

# FLOWER POWER, TERREY HILLS

## CIVIL ENGINEERING PACKAGE DEVELOPMENT APPLICATION



LOCALITY PLAN




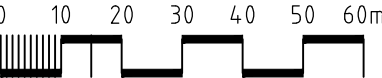
SOURCE : NEARMAP (2023)

### DRAWING SCHEDULE

DRG No.	DRAWING TITLE
DAC1.01	COVER SHEET, DRAWING SCHEDULE AND LOCALITY PLAN
DAC1.11	SPECIFICATION NOTES
DAC2.01	SEDIMENT AND SOIL EROSION CONTROL PLAN
DAC2.11	SEDIMENT AND SOIL EROSION CONTROL DETAILS
DAC3.01	BULK EARTHWORKS CUT AND FILL PLAN
DAC4.01	SITEWORKS AND GRADING PLAN
DAC4.02	STORMWATER MANAGEMENT PLAN
DAC5.01	STORMWATER CATCHMENT PLAN
DAC6.01	STORMWATER MANAGEMENT DETAILS - SHEET 01
DAC6.02	STORMWATER MANAGEMENT DETAILS - SHEET 02
DAC6.03	STORMWATER MANAGEMENT DETAILS - SHEET 03

DESIGNED: T. BUGAEV  
JOB MANAGER: A. CARVALHAES  
VERIFIER:  
DRAWN: M. MAI

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT		PROJECT	DRAWING TITLE	JOB NUMBER
01	ISSUED FOR INFORMATION	MM		AC	23.05.23		LEFFLER SIMES ARCHITECTS	 Sydney Level 11 345 George Street, Sydney NSW 2000 Ph (02) 9241 4188 Fax (02) 9241 4324 Email sydney@northrop.com.au ABN 81 094 433 100	FLOWER POWER 277 MONA VALE ROAD, TERREY HILLS NSW	CIVIL ENGINEERING PACKAGE	211979
02	ISSUED FOR INFORMATION	MM		AC	15.06.23						
						DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD.	SCALE 1:1250 @ A1 		COVER SHEET, DRAWING SCHEDULE AND LOCALITY PLAN	<div>DRAWING NUMBER DAC01.01</div> <div>REVISION 02</div>
DRAWING SHEET SIZE = A1											



NOTE: ALL CIVIL ENGINEERING CONSTRUCTION WORKS TO BE CARRIED OUT IN ACCORDANCE WITH NORTHERN BEACHES COUNCIL DEVELOPMENT GUIDELINES .THE AFOREMENTIONED GUIDELINES INCLUSIVE OF ALL SPECIFICATIONS TAKE PRECEDENCE OVER NOTES PROVIDED BELOW.

## 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.

DETAIL SURVEY DATA WAS SUPPLIED BY: BOXALL SURVEYORS  
REF. NUMBER: 10115-002  
REVISION DATE: 01.06.2021  
REVISION NUMBER: A  
GEOCENTRIC DATUM OF AUSTRALIA: GDA94  
SURVEYOR: BC  
APPROVED: SL

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.

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.

ALL STORMWATER MANAGEMENT MEASURES SHOWN ON THIS DRAWING HAVE BEEN PREPARED FOR DEVELOPMENT APPLICATION PURPOSES TO DEMONSTRATE FEASIBILITY. ALL MEASURES WILL BE SUBJECT TO DETAIL DESIGN AT THE CONSTRUCTION CERTIFICATE STAGE AND MAY BE SUBJECT TO VARIATION PROVIDED THAT THE DESIGN INTENT IS MAINTAINED.

## STORMWATER DRAINAGE

1. ALL DRAINAGE LINES SHALL BE UPVC (CLASS SN4) SEWER GRADE DRAINAGE PIPE, U.N.O.
2. ALL DRAINAGE LINES SHALL BE LAID AT 1% MIN. FALL, UNO.
3. ALL LEVELS ARE AUSTRALIAN HEIGHT DATUM (AHD).
4. ALL DOWNPIPES GUTTERS TO BE DESIGNED IN ACCORDANCE WITH AS/NZS 3500.3.2 - 2003 'STORMWATER' DRAINAGE.
5. THE STORMWATER DRAINAGE DESIGN HAS BEEN CARRIED OUT IN ACCORDANCE WITH AS/NZS 3500.3.2-2003 'STORMWATER' DRAINAGE.
6. ANY VARIATIONS TO THE NOMINATED LEVELS SHALL BE REFERRED TO ENGINEER IMMEDIATELY.
7. SUBSOIL DRAINAGE SHALL BE PROVIDED TO ALL RETAINING WALLS & EMBANKMENTS, WITH THE LINES FEEDING INTO THE STORMWATER DRAINAGE SYSTEM.
8. ALL GRATES TO BE GALVANISED STEEL WITH HINGES AND CHILD PROOF LOCK.
9. THE STORMWATER DRAINAGE IS DESIGNED IN ACCORDANCE WITH NORTHERN BEACHES COUNCIL WATER MANAGEMENT FOR DEVELOPMENT POLICY 2021.

