that unacceptable off-site sedimentation is occurring as a result of a land-disturbing activity. In either case, the person(s) responsible may be required to take additional or alternative protective action and/or undertake reasonable restoration

- Additional ESC measures shall be implemented, and a revised ESCP submitted for approval to the certifier (within five business days of any such amendments) in the event that:
 - there is a high probability that serious or material environmental harm may occur as a result of sediment leaving the site; or
 - the implemented works fail to achieve Council's water quality objectives specified in these conditions; or
 - site conditions significantly change; or
 - site inspections indicate that the implemented works are failing to achieve the ?objective? of the ESCP.

- A copy of any amended ESCP shall be forwarded to an appropriate Council Officer, within five business days of any such amendments.

Site establishment including clearing and mulching

- No land clearing shall be undertaken unless preceded by the installation of adequate drainage and sediment control measures, unless such clearing is required for the purpose of installing such measures, in which case, only the minimum clearing required to install such measures shall occur.
- Bulk tree clearing and grubbing of the site shall be immediately followed by specified temporary erosion control measures (e.g. temporary grassing or mulching) prior to commencement of each stage of construction works.
- Trees and vegetation cleared from the site shall be mulched onsite within 7 days of clearing.
- Appropriate measures shall be undertaken to control any dust originating due to the mulching of vegetation onsite.
- All office facilities and operational activities shall be located such that any effluent, including wash-down water, can be totally contained and treated within the site.
- All reasonable and practicable measures shall be taken to ensure stormwater runoff from access roads and stabilised entry/exit systems, drains to an appropriate sediment control device.
- Site exit points shall be appropriately managed to minimise the risk of sediment being tracked onto sealed, public roadways.
- Stormwater runoff from access roads and stabilised entry/exit points shall drain to an appropriate sediment control device.
- The Applicant shall ensure an adequate supply of ESC, and appropriate pollution clean-up materials are available on-site at all times.
- All temporary earth banks, flow diversion systems, and sediment basin embankments shall be machine-compacted, seeded and mulched within ten (10) days of formation for the purpose of establishing a vegetative cover, or lined appropriately.
- Sediment deposited off site as a result of on-site activities shall be collected and the area cleaned/rehabilitated as soon as reasonable and practicable.
- Concrete waste and chemical products, including petroleum and oil-based products, shall be prevented from entering any internal or external water body, or any external drainage system, excluding those on-site water bodies specifically designed to contain and/or treat such material. Appropriate measures shall be installed to trap these materials onsite.
- Brick, tile or masonry cutting shall be carried out on a pervious surface (e.g. grass or open soil) and in such a manner that any resulting sediment-laden runoff is prevented from discharging into a gutter, drain or water. Appropriate measures shall be installed to trap these materials onsite.
- Newly sealed hard-stand areas (e.g. roads, driveways and car parks) shall be swept thoroughly as soon as practicable after sealing/surfacing to minimise the risk of components of the surfacing compound entering stormwater drains.
- Stockpiles of erodible material shall be provided with an appropriate protective cover (synthetic or organic) if the materials are likely to be stockpiled for more than 10 days.
- Stockpiles, temporary or permanent, shall not be located in areas identified as no-go zones (including, but not limited to, restricted access areas, buffer zones, or areas of non-disturbance) on the ESCP.
- No more than 150m of a stormwater, sewer line or other service trench shall to be open at any one time.

- Site spoil shall be lawfully disposed of in a manner that does not result in ongoing soil erosion or environmental harm.
- Wherever reasonable and practicable, stormwater runoff entering the site from external areas, and non-sediment laden (clean) stormwater runoff entering a work area or area of soil disturbance, shall be diverted around or through that area in a manner that minimises soil erosion and the contamination of that water for all discharges up to the specified design storm discharge.

Site Management including Dust

- Priority shall be given to the prevention, or at least the minimisation, of soil erosion, rather than the trapping of displaced sediment. Such a clause shall not reduce the responsibility to apply and maintain, at all times, all necessary ESC measures.
 - Measures used to control wind erosion shall be appropriate for the location and prevent soil erosion and emissions from site at all times, including working hours, out of hours, weekends, public holidays, and during any other shutdown periods.
 - The application of liquid or chemical-based dust suppression measures shall ensure that sediment-laden runoff resulting from such measures does not create a traffic or environmental hazard.
 - All cut and fill earth batters less than 3m in elevation shall be topsoiled, and grass seeded/hydr mulched within 10 days of completion of grading in consultation with Council.
 - All disturbed areas shall be stabilised in accordance with time lines in the Blue Book.
 - All reasonable and practicable measures shall be taken to prevent, or at least minimise, the release of sediment from the site.
 - Suitable all-weather maintenance access shall be provided to all sediment control devices.
 - Sediment control devices, other than sediment basins, shall be de-silted and made fully operational as soon as reasonable and practicable after a sediment-producing event, whether natural or artificial, if the device's sediment retention capacity falls below 75% of its design retention capacity.
 - All erosion and sediment control measures, including drainage control measures, shall be maintained in proper working order at all times during their operational lives.
 - Washing/flushing of sealed roadways shall only occur where sweeping has failed to remove sufficient sediment and there is a compelling need to remove the remaining sediment (e.g. for safety reasons). In such circumstances, all reasonable and practicable sediment control measures shall be used to prevent, or at least minimise, the release of sediment into receiving waters. Only those measures that will not cause safety and property flooding issues shall be employed. Sediment removed from roadways shall be disposed of in a lawful manner that does not cause ongoing soil erosion or environmental harm.
 - Sediment removed from sediment traps and places of sediment deposition shall be disposed of in a lawful manner that does not cause ongoing soil erosion or environmental harm.
- ### Sediment Basins – installation, maintenance and removal including sediment traps
- As-Constructed plans shall be prepared for all constructed Sediment Basins and associated emergency spillways. Such plans shall verify the basin's dimensions, levels and volumes comply with the approved design drawings. These plans may be requested by the Certifier or Council.
 - Sediment basins shall be constructed and fully operational prior to any other soil disturbance in their catchment.
 - Install an internal gated valve, or similar, in any outlet pipe once pipes installed, or install a sacrificial pipe from basin through wall to external outlet point. The valve shall be connected to a riser made from slotted pipe in the basin. The valve may be opened once captured water meets water quality requirements. The final setup for temporary internal outlet structures to be confirmed prior to construction with Council. This setup will enable discharge of treated water from site without need for pumping.
 - A sediment storage level marker post shall be with a cross member set just below the top of the sediment storage zone (as specified on the approved ESCP). At least a 75mm wide post shall be firmly set into the basin floor.
 - The Site Manager shall obtain the relevant approvals from the relevant organisations to discharge treated water from any existing basins. Organisations may include, but not be limited to, Hunter Water, and Council.

REV No.	COMMENTS	DATE	INIT.	DA ISSUE	PROJECT:	Richmond+Ross PTY LIMITED CONSULTING ENGINEERS AND PROJECT LEADERS ABN 34 001 485 436 38 WILLOUGHBY ROAD, CROWS NEST, NSW 2065 TEL : (02) 9490 9600 FAX : (02) 9438 1224	SEDIMENTATION CONTROL NOTES SHEET 1 OF 2	
A	DA ISSUE	01.09.21	SC		PROPOSED DEVELOPMENT AT			
					-			
					CLIENT: -		DATE: OCTOBER 2021	DRG.No.
							SCALE: NTS @ A3	C300 REV A
							JOB No. 210285	

54. Where more than one stage is to be developed at one time, or before the preceding stage is complete, the sediment basin(s) for these stages shall have sufficient capacity to cater for all area directed to the basin(s).

55. Prior to any forecast weather event likely to result in runoff, any basins/traps shall be dewatered to provide sufficient capacity to capture sediment laden water from the site.

56. Sufficient quantities of chemicals/agents to treat captured water shall be placed such that water entering the basin mixes with the chemical/agents and is carried into the basin to speed up clarification.

57. Any basin shall be dewatered within the X-day rainfall depth used to calculate the capacity of the basin, after a rainfall event.

58. Sufficient quantities of chemicals/agents to treat turbid water shall be securely stored on-site to provide for at least three complete treatments of all basins requiring chemically treatment onsite.

59. Prior to the controlled discharge (e.g. de-watering activities) from site including excavations and/or sediment basins, the following water quality objectives shall be achieved:

a) Total Suspended Solids (TSS) to a maximum 50 milligrams/L;

b) water pH between 6.5 and 8.5, unless otherwise required by the Council;

c) Turbidity (measured in NTUs) to a maximum of 60 NTU); and

d) EC levels no greater than background levels.

60. The Development Approval may require testing of additional water quality elements prior to discharge. E.g. including but not limited to metals, organic substances, chemicals or bacteriological indicators.

61. A sample of the released treated water shall be kept onsite in a clear container with the sample date recorded on it.

62. Water quality samples shall be taken at a depth no less than 200mm below the water surface of the basin.

63. No Aluminium based products may be used treat captured water onsite without the prior written permission from an appropriate Council Officer. The applicant shall have a demonstrated ability to use such products correctly and without environmental harm prior to any approval.

64. The chemical/agent used in Type D and Type F basins to treat captured water captured in the basin shall be applied in concentrations sufficient to achieve Council's water quality objectives within the X-day rainfall depth used to calculate the capacity of the basin, after a rainfall event.

65. All Manufacturers' Instructions shall be followed for any chemicals/agents used onsite, except where approved by the Responsible Person or an appropriate Council Officer.

66. The Applicant shall ensure that on each occasion a Type F or Type D basin was not de-watered prior to being surcharged by a following rainfall event, a report is presented to an appropriate Council officer within 5 days identifying the circumstances and proposed amendments, if any, to the basin's operating procedures.

67. Settled sediment shall be removed as soon as reasonable and practicable from any sediment basin if:

a) it is anticipated that the next storm event is likely to cause sediment to settle above the basin's sediment storage zone; or

b) the elevation of settled sediment is above the top of the basin's sediment storage zone; or

c) the elevation of settled sediment is above the basins sediment marker line.

68. Scour protection measures placed on sediment basin emergency spillways shall appropriately protect the spillway chute and its side batters from scour, and shall extend a minimum of 3m beyond the downstream toe of the basin's embankment.

69. Suitable all-weather maintenance access shall be provided to all sediment control devices.

70. Materials, whether liquid or solid, removed from any ESC measure or excavation during maintenance or decommissioning, shall be disposed of in a manner that does not cause ongoing soil erosion, water pollution or environmental harm.

71. All sediment basins shall remain fully operational at all times until the basin's design catchment achieves 70% ground cover or surface stabilisation acceptable to Council.

72. The ESC measures installed during the decommissioning and rehabilitation of a sediment basin shall comply with same standards specified for the normal construction works.

73. A sediment basin shall not be decommissioned until all up-slope site stabilisation measures have been implemented and are appropriately working to control soil erosion and sediment runoff..

74. Immediately prior to the construction of the permanent stormwater treatment device, appropriate flow bypass conditions shall be established to prevent sediment-laden water entering the device.

Revegetation/Stabilisation

75. Temporary Stabilisation may be attained using vegetation, non rewettable soil polymers, or pneumatically applied erosion controls.

76. All cut and fill earth batters less than 3m in elevation shall be topsoiled, and grass seeded/hydromulched within 10 days of completion of grading in consultation with Council.

77. At the completion of formation in any section, all disturbed areas shall be stabilised in accordance with time lines in the Blue Book.

78. The LMCC Seed mix shall be used unless stated on the ESCP/SWMP.

79. The pH level of topsoil shall be appropriate to enable establishment and growth of specified vegetation prior to initiating the establishment of vegetation.

80. Non rewettable binder shall be used in all hydromulch/hydroseed/polymer mixes on slopes or works adjacent to a water course.

81. Soil ameliorants shall be added to the soil in accordance with an approved Landscape Plan, Vegetation Management Plan, and/or soil analysis.

82. Surface soil density, compaction and surface roughness shall be adjusted prior to seeding/planting in accordance with an approved Landscape Plan, Vegetation Management Plan, and/or soil analysis.

83. Procedures for initiating a site shutdown, whether programmed or un-programmed, shall incorporate revegetation of all soil disturbances unless otherwise approved by Council. The stabilisation works shall not rely upon the longevity of non-vegetated erosion control blankets, or temporary soil binders.

Site Monitoring and Maintenance

84. The Applicant shall ensure that appropriate procedures and suitably qualified personnel are engaged to plan and conduct site inspections and water quality monitoring throughout the construction and maintenance phase.

85. All ESC measures shall be inspected and any maintenance undertaken immediately:

a) at least daily (when work is occurring on-site); and

b) at least weekly (when work is not occurring on-site); and

c) within 24hrs of expected rainfall; and

d) within 18hrs of a rainfall event that causes runoff on the site.

86. Written records shall be kept onsite of ESC monitoring and maintenance activities conducted during the construction and maintenance periods, and be available to Council officers on request.

87. All environmentally relevant incidents shall be recorded in a field log that shall remain accessible to all relevant regulatory authorities.

88. All water quality data, including dates of rainfall, dates of testing, testing results and dates of water release, shall be kept in an on-site register. The register is to be maintained up to date for the duration of the approved works and be available on-site for inspection by all relevant regulatory authorities on request.

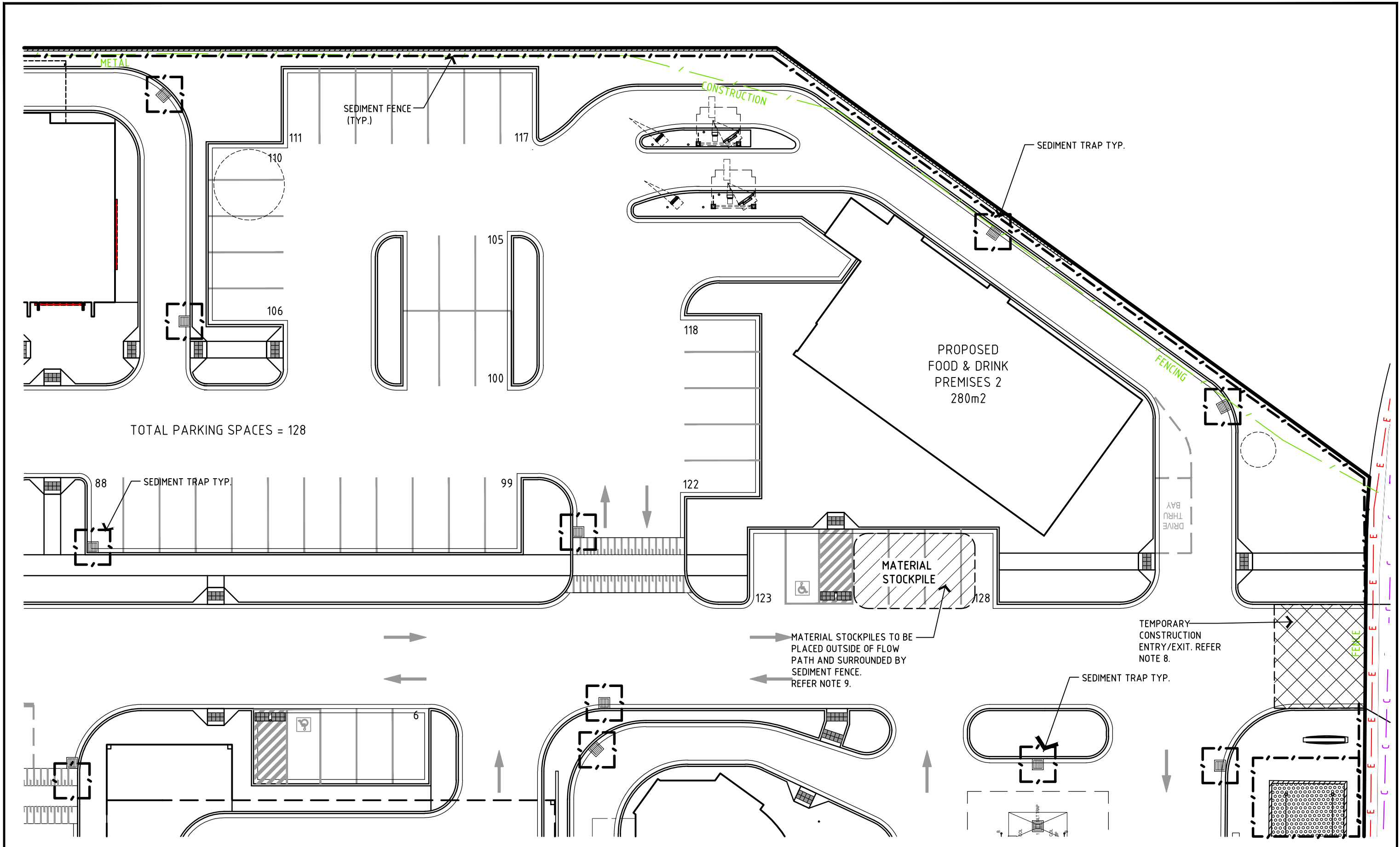
89. At nominated instream water monitoring sites, a minimum of 3 water samples shall be taken and analysed, and the average result used to determine quality.

Instream Works

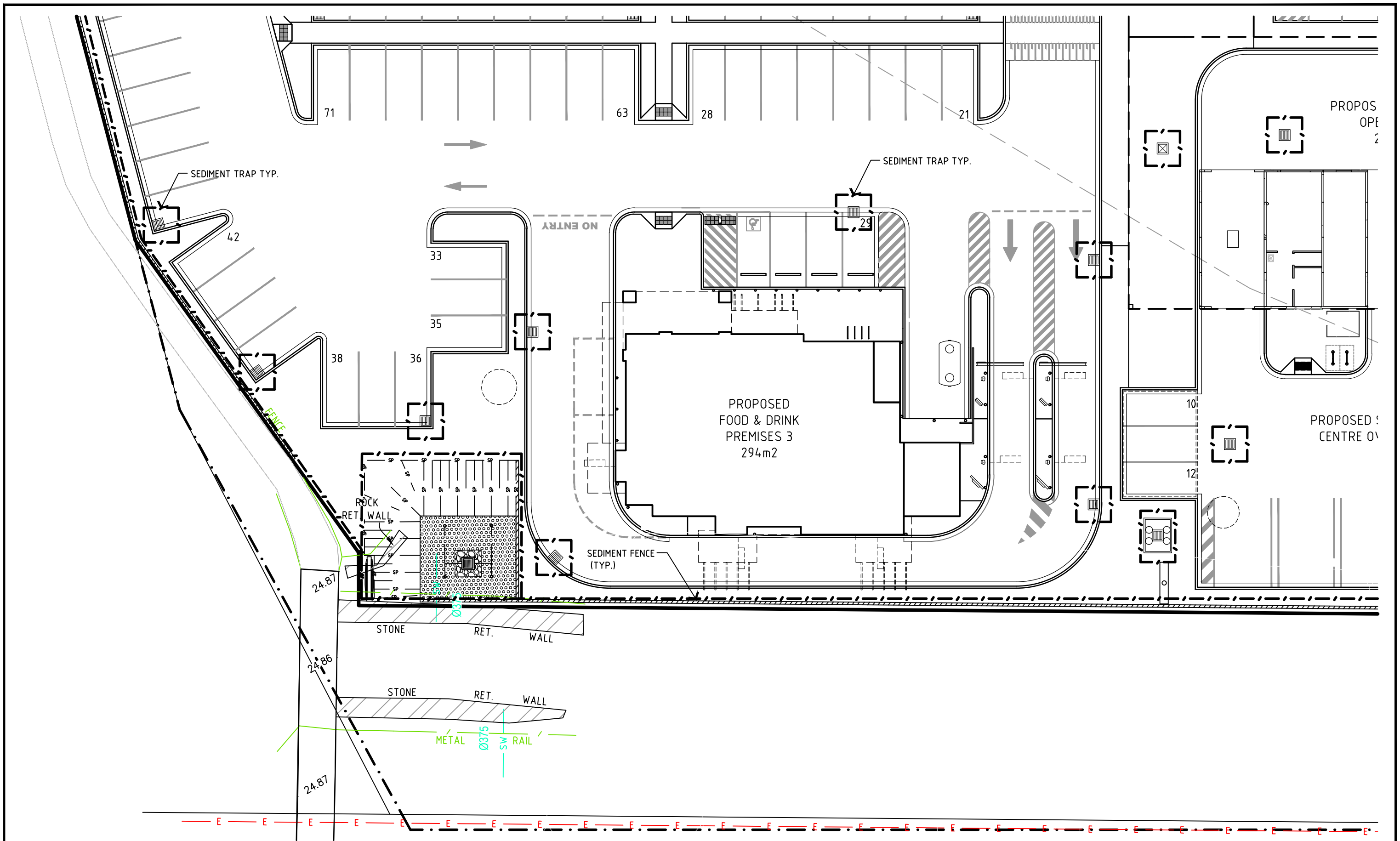
90. All instream works (including in or adjacent to watercourses natural or manmade, flowing or not) shall be carried out in accordance with the IECA White Books.

REV No.	COMMENTS	DATE	INIT.	DA ISSUE	PROJECT: PROPOSED DEVELOPMENT AT -	Richmond+Ross PTY LIMITED CONSULTING ENGINEERS AND PROJECT LEADERS ABN 34 001 485 436 38 WILLOUGHBY ROAD, CROWS NEST, NSW 2065 TEL : (02) 9490 9600 FAX : (02) 9438 1224	SEDIMENTATION CONTROL NOTES SHEET 2 OF 2			
A	DA ISSUE	01.09.21	SC		CLIENT: -		DATE:	OCTOBER 2021	DRG.No.	
							SCALE:	NTS @ A3	C301	
							JOB No.	210285		
									REV A	

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Version: 1, Version Date: 12/11/2021



REV No.	COMMENTS	DATE	INIT.		PROJECT:	Richmond+Ross PTY LIMITED CONSULTING ENGINEERS AND PROJECT LEADERS ABN 34 001 485 436	SEDIMENTATION PLAN	
A	DA ISSUE	25.10.21	SC		PROPOSED DEVELOPMENT AT CRANEBROOK			
B	DA ISSUE	03.11.21	SC		CLIENT: ISSAC PROPERTY GROUP			
C	DA ISSUE	05.11.21	SC					
					38 WILLOUGHBY ROAD, CROWS NEST, NSW 2065 TEL : (02) 9490 9600 FAX : (02) 9438 1224	DATE: OCTOBER 2021	DRG.No.	
						SCALE: 1:250 @ A3	C303 REV C	
						JOB No. 210285		



REV No.	COMMENTS	DATE	INIT.
A	DA ISSUE	01.09.21	SC
B	DA ISSUE	03.11.21	SC
C	DA ISSUE	05.11.21	SC



PROJECT:
PROPOSED DEVELOPMENT AT
CRANEBROOK

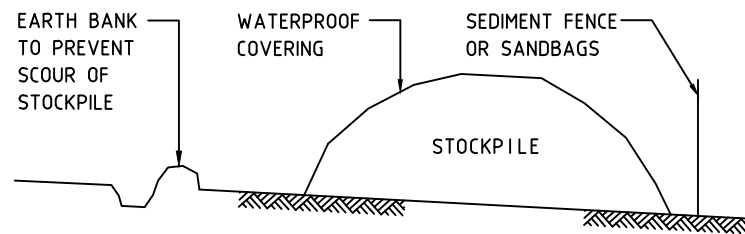
CLIENT: ISSAC PROPERTY GROUP

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS AND PROJECT LEADERS
ABN 34 001 485 436

38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

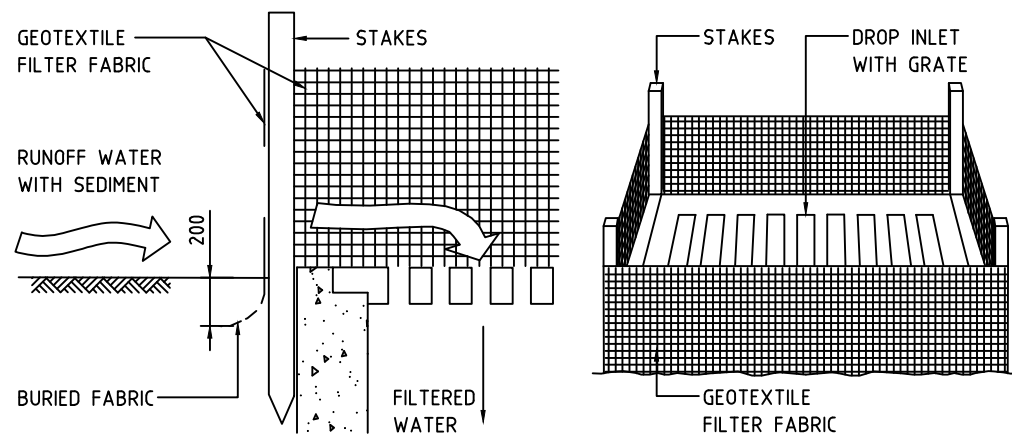
SEDIMENTATION
PLAN

DATE: **OCTOBER 2021** DRG.No. **C304**
SCALE: 1:250 @ A3
JOB No. **210285** REV C



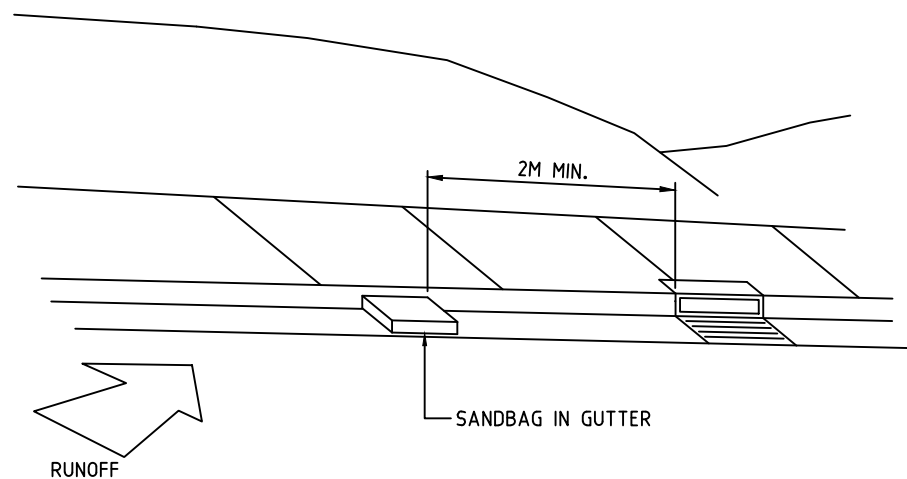
BUILDING MATERIAL STOCKPILES

NTS



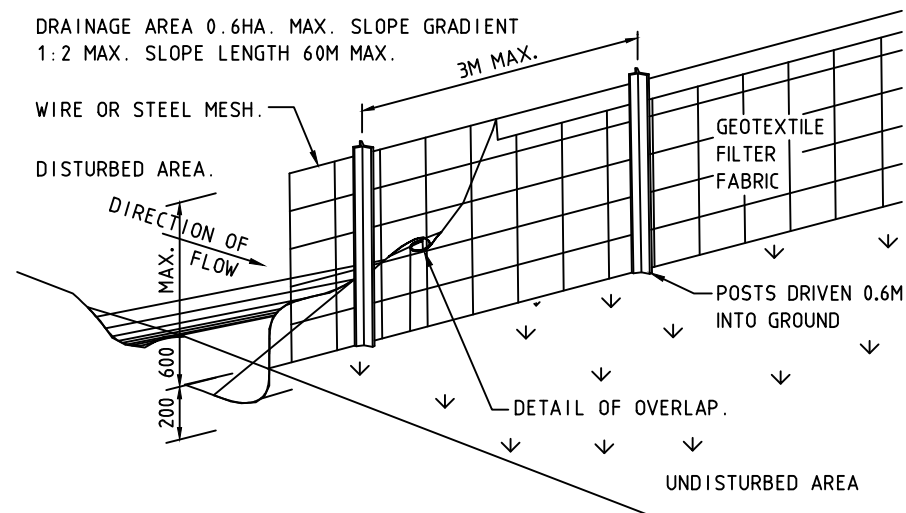
SEDIMENT TRAP TO STORMWATER SUMP

NTS



GRAVELBAG KERB SEDIMENT TRAP

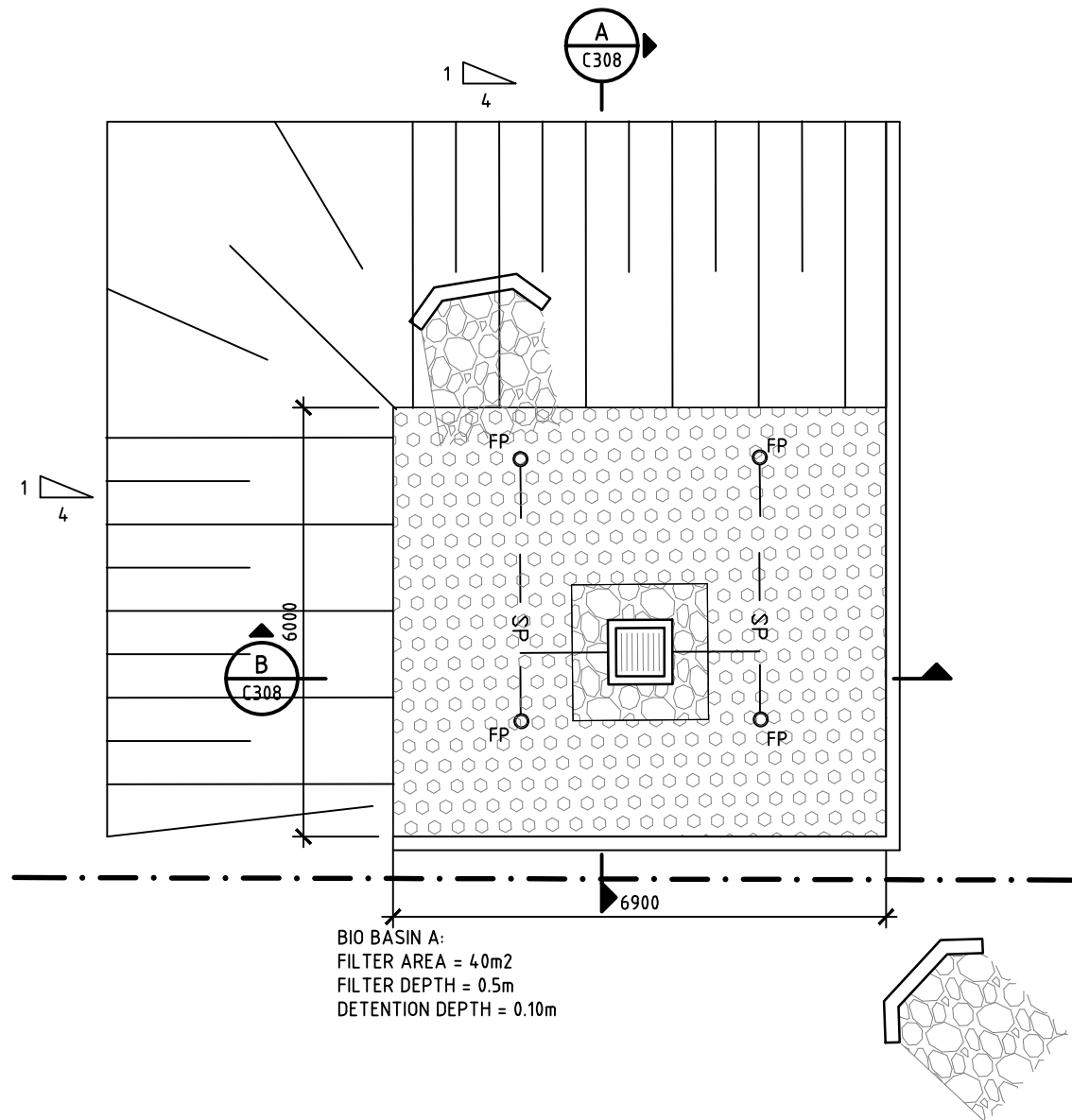
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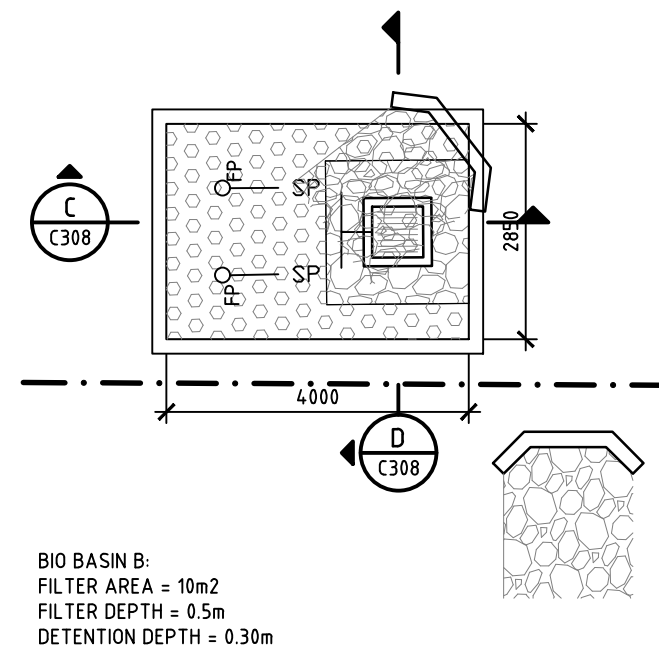
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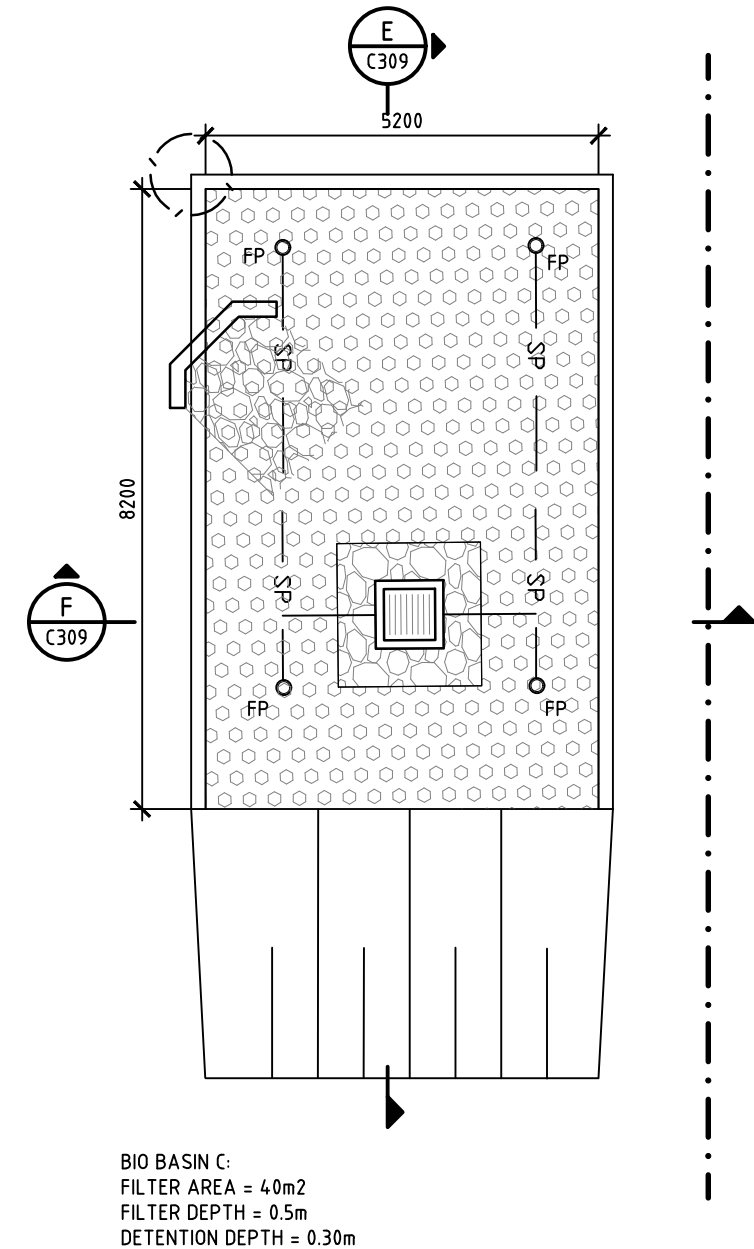
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A	DA ISSUE	01.09.21	SC				PROPOSED DEVELOPMENT AT		DATE:	OCTOBER 2021	DRG.No.	
				DA ISSUE	-		38 WILLOUGHBY ROAD, CROWS NEST, NSW 2065 TEL : (02) 9490 9600 FAX : (02) 9438 1224	SCALE:	NTS @ A3	C306		
								JOB No.	210285		REV A	



01 BIO BASIN A - PLAN
 C103 SCALE 1:100

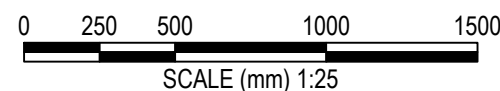


02 BIO BASIN B - PLAN
 C104 SCALE 1:100



03 BIO BASIN C - PLAN
 C104 SCALE 1:100

REV No.	COMMENTS	DATE	INIT.
A	DA ISSUE	22.10.21	SC



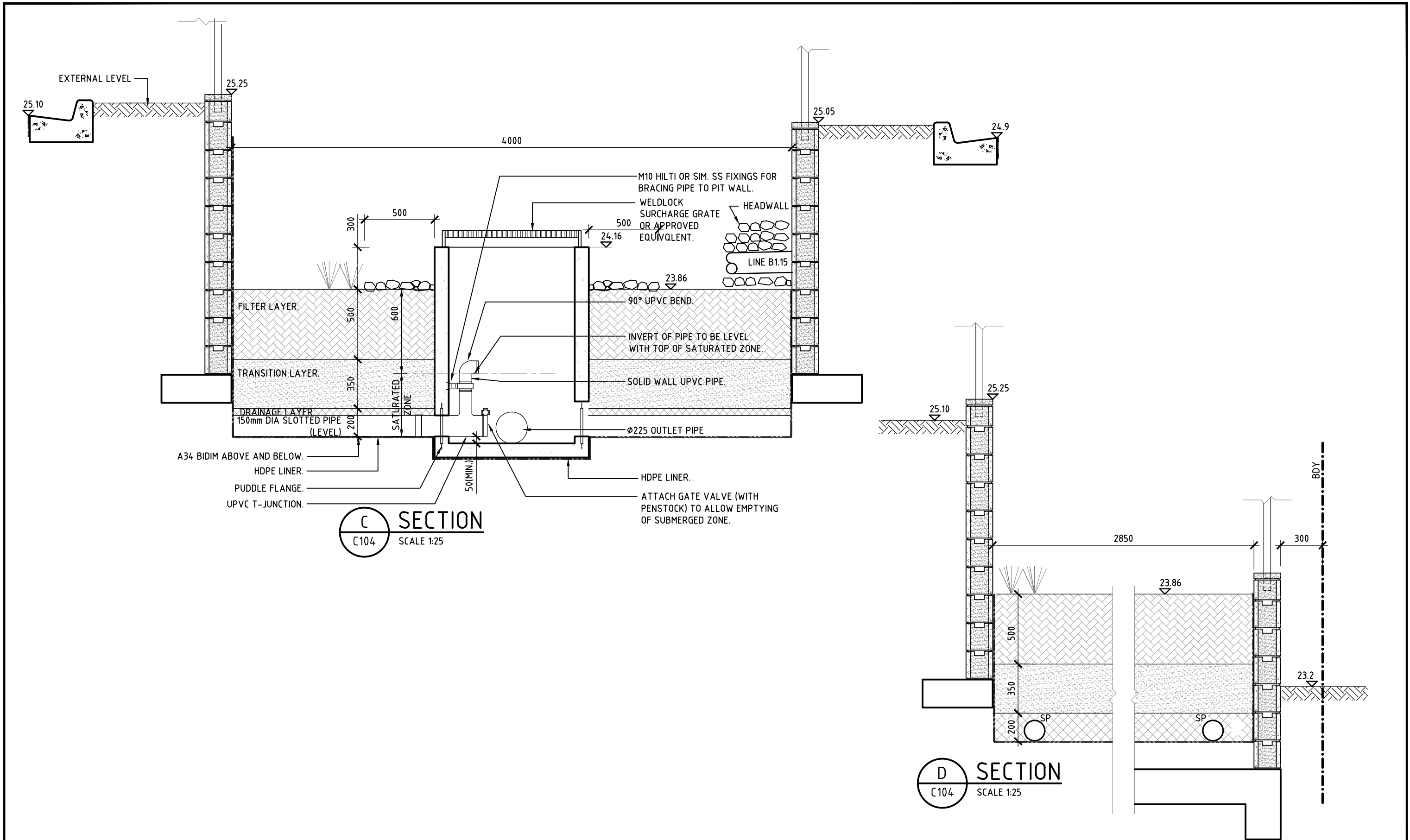
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CLIENT: -

Richmond+Ross PTY LIMITED
 CONSULTING ENGINEERS AND PROJECT LEADERS
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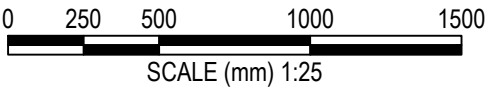
38 WILLOUGHBY ROAD,
 CROWS NEST, NSW 2065
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BIO BASIN PLANS
 A, B & C

DATE: OCTOBER 2021	DRG.No. C307
SCALE: 1:25 @ A3	REV A
JOB No. 210285	



REV No.	COMMENTS	DATE	INIT.
A	DA ISSUE	25.10.21	SC

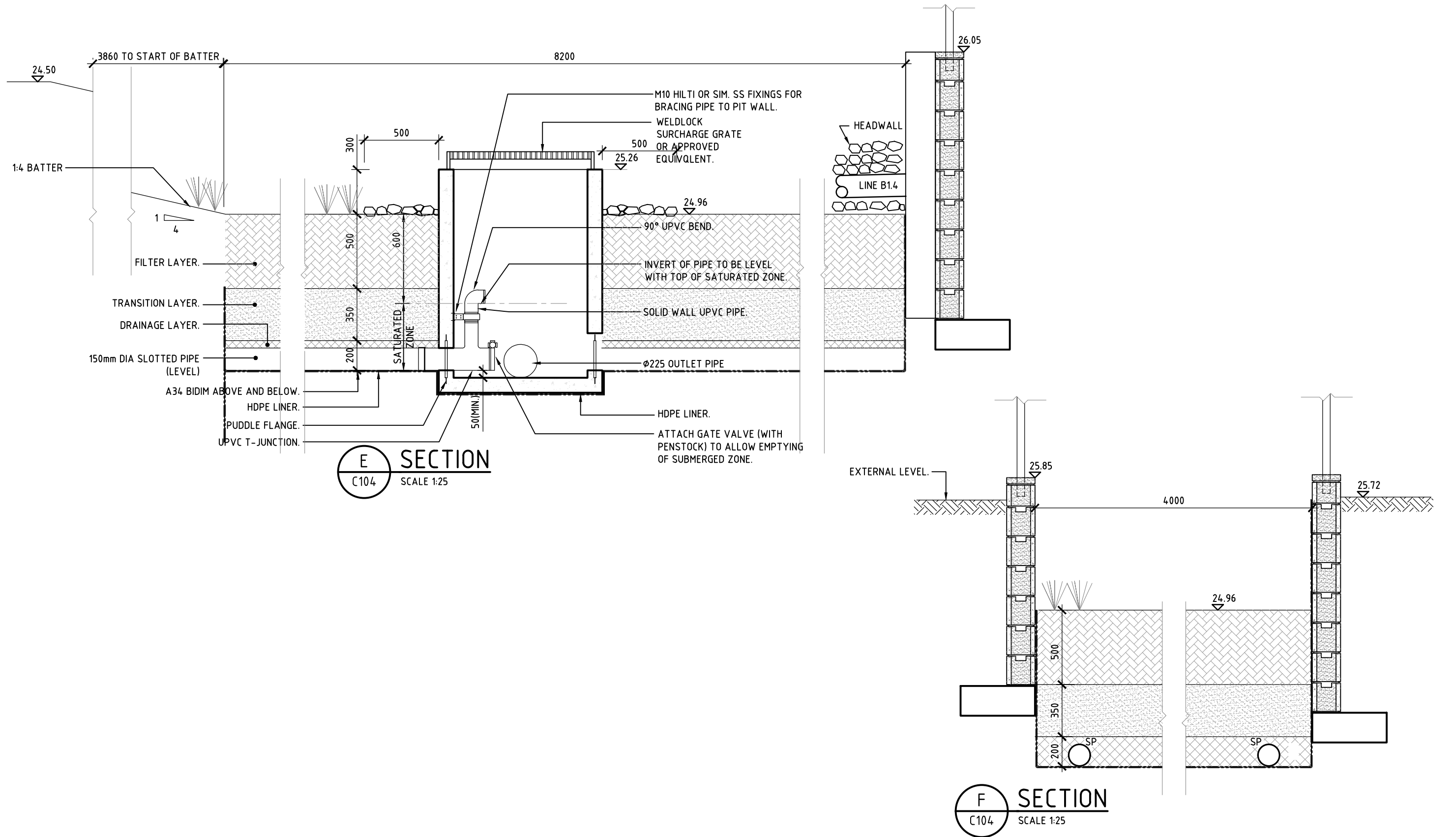


PROJECT: PROPOSED DEVELOPMENT AT -	CLIENT: -
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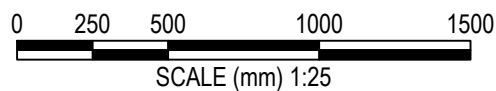
Richmond+Ross PTY LIMITED
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ABN 34 001 485 436

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CROWS NEST, NSW 2065
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BIO BASIN - B	
DATE: OCTOBER 2021	DRG.No. C309
SCALE: 1:25 @ A3	REV A
JOB No. 210285	



REV No.	COMMENTS	DATE	INIT.
A	DA ISSUE	25.10.21	SC

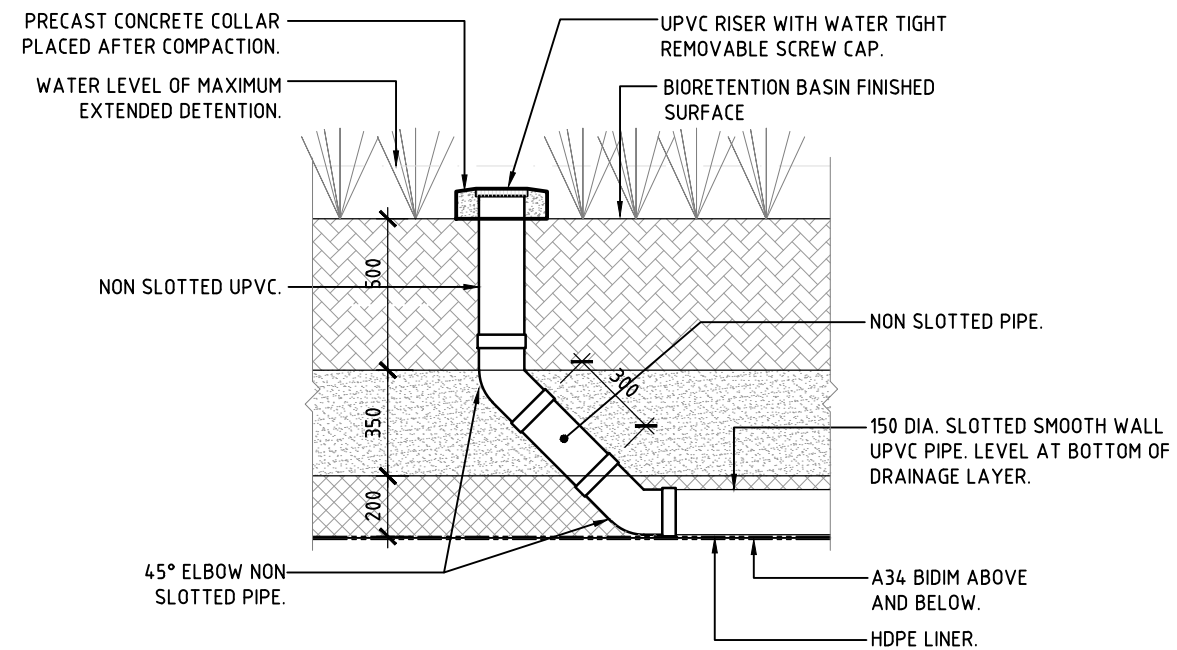


PROJECT: PROPOSED DEVELOPMENT AT -	CLIENT: -
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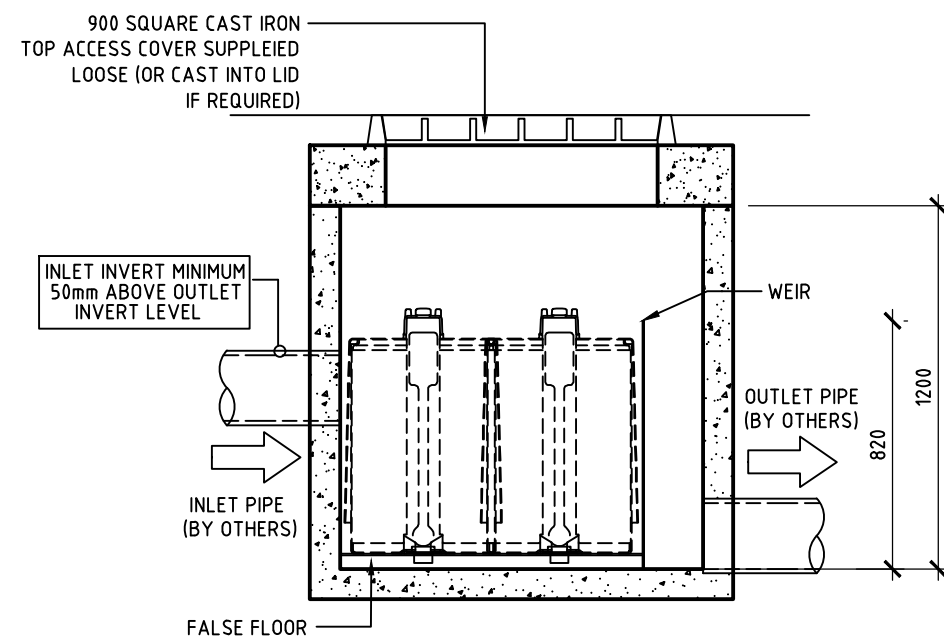
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
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BIO BASIN - C	
DATE: OCTOBER 2021	DRG.No. C310
SCALE: 1:25 @ A3	REV A
JOB No. 210285	



TYP. FLUSHING POINT DETAIL

SCALE 1:25

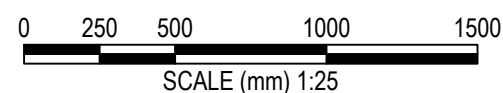


G TYP. STORMFILTER CHAMBER

C104

SCALE 1:25

REV No.	COMMENTS	DATE	INIT.
A	DA ISSUE	25.10.21	SC



PROJECT:
PROPOSED DEVELOPMENT AT
-

CLIENT: -

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CONSULTING ENGINEERS AND PROJECT LEADERS
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CROWS NEST, NSW 2065
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TYP. DETAILS

DATE:	OCTOBER 2021	DRG.No.
SCALE:	1:25 @ A3	C311
JOB No.	210285	REV A