

# PROPOSED DEVELOPMENT

## 102 BROOMFILED STREET, CABRAMATTA

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### STORMWATER PLANS

## GENERAL NOTES

- G1. THE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL DRAWINGS AND SPECIFICATIONS AND OTHER WRITTEN INSTRUCTIONS THAT MAY BE ISSUED.
- G2. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING FROM THE DRAWINGS. REFER ARCHITECT'S DRAWINGS FOR ALL DIMENSIONS.
- G3. REFER ANY DISCREPANCY TO THE ENGINEER/ARCHITECT.
- G4. MATERIALS AND WORKSMANSHIP SHALL COMPLY WITH THE APPROPRIATE SAA SPECIFICATIONS OR CODE AND WITH THE REQUIREMENTS OF THE RELEVANT LOCAL AUTHORITY.
- G5. THE ALIGNMENT AND LEVEL OF ALL SERVICES SHOWN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL CONFIRM THE POSITION AND LEVEL OF ALL SERVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY DAMAGE TO SERVICES SHALL BE RECTIFIED AT THE CONTRACTOR'S EXPENSE.
- G6. NO WORKS ARE TO COMMENCE UNTIL THE REQUIRED TREE REMOVAL PERMITS HAVE BEEN GRANTED BY RELEVANT LOCAL AUTHORITY, AND THE APPROPRIATE NOTICE OF INTENTION TO COMMENCE GIVEN.
- G7. ALL SERVICES, OR CONDUITS FOR SERVICING SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF PAVEMENT CONSTRUCTION.
- G8. SUBSOIL DRAINAGE, COMPRISING 100 AGRICULTURE PIPE IN GEO-STOCKING TO BE PLACED AS SHOWN AND AS MAY BE DIRECTED BY THE SUPERINTENDENT. SUBSOIL DRAINAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RELEVANT LOCAL AUTHORITY CONSTRUCTION SPECIFICATION.
- G9. NO WORK IS PERMITTED WITHIN ADJOINING PROPERTIES WITHOUT WRITTEN PERMISSION FROM THE OWNERS OR RESPONSIBLE AUTHORITY.

## DRAINAGE NOTES

- D1. ALL DRAINAGE OUTLET LEVELS SHALL BE CONFIRMED ON SITE, PRIOR TO CONSTRUCTION COMMENCING.
- D2. ALL PIPES WITHIN THE PROPERTY TO BE MIN. 100 DIA UPVC @ 1% MIN. GRADE, UNO.
- D3. ALL PITS WITHIN THE PROPERTY ARE TO BE FITTED WITH "WELDLOK" OR APPROVED EQUIVALENT GRATES:  
- LIGHT DUTY FOR LANDSCAPED AREAS  
- HEAVY DUTY WHERE SUBJECTED TO VEHICULAR TRAFFIC
- D4. PITS WITHIN THE PROPERTY MAY BE CONSTRUCTED AS:  
1) PRECAST STORMWATER PITS  
2) CAST INSITU MASS CONCRETE  
3) CEMENT RENDERED 230mm BRICKWORK  
SUBJECT TO THE RELEVANT LOCAL AUTHORITY CONSTRUCTION SPECIFICATION.
- D5. ENSURE ALL GRATES TO PITS ARE SET BELOW FINISHED SURFACE LEVEL WITHIN THE PROPERTY. TOP OF PIT R/L'S ARE APPROXIMATE ONLY AND MAY BE VARIED SUBJECT TO APPROVAL OF THE ENGINEER. ALL INVERT LEVELS ARE TO BE ACHIEVED.
- D6. ANY PIPES BENEATH RELEVANT LOCAL AUTHORITY ROAD TO BE RUBBER RING JOINTED RCP, UNO.
- D7. ALL PITS IN ROADWAYS ARE TO BE FITTED WITH HEAVY DUTY GRATES WITH LOCKING BOLTS AND CONTINUOUS HINGE.
- D8. PROVIDE STEP IRONS TO STORMWATER PITS GREATER THAN 1200 IN DEPTH.
- D9. TRENCH BACK FILL IN ROADWAYS SHALL COMPRISE SHARP, CLEAN GRANULAR BACK FILL IN ACCORDANCE WITH THE RELEVANT LOCAL AUTHORITY SPECIFICATION TO NON-TRAFFICABLE AREAS TO BE COMPACTED BY RODDING AND TAMPING USING A FLAT PLATE VIBRATOR.
- D10. WHERE A HIGH EARLY DISCHARGE (HED) PIT IS PROVIDED ALL PIPES ARE TO BE CONNECTED TO THE HED PIT, UNO.
- D11. DOWN PIPES SHALL BE A MINIMUM OF DN100 SW GRADE UPVC OR 100X100 COLORBOND/ZINCALUME STEEL, UNO.
- D12. COLORBOND OR ZINCALUME STEEL BOX GUTTERS SHALL BE A MINIMUM OF 450 WIDE X 150 DEEP.
- D13. EAVES GUTTERS SHALL BE A MINIMUM OF 125 WIDE X 100 DEEP (OR OF EQUIVALENT AREA) COLORBOND OR ZINCALUME STEEL, UNO.
- D14. SUBSOIL DRAINAGE SHALL BE PROVIDED TO ALL RETAINING WALLS & EMBANKMENTS, WITH THE LINES FEEDING INTO THE STORMWATER DRAINAGE SYSTEM, UNO.

## EARTHWORKS NOTES

- E1. THE EARTHWORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT.
- E2. THE SITE OF THE WORKS SHALL BE PREPARED BY STRIPPING ALL EXISTING TOPSOIL, FILL AND VEGETATION.
- E3. SUBGRADE SHALL BE COMPACTED UNTIL A DRY DENSITY HAS BEEN ACHIEVED OF NOT LESS THAN 100% OF THE STANDARD MAXIMUM DRY DENSITY WHEN TESTED IN ACCORDANCE WITH AS 1289 TESTS E 1.1, OR E 1.2.
- E4. THE EXPOSED SUBGRADE SHOULD BE PROOF ROLLED TO DETECT ANY SOFT OR WET AREAS WHICH SHOULD BE LOCALLY EXCAVATED AND BACK FILLED WITH SELECTED MATERIAL.
- E5. THE ROCK FILLING MATERIAL SHALL BE IMPORTED GRANULAR FILL OF LOW PLASTICITY, PREFERABLY CRUSHED SANDSTONE, AND TO BE PLACED IN LAYERS NOT EXCEEDING 150 LOOSE THICKNESS AND COMPACTED TO 98% OF STANDARD DRY DENSITY AT A MOISTURE CONTENT WITHIN 2% OF OPTIMUM.
- E6. SITE WORKS ARE TO BE BATTERED TO ADJACENT PROPERTY LEVELS.
- E7. STORMWATER MUST NOT BE CONCENTRATED ON TO AN ADJACENT PROPERTY.
- E8. AT NO TIME DURING OR AFTER CONSTRUCTION IS STORMWATER TO BE PONDED ON ADJOINING PROPERTIES.
- E9. THE SITE SHALL BE GRADED AND DRAINED SO THAT STORMWATER WILL BE DIRECTED AWAY FROM THE BUILDING PLATFORM.
- E10. STORMWATER DRAINAGE SHALL BE PROVIDED AND MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION. ALL STORMWATER RUNOFF SHALL BE GRADED AWAY FROM THE SITE WORKS AND DISPOSED OF VIA SURFACE CATCHDRAINS AND STORMWATER COLLECTION PITS.
- E11. ALL SURFACE CATCH DRAINS SHALL BE GRADED AT 1% (1 IN 100) MINIMUM. THE GROUND SHALL GRADE AWAY FROM ANY DWELLING AT 5% (1 IN 20) FOR THE FIRST METRE THEN AT 2.5% (1 IN 40).
- E12. WHERE A CUT FILL PLATFORM IS USED THERE SHALL BE A MINIMUM BERM 1000 WIDE TO THE PERIMETER OF THE SITE WORKS WHICH SHALL BE SUPPORTED BY BATTERS OF 3:1 IN FILL.
- E13. ANY VERTICAL OR NEAR VERTICAL PERMANENT EXCAVATION (CUT) DEEPER THAN 600 IN MATERIAL OTHER THAN ROCK SHALL BE ADEQUATELY RETAINED OR BATTERED AT A MINIMUM OF 3:1.
- E14. WHERE BATTERS CANNOT BE PROVIDED TO SUPPORT THE CUT OR FILL, THEY SHALL BE ADEQUATELY RETAINED.
- E15. RETAINING WALLS ARE TO BE CONSTRUCTED WITH ADEQUATE SUBSOIL DRAINAGE.

## CONCRETE PAVEMENT

- C1. SUBGRADE SHALL BE PREPARED AS OUTLINED IN EARTHWORKS.
- C2. POURING JOINTING AT MINIMUM 6000 MAX. INTERVALS OR AS OTHERWISE SPECIFIED IN THE DRAWINGS.
- C3. CONCRETE SHALL COMPRISE A MIN. COMPRESSIVE STRENGTH OF 32MPa AT 28 DAYS IN COMPLIANCE WITH THE RELEVANT LOCAL AUTHORITY SPECIFICATION. UNO.
- C4. ANY SUB-BASE MATERIAL SHALL BE COMPACTED AS OUTLINED IN EARTHWORKS.
- C5. CONCRETE KERB AND GUTTER SHALL COMPRISE A MINIMUM COMPRESSIVE STRENGTH OF 25MPa UNO.
- C6. CONCRETE WORKS ARE TO BE CURED BY ONE OF THE FOLLOWING MEANS:
- i) WETTING TWICE DAILY FOR THE FIRST THREE DAYS;
  - ii) USING AN APPROVED CURING COMPOUND FOR A MINIMUM OF 7 DAYS COMMENCING IMMEDIATELY AFTER POURING.

## FLEXIBLE PAVEMENT NOTES

- F1. SUBGRADE SHALL BE PREPARED AS OUTLINED IN EARTHWORKS.
- F2. PAVEMENT MATERIAL SHALL CONSIST OF APPROVED OR RIPPED SANDSTONE, NATURAL GRAVEL OR FINE CRUSH ROCK AS PER THE RELEVANT COUNCIL AUTHORITY SPECIFICATION.
- F3. PAVEMENT MATERIALS SHALL BE SPREAD IN LAYERS NOT EXCEEDING 150 AND NOT LESS THAN 75 COMPACTED THICKNESS.
- F4. PAVEMENT MATERIALS SHALL BE SIZED AND OF A STANDARD OUTLINED IN AS1141.
- F5. CRUSHED OR RIPPED SANDSTONE SHALL BE MINUS 75 NOMINAL SIZE DERIVED FROM SOUND, CLEAN SANDSTONE FREE FROM OVERBURDEN, CLAY SEAMS, SHALE AND OTHER DEBRIS MATERIAL.
- F6. PAVEMENT MATERIALS SHALL BE COMPACTED BY SUITABLE MEANS TO SATISFY THE FOLLOWING MINIMUM SPECIFICATIONS (AS PER AS1289.2)

DESCRIPTION	MEDIUM DENSITY RATIO
SUB-BASE	98% MOD
BASE COURSE	98% MOD
ASPHALTIC CONCRETE	97% MOD

AND SUBJECT TO THE RELEVANT LOCAL AUTHORITY CONSTRUCTION SPECIFICATION.

- F7. TESTING FOR EACH LAYER SHALL BE UNDERTAKEN BY A N.A.T.A. REGISTERED LABORATORY IN ACCORDANCE WITH AS1289, AT NOT MORE THAN 50m INTERVALS AND A MINIMUM OF TWO PER LAYER. FURTHER FREQUENCY OF TESTING SHALL BE NO LESS THAN THAT REQUIRED BY AS3978.
- PAVED AREAS NOTES**
- A1. SUBGRADE SHALL BE PREPARED AS OUTLINED IN EARTHWORKS.
- A2. ALL PAVERS ARE TO BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.
- A3. TRAFFICABLE AREAS:  
SUB-BASE TO BE 150 COMPACTED THICKNESS DG875.  
SUB-BASE TO BE SUITABLY COMPACTED TO MEDIUM DENSITY 98% MOD.  
SUB-BASE TO EXTEND AT LEAST 200 BEYOND PAVED SURFACE.  
PAVERS TO BE 80 THICK INTERLOCKING PAVERS ON 50 SAND BEDDING.
- A4. NON TRAFFICABLE AREAS:  
SUB BASE AS PER TRAFFICABLE AREAS  
PAVERS TO BE 60 INTERLOCKING PAVERS ON 50 SAND BEDDING (UNO).

## PAVED AREAS NOTES

- A1. SUBGRADE SHALL BE PREPARED AS OUTLINED IN EARTHWORKS.
- A2. ALL PAVERS ARE TO BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.
- A3. TRAFFICABLE AREAS:  
SUB-BASE TO BE 150 COMPACTED THICKNESS DG575.  
SUB-BASE TO BE SUITABLY COMPACTED TO MEDIUM DENSITY 98% MOD.  
SUB-BASE TO EXTEND AT LEAST 200 YDN ON PAVED SURFACE.  
PAVERS TO BE 80" THICK INTERLOCKING PAVERS ON 50 SAND BEDDING.
- A4. NON TRAFFICABLE AREAS:  
SUB BASE AS PER TRAFFICABLE AREAS  
PAVERS TO BE 60 INTERLOCKING PAVERS ON 50 SAND BEDDING (UNO).

### EROSION AND SEDIMENT NOTES

- B1. THIS PLAN TO BE READ IN CONJUNCTION WITH EROSION AND SEDIMENT CONTROL DETAILS AS ATTACHED.
- B2. THE CONTRACTOR SHALL IMPLEMENT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS NECESSARY AND TO THE SATISFACTION OF THE RELEVANT LOCAL AUTHORITY PRIOR TO THE COMMENCEMENT OF AND DURING CONSTRUCTION. NO DISTURBANCE TO THE SITE SHALL BE PERMITTED OTHER THAN IN THE IMMEDIATE AREA OF THE WORKS AND NO MATERIAL SHALL BE REMOVED FROM THE SITE WITHOUT THE RELEVANT LOCAL AUTHORITY APPROVAL. ALL EROSION AND SEDIMENT CONTROL DEVICES TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH STANDARDS OUTLINED IN NSW DEPARTMENT OF HOUSING'S 'MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTIONS'.
- B3. TOPSOIL SHALL BE STRIPPED AND STOCKPILED OUTSIDE HAZARD AREAS SUCH AS DRAINAGE LINES. THIS TOPSOIL SHALL BE RESPECIFIED LATER ON AREAS TO BE REVEGETATED AND STABILISED ONLY (I.E. ALL FOOTPATHS, BATTERS, SITE REGARDING AREAS, BASINS AND CATCHDRAINS). TOPSOIL SHALL NOT BE RESEED ON ANY OTHER AREAS UNLESS SPECIFICALLY INSTRUCTED BY THE SUPERINTENDENT. IF THEY ARE TO REMAIN FOR LONGER THAN ONE MONTH STOCKPILES SHALL BE PROTECTED FROM EROSION BY COVERING THEM WITH A MULCH AND HYDROSEEDING AND, IF NECESSARY, BY LOCATING BANKS OR DRAINS DOWNSTREAM OF A STOCKPILE TO RETARD SILT LADEEN RUNOFF.
- B4. THE CONTRACTOR SHALL REGULARLY MAINTAIN ALL EROSION AND SEDIMENT CONTROL DEVICES AND REMOVE AND ACCUMULATED SILT FROM THESE DEVICES SUCH THAT MORE THAN 80% OF THEIR CAPACITY IS LOST. ALL THE 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 COUNCIL.
- B5. LAY TURF STRIP (MIN 300 WIDE) ON 100 TOPSOIL BEHIND ALL KERB WITH 1000 LONG RETURNS EVERY 6000 AND AROUND STRUCTURES IMMEDIATELY AFTER BACKFILLING AS PER THE RELEVANT LOCAL AUTHORITY SPECIFICATION.
- B6. THE CONTRACTOR SHALL GRASS SEED ALL DISTURBED AREAS WITH AN APPROVED MIX AS SPECIFIED PRACTICALLY AFTER COMPLETION OF EARTHWORKS AND REGRADING. VEHICULAR TRAFFIC SHALL BE CONTROLLED DURING CONSTRUCTION CONFINING ACCESS WHERE POSSIBLE TO NOMINATED STABILISED ACCESS POINTS.
- B8. WHEN ANY DEVICES ARE TO BE HANDED OVER TO COUNCIL THEY SHALL BE IN CLEAN AND STABLE CONDITION.
- B9. THE CONTRACTOR SHALL IMPLEMENT DUST CONTROL BY REGULAR WETTING DOWN (BUT NOT SATURATING) DISTURBED AREA.
- B10. PROVIDE AND MAINTAIN SILT TRAPS AROUND ALL SURFACE INLET PITS UNTIL CATCHMENT IS REVEGETATED OR PAVED.
- B11. REVEGETATE ALL TRENCHES IMMEDIATELY UPON COMPLETION OF BACKFILLING.
- B12. ALL DRAINAGE PIPE INLETS TO BE CAPPED UNTIL:
- DOWNPIPS CONNECTED
  - PITS CONSTRUCTED AND PROTECTED WITH SILT BARRIER

MINIMUM PIPE COVER SHALL BE AS FOLLOWS

LOCATION	MINIMUM COVER
NO SUBJECT TO VEHICLE LOADING	100mm SINGLE RESIDENTIAL
SUBJECT TO VEHICLE LOADING	450mm WHERE NOT IN A ROAD
UNDER A SEALED ROAD	600mm
UNSEALED ROAD	750mm
PAVED DRIVEWAY	100mm PLUS DEPTH OF CONCRETE

SEE AS2032 INSTALLATION OF UPVC PIPES FOR FURTHER INFORMATION.


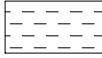
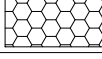

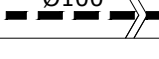


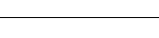
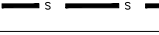









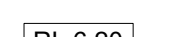
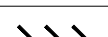






CONCRETE PIPE COVER SHALL BE IN ACCORDANCE WITH AS3725-1989 LOADS ON BURIED CONCRETE PIPES, HOWEVER A MINIMUM COVER OF 450mm WILL APPLY.

- WHERE INSUFFICIENT COVER IS PROVIDED, THE PIPE SHALL BE COVERED AT LEAST 50mm THICK OVERLAY AND SHALL BE PAVED WITH AT LEAST:
- 150mm REINFORCED CONCRETE WHERE SUBJECT TO HEAVY VEHICLE TRAFFIC
  - 75mm THICKNESS OF BRICK OR 100mm OF CONCRETE PAVING WHERE SUBJECT TO LIGHT VEHICLE TRAFFIC; OR
  - 50mm THICK BRICK OR CONCRETE PAVING WHERE NOT SUBJECT TO VEHICLE TRAFFIC.

## PIT SIZES AND DESIGN

DEPTH (mm)	MINIMUM PIT SIZE (mm)
UP TO 450mm	450 x 450
450mm TO 600mm	600 x 600 U.N.O
600mm TO 900mm	600 x 900 U.N.O
FROM 900mm	900 x 900 (WITH STEP IRON)

## SYMBOLS

	DESCRIPTION
	DENOTE ON-SITE DETENTION TANK OR PUMP OUT TANK
	DENOTE ON-SITE DETENTION BASIN
	DENOTE ABSORPTION TRENCH
	DENOTES DOWNPIPE
	DENOTES 100mm DIA PVC (SEWER GRADE) AT 1% MIN. GRADE U.N.O
	DENOTES 150mm DIA PVC (SEWER GRADE) AT 1% MIN. GRADE U.N.O
	DENOTES 225mm DIA PVC (SEWER GRADE) AT 0.5% MIN. GRADE U.N.O
	DENOTES AGG LINE
	DENOTES SEDIMENT FENCE
	DENOTES INSPECTION OPENING WITH SCREW DOWN LID AT FINISH SURFACE LEVEL
	DENOTES CLEANING EYE
	STORMWATER PIT - GRATED INLET
	STORMWATER PIT - SOLID COVER
	MAINTENANCE PIT
	NON RETURN VALVE
	DENOTE ROUND FLOOR DRAINS
	DENOTE SQUARE FLOOR DRAINS
	DENOTE PLANTER BOX DRAINS
	DENOTE GRATED DRAIN
	PROPOSED FINISH FLOOR LEVEL
	DENOTE EXISTING OVERLAND FLOW PATH
	DENOTE RAINWATER TANK
	DENOTE WATER OUTLET
	REDUCED LEVEL/SURFACE LEVELL
	INVERT LEVEL
	TOP OF KERB

## SCHEDULE OF DRAWINGS

SHEET No	DESCRIPTION
COVER	GENERAL NOTES
SW01	SEDIMENT AND EROSION CONTROL PLAN
SW02	BASEMENT 2 & 1 DRAINAGE PLAN
SW03	GROUND FLOOR DRAINAGE PLAN
SW04	STORMWATER SECTIONS AND DETAILS
SW05	DRAINS MODEL RESULTS AND STORMWATER SECTIONS AND DETAILS

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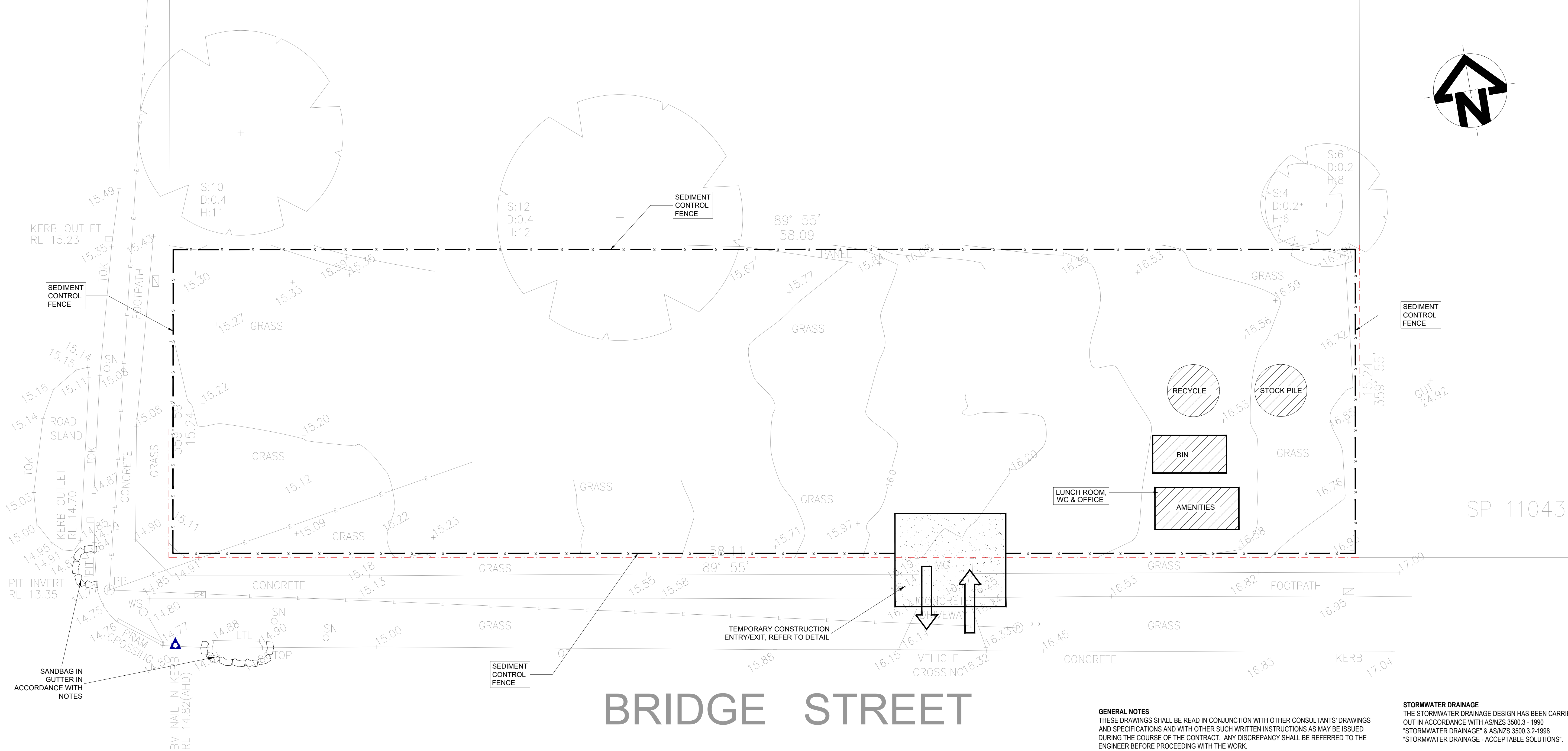
 **DIAL  
BEFORE YOU DIG**

# ISSUE FOR DA APPROVAL

H	ISSUED FOR DA APPROVAL	05-11-2020	 <p><b>ALPHA</b> ENGINEERING &amp; DEVELOPMENT</p>	Phone: (02) 9745 5202 Fax: (02) 8004 7461 Email: Info@alphaengineering.com.au Address: 24A Burleigh St, Burwood NSW 2134 Website: www.alphaengineering.com.au  COPYRIGHT THIS DRAWING REMAINS THE PROPERTY OF ALPHA ENGINEERING & DEVELOPMENT AND MAY NOT BE ALTERED IN ANY WAY WITHOUT ALPHA ENGINEERING'S WRITTEN CONSENT	ARCHITECT  <p><b>URBAN LINK</b></p> <p>Business Address: Level 10, 11-15 Deane Street, Burwood NSW 2134 Postal Address: PO BOX 2223 Burwood North NSW 2134 Phone Number: +61 29745 2014</p>	PROJECT  PROPOSED DEVELOPMENT 102 BROOMFIELD STREET, CABRAMATTA	DRAWING TITLE		
G	ISSUED FOR DA APPROVAL	24-09-2020					GENERAL NOTES		
F	AMENED AS PER LATEST ARCHITECTURE PLAN	22-09-2020							
E	ISSUED FOR DA APPROVAL	20-05-2020							
D	AMENDED AS PER COUNCIL'S RFI	20-04-2020							
C	ISSUED FOR DA APPROVAL	05-08-2019							
B	ISSUED FOR DA APPROVAL	05-07-2019							
A	ISSUED FOR COORDINATION	03-07-2019							
REVISION	AMENDMENT	ISSUE DATE							



BROOMFIELD STREET



SEDIMENT & EROSION CONTROL PLAN

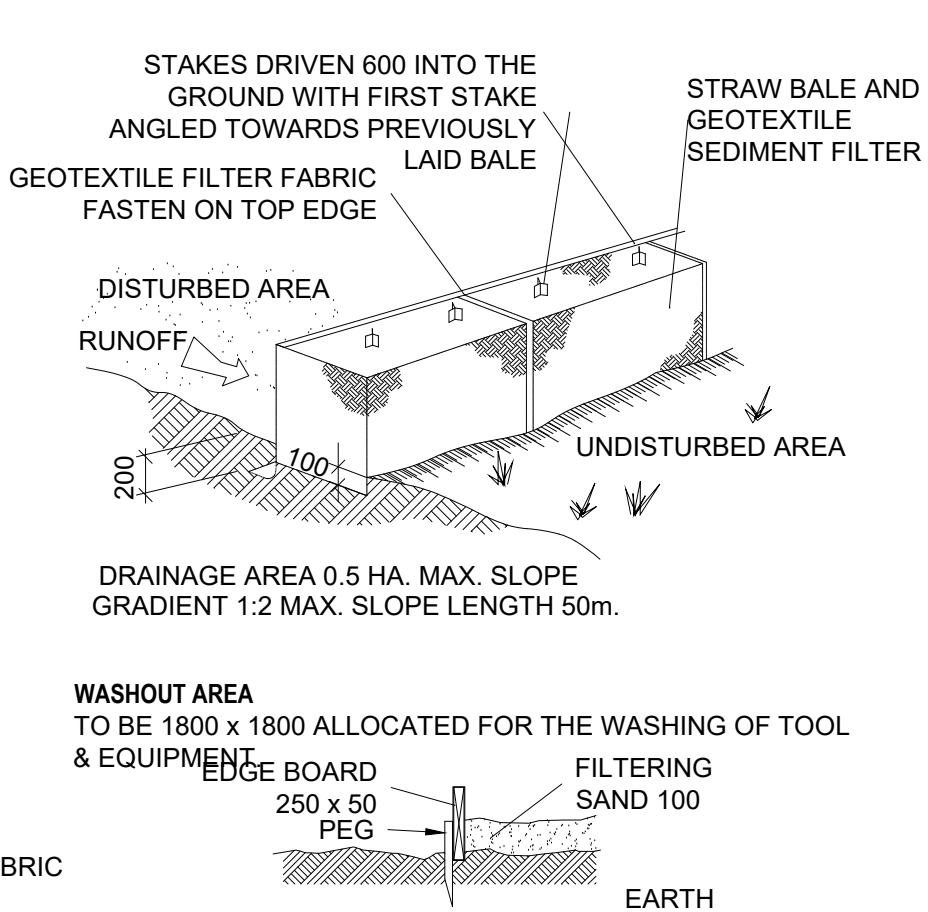
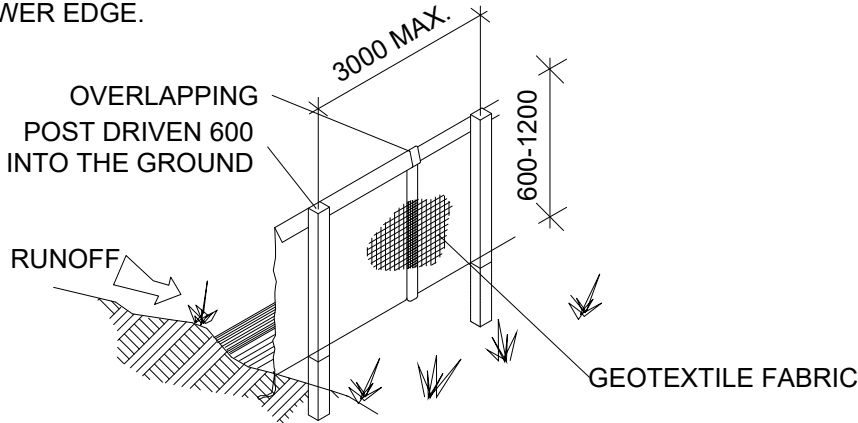
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SEDIMENT AND EROSION CONTROL NOTES

SEDIMENT AND EROSION CONTROL SHALL BE EFFECTIVELY MAINTAINED AT ALL TIMES DURING THE COURSE OF CONSTRUCTION AND SHALL NOT BE REMOVED UNTIL THE SITE HAS BEEN STABILISED OR LANDSCAPED TO THE SUPERINTENDENT'S SATISFACTION. A SINGLE ALL WEATHER ACCESS WAY WILL BE PROVIDED AT THE FRONT OF THE PROPERTY CONSISTING OF 50-75 AGGREGATE OR SIMILAR MATERIAL AT A MINIMUM THICKNESS OF 150 LAID OVER NEEDLE-PUNCHED GEOTEXTILE FABRIC AND CONSTRUCTED PRIOR TO COMMENCEMENT OF WORKS. THE CONTRACTOR SHALL ENSURE THAT NO SPOIL OR FILL ENCROACHES UPON ADJACENT AREAS FOR THE DURATION OF WORKS. THE CONTRACTOR SHALL ENSURE THAT KERB INLETS AND DRAINS RECEIVING STORMWATER SHALL BE PROTECTED AT ALL TIMES DURING DEVELOPMENT. KERB INLET SEDIMENT TRAPS SHALL BE INSTALLED ALONG THE IMMEDIATE VICINITY ALONG THE STREET FRONTAGE. SEDIMENT FENCING SHALL BE SECURED BY POST (WHERE METAL STAR PICKETS ARE USED PLASTIC SAFETY CAPS SHALL BE USED) AT 2000 INTERVALS WITH GEOTEXTILE FABRIC EMBEDDED 200 IN SOIL. ALL TOPSOIL STRIPPED FROM THE SITE AND STOCKPILED DOES NOT INTERFERE WITH DRAINAGE LINES AND STORMWATER INLETS AND WILL BE SUITABLY COVERED WITH AN IMPERVIOUS MEMBRANE MATERIAL AND SCREENED BY SEDIMENT FENCING.

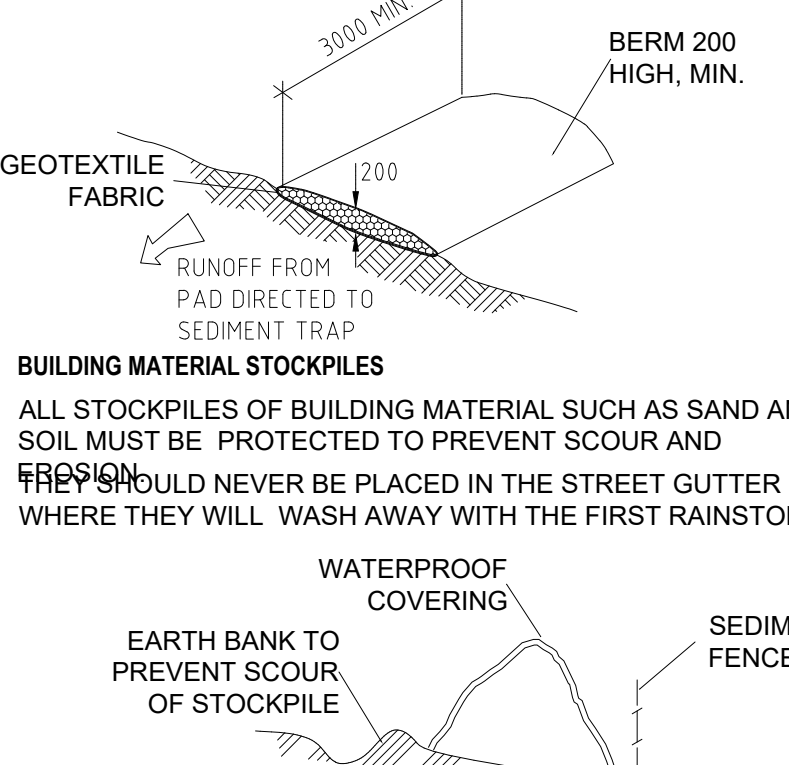
SOIL CONSERVATION NOTE:

PRIOR TO COMMENCEMENT OF CONSTRUCTION PROVIDE 'SEDIMENT FENCE,' 'SEDIMENT TRAP' AND WASHOUT AREA TO ENSURE THE CAPTURE OF WATER BORNE MATERIAL GENERATED FROM THE SITE. MAINTAIN THE ABOVE DURING THE COURSE OF CONSTRUCTION, AND CLEAR THE 'SEDIMENT TRAP' AFTER EACH STORM. SEDIMENT TRAP 1000 x 1000 WIDE 500 DEEP PIT, LOCATED AT THE LOWEST POINT TO THE TRAP SEDIMENT. SEDIMENT FENCE PROVIDE 'SEDIMENT FENCE ON DOWN SLOPE BOUNDARY AS SHOWN ON PLAN. FABRIC TO BE BURIED BELOW GROUND AT LOWER EDGE.



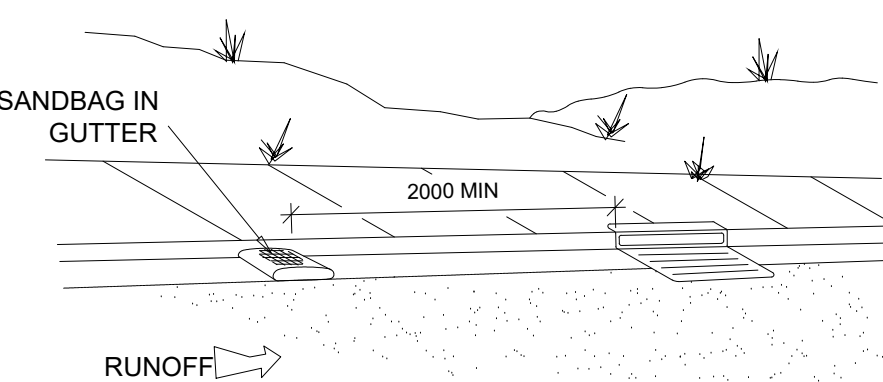
VEHICLE ACCESS TO SITE

VEHICLE ACCESS TO THE BUILDING SITE SHOULD BE RESTRICTED TO A SINGLE POINT SO AS TO REDUCE THE AMOUNT OF SOIL DEPOSITED ON THE STREET PAVEMENT.



SANDBAG KERB SEDIMENT TRAP

IN CERTAIN CIRCUMSTANCES EXTRA SEDIMENT TRAPPING MAY BE NEEDED IN THE STREET GUTTER.



GENERAL NOTES

THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH OTHER SUCH WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

ALL DIMENSIONS ARE IN MILLIMETRES & ALL LEVELS ARE IN METRES, UNO (UNLESS NOTED OTHERWISE).

NO DIMENSION SHALL BE OBTAINED BY SCALING THE DRAWINGS.

ALL LEVELS AND SETTING OUT DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE CHECKED ON SITE PRIOR TO THE COMMENCEMENT OF THE WORK.

DURING EXCAVATION WORK THE STRUCTURE SHALL BE MAINTAINED IN A STABLE AND NO PART SHALL BE OVERSTRESSED.

ALL WORK IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS & THE SPECIFICATION.

EXISTING SERVICES WHERE SHOWN HAVE BEEN PLOTTED FROM SUPPLIED DATA AND SUCH THEIR ACCURACY CAN NOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF WORK.

ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACK FILLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL COUNCIL.

ALL TRENCH BACK FILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.

ON COMPLETION OF STORMWATER INSTALLATION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL CONDITION, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS, UNLESS DIRECTED OTHERWISE.

CONTRACTOR TO OBTAIN ALL AUTHORITY APPROVALS UNLESS DIRECTED OTHERWISE.

STORMWATER DRAINAGE

THE STORMWATER DRAINAGE DESIGN HAS BEEN CARRIED OUT IN ACCORDANCE WITH AS/NZS 3500.3 - 1990 "STORMWATER DRAINAGE" & AS/NZS 3500.3.2-1998 "STORMWATER DRAINAGE - ACCEPTABLE SOLUTIONS".

ANY VARIATIONS TO THE NOMINATED LEVELS SHALL BE REFERRED TO ENGINEER IMMEDIATELY.

ANY VARIATIONS TO SPECIFIED PRODUCTS OR DETAILS SHALL BE REFERRED TO THE ENGINEER FOR APPROVAL.

DOWN PIPES SHALL BE A MINIMUM OF DN100 SW GRADE UPVC OR 100X100 COLORBOND/ZINCALUME STEEL, UNO.

BOX COLORBOND OR ZINCALUME STEEL. GUTTERS SHALL BE A MINIMUM OF 450 WIDE X 150 DEEP.

EAVES GUTTERS SHALL BE A MINIMUM OF 125 WIDE X 100 DEEP (OR OF EQUIVALENT AREA) COLORBOND OR ZINCALUME STEEL.

SUBSOIL DRAINAGE SHALL BE PROVIDED TO ALL RETAINING WALLS & EMBANKMENTS, WITH THE LINES FEEDING INTO THE STORMWATER DRAINAGE SYSTEM.



ISSUE FOR DA APPROVAL

H	ISSUED FOR DA APPROVAL	05-11-2020
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D	AMENDED AS PER COUNCIL'S RFI	20-04-2020
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REVISION	AMENDMENT	ISSUE DATE



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ARCHITECT



PROJECT

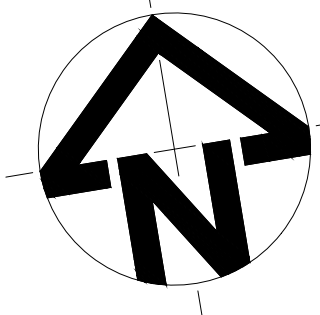
PROPOSED DEVELOPMENT  
102 BROOMFIELD STREET,  
CABRAMATTA

DRAWING TITLE

SEDIMENT AND EROSION  
CONTROL PLAN

SCALES AS SHOWN	DESIGNED DM	DRAFTED DM
DRAWING NO. A20082 -SW01	APPROVED JM	REVISION H





APPROX. LOCATION OF  
EXISTING Ø150 SEWER  
LINE FROM DBYD  
TO BE CONFIRMED  
PRIOR TO C.C

PRESSURE PIPE TO  
MANUFACTURER'S  
SPECIFICATION  
(MIN Ø65)

PRESSURE PIPE TO  
PIT JP ON GROUND  
FLOOR

APPROX. LOCATION OF  
EXISTING Ø150 SEWER  
LINE FROM DBYD  
TO BE CONFIRMED  
PRIOR TO C.C

PRESSURE MAIN FROM PUMP  
OUT TANK TO  
PIT JP ON GROUND FLOOR

BASEMENT 2 DRAINAGE PLAN

1:100 @ A1

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH)  
STORMWATER DRAINAGE PIPE, UNO.

ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN. UNO.  
FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES  
TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES GUTTER  
SIZE = 6700 mm²  
MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:

- DP = Ø100, UNO.  
FD = FLOOR OUTLET , REFER TO DETAIL  
SIP = SURFACE INLET PIT (NO LINTEL)  
100Ø = Ø100 CHARGED LINE  
IP = Ø150 INSPECTION POINT  
RWH = RAIN WATER HEAD  
RWO = RAIN WATER OUTLET (300 x 300)  
FG = FLOOR GULLY Ø150  
S<sup>DP</sup> = RAINWATER SPREADER  
RL 6.20 = PROPOSED FINISHED SURFACE LEVEL

- BASEMENT SLAB TO HAVE 1% MIN. FALL TO INLET PIT AS PER AS2890 REQUIREMENT
- ALL BASEMENT PIT TO BE FITTED WITH HEAVY DUTY CLASS C GRATE & FRAME

BASEMENT 1 DRAINAGE PLAN

1:100 @ A1

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH)  
STORMWATER DRAINAGE PIPE, UNO.

ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN. UNO.  
FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES  
TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES GUTTER  
SIZE = 6700 mm²  
MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:

- DP = Ø100, UNO.  
FD = FLOOR OUTLET , REFER TO DETAIL  
SIP = SURFACE INLET PIT (NO LINTEL)  
100Ø = Ø100 CHARGED LINE  
IP = Ø150 INSPECTION POINT  
RWH = RAIN WATER HEAD  
RWO = RAIN WATER OUTLET (300 x 300)  
FG = FLOOR GULLY Ø150  
S<sup>DP</sup> = RAINWATER SPREADER  
RL 6.20 = PROPOSED FINISHED SURFACE LEVEL

PUMP DESIGN SUMMARY

CATCHMENT AREA = 96.38 m² (DRIVEWAY RAMP & UNDETAINED AREA)

BELOW GROUND PUMP OUT STORAGE

1:100 ARI 3 HOUR STORM =34.94mm/h  
STORAGE VOLUME REQUIRED = 0.03494x3x 96.38 =10.10 m³  
PUMP-OUT TANK PROVIDED =12m³

CHECK FOR PUMP OUT TANK DURING PUMPS FAILURE

ASSUMED 1:100 ARI 24 HOUR STORM TO DETERMINE FLOOD WATER DEPTH  
1:100 ARI 24 HOUR STORM= 10mm/hr  
TOTAL STORAGE VOLUME REQUIRED = 0.240x96.38 =23.13m³  
REMAINING VOL FOR PUMP OUT STORAGE =23.13 -12= 11.13m³  
AVAILABLE ABOVE GROUD BASIN AREA= 252m²  
AVE PONDING DEPTH = 11.13/252 =0.0441m =44.1mm

AS PER STORMWATER MANAGEMENT POLICY 2017 - CLAUSE 3.4.3.1 - PUMP OUT SYSTEM:  
FLOOD WATER WITHIN THE BASEMENT SHALL NOT RAISE TO MORE THAN 300mm IN DEPTH  
OF STORMWATER IN THE EVENT OF A POWER OUTAGE OR PUMP FAILURE.  
AVE PONDING DEPTH = 44.10mm < 300mm (SATISFY WITH COUNCIL'S POLICY ABOVE)

PUMP HEAD = 9 m  
RAINFALL INTENSITY FOR CALCULATIONS = 100 YEAR ARI  
STORM DURATION 5 MINUTE = 219.37 mm/h  
PUMP RATE REQUIRED = 219.37 x 96.38/ 3600 = 5.87l/sec = 352.2 L/min  
PROVIDE 2 x SABRE KS-20 OR EQUIVALENT SUBMERSIBLE PUMPS

STANDARD PUMP OUT DESIGN NOTES

THE PUMP OUT SYSTEM SHALL BE DESIGNED TO BE OPERATED IN THE FOLLOWING MANNER:-

- > THE PUMPS SHALL BE PROGRAMMED TO WORK ALTERNATIVELY SO AS TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.
- > A LOW LEVEL FLOAT SHALL BE PROVIDED TO ENSURE THAT THE MINIMUM REQUIRED WATER LEVEL IS MAINTAINED WITHIN THE SUMP AREA OF THE BELOW GROUND TANK. IN THIS REGARD THIS FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS.
- > A SECOND FLOAT SHALL BE PROVIDED AT A HIGHER LEVEL, APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL, WHEREBY ONE OF THE PUMPS WILL OPERATE AND DRAIN THE TANK TO THE LEVEL OF THE LOW-LEVEL FLOAT.
- > A THIRD FLOAT SHALL BE PROVIDED AT A HIGH LEVEL, WHICH IS APPROXIMATELY THE ROOF LEVEL OF THE BELOW GROUND TANK. THIS FLOAT SHOULD START THE OTHER PUMP THAT IS NOT OPERATING AND ACTIVATE THE ALARM.
- > AN ALARM SYSTEM SHALL BE PROVIDED WITH A FLASHING STROBE LIGHT AND A PUMP FAILURE WARNING SIGN WHICH ARE TO BE LOCATED AT THE DRIVEWAY ENTRANCE TO THE BASEMENT LEVEL. THE ALARM SYSTEM SHALL BE PROVIDED WITH A BATTERY BACK-UP IN CASE OF POWER FAILURE.

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ARCHITECT



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Phone Number: +61 29745 2014

PROJECT

PROPOSED DEVELOPMENT  
102 BROOMFIELD STREET,  
CABRAMATTA

DRAWING TITLE

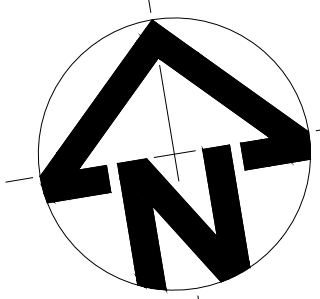
BASEMENT 2 AND 1 DRAINAGE  
PLAN

SCALES AS SHOWN	DESIGNED DM	DRAFTED DM
DRAWING NO. A20082 -SW02	APPROVED JM	REVISION H



BROOMFIELD STREET

BRIDGE STREET



## GROUND FLOOR DRAINAGE PLAN

1:100 @ A1

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH)  
STORMWATER DRAINAGE PIPE, UNO.

ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO.  
FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE  
LINES TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES  
GUTTER SIZE = 6700 mm<sup>2</sup>  
MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:

DP = Ø150, UNO.  
FD = FLOOR OUTLET, REFER TO DETAIL  
SIP = SURFACE INLET PIT (NO LINTEL)  
1000 = Ø100 CHARGED LINE  
IP = Ø150 INSPECTION POINT  
RWH = RAIN WATER HEAD  
RWO = RAIN WATER OUTLET (300 x 300)  
FG = FLOOR GULLY Ø150  
S<sub>DP</sub> = RAINWATER SPREADER  
RL 6.20 = PROPOSED FINISHED SURFACE LEVEL

AREA DRAIN TO PUMP  
OUT TANK = 96.38m<sup>2</sup>

SP 11043

## LEGENDS

	uPVC AERIAL PIPE
	uPVC UNDERGROUND PIPE
	Ø90 AGG PIPE
	EXISTING SEWER MAIN AS DBYD
	BYPASS AREA = 38.90m <sup>2</sup>
	OUTLINE OF ROOF
	OUTLINE OF BASEMENT
	TREE TO BE RETAINED
	TREE TO BE REMOVED

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ISSUE FOR DA APPROVAL

NOTES :  
ALL ROOF  
STORMWATER RUNOFF  
TO BE CONNECTED TO  
DCP PIT IN OSD TANK

NOTES ON WSUD:  
WATER QUALITY IMPROVEMENT IS  
NOT REQUIRED WITHIN THE URBAN  
ZONE

### DESIGN SUMMARY

TOTAL SITE AREA = 885.2 m<sup>2</sup>  
DRAINS MODEL HAS BEEN PREPARED FOR CALCULATION OF  
PRE & POST DEVELOPMENT FLOWS, USING ILSAX METHOD

PRE - DEVELOPMENT  
EXISTING IMPERVIOUS AREA = 277m<sup>2</sup> (31.3% OF THE SITE)  
EXISTING PERVIOUS AREA = 608.2 m<sup>2</sup> (68.7% OF THE SITE)

POST - DEVELOPMENT CATCHMENT  
TOTAL AREA TO OSD SYSTEM = 844m<sup>2</sup>  
POST - DEVELOPMENT IMPERVIOUS TO OSD = 702 m<sup>2</sup> (83.16%)  
POST - DEVELOPMENT PERVIOUS TO OSD = 142m<sup>2</sup> (16.84%)

BYPASS AREA  
TOTAL BYPASS AREA = 38.9m<sup>2</sup> (4.3% OF TOTAL SITE AREA)

TOTAL VOLUME REQUIRED = 10.95m<sup>3</sup> (100 YEAR ARI)  
20% EXTRA VOLUME FOR VEGATATION GROWTH = 2.19m<sup>3</sup>  
TOTAL VOLUME REQUIRED = 13.14m<sup>3</sup>

VOLUME PROVIDED(OSD BASIN 1) = 8.22m<sup>3</sup>  
VOLUME PROVIDED(OSD BASIN 2) = 5.38m<sup>3</sup>  
TOTAL VOLUME PROVIDED = 13.60m<sup>3</sup>(124% OF REQ. VOL.)

ORIFICE DIAMETER = 135mm (DISCHARGE CONTROL FOR 5  
YEAR ARI)

### DRIANS RESULTES

ARI	Q <sub>PRE</sub> (l/s)	Q <sub>POST-TOTAL</sub> (l/s)	Q <sub>POST-OSD</sub> (l/s)	Q <sub>POST-BYPASS</sub> (l/s)
5	17	15	14	1
20	27	20	18	2
50	32	22	20	2
100	36	24	22	2



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### ARCHITECT

**URBAN LINK**

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Postal Address: PO BOX 2223 Burwood North NSW 2134  
Phone Number: +61 29745 2014

### PROJECT

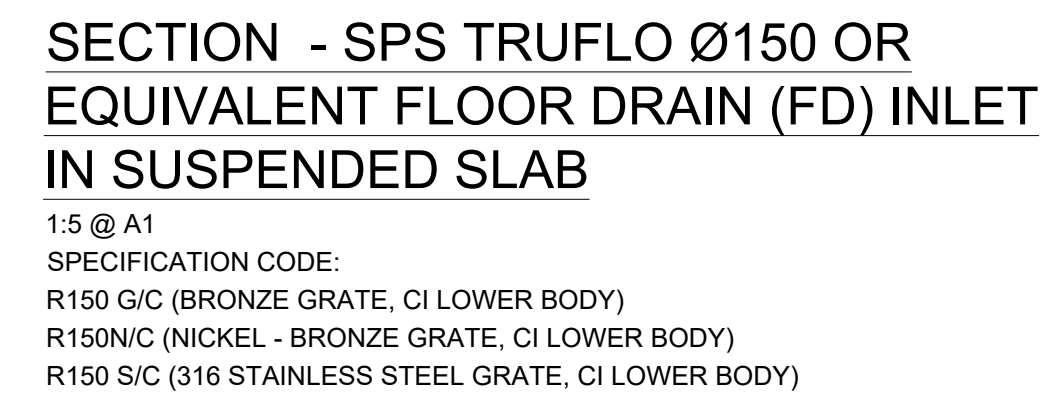
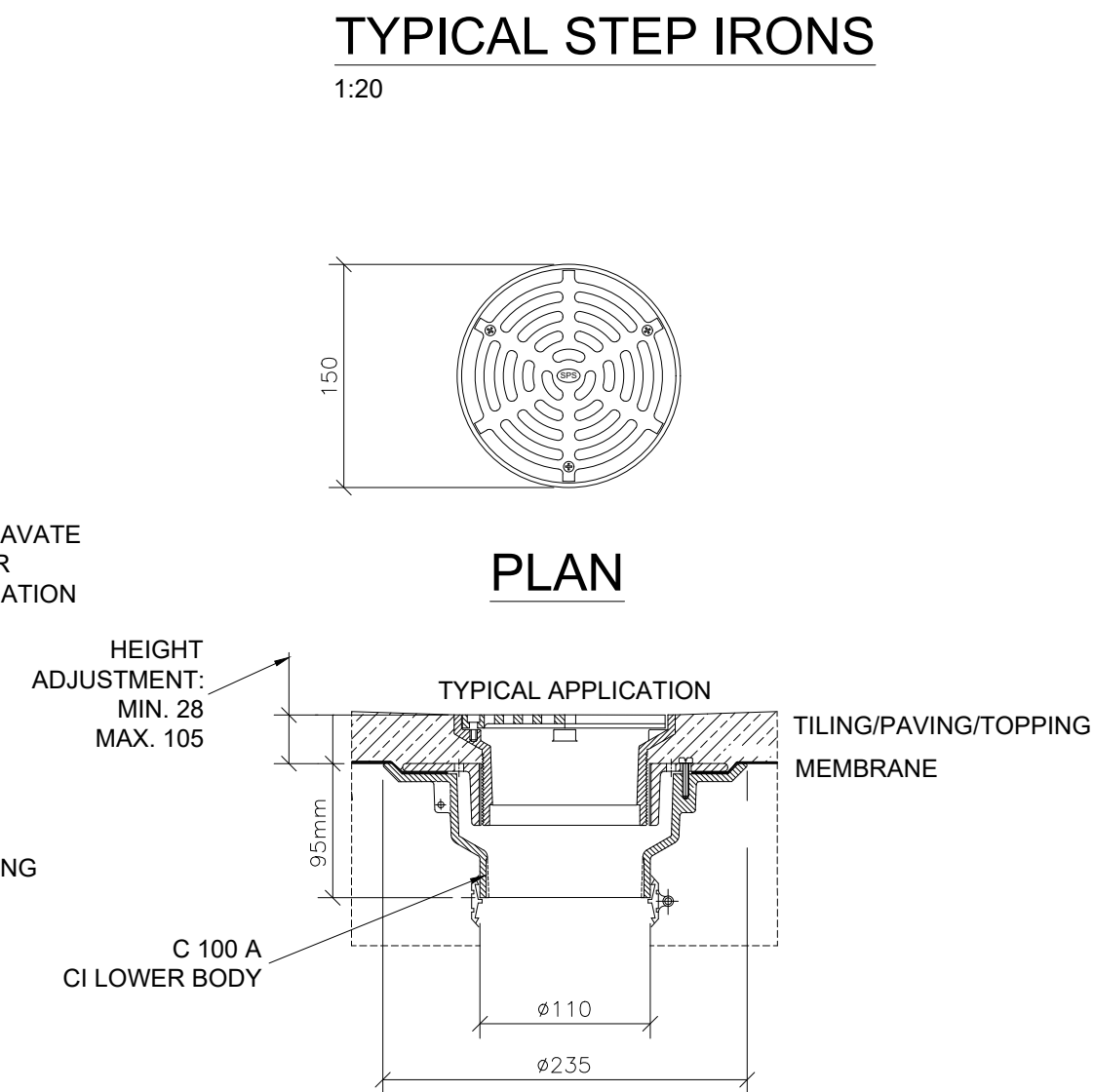
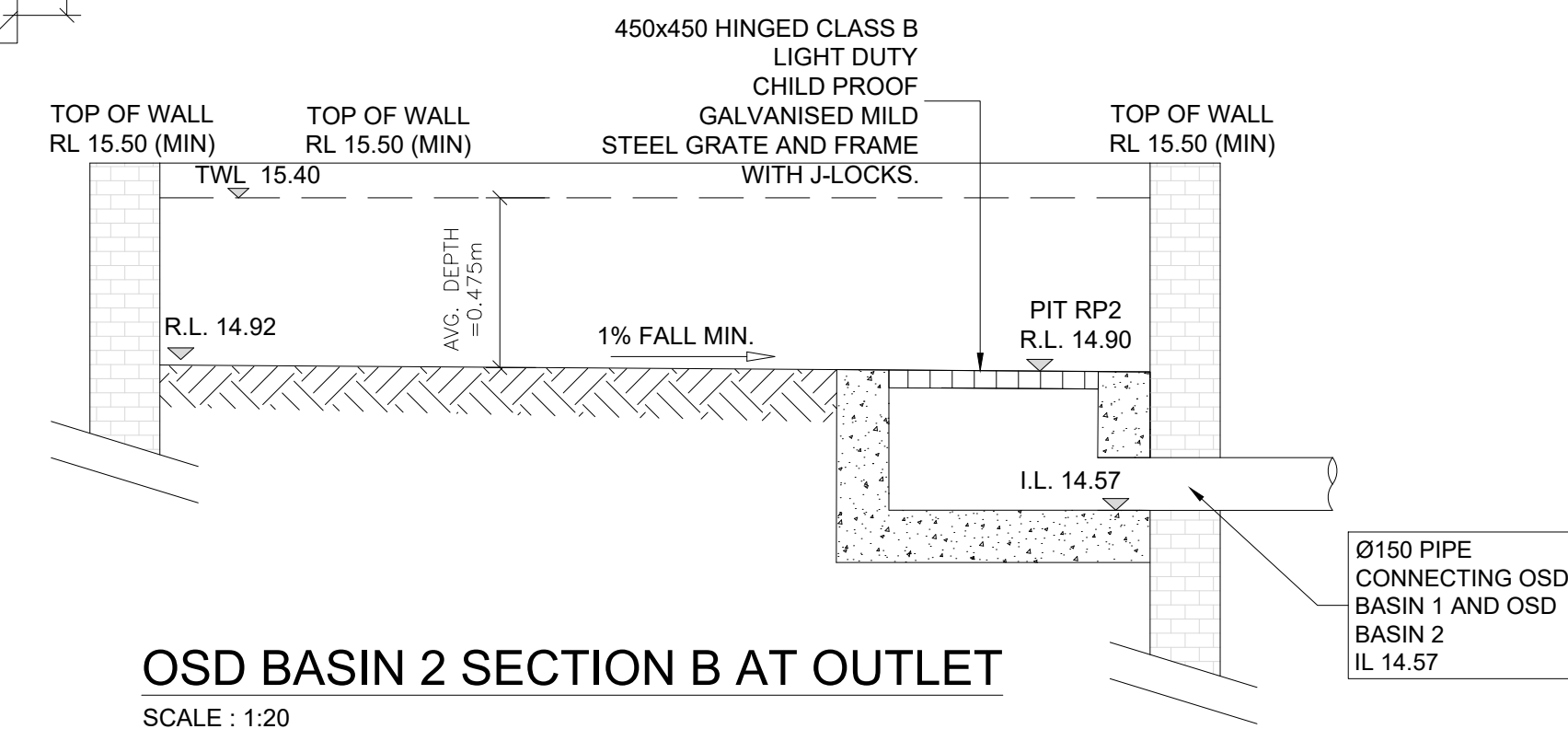
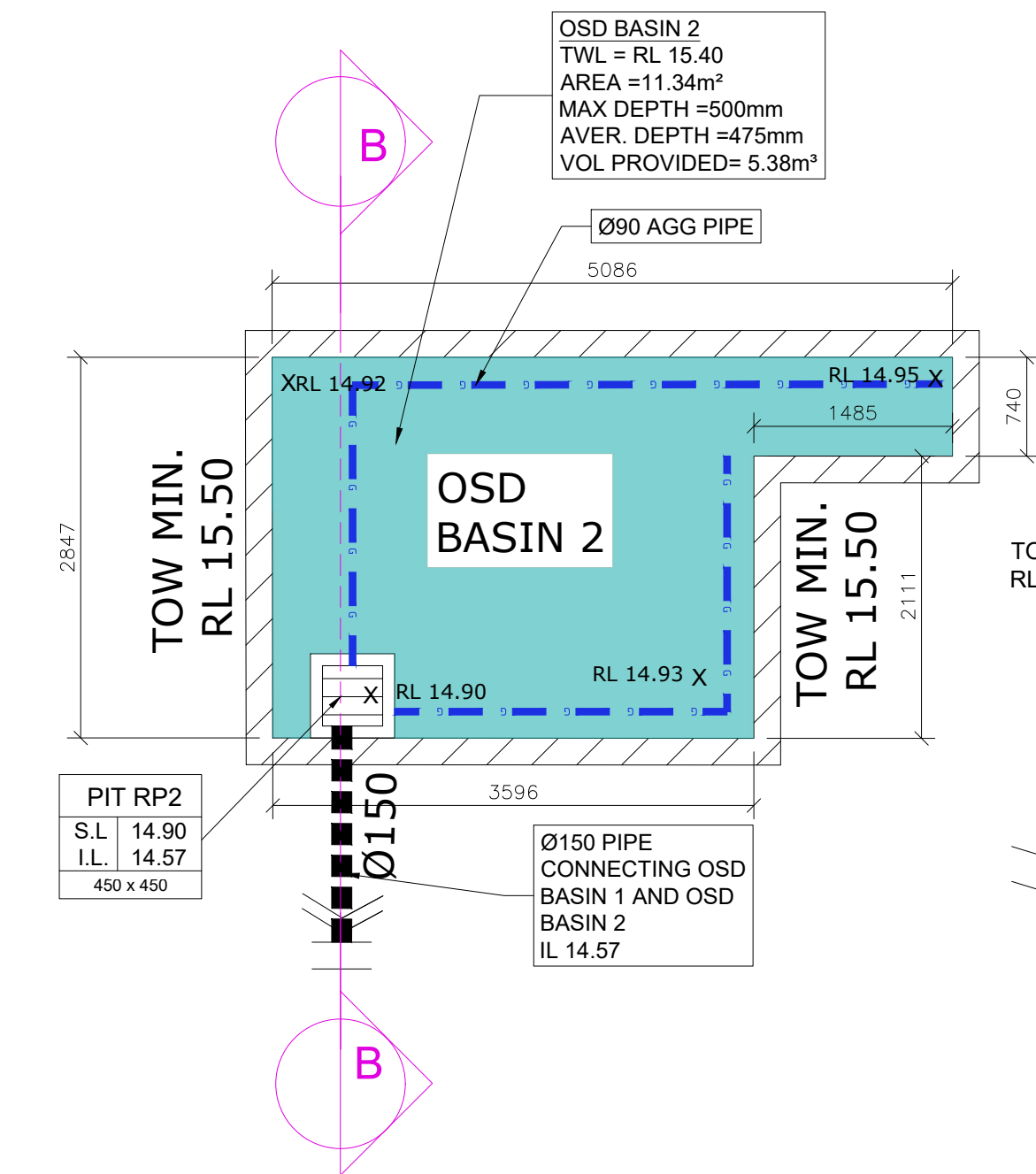
PROPOSED DEVELOPMENT  
102 BROOMFIELD STREET,  
CABRAMATTA

### DRAWING TITLE

GROUND FLOOR DRAINAGE PLAN

SCALES AS SHOWN	DESIGNED DM	DRAFTED DM
DRAWING NO. A20082 -SW03	APPROVED JM	REVISION H





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ARCHITECT

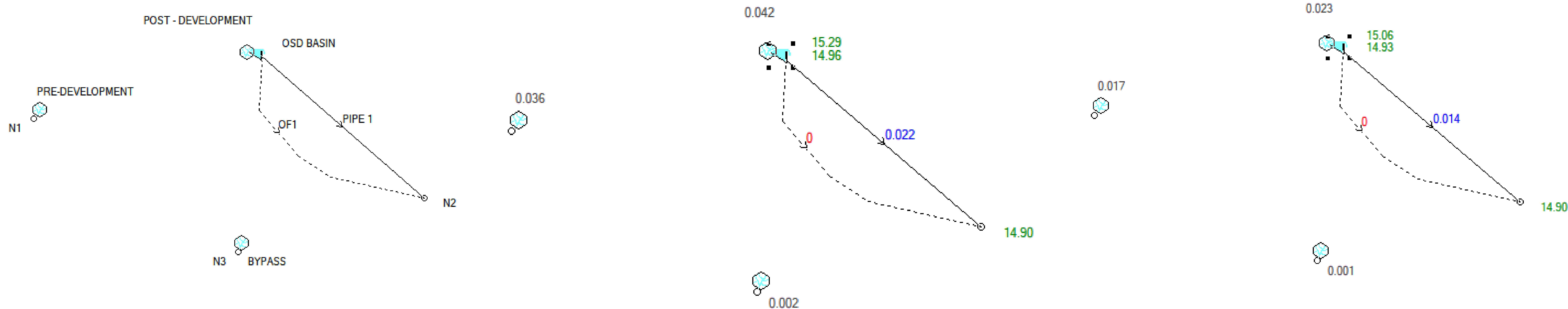
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**URBAN LINK**

Business Address: Level 10, 11-15 Deane Street, Burwood NSW 2134  
Postal Address: PO BOX 2223 Burwood North NSW 2134  
Phone Number: +61 29745 2014

DRAWING TITLE		
STORMWATER SECTIONS AND DETAILS		
SCALES AS SHOWN	DESIGNED DM	DRAFTED DM
DRAWING NO. A20082 -SW04	APPROVED JM	REVISION H

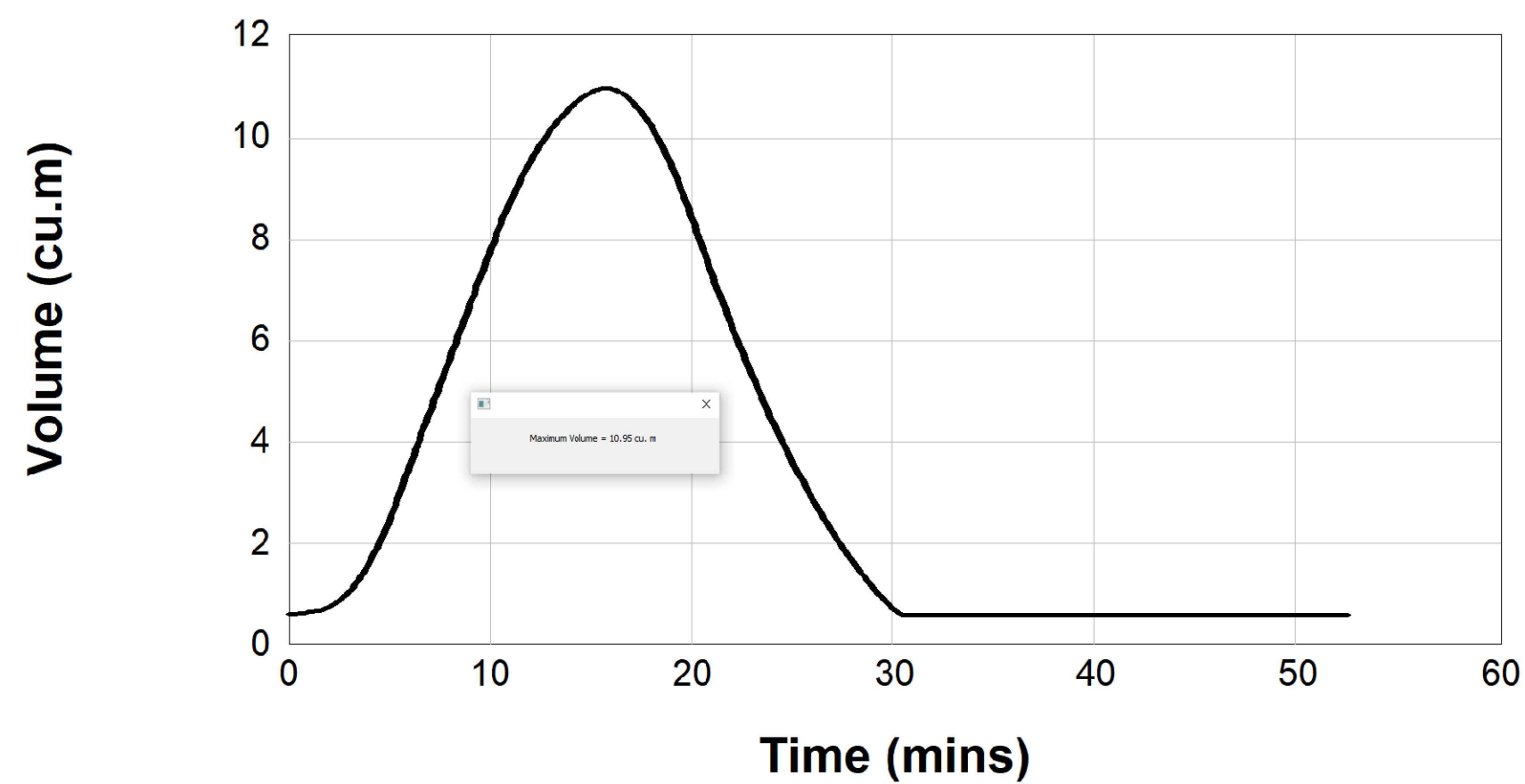




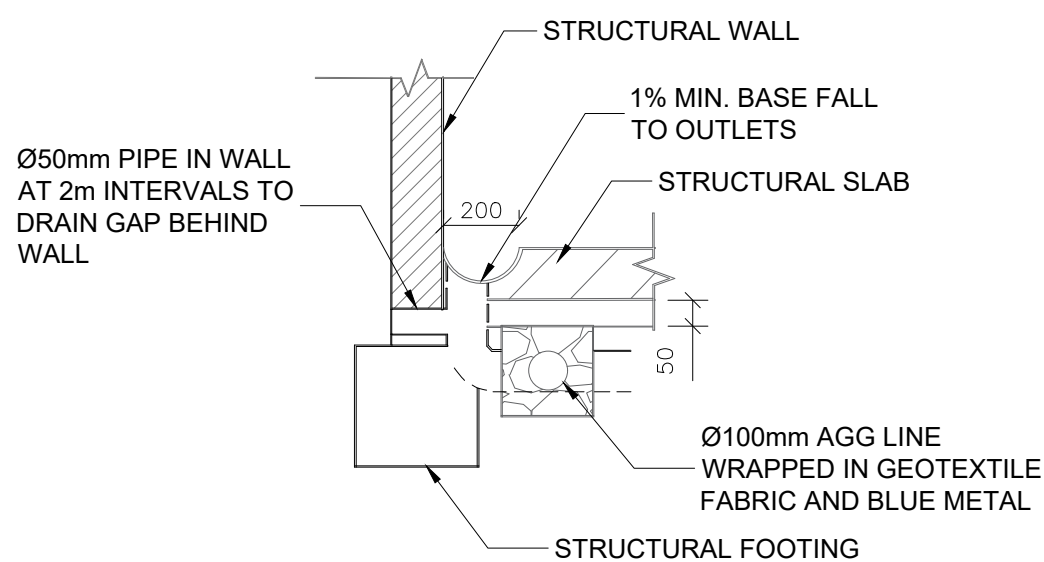
DRAINS MODEL LAYOUT

1% AEP RESULTS

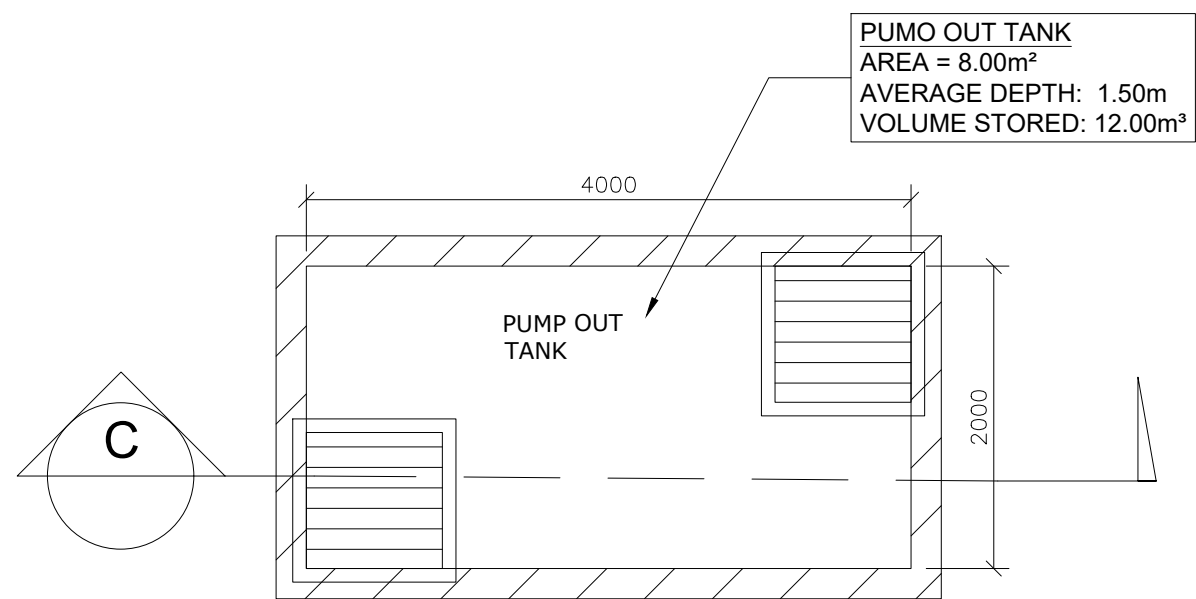
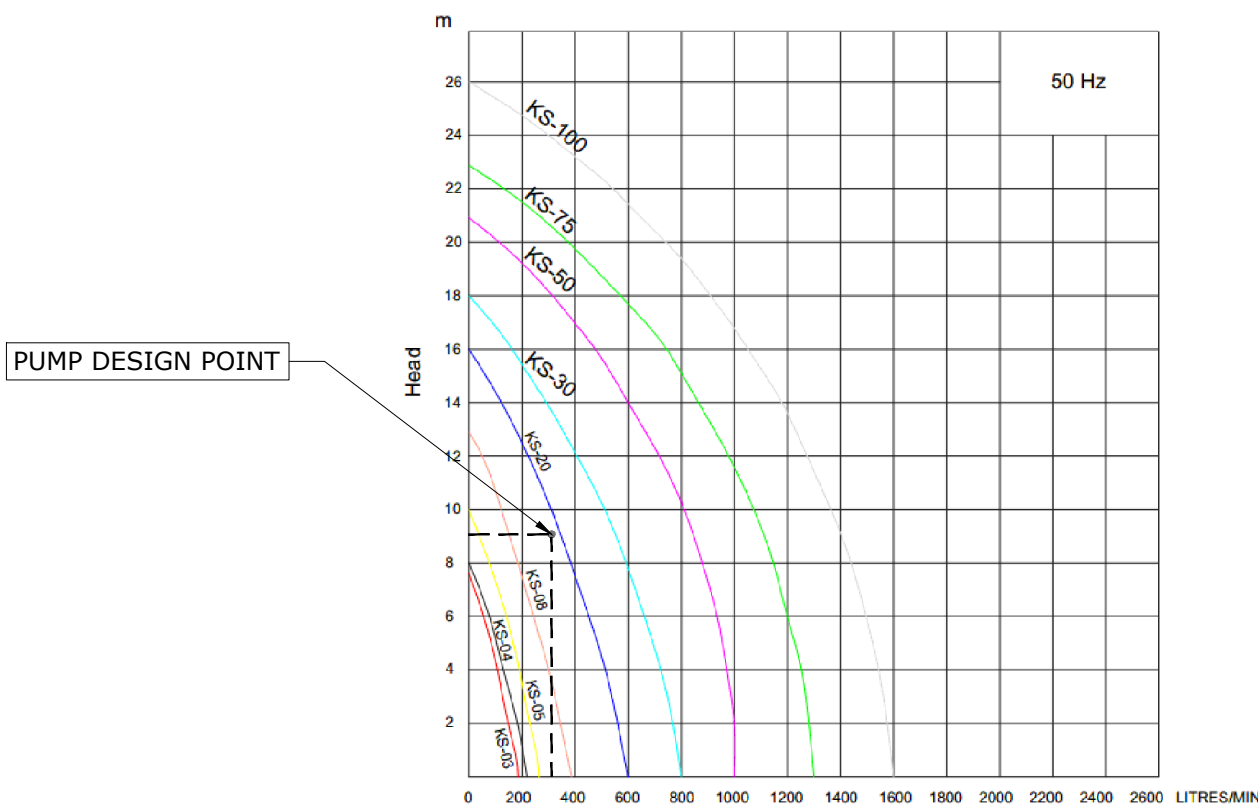
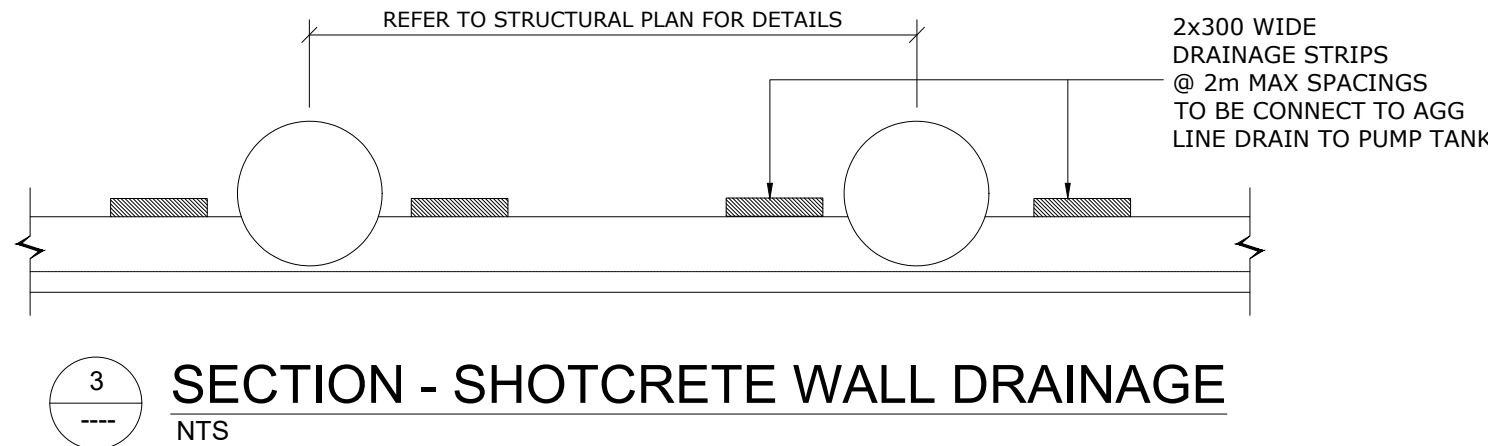
20% AEP RESULTS



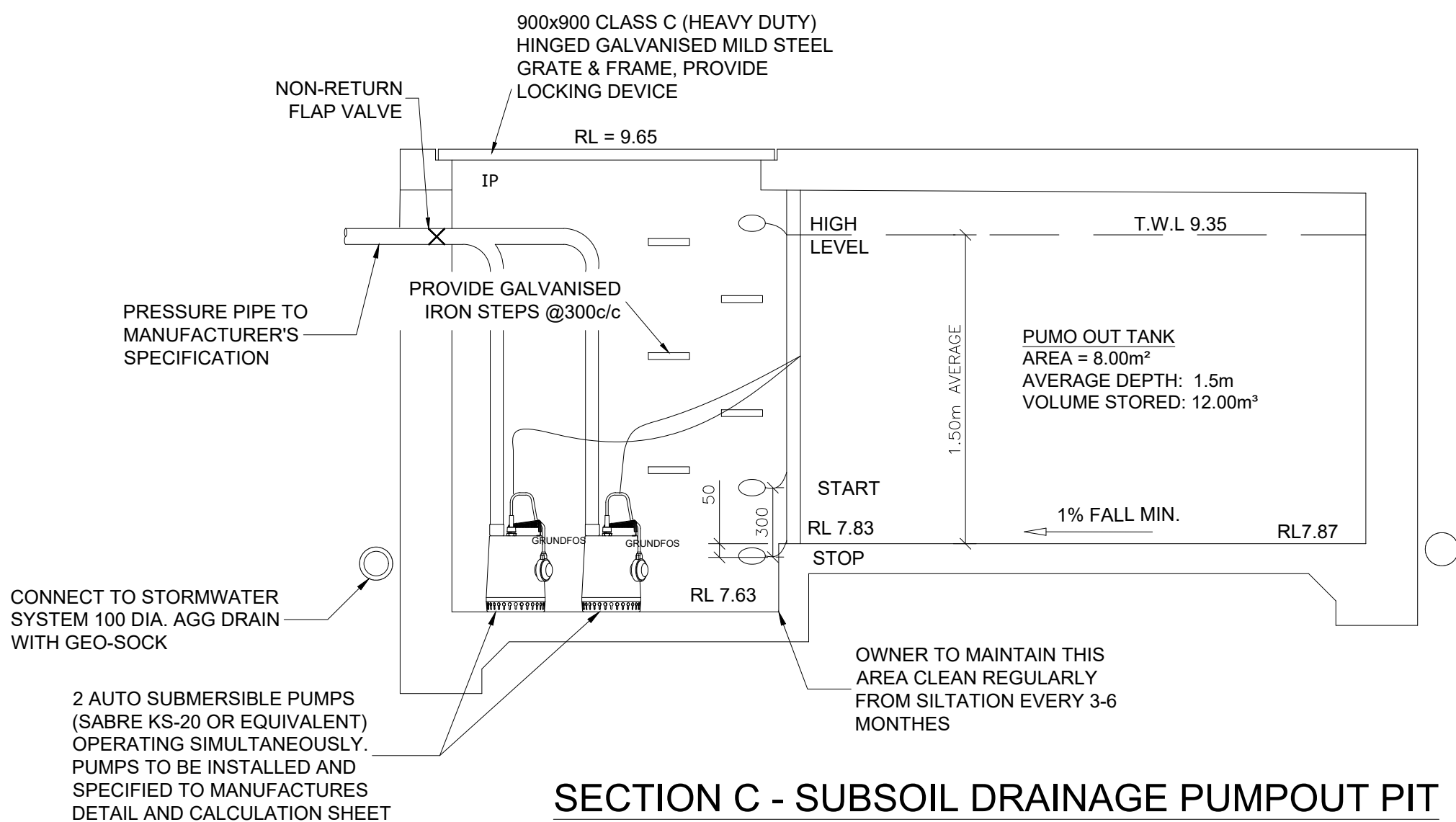
STORAGE GRAPH



SECTION - SUBSOIL DRAINAGE DETAILS



BASEMENT PUMP OUT TANK PLAN



SECTION C - SUBSOIL DRAINAGE PUMPOUT PIT

MODEL NO.	OUTPUT		DISCHARGE		RATED		MAXIMUM		WEIGHT	DIMENSION
	HP	kW	mm	INCH	m	CAPACITY	LPM	CAPACITY		
KS-03	1/3	0.25	40	1 1/2"	3	130	8	180	9	188 X 141 X 305
KS-04	1/2	0.4	50	2"	5	150	8	220	11	208 X 140 X 359
KS-05	1/2	0.4	50	2"	5	160	10	260	14	230 X 156 X 375
KS-10	1	0.75	50 (80)	2"(3")	6	240	13	380	21	290 X 180 X 425
KS-20	2	1.5	80	3"	10	300	16	600	31	278 X 182 X 475
KS-30	3	2.2	80	3"	10	500	18	800	42	390 X 250 X 450
KS-50	5	3.7	100	4"	10	800	21	1100	48	450 X 240 X 530
KS-75	7.5	5.6	100	4"	15	800	23	1300	60	550 X 310 X 590
KS-100	10	7.5	150	6"	18	900	26	1600	70	550 X 310 X 610

SABRE PUMP GRAPH & SPECIFICATION



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PROJECT

PROPOSED DEVELOPMENT

102 BROOMFIELD STREET,

CABRAMATTA

DRAWING TITLE		
DRAINS MODEL RESULTS AND STORMWATER SETIONS & DETAILS		
SCALES AS SHOWN	DESIGNED DM	DRAFTED DM
DRAWING NO. A20082 -SW05	APPROVED JM	REVISION H