## RAINWATER RE-USE

1. PROVIDE RAINWATER RE-USE SYSTEM TO SUPPLY WATER FOR TOILET FLUSHING AND IRRIGATION
2. GUTTER GUARD TO BE INSTALLED ON ALL EAVES GUTTERS.
3. A PERMANENT SIGN IS TO BE LOCATED IN THE VICINITY OF THE TANK STATING THE WATER IS "NON POTABLE WATER" WITH APPROPRIATE HAZARD IDENTIFICATION.
4. PIPEWORK USED FOR RAINWATER SERVICES SHALL BE COLOURED LILAC IN ACCORDANCE WITH AS1345.
5. ALL VALVES AND APERTURES SHALL BE CLEARLY AND PERMANENTLY LABELLED WITH SAFETY SIGNS TO COMPLY WITH AS1319.
6. RAINWATER TANK RETICULATION SYSTEM AND MAINS WATER BYPASS ARRANGEMENT TO BE INSTALLED IN ACCORDANCE WITH AS/NZS 3500.12-2003 AND THE NSW CODE OF PRACTICE - PLUMBING AND DRAINING.
7. A FIRST FLUSH FILTRATION DEVICE IS TO BE PROVIDED AT RAINWATER TANK.

## DESIGN SUMMARY

SITE DISCHARGE CALCULATIONS:

	20% AEP	5% AEP	1% AEP
PRE-DEVELOPMENT	0.364 m <sup>3</sup> /s	0.688 m <sup>3</sup> /s	1.115 m <sup>3</sup> /s
POST-DEVELOPMENT	0.284 m <sup>3</sup> /s	0.495 m <sup>3</sup> /s	0.937 m <sup>3</sup> /s

ON-SITE DETENTION:

## DESIGN BASIS

- PRE TO POST DEVELOPMENT CONDITIONS

ON-SITE DETENTION SUMMARY:

- BELOW GROUND BLOCK WORK TANK

TOP WATER LEVEL = RL196.150  
OVERFLOW LEVEL = RL195.000

OVERFLOW LEVEL = RL195.900  
ORIFICE CENTERLINE = RL196.375

ORIFICE CENTERLINE = RL194.345  
ORIFICE DIAMETER =  $\phi 350\text{mm}$

### RAINWATER RE-USE:

IN ACCORDANCE WITH BASIX/COUNCIL REQUIREMENTS.

RAINWATER RE-USE STORAGE PROVIDED IS TO BE DESIGNED

RAINWATER RE-USE TO BE USED FOR THE FOLLOWING:

- TOILET FLUSHING;
- IRRIGATION.

STORMWATER MANAGEMENT REQUIREMENTS HAVE BEEN CALCULATED IN ACCORDANCE WITH NORTHERN BEACHES COUNCIL WATER MANAGEMENT PLAN FOR DEVELOPMENT POLICY 2021: PART 9.0 ONSITE STORMWATER MANAGEMENT.

WATER QUALITY:

MUSIC MODEL SUMMARY (REFER NORTHROP REPORT FOR FURTHER DETAILS).

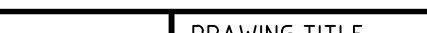


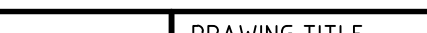

TREATMENT NODES:

- RAINWATER RE-USE TANK
- 'OCEANGUARD' PIT INSERTS (OR SIMILAR)
- FILTER CARTRIDGES

MUSIC MODEL PARAMETERS IN ACCORDANCE WITH NORTHERN BEACHES COUNCIL'S MUSIC MODELLING GUIDELINES 2016.

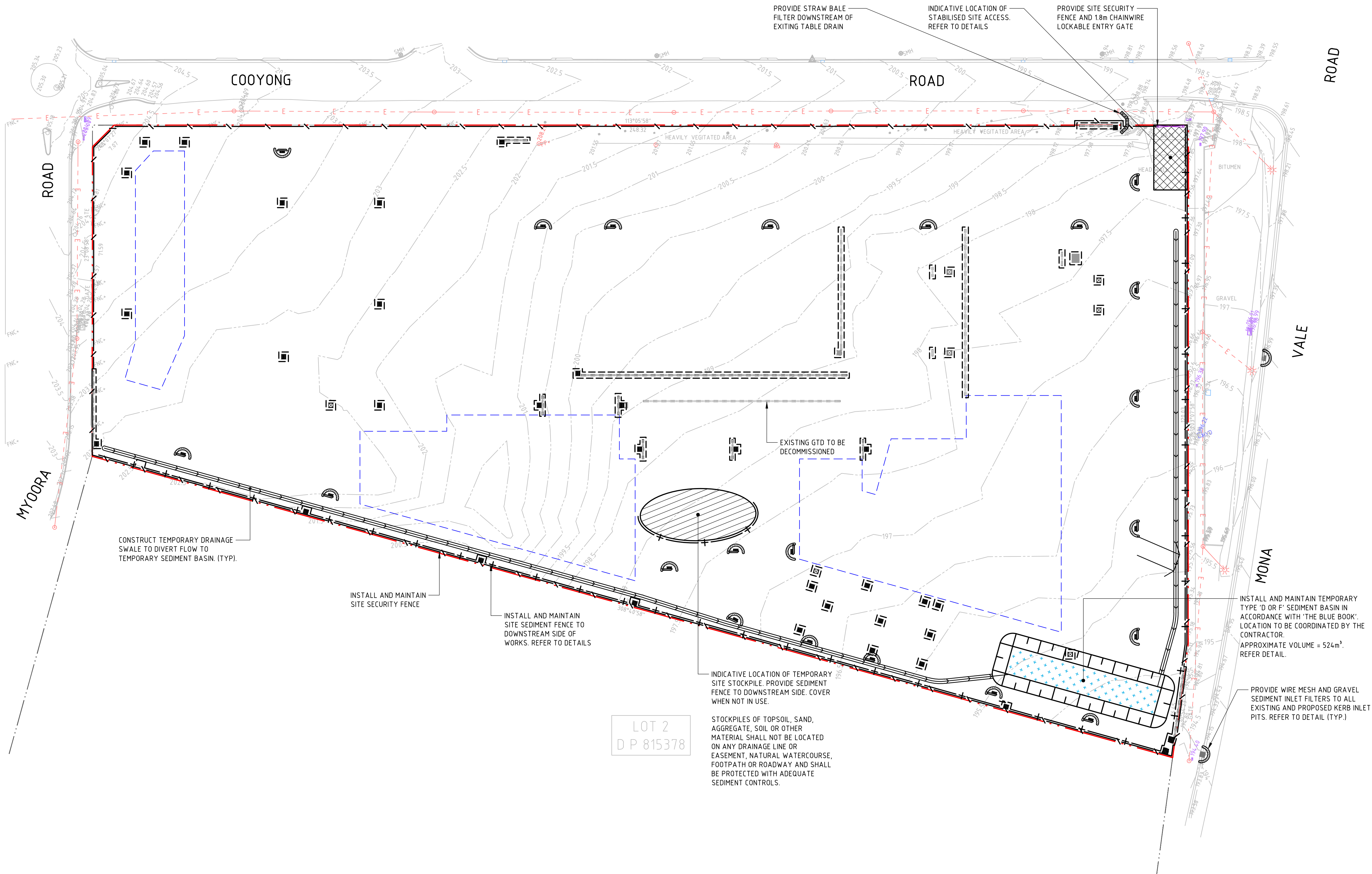
## CONCEPT SOIL & WATER MANAGEMENT

1. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH RELEVANT ORDINANCES AND REGULATIONS; NOTE IN PARTICULAR THE REQUIREMENTS OF LANDCONS (MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION) (THE 'BLUE BOOK'). THIS SOIL AND WATER MANAGEMENT PLAN DETAILS THE ACTIONS TO BE TAKEN FOR THE MANAGEMENT AND DEWATERING OF STORMWATER DURING CONSTRUCTION OF THE PROPOSED BUILDING.
2. INSTALL SEDIMENT PROTECTION FILTERS ON ALL NEW AND EXISTING STORMWATER INLET PITS IN ACCORDANCE WITH EITHER THE MESH AND GRAVEL INLET FILTER DETAIL, SD6-11 OR THE GEOTEXTILE INLET FILTER DETAIL, SD6-12 OF THE 'BLUE BOOK'.
3. ESTABLISH ALL REQUIRED SEDIMENT FENCES IN ACCORDANCE WITH DETAIL SD6-8 OF THE 'BLUE BOOK'.
4. INSTALