No.	Description	Drawing / Sheet No.	Issue No.
0	Drawing List	11605-00/9	E
1	Erosion and Sediment Control Plan	11605-01/9	D
2	Basement Plan	11605-02/9	D
3	Ground Floor Plan	11605-03/9	E
4	Levels 1 to 3 Floor Plan (Typ.)	11605-04/9	D
5	Roof Plan	11605-05/9	D
6	Staging Plan	11605-06/9	D
7	Water Quality	11605-07/9	D
8	Notes and Details	11605-08/9	D
9	Notes and Details 2	11605-09/9	D

NOT FOR CONSTRUCTION

VERIFY ALL DISCREPANCIES WITH PROJECT ARCHITECT/ MANAGER PRIOR TO PROCEEDING WITH ANY WORKS. **Do not scale off drawings.**

Е	Incorporate Council Comments	28 July 2020	Drawn & Designed By: K. Koh		
D	Incorporate Council Comments of 5 May 2020	3 June 2020	Checked By:		
С	Incorporate Council Comments of 22 Aug. 19	1 Nov. 2019	N. Evans		
В	Architectural Changes	18 Apr. 2019	Approved By: Kenneth T. NG MIEAust CPEng NER APEC Engineer		
Α	Development Application	1 Dec. 2018	IntPE(Aus) (Reg. No. 2206352) RPEQ Accredited Certifier		
ssue	Description	Date of Drawing	(Cat. C1-C4, C6 & C15)(BPB No. 0827)		

EROSION AND SEDIMENT CONTROL

- THE NOTES AND MEASURES STATED HEREAFTER SHALL BE READ IN CONJUNCTION WITH THE NSW PUBLICATION "MANAGING URBAN STORMWATER, SOILS & CONSTRUCTION, FOURTH EDITION 2004 VOLUME 1" PREPARED BY LANDCOM. PARTICULAR ATTENTION SHALL BE PAID TO CHAPTERS 6 & 8.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR AND DURING THE CONSTRUCTION PERIOD. THESE CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED REGULARLY BY THE CONTRACTOR TO ENSURE THE EFFECTIVES OF THE SYSTEM, ESPECIALLY AFTER STORM EVENTS.
- 3. ALL NECESSARY WORKS SHALL BE CARRIED OUT TO PREVENT EROSION, CONTAMINATION AND SEDIMENTATION OF THE PROJECT
- SITE AND ADJACENT PROPERTIES AND DRAINAGE SYSTEMS. 4. MINIMISE DISTURBED AREAS COVERED WITH NATURAL VEGETATION, ONLY THOSE AREAS DIRECTLY REQUIRED FOR CONSTRUCTION
- ARE TO BE DISTURBED.
- 5. DIVERT CLEAN WATER FROM UNDISTURBED AREAS AROUND THE WORKING AREAS.
- THE FOLLOWING: DRAINS - CONSTRUCT TEMPORARY DRAINS AND CATCH DRAINS

6. ADOPT TEMPORARY MEASURES AS MAY BE NECESSARY FOR EROSION AND SEDIMENT CONTROL, INCLUDING BUT NOT LIMTED TO

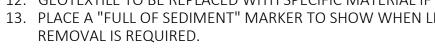
- CONSTRUCT SPREADER BANKS OR OTHER STRUCTURES DISPERSE CONCENTRATED RUN-OFF SILT TRAPS - CONSTRUCT AND MAINTAIN SILT TRAPS TO PREVENT DISCHARGE OF SCOURED MATERIAL TO DOWNSTREAM
- TEMPORARY FENCING CONSTRUCT, MAINTAIN AND KEEP IN GOOD REPAIR ALL SILT AND WIND FENCES. CHECK AND CLAEN FENCES FOLLOWING RIN AND STORM EVENTS
- REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WHEN THEY ARE NO LONGER REQUIRED ALL DISCOLOURED WATER SHALL BE TREATED TO EPA TANDARDS PRIOR TO DICHARGE OFF SITE, OR ALTERNATIVELY
- REMOVED BY TANKER WITH A LICENSED TRADE WASTE COLLECTOR
- 7. ALL STORMWATER INLET PITS ARE TO BE PROTECTED FILTER FABRIC DROP INLET SEDIMENT TRAPS OR GRAVEL SAUSAGE, WHICH IS BLUE METAL WRAPPED IN GEOTEXTILE FABRIC.
- 8. STOCKPILED MATERIALS SHALL BE KEPT WITHIN THE SITE BOUNDARIES IN A POSITION NOT VULNERABLE TO CONCENTRATED

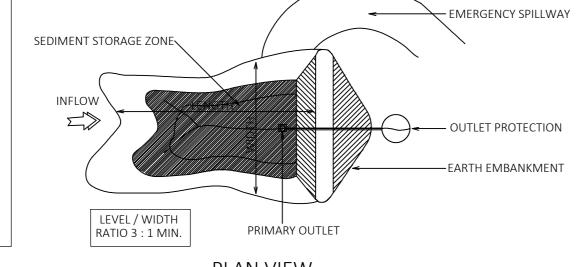
SURFACE RUNOFF. **DUST CONTROL:**

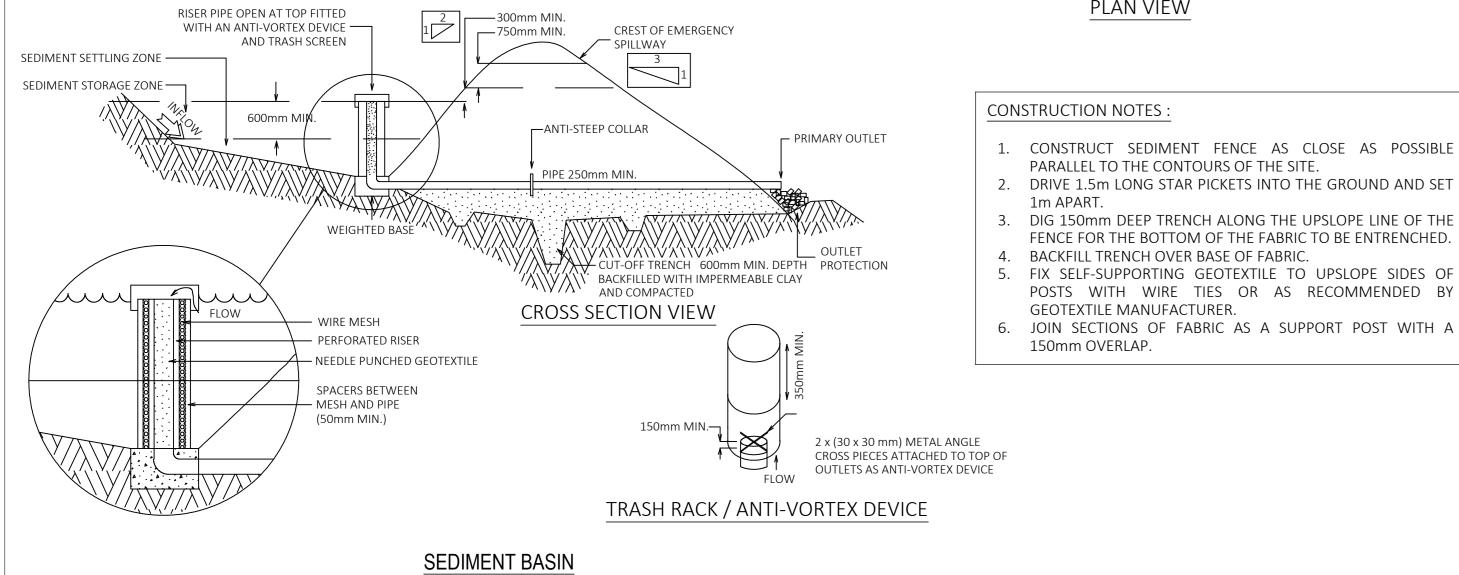
- DUST IS TO BE WELL CONTROLLED ON THE CONSTRUCTION SITE AT ALL TIMES, ESPECIALLY AT EXCAVATIONS, DEMOLITION ETC.
- WATER SPRAY TO BE USED TO CONTROL DUST ON DIRT/GRADED AREAS ONLY.
- CARE TO BE EXERCISED TO ENSURE WATER SPRAY DISPENSE ONLY SUFFICENT WATER FOR DUST CONTROL
- CARE TO BE EXERCISED TO ENSURE ONLY OPTIMIUM MOISTURE CONTENT OF THE SOIL IS REACHED FOR COMPACTION
- FOR CONTROLLING DUST ON PAVED FOOTPATHS, A SWEEPER IS TO BE USED WITH WATER-JET SPRAYERS. NO SURFACE WATER RUN-OFF IS TO BE GENERATED.
- CARE IS TO BE EXERCISED TO ENSURE ONLY SUITABLE AMOUNTS OF WATER IS USED DURING SWEEPING
- NO RUN-OFF FROM SPRAYERS TO FLOW INTO CATCH BASINS. MIMINISE THE AREAS OF EXISTING VEGETATED AREA THAT ARE DISTURBED DURING CONSTRUCTION.
- 10. AREAS NOT BEING WORKED ON FOR 30 DAYS OR MORE ARE TO BE VEGETATED OR COVERED TO AVOID
- 11. SAND & SOIL STOCKPILE ARE TO BE SUFFICIENTLY COVERED DURING WEEKENDS AND AT TIMES WHEN WINDY CONDITIONS PREVAIL.

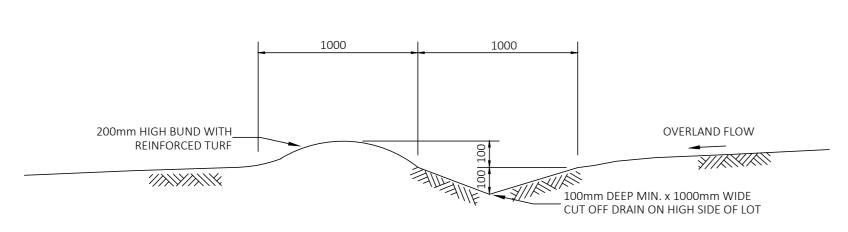
CONSTRUCTION NOTES

- REMOVE ALL VEGETATION AND TOPSOIL UNDER THE DAM WALL AND FORM WITHIN STORAGE AREA. FORM CUT-OFF TRENCH UNDER THE CENTRELINE OF EMBANKMENT 600mm DEEP AND 1200mm WIDE
- EXTENDING TO A POINT ON A GULLY WALL ABOVE THE RISER SILL LEVEL
- MAINTAIN THE TRENCH FREE OF WATER AND RE-COMPACT THE MATERIALS WITH EQUIPMENT AS SPECIFIED IN THE SWMP TO 95% STANDARD PROCTOR DENSITY.
- 4. SELECT FILL ACCORDING TO THE DIRECTIONS OF THE SWMP THAT IS FREE FROM ROOTS, WOOD, ROCK, LARGE
- PREPARE THE SITE UNDER THE EMBANKMENT BY RIPPING AT LEAST 100mm DEEP TO HELP BOND COMPACTING
- 6. SPREAD FILL IN 100mm LAYERS AND COMPACT AT OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH THE
- 7. INSTALL PIPE OUTLET WITH SEEPAGE COLLARS AS SPECIFIED IN SWMP. 8. FORM BATTER GRADES AT 2(H):1(V) AND 3(H):1(V) DOWNSTREAM OR AS SPECIFIED IN THE SWMP.
- INSTALL PIPE RISER AS SPECIFIED IN THE SWMP.
- 10. CONSTRUCT EMERGENCY SPILLWAY 300mm ABOVE SILL HEIGHT OF RISER. 11. REHABILITATE STRUCTURE IN ACCORDANCE WITH THE SWMP.
- 12. GEOTEXTILE TO BE REPLACED WITH SPECIFIC MATERIAL IF BASIN DOES NOT FREELY DRAIN WITHIN 4 DAYS. 13. PLACE A "FULL OF SEDIMENT" MARKER TO SHOW WHEN LESS THAN DESIGN CAPACITY OCCURS AND SEDIMENT



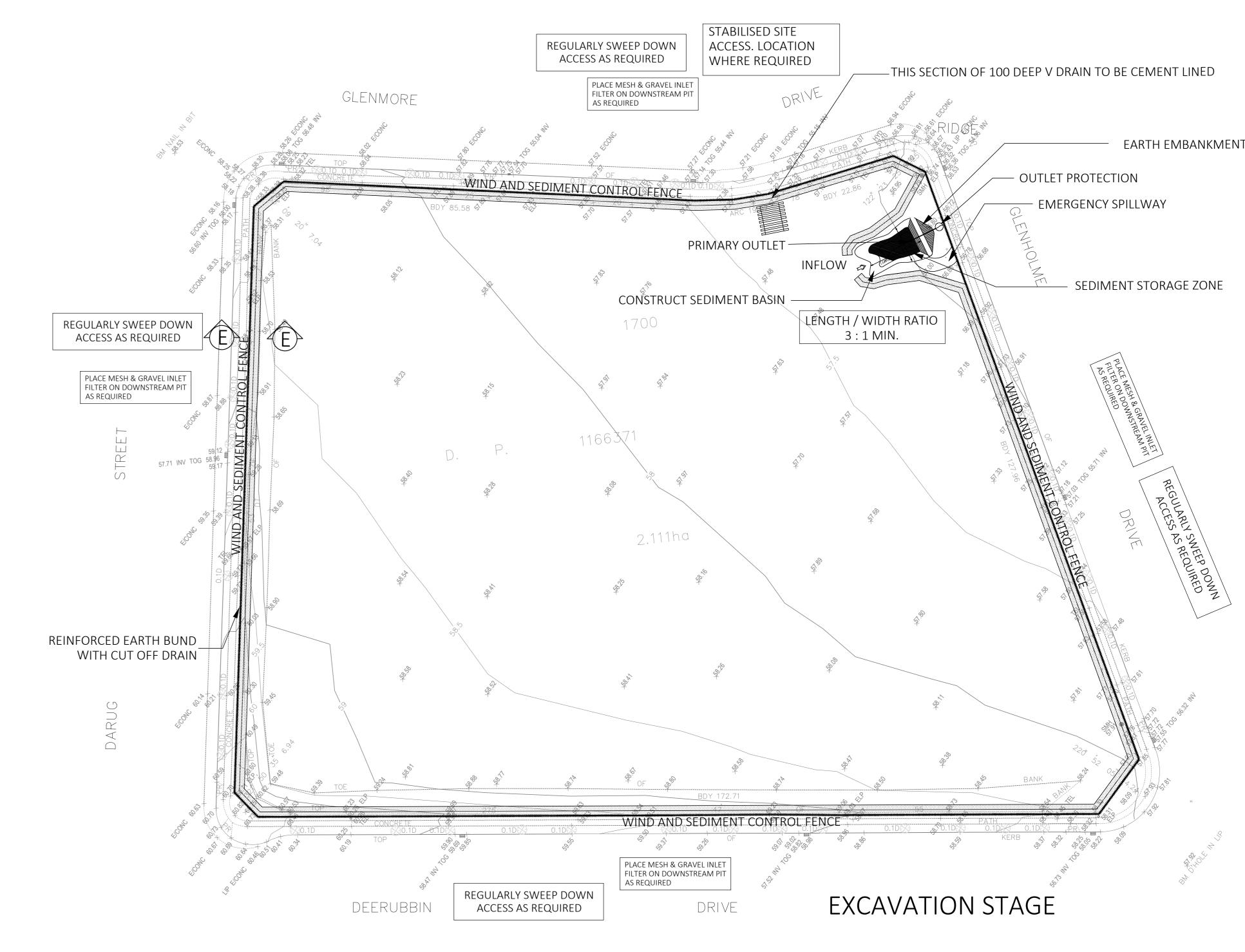




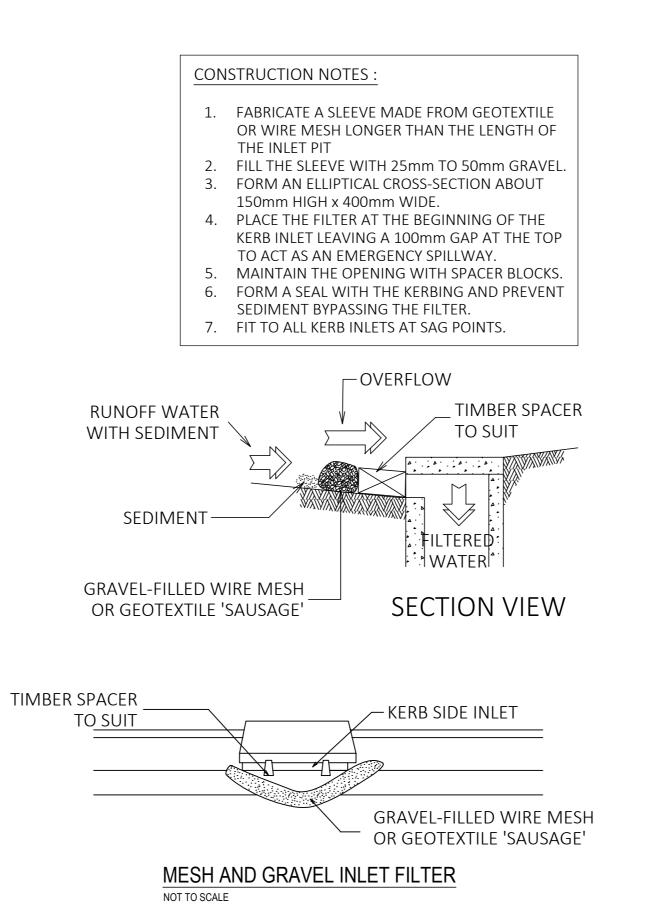


SECTION E-E BUND WITH CUT-OFF DRAIN DETAILS

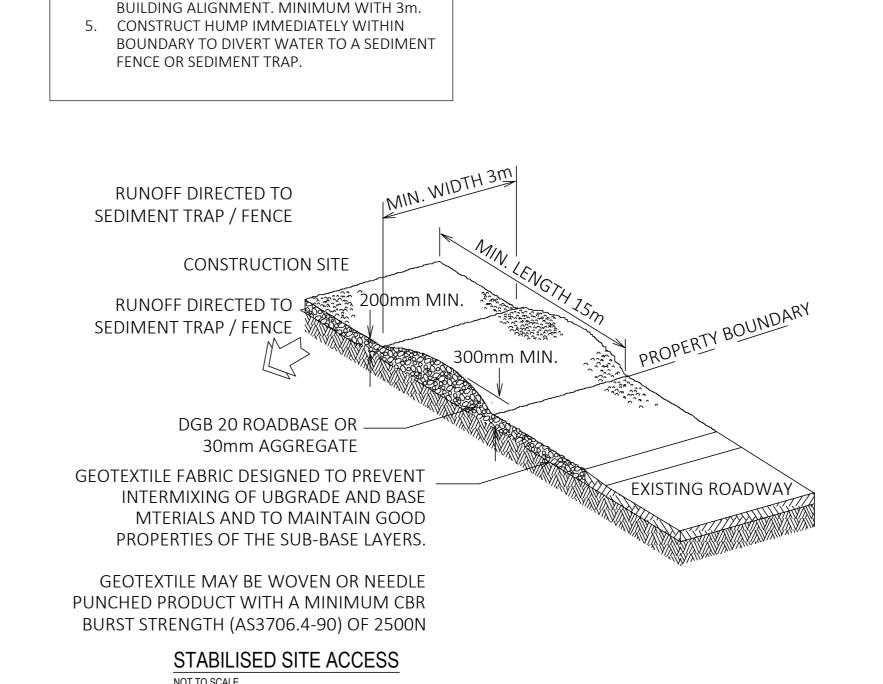
Issue Description

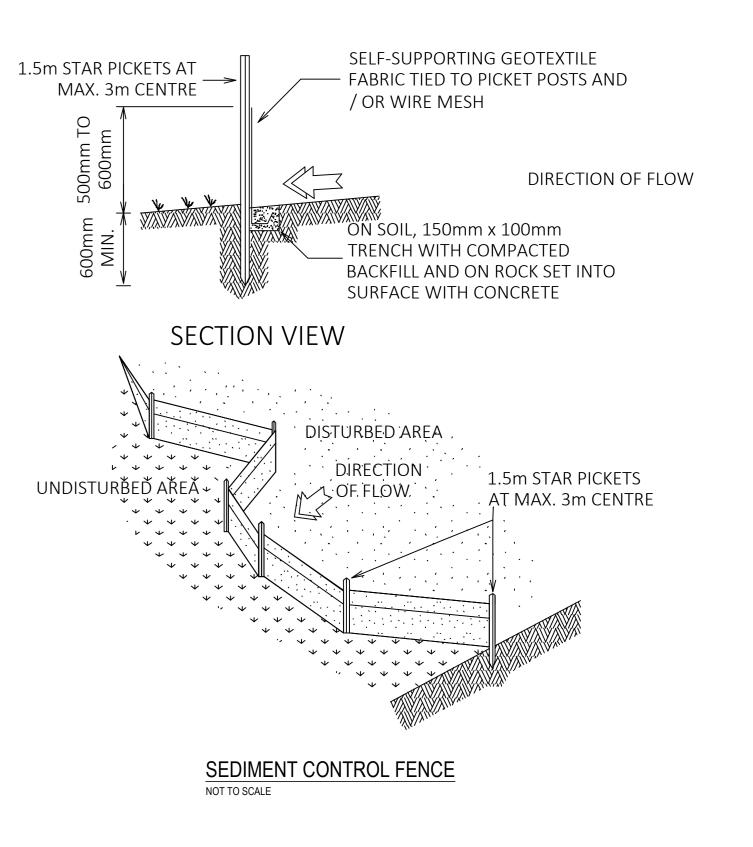


EROSION & SEDIMENT CONTROL PLAN SCALE: 1:500



Date of Drawing



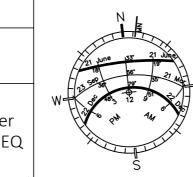


NOT FOR CONSTRUCTION

Drawn & Designed By: Incorporate Council Comments of 5 May 2020 3 June 2020 Incorporate Council Comments of 22 Aug. 19 1 Nov. 2019 18 Apr. 2019 Architectural Changes Development Application 1 Dec. 2018

Checked By N. Evans **Approved By:** Kenneth T. NG MIEAust CPEng NER APEC Engineer IntPE(Aus) (Reg. No. 2206352) RPEQ Accredited Certifier (Cat. C1-C4, C6 & C15)(BPB No. 0827)

K. Koh



CONSTRUCTION NOTES

GEOTEXTILE.

2. COMPACT SUBGRADE

. STRIP TOPSOIL AND LEVEL SITE.

3. COVER AREA WITH NEEDLE PUNCHED

4. CONSTRUCT 200mm THICK PAD OVER

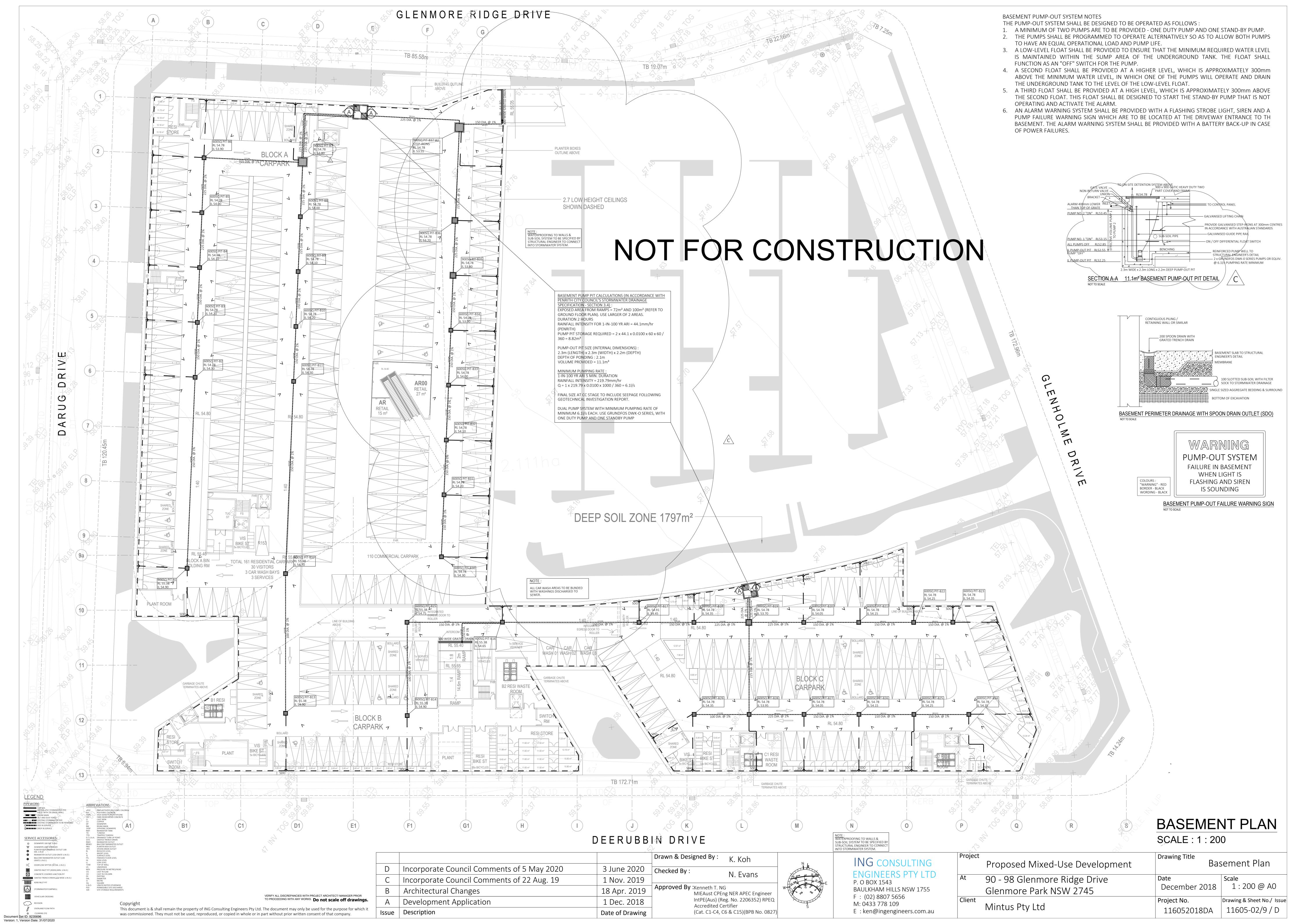
GEOTEXTILE USING ROADBASE OR 30mm

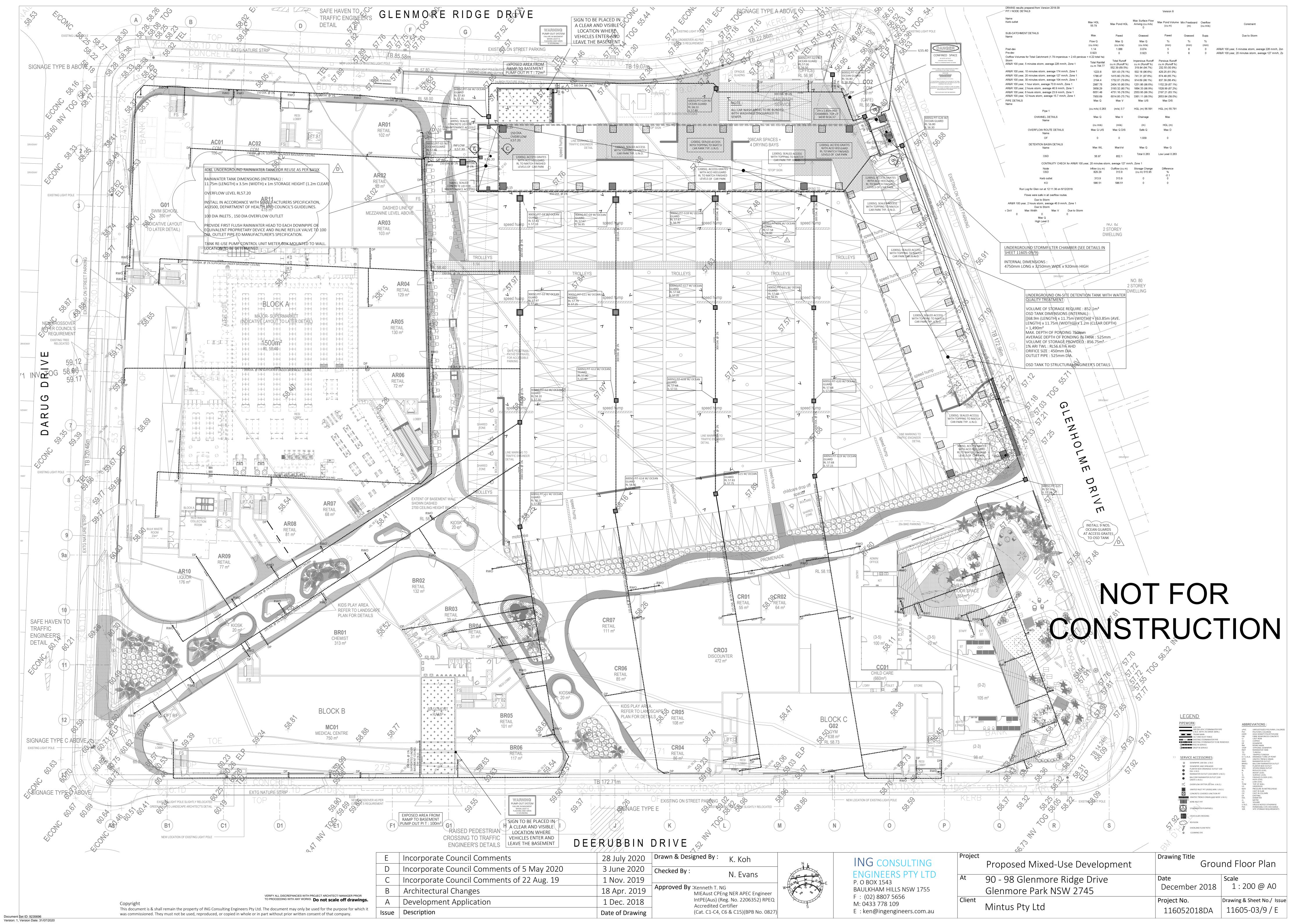
AGGREGATE MINIMUM LENGTH 15m OR TO

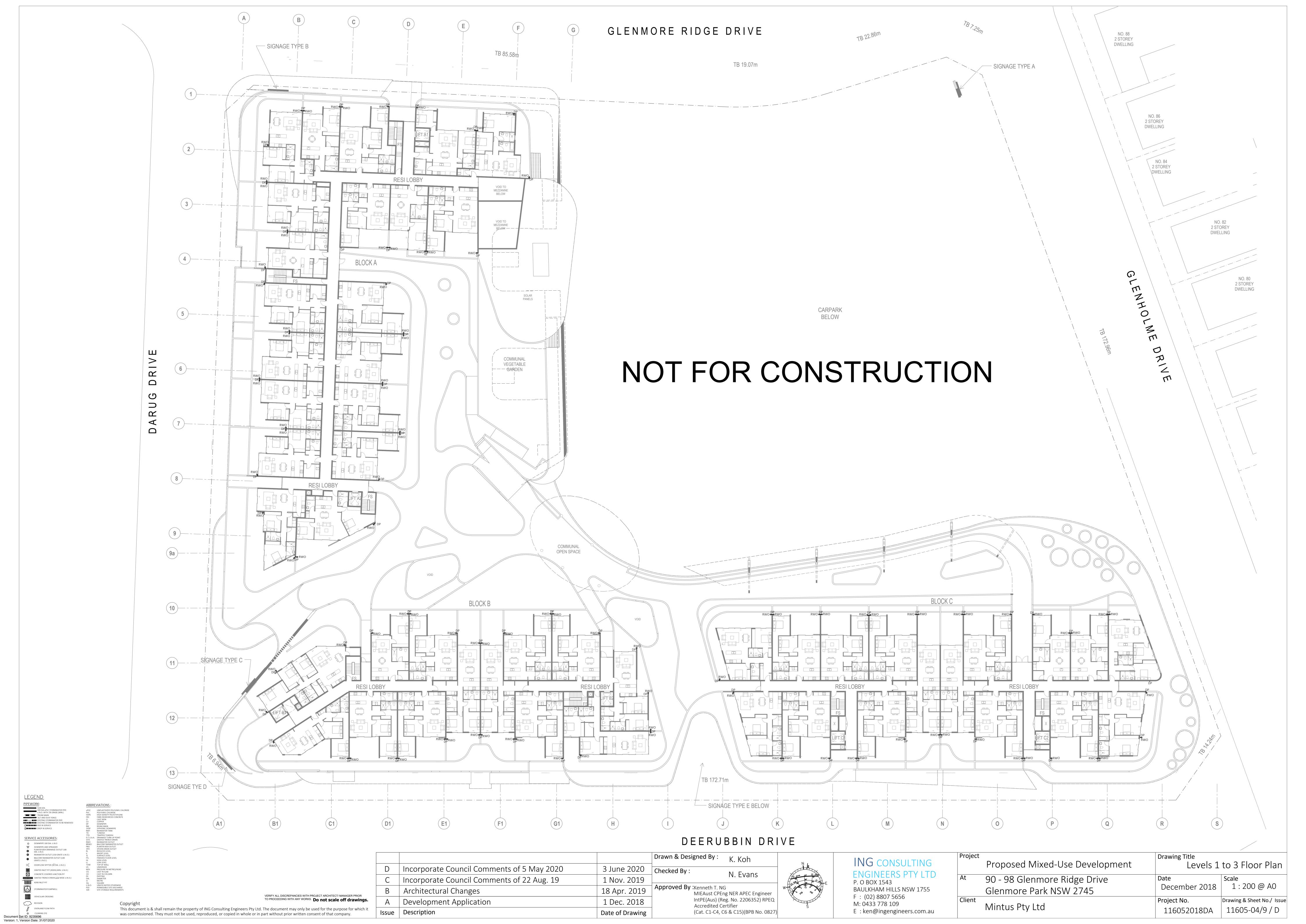
ING CONSULTING **ENGINEERS PTY LTD** P. O BOX 1543 BAULKHAM HILLS NSW 1755 F: (02) 8807 5656 M: 0433 778 109

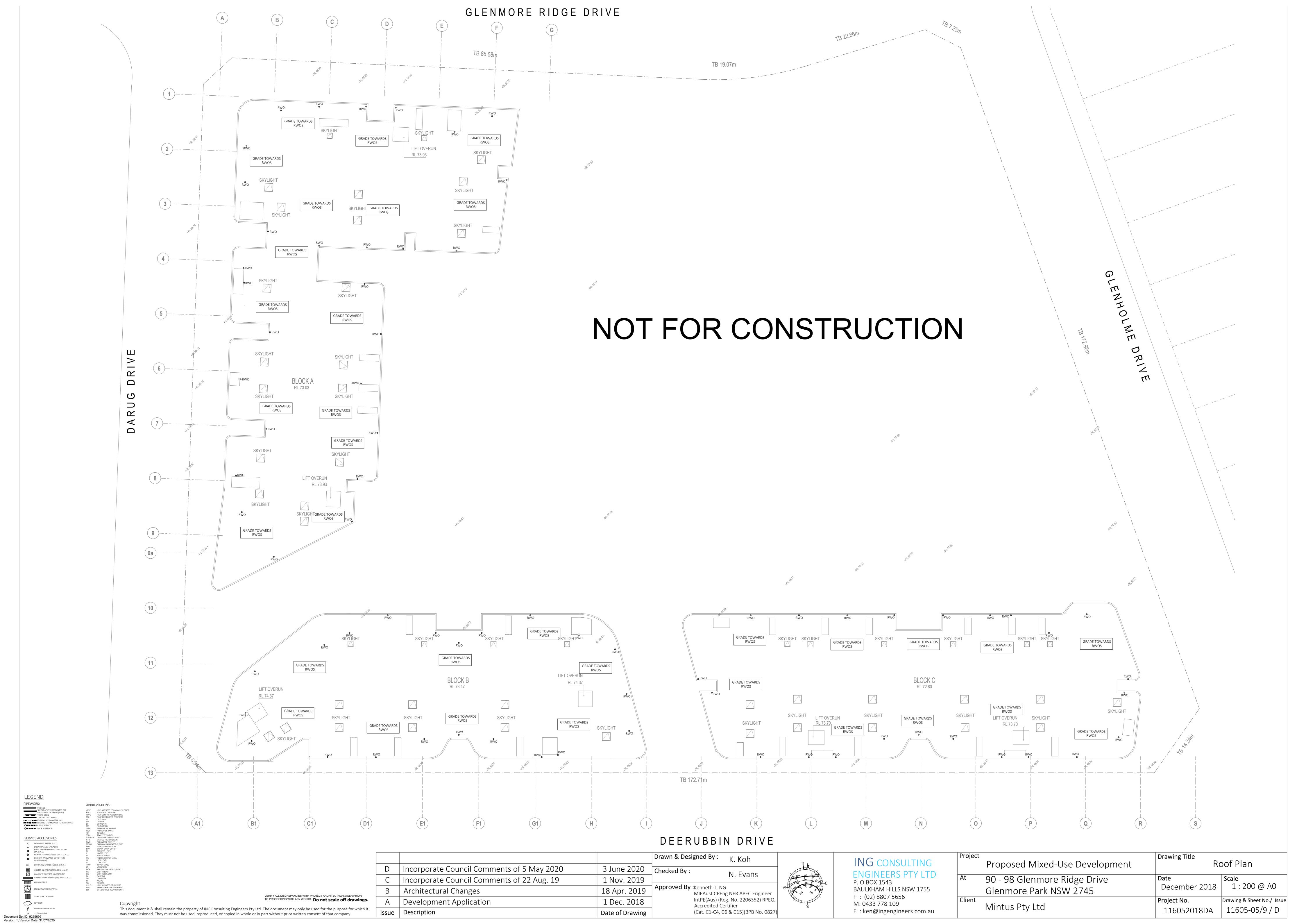
E: ken@ingengineers.com.au

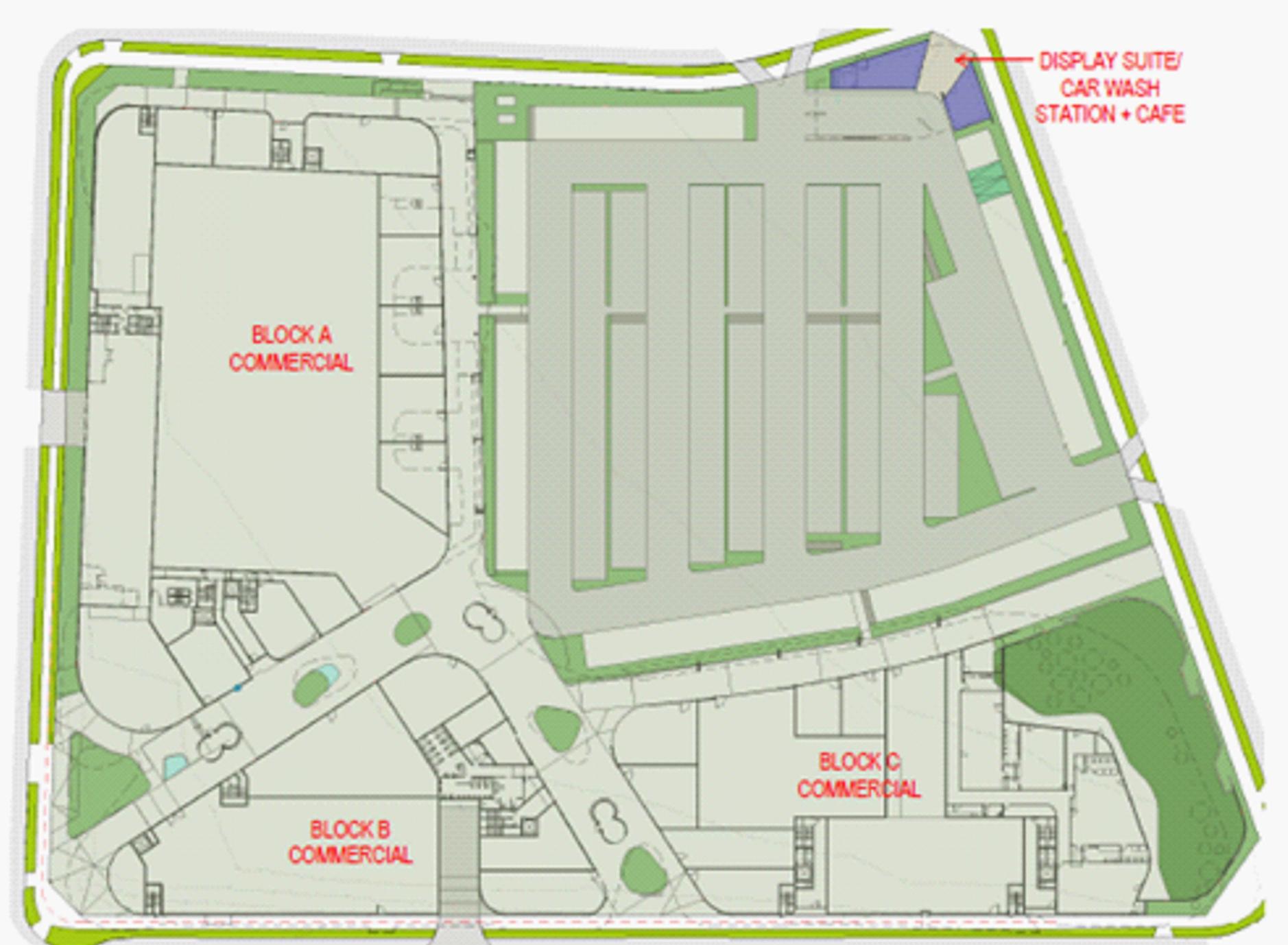
VERIFY ALL DISCREPANCIES WITH PROJECT ARCHITECT/ MANAGER PRIOF O PROCEEDING WITH ANY WORKS. Do not scale off drawings Drawing Title Proposed Mixed-Use Development **Erosion & Sediment Control Plan** 90 - 98 Glenmore Ridge Drive December 2018 | As Shown @ A0 Glenmore Park NSW 2745 Drawing & Sheet No./ Issue Mintus Pty Ltd 11605-01/9 / D 116052018DA











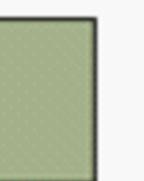


- COMMERCIAL SHOWROOM (DISPLAY SUITE) + CAFE
- ASSOCIATED LANDSCAPING



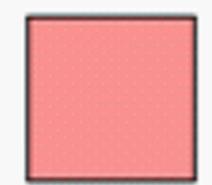
- BLOCK A, BLOCK B + BLOCK C GROUND LEVEL COMMERCIAL
- GROUND LEVEL LANDSCAPING
- GROUND LEVEL 'AT GRADE' PARKING
- GROUND LEVEL PROMENADES + PUBLIC DOMAINS
- ALL BLOCK A, B + C BASEMENT
- COMMERCIAL DISPLAY SUITE CONVERTED TO CAR WASH STATION + RETAIN CAFE

1 GROUND FLOOR STAGE PLAN



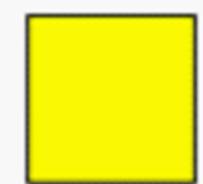
STAGE 2 CONSTRUCTION - LEVEL 1

- FIRST FLOOR SLAB
- ALL ASSOCIATED RETAIL AWNINGS
- ALL COMMERCIAL SIGNAGES
- ALL ASSOCIATED PLANTERS



STAGE 3 CONSTRUCTION - LEVEL 1 + 2 + 3

- BLOCK A RESIDENTIAL APARTMENTS



STAGE 4 CONSTRUCTION - LEVEL 1 + 2 + 3

- BLOCK B RESIDENTIAL APARTMENTS



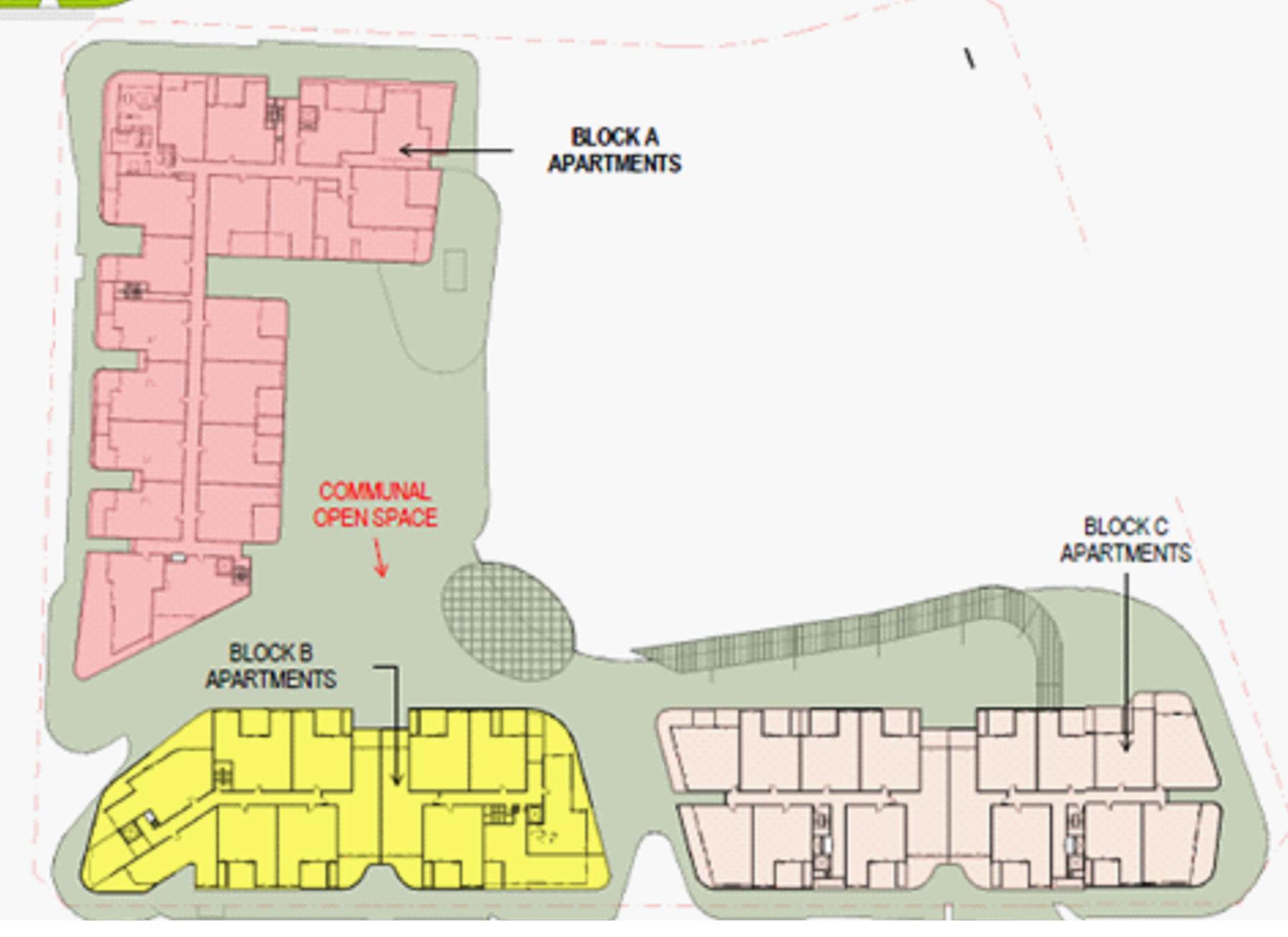
This document is & shall remain the property of ING Consulting Engineers Pty Ltd. The document may only be used for the purpose for which it

was commissioned. They must not be used, reproduced, or copied in whole or in part without prior written consent of that company.

STAGE 5 CONSTRUCTION - LEVEL 1 + 2 + 3

- BLOCK C RESIDENTIAL APARTMENTS

VERIFY ALL DISCREPANCIES WITH PROJECT ARCHITECT/ MANAGER PRIOR TO PROCEEDING WITH ANY WORKS. **Do not scale off drawings**

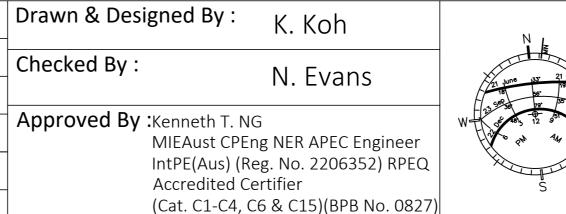


<u>LEG</u>	<u>end</u>		
PIPEW	ORK:	ABBRE	VIATIONS :
EXIST.	SUB-SOIL 100 DIA UPVC STORMWATER PIPE U.N.O. WITH 1% GRADE (MIN.) TRUNK MAIN SILT AND DUST FENCE EXISTING STORMWATER PIPE EXISTING STORMWATER TO BE REMOVED RISE IN SERVICE TO DROP IN SERVICE	upvc Pvc HDPE FRC CI CU DP RM SYDP RWT TD	UNPLASTISIZED POLYVINYL CHLO POLYVINYL CHLORIDE HIGH DENSITY POLYETHYLENE FIBRE REINFORCED CONCRETE CAST IRON COPPER DOWNPIPE RISING MAIN SYPHONIC DOWNPIPE RAINWATER TANK TUNDISH
SERVI	CE ACCESSORIES:	TTD D.T.U.A.A. GTD	TRAPPED TUNDISH DRAINAGE TURN-UP POINT GRATED TRENCH DRAIN
	DOWNPIPE 100 DIA. U.N.O DOWNPIPE AND SPREADER PLANTER BOX DRAINAGE OUTLET 100 DIA. U.N.O. RAINWATER OUTLET (150 GRATE U.N.O.) BALCONY RAINWATER OUTLET (100 GRATE U.N.O.) OVERFLOW SPITTER (50 DIA. U.N.O.) GRATED INLET PIT (450SQ MIN. U.N.O.) CONCRETE COVERED JUNCTION PIT GRATED TRENCH DRAIN (150 WIDE U.N.O.) KERB INLET PIT STORMWATER PUMPWELL	RWO BRWO PBO SPO RL IL SL FFL HL LL TOW US M/H CIS CIC EX. DIA. m SQ. U.N.O. PSD SSR	RAINWATER OUTLET BALCONY RAINWATER OUTLET PLANTER BOX OUTLET SPOON DRAIN OUTLET SPOON DRAIN OUTLET REDUCED LEVEL INVERT LEVEL SURFACE LEVEL FINISHED FLOOR LEVEL HIGH LEVEL LOW LEVEL TOP OF WALL UNDERSIDE PRESSURE IN METRES/HEAD CAST IN SLAB CAST IN COLUMN EXISTING DIAMETER METRE SQUARE UNLESS NOTED OTHERWISE PERMISSIBLE SITE DISCHARGE SITE STORAGE REQUIREMENTS
	VEHICULAR CROSSING		
\sim	REVISION		Co

OVERLAND FLOW PATH

Document Set ID: 9235696

D	Incorporate Council Comments of 5 May 2020	3 June 2020
С	Incorporate Council Comments of 22 Aug. 19	1 Nov. 2019
В	Architectural Changes	18 Apr. 2019
Α	Development Application	1 Dec. 2018
Issue	Description	Date of Drawin



E: ken@ingengineers.com.au

Project	Proposed Mixed-Use Development	Drawing Title St	aging Plan
Δt	90 - 98 Glenmore Ridge Drive Glenmore Park NSW 2745	Date December 2018	Scale Not to Scale @ A0
Client	Mintus Pty Ltd	Project No. 116052018DA	Drawing & Sheet No./ Issu 11605-06/9 / D



music@link

MUSIC-link Report

Project Details		Company De	tails
Project:	90 - 98 Glenmore Ridge Drive, Glenmore Park	Company: Contact:	ING CONSULTING ENGINEERS PTY LTD Kenneth Ng
Report Export Date:	4/06/2020	Address: Phone: Email:	NA
Catchment Name:	11910 - 90 - 98 Glenmore Ridge Drive		0433 778 109
Catchment Area:	2.11ha		ken@ingengineers.com.au
Impervious Area*:	76.18%		ma oga gra ga non a con i caso
Rainfall Station:	67113 PENRITH		
Modelling Time-step:	6 Mnutes		
Modelling Period:	1/01/1999 - 31/12/2008 11:54:00 PM		
Mean Annual Rainfall:	691mm		
Evapotranspiration:	1158mm		
MUSIC Version:	6.3.0		
MUSIC-link data Version:	6.31		
Study Area:	Penrith		
Scenario:	Penrith Development		

* takes into account area from all source nodes that link to the chosen reporting node, excluding Import Data Nodes

Treatment Train Effe	ectiveness	Treatment Nodes		Source Nodes	
Node: 85/60/45	Reduction	Node Type	Number	Node Type	Number
Row	6.24%	Sedimentation Basin Node	1	Urban Source Node	8
TSS	85.4%	Rain Water Tank Node	1		
TP	67.1%	GPTNode	2		
TN	47.7%	Generic Node	1		
œ	99.8%				

- Roof node base flow values are as per the MUSIC modelling guidelines which indicate base flow has no effect for impervious areas and therefore no value is needed.

- The 'SF Chamber' detention node (sedimentation basin) has been modified to represent a tank to hold volume for use with the Ocean Protect filter, k values has been set to 1 to prevent the tank from "treating" the flow as it would within a grassed above ground OSD.

NOTE: A successful self-validation check of your model does not constitute an approved model by Penrith City Council MUSIC-IInk now in MUSIC by eWater - leading software for modelling stormwater solutions 1 of 3

PENRITH CITY COUNCIL

music@link

Node Type	Node Name	Parameter	Min	Max	Actual
GPT	OceanGuards (20)	Hi-flow bypass rate (cum/sec)	None	99	0.4
GPT	OceanGuards (9)	Hi-flow bypass rate (cum/sec)	None	99	0.18
Receiving	85/60/45	% Load Reduction	None	None	6.24
Receiving	85/60/45	GP % Load Reduction	90	None	99.8
Receiving	85/60/45	TN % Load Reduction	45	None	47.7
Receiving	85/60/45	TP % Load Reduction	60	None	67.1
Receiving	85/60/45	TSS % Load Reduction	85	None	85.4
Sedimentation	15m◆	High Flow Bypass Out (ML/yr)	None	None	0
Urban	Carpark - 6299m♦ (90% lmp.)	Area Impervious (ha)	None	None	0.567
Urban	Carpark - 6299m♦ (90% lmp.)	Area Pervious (ha)	None	None	0.0629999999999
Urban	Carpark - 6299m♦ (90% lmp.)	Total Area (ha)	None	None	0.63
Urban	Carpark Above OSD BYPASS - 43m♦ (100% Imp.)	Area Impervious (ha)	None	None	0.004
Urban	Carpark Above OSD BYPASS - 43m◆ (100% Imp.)	Area Pervious (ha)	None	None	0
Urban	Carpark Above OSD BYPASS - 43m♦ (100% Imp.)	Total Area (ha)	None	None	0.004
Urban	Carpark Above OSD BYPASSING HED - 647m◆ (100% Imp.)	Area Impervious (ha)	None	None	0.065
Urban	Carpark Above OSD BYPASSING HED - 647m◆ (100% Imp.)	Area Pervious (ha)	None	None	0
Urban	Carpark Above OSD BYPASSING HED - 647m◆ (100% Imp.)	Total Area (ha)	None	None	0.065
Urban	Carpark Above OSD to filters - 540m♦ (100% lmp.)	Area Impervious (ha)	None	None	0.054
Urban	Carpark Above OSD to filters - 540m♦ (100% lmp.)	Area Pervious (ha)	None	None	0
Urban	Carpark Above OSD to filters - 540m♦ (100% lmp.)	Total Area (ha)	None	None	0.054
Urban	Carpark Above OSD to the top 2 pits - 313m♦ (100% Imp.)	Area Impervious (ha)	None	None	0.031
Urban	Carpark Above OSD to the top 2 pits - 313m◆ (100% Imp.)	Area Pervious (ha)	None	None	0
Urban	Carpark Above OSD to the top 2 pits - 313m♦ (100% Imp.)	Total Area (ha)	None	None	0.031
Urban	Landscape - 4670m♦ (10% lmp.)	Area Impervious (ha)	None	None	0.047
Urban	Landscape - 4670m♦ (10% lmp.)	Area Pervious (ha)	None	None	0.419
Urban	Landscape - 4670m♦ (10% lmp.)	Total Area (ha)	None	None	0.467
Urban	Pedestrian Paved - 2036m♦ (90% lmp.)	Area Impervious (ha)	None	None	0.184
Urban	Pedestrian Paved - 2036m◆ (90% lmp.)	Area Pervious (ha)	None	None	0.019
Urban	Pedestrian Paved - 2036m♦ (90% lmp.)	Total Area (ha)	None	None	0.204
Urban	Roof - 6545m♦ (100% lmp.)	Area Impenious (ha)	None	None	0.655
Urban	Roof - 6545m♦ (100% lmp.)	Area Pervious (ha)	None	None	0
Urban	Roof - 6545m♦ (100% lmp.)	Total Area (ha)	None	None	0.655

PENRITH CITY COUNCIL



Node Type	Node Name	Parameter	Min	Max	Actual
Rain	1 x 40kL	% Reuse Demand Met	80	None	72.61
Sedimentation	15m ♦	Notional Detention Time (hrs)	8	12	0.0756
Sedimentation	15m ♦	Total Nitrogen - k (m/yr)	500	500	1
Sedimentation	15m ♦	Total Phosphorus - k (m/yr)	6000	6000	1
Sedimentation	15m♦	Total Suspended Solids - k (m/yr)	8000	8000	1
Urban	Roof - 6545m♦ (100% lmp.)	Baseflow Total Nitrogen Mean (log mg/L)	0.11	0.11	0
Urban	Roof - 6545m♦ (100% lmp.)	Baseflow Total Nitrogen Standard Deviation (log mg/L)	0.12	0.12	0
Urban	Roof - 6545m♦ (100% lmp.)	Baseflow Total Phosphorus Mean (log mg/L)	-0.85	-0.85	0
Urban	Roof - 6545m♦ (100% lmp.)	Baseflow Total Phosphorus Standard Deviation (log mg/L)	0.19	0.19	0
Urban	Roof - 6545m♦ (100% lmp.)	Baseflow Total Suspended Solids Mean (log mg/L)	1.2	1.2	0
Urban	Roof - 6545m (100% Imp.)	Baseflow Total Suspended Solids Standard Deviation (log mg/L)	0.17	0.17	0

NOTE: A successful self-validation check of your model does not constitute an approved model by Penrith City Council

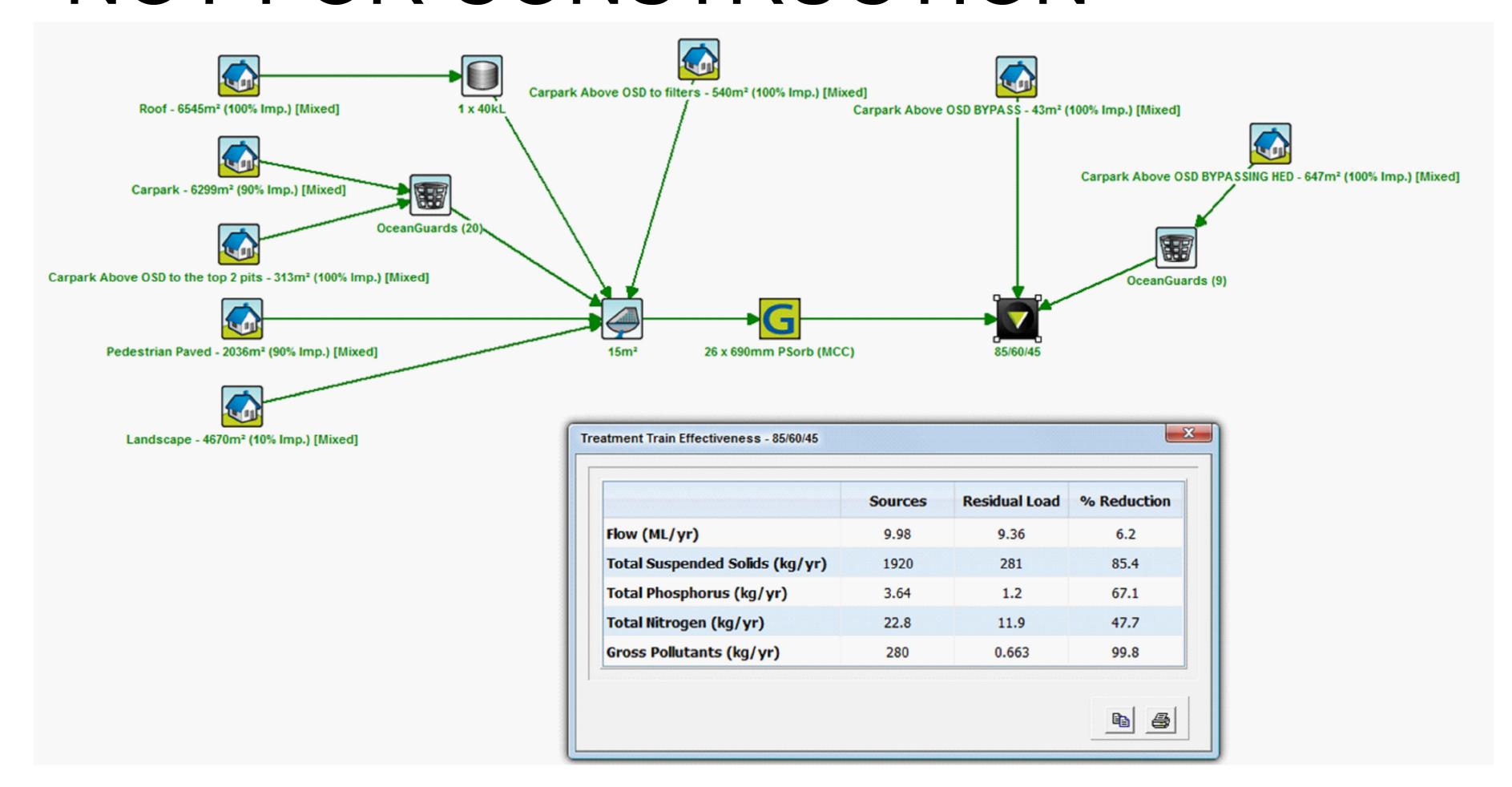
MUSIC-IInk now in MUSIC by eWater - leading software for modelling stormwater solutions

3 of 3

NOTE: A successful self-validation check of your model does not constitute an approved model by Penrith City Council MUSIC-IInk now in MUSIC by eWater - leading software for modelling stormwater solutions 2 of 3

MUSIC Model Site Area Breakup - Carpark above OSD Carpark to 9 OGs: 647m² Carpark to the 2 pits above: 313m² Carpark Bypassing Everything: 43m² Carpark to Chamber: 540m² Roof: 6545m² Carpark: 6299m² Landscape: 4670m² Pedestrian Paved: 2036m² 11910 - 90 - 98 Glenmore Ridge Drive, Glenmore Park (Rev4 - Site Area Breakup)

NOT FOR CONSTRUCTION





REVISION

Document Set ID: 9235696 Version: 1, Version Date: 31/07/2020

OVERLAND FLOW PATH

VERIFY ALL DISCREPANCIES WITH PROJECT ARCHITECT/ MANAGER PRIOR TO PROCEEDING WITH ANY WORKS. Do not scale off drawings. This document is & shall remain the property of ING Consulting Engineers Pty Ltd. The document may only be used for the purpose for which it

was commissioned. They must not be used, reproduced, or copied in whole or in part without prior written consent of that company.

D	Incorporate Council Comments of 5 May 2020	3 June 2020
С	Incorporate Council Comments of 22 Aug. 19	1 Nov. 2019
В	Architectural Changes	18 Apr. 2019
Α	Development Application	1 Dec. 2018
Issue	Description	Date of Drawin

	Drawn & Designed By:	K. Koh		
)	Checked By :	N. Evans		
9		IV. LValis		
9	Approved By: Kenneth T.			
<u> </u>	MIEAust CF	PEng NER APEC Engineer		
2	IntPE(Aus) (Reg. No. 2206352) RPEQ			
ر 	Accredited	Certifier		
าฮ	(Cat. C1-C4, C6 & C15)(BPB No. 0827)			

ING CONSULTING ENGINEERS PTY LTD P. O BOX 1543 BAULKHAM HILLS NSW 1755 F: (02) 8807 5656 M: 0433 778 109 E: ken@ingengineers.com.au

ject	Proposed Mixed-Use Development	Drawing Title Water Quality	
	90 - 98 Glenmore Ridge Drive Glenmore Park NSW 2745	Date December 2018	Scale As Shown @ A0
ent	Mintus Pty Ltd	Project No. 116052018DA	Drawing & Sheet No./ Issue 11605-07/9 / D

GENERAL NOTES

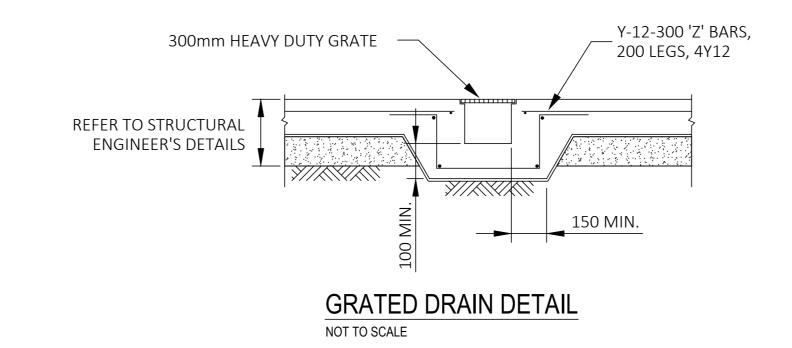
- THE CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORKS.
- ALL WORKS ARE TO BE CARRIED OUT TO THE DETAILS SHOWN ON THE DRAWINGS.
- THESE PLANS ARE READ IN CONJUNCTION WITH APPROVED ARCHITECTURAL, STRUCTURAL, HYDRAULIC AND MECHANICAL DRAWINGS AND SPECIFICATIONS.
- CARE IS TO BE TAKEN WHEN EXCAVATING NEAR SERVICES. NO MECHANICAL EXCAVATION ARE TO BE UNDERTAKEN OVER TELECOMMUNICATION OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS ONLY.
- DIAL 1100 BEFORE YOU DIG FOR LOCATION OF UNDERGROUND SERVICES PRIOR TO ANY
- CONSTRUCTION WORKS.
- SERVICES HAVE NOT BEEN SHOWN ON THIS PLAN. FIELD INVESTIGATIONS ARE TO BE CARRIED OUT SEPARATELY TO DETERMINE EXACT POSITIONS OF SERVICES OR
 - INFORMATION IS TO BE PROVIDED BY THE PROPERTY PROPRIETOR. NOT WITSTANDING THIS, ALL INFORMATION PROVIDED SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION WORKS.
- THESE DRAWINGS ARE ONLY APPROVED WHEN THEY ARE SIGNED WITH AN ORIGINAL SIGNATURE BY THE ENGINEER.

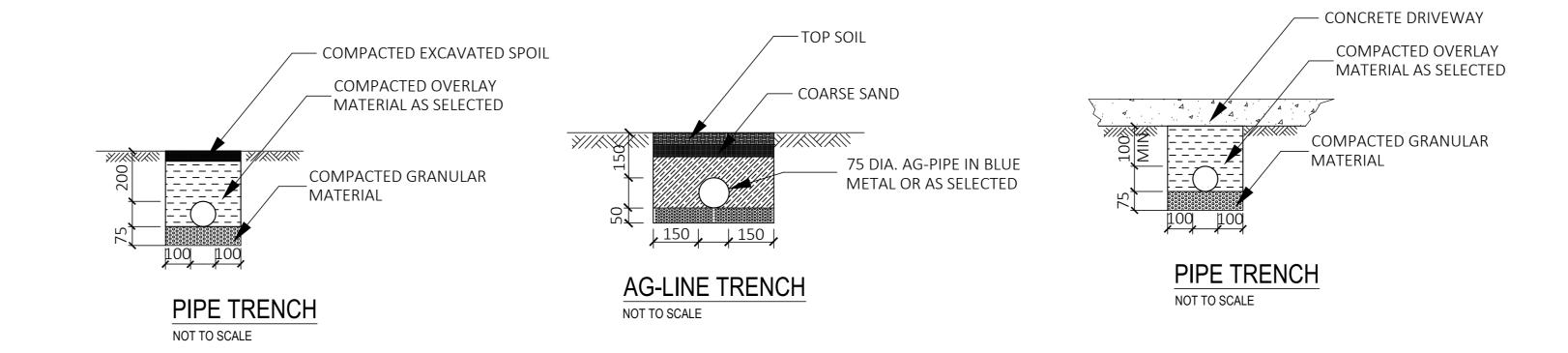
STORMWATER DRAINAGE

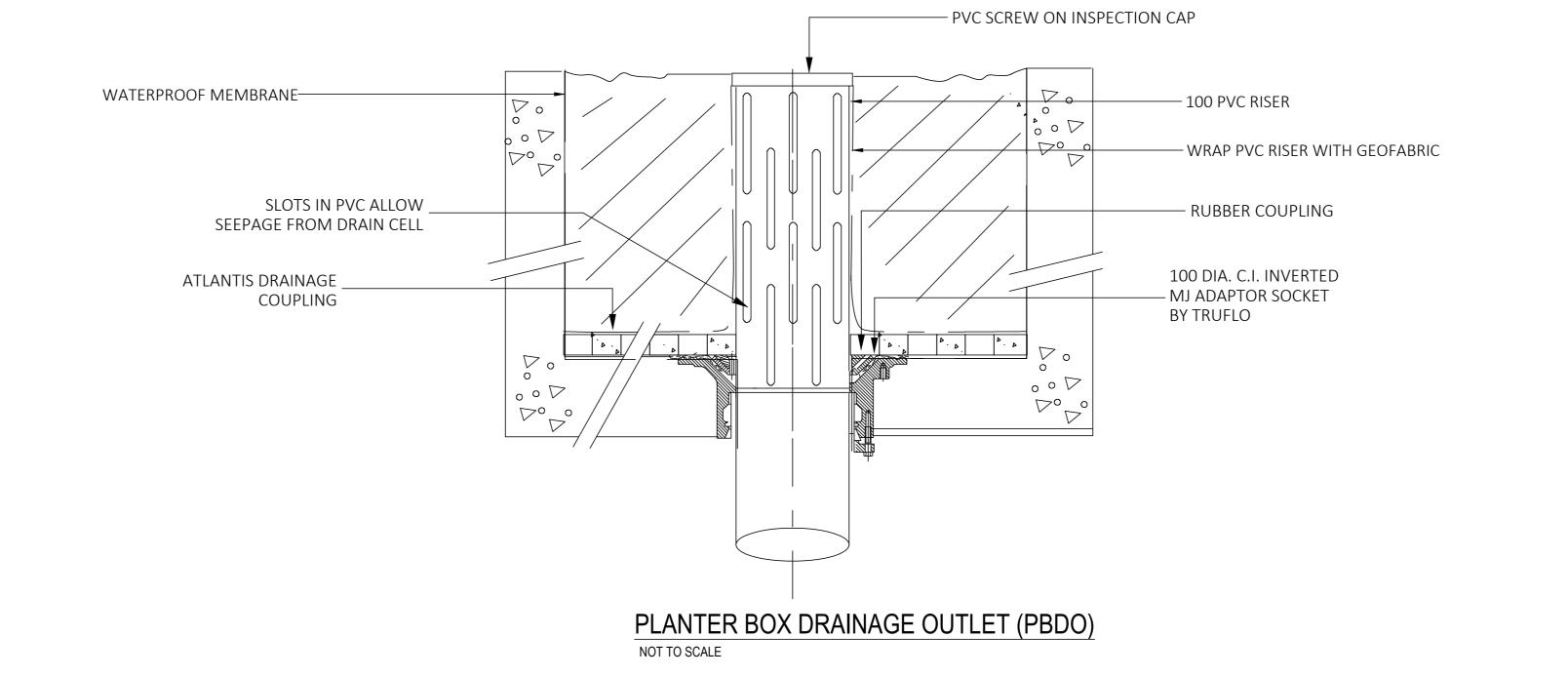
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH AS 3500 AND THE REQUIREMENTS OF THE LOCAL COUNCIL'S POLICIES AND CODES.
- ALL GUTTERS TO BE 100 x 75 MIN. AND DOWNPIPES TO BE 100 x 75 (76 DIA.) UNLESS OTHERWISE NOTED.
- ALL PIPES TO BE 100mm uPVC SEWER GRADE UNLESS NOTED OTHERWISE.
- ALL GRADIENTS FOR STORMWATER PIPES TO BE NOT LESS THAN 1.0% UNLESS NOTED OTHERWISE.
- THE INVERTS OF ALL OUTLET PIPES ARE TO BE INSTALLED FLUSHED WITH THE BASE OF ALL STORMWATER/RAINWATER PIT.
- 13. ALL FENCES SHALL BE KEPT AT LEAST 100mm ABOVE THE GROUND LEVEL TO FACILITATE THE FREE PASSAGE FOR STORMWATER OVERLAND FLOW
- 14. MANUFACTURER'S CERTIFICATE SHALL BE OBTAINED BY THE BUILDER FOR PIPES, PRE-CAST PITS AND GRATES FOR THE STRUCTURAL ADEQUACY RELATING TO ITS LOCATION.
- AREAS SPREAD WITH BARK SHALL BE BARRICADED TO PREVENT BARK GETTING INTO THE PITS AND STORMWATER **SYSTEMS**
- 16. MINIMUM SLOPE FOR PAVED AREAS SHALL BE 0.5%, FOR LANDSCAPED AREAS MINIMUM SLOPE SHALL BE 1% AND GRADED TOWARDS THE GRATED PITS.
- 17. ALL EXCAVATIONS WITHIN THE INFLUENCE OF BUILDINGS AND SERVICES SHALL BE UNDERTAKEN WITH THE KNOWLEDGE OF THE HYDRAULIC AND STRUCTURAL ENGINEER.
- THE DETENTION AND DRAINAGE SYSTEM SHALL BE MAINTAINED AT REGULAR INTERVALS AND THE CONTRACTOR SHALL MAKE NECESSARY ARRANGEMENTS.
- 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.
- PROVIDE STEP-IRONS 'MASCOT S1:104' OR SIMILAR STAGGERED TO GIVE SPACING 300 VERTICAL AND 220 HORIZONTAL TO ALL PIT DEEPER THAN 1m.
- SUITABLE AG-LINES SHALL BE PROVIDED AND CONNECTED TO STORMWATER SYSTEM OR AS INSTRUCTED BY THE ENGINEER ON SITE PRIOR TO BACKFILLING.

RAINWATER TANK

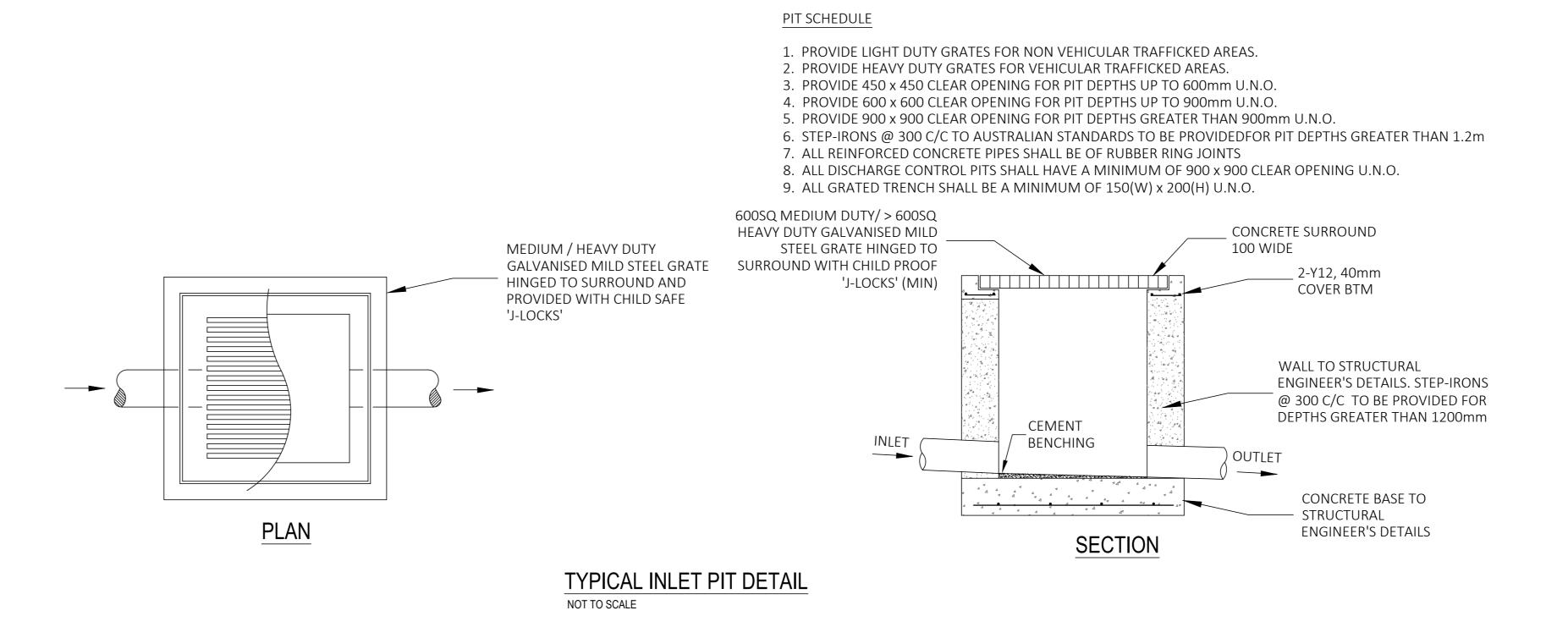
- 22. DRAWING IS TO BE READ IN CONJUNCTION WITH SYDNEY WATER'S "PLUMBING REQUIREMENTS GUIDELINES FOR RAINWATER TANKS ON RESIDENTIAL PROPERTIES".
- 23. ALL PLUMBING WORK UNDERTAKEN ON OR FOR THE TANK THAT AFFECTS THE WATER SERVICE PIPE OR WATER MAIN MUST BE UNDERTAKEN WITH THE CONSENT OF SYDNEY WATER IN ACCORDANCE WITH THE REQUIREMENTS OF
- SYDNEY WATER, AND THE MANUFACTURER'S SPECIFICATIONS. 24. ALL PLUMBING WORKS UNDERTAKEN SHALL BE UNDERTAKEN BY A LICENSED PLUMBER IN ACCORDNACE WITH THE NEW SOUTH WALES CODE OF PRACTICE - PLUMBING AND DRAINAGE PRODUCED BY THE COMMITTEE ON
- UNIFORMITY OF PLUMBING AND DRAINAGE REGULATIONS IN NEW SOUTH WALES. ALL PLUMBING MUST BE COMPLETED BY A LICENSED PLUMBER IN COMPLIANCE WITH AS/NZS3500.5, AND ANY
- OTHER RELEVANT NATIONAL STANDARDS. 26. INLET TO THE RAINWATER TANKS MUST BE SCREENED OR FILTERED TO PREVENT ENTRY OF FOREIGN MATTER AND **CREATURES**
- 27. THE RAINWATER TANKS MUST BE MAINTAINED AT ALL TIMES SO AS NOT TO CAUSE A NUISANCE WITH RESPECT TO MOSQUITO BREEDING OR OVERLAND FLOW OF WATER.
- 28. A SIGN MUST BE AFFIXED TO THE RAINWATER TANKS CLEARLY STATING THAT THE WATER IN THE TANKS IS RAINWATER.
- 29. BOTH THE RE-USE AND ANY FITTINGS CONNECTED TO THE RAINWATER TANKS MUST BE LABELED "RAINWATER , NOT SUITABLE FOR DRINKING".
- 30. ALL ROOF GUTTERS ARE TO BE FITTED WITH LEAF GUARDS AND INSPECTED REGULARLY AND CLEANED TO ENSURE LEAF LITTER CANNOT ENTER THE DOWNPIPES.
- 31. PRESSURE PUMP ELECTRICAL CONNECTION TO BE CARRIED OUT BY A LICENSED ELECTRICIAN.

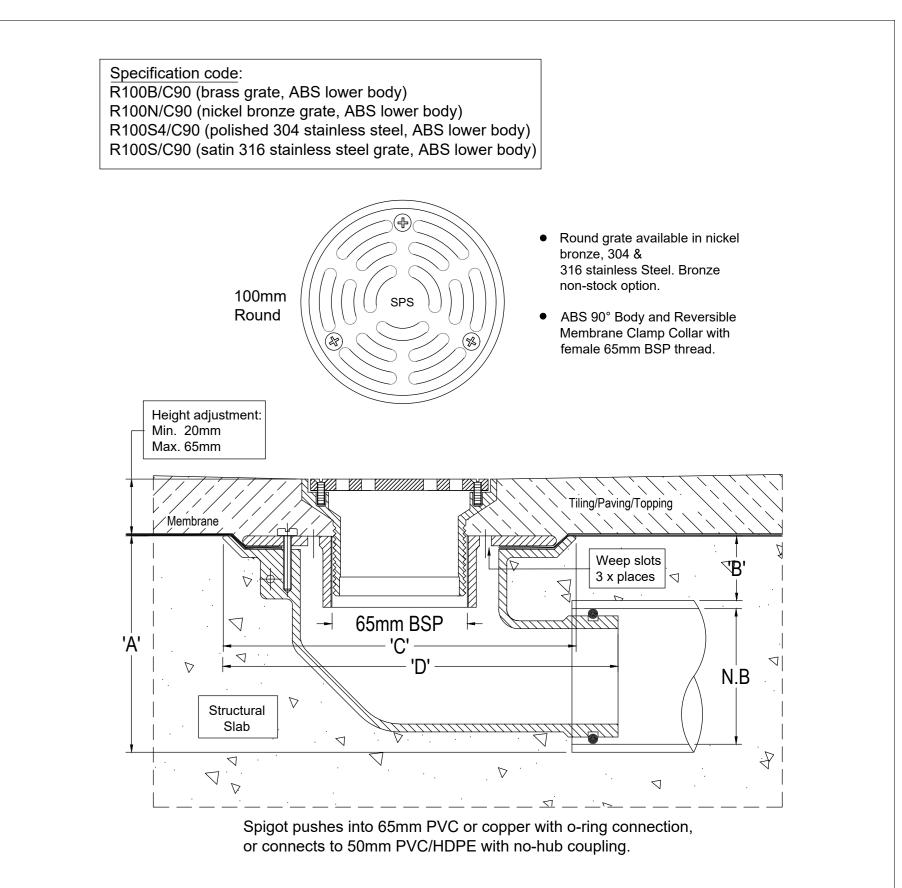






NOT FOR CONSTRUCTION



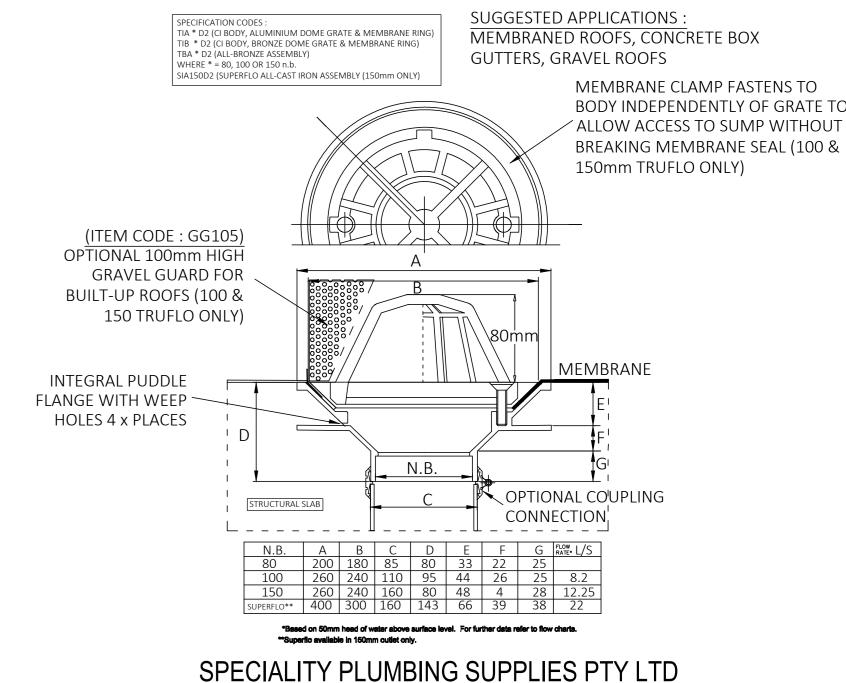


RAINWATER OUTLET (RWO) (TERRACE AND COURTYARDS)

N.B. A B C D

50 100 40 180 200

SPS TRUFLO & SUPERFLO DOME GRATE RWO (2-PIECE DOME GRATE, MEMBRANE CLAMP)



TEL: (02) 9416 8031 FAX: (02) 9416 7614 E-MAIL: SPS@BIGPOND.NET.AU

ROOF RAINWATER WATER OUTLET (RWO) 100 TRUFLOW



Document Set ID: 9235696 Version: 1, Version Date: 31/07/2020

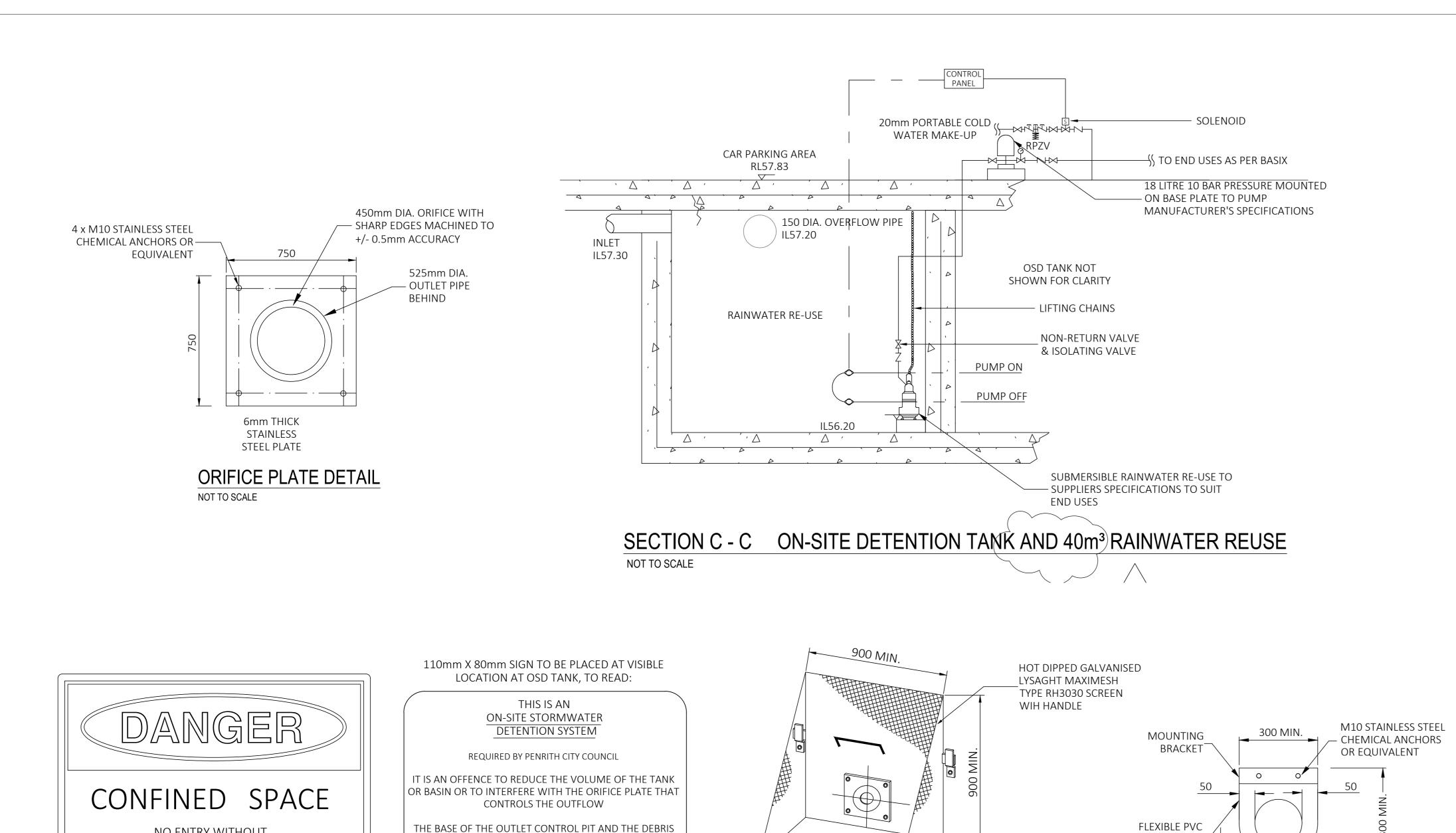
/ERIFY ALL DISCREPANCIES WITH PROJECT ARCHITECT/ MANAGER PRIOR O PROCEEDING WITH ANY WORKS. Do not scale off drawings This document is & shall remain the property of ING Consulting Engineers Pty Ltd. The document may only be used for the purpose for which it was commissioned. They must not be used, reproduced, or copied in whole or in part without prior written consent of that company

Drawn & Designed By: Incorporate Council Comments of 5 May 2020 3 June 2020 Incorporate Council Comments of 22 Aug. 19 1 Nov. 2019 18 Apr. 2019 Architectural Changes Development Application 1 Dec. 2018 Issue Description Date of Drawing

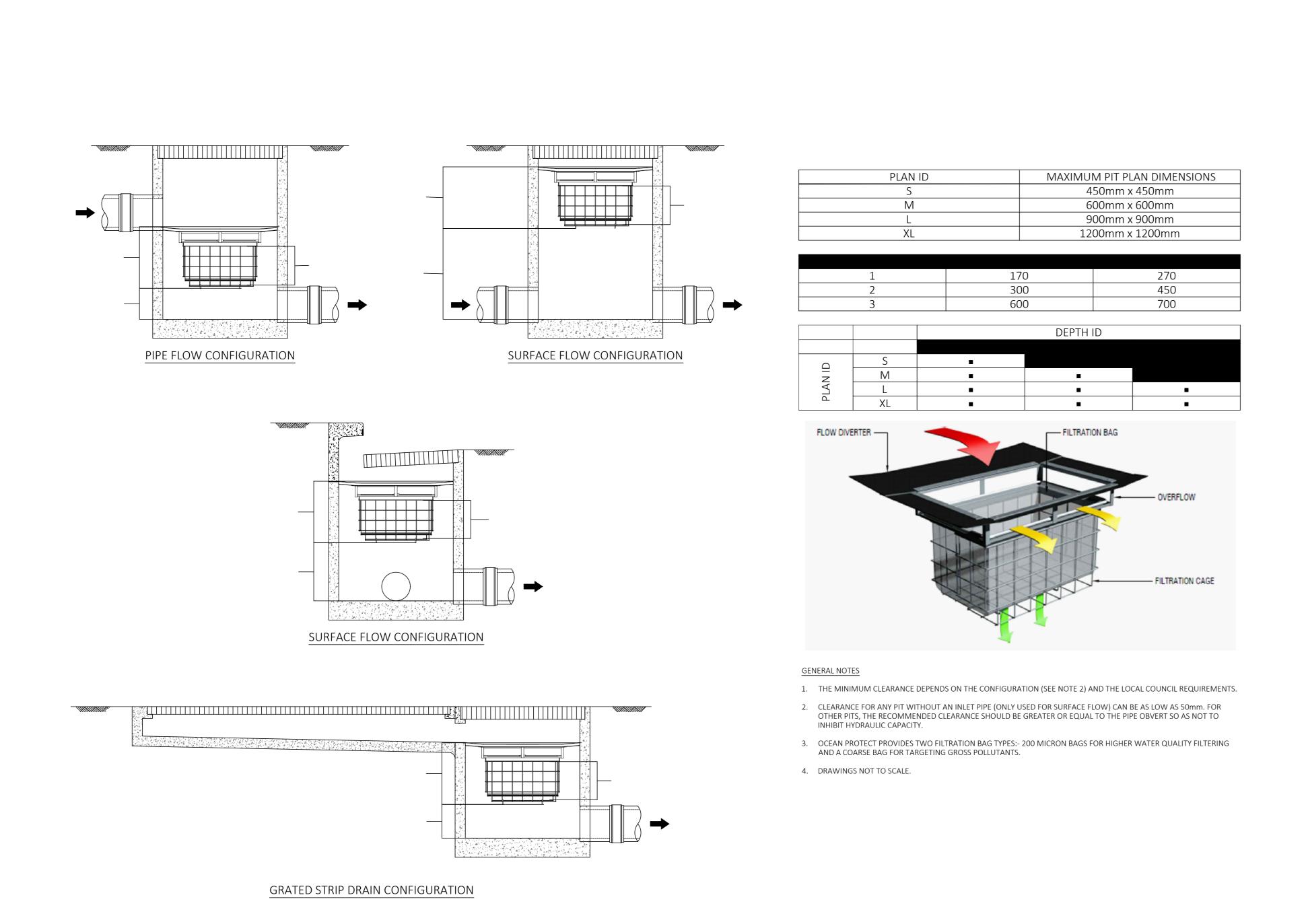
K. Koh Checked By N. Evans **Approved By:** Kenneth T. NG MIEAust CPEng NER APEC Engineer IntPE(Aus) (Reg. No. 2206352) RPEQ Accredited Certifier (Cat. C1-C4, C6 & C15)(BPB No. 0827) ING CONSULTING ENGINEERS PTY LTD P. O BOX 1543 BAULKHAM HILLS NSW 1755 F: (02) 8807 5656 M: 0433 778 109

E: ken@ingengineers.com.au

Drawing Title Proposed Mixed-Use Development Notes & Details 90 - 98 Glenmore Ridge Drive December 2018 | As Shown @ A0 Glenmore Park NSW 2745 Drawing & Sheet No./ Issue Project No. Mintus Pty Ltd 11605-08/9 / D 116052018DA



TRASH SCREEN DETAIL



THE BASE OF THE OUTLET CONTROL PIT AND THE DEBRIS

REGULAR BASIS BY THE OWNER

THIS PLATE MUST NOT BE REMOVED

OSD SIGNAGE

NOT TO SCALE

NO ENTRY WITHOUT

CONFINED SPACE TRAINING

PRIOR TO COMMENCEMENT OF WORK

NOT TO SCALE

Document Set ID: 9235696 Version: 1, Version Date: 31/07/2020 CONFINED SPACE SIGNAGE

STORMFILTER DESIGN TABLE

1. THE STORMFILTER TREATMENT CAPACITY VARIES BY NUMBER OF FILTER CARTRIDGES INSTALLED AND BY REGION SPECIFIC INTERNAL FLOW CONTROLS. 2. THE STANDARD CONFIGURATION IS SHOWN. ACTUAL CONFIGURATION OF THE SPECIFIED STRUCTURE(S) PER CIVIL ENGINEER WILL BE SHOWN ON SUBMITTAL DRAWING(S). 3. ALL PARTS PROVIDED AND INTERNAL ASSEMBLY BY OCEAN PROTECT UNLESS OTHERWISE

CARTRIDGE HEIGHT	690
	Q'D. MIN.) 930
TREATMENT BY MEDIA SURFACE AREA	L/S/m ² 1.4 0.7
CARTRIDGE FLOW RATE (L/s)	1.42 0.71

INLET AND OUTLET PIPING SHALL BE SPECIFIED BY SITE CIVIL ENGINEER (SEE PLANS) AND PROVIDED BY CONTRACTOR. STORMFILTER IS PROVIDED WITH OPENINGS AT INLET AND OUTLET LOCATIONS. 2. IF THE PEAK FLOW RATE, AS DETERMINED BY THE SITE CIVIL ENGINEER, EXCEEDS THE PEAK HYDRAULIC CAPACITY OF THE PRODUCT, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED. PLEASE CONTACT OCEAN PROTECT FOR OPTIONS. . THE FILTER CARTRIDGE(S) ARE SIPHON-ACTUATED AND SELF-CLEANING. THE STANDARD DETAIL DRAWING SHOWS THE MAXIMUM NUMBER OF CARTRIDGES. THE ACTUAL NUMBER SHALL BE SPECIFIED BY THE SITE CIVIL ENGINEER ON SITE PLANS OR IN DATA TABLE BELOW. CONCRETE STRUCTURE TO BE PROVIDED BY OTHERS. 4. SEE STORMFILTER DESIGN TABLE FOR REQUIRED HYDRAULIC DROP. FOR SHALLOW, LOW DROP OR SPECIAL DESIGN CONSTRAINTS, CONTACT OCEAN PROTECT FOR DESIGN OPTIONS. 5. ALL WATER QUALITY PRODUCTS REQUIRE PERIODIC MAINTENANCE AS OUTLINED IN THE O&M GUIDELINES. PROVIDE 5. STRUCTURE AND ACCESS COVERS DESIGNED BY OTHERS. ACCESS COVERS TO BE A MINIMUM 900 x 900 ABOVE CARTRIDGES . THE STRUCTURE THICKNESSES SHOWN ARE FOR REPRESENTATIONAL PURPOSES AND VARY REGIONALLY. 8. ANY BACKFILL DEPTH, SUB-BASE, AND OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY SITE CIVIL ENGINEER.

9. CARTRIDGE HEIGHT AND ASSOCIATED DESIGN PARAMETERS PER STORMFILTER DESIGN TABLE.

10. STORMFILTER BY OCEAN PROTECT: SYDNEY (AU) PHONE: 1300 354 722 www.oceanprotect.com.au

GENERAL NOTES

1200 x 1200 HEAVY DUTY ACCESS COVER OVER TOP 100mm DIA. VOID TO BE OF CARTRIDGE BAY LEFT IN WALL FOR UNDERDRAIN INSTALLATION 150mm DEEP VOID FOR STORMFILTER FITOUT 525mm DIA. OUTLET PIPE @ 1% TO EXISTNG KIP \cdots (o)(o)(o)(o)(o) UNDERDRAIN AND FALSE STORMFILTER WALL 150 DIA. PIPE WITH FLOOR INSTALLED BY CAST-IN-SITU (BY OCEAN PROTECT 4750 NICOLAS FLEXI FLAP VALVE OTHERS) ON SITE DETENTION STORAGE STORMFILTER CARTRIDGE 150 DIA. PIPE WITH FILTRATION UNIT NICOLAS FLEXI FLAP VALVE DETENTION TANK CONSTRUCTED FALSE FLOOR BY OTHERS TO STRUCTURAL ENGINEER'S DETAILS PRECAST PIT BASE PLAN LAYOUT 690 PSORB STORMFILTER CARTRIDGE, DETAIL (26 NOS. IN TOTAL) STORMFILTER WALL CAST-IN-SITU (BY 1200 x 1200 HEAVY DUTY ACCESS COVER OVER TOP OF CARTRIDGE BAY **DUTY ACCESS** 525mm DIA. OUTLET PIPE @ 1%
TO EXISTNG KIP

SECTION B - B

OCEAN PROTECT - STORMFILTER SYSTEM DETENTION TANK ARRANGEMENT (FIRST FLUSH GENERAL ARRANGEMENT)

_ 4500mm x 2100mm x 150mm DEEP VOID FOR STORMFILTER

NOT FOR CONSTRUCTION

OCEAN PROTECT - OCEAN GUARD - TYPICAL ARRANGEMENTS

	D	Incorporate Council Comments of 5 May
	С	Incorporate Council Comments of 22 Aug
VERIFY ALL DISCREPANCIES WITH PROJECT ARCHITECT/ MANAGER PRIOR	В	Architectural Changes
TO PROCEEDING WITH ANY WORKS. Do not scale off drawings.	A	Development Application

	D	Incorporate Council Comments of 5 May 2020	3 June 2020
	С	Incorporate Council Comments of 22 Aug. 19	1 Nov. 2019
VERIFY ALL DISCREPANCIES WITH PROJECT ARCHITECT/ MANAGER PRIOR	В	Architectural Changes	18 Apr. 2019
TO PROCEEDING WITH ANY WORKS. Do not scale off drawings. Copyright	Α	Development Application	1 Dec. 2018
This document is & shall remain the property of ING Consulting Engineers Pty Ltd. The document may only be used for the purpose for which it was commissioned. They must not be used, reproduced, or copied in whole or in part without prior written consent of that company.	Issue	Description	Date of Drawing

NICOLAS FLEXI FLAP VALVE DETAIL

Drawn & Designed By: K. Koh Checked By: N. Evans Approved By: Kenneth T. NG MIEAust CPEng NER APEC Engineer IntPE(Aus) (Reg. No. 2206352) RPEQ Accredited Certifier (Cat. C1-C4, C6 & C15)(BPB No. 0827) MICHARD HILLS NSW 1755 F: (02) 8807 5656 M: 0433 778 109 E: ken@ingengineers.com.au				
Checked By: N. Evans Approved By: Kenneth T. NG MIEAust CPEng NER APEC Engineer IntPE(Aus) (Reg. No. 2206352) RPEQ Accredited Certifier R. ENGINEERS PTY LTD P. O BOX 1543 BAULKHAM HILLS NSW 1755 F: (02) 8807 5656 M: 0433 778 109		Drawn & Designed By:	K. Koh	ING CONSULTING
Approved By: Kenneth T. NG MIEAust CPEng NER APEC Engineer IntPE(Aus) (Reg. No. 2206352) RPEQ Accredited Certifier MEAULKHAM HILLS NSW 1755 F: (02) 8807 5656 M: 0433 778 109		Checked By :	N. Evans	ENGINEERS PTY LTD
	-	MIEAust CPEng NER APEC Engineer IntPE(Aus) (Reg. No. 2206352) RPEQ		BAULKHAM HILLS NSW 1755 F: (02) 8807 5656 M: 0433 778 109

6mm S.S. ORIFICE PLATE

MACHINED ORIFICE

EPOXY & DYNABOLTED TO PIT WALL WITH 450mm DIA.

Project	Proposed Mixed-Use Development	Drawing Title Notes & Details 2		
At	90 - 98 Glenmore Ridge Drive Glenmore Park NSW 2745	Date December 2018	Scale As Shown @ A	
Client	Mintus Pty Ltd	Project No. 116052018DA	Drawing & Sheet No./ Is 11605-09/9 / D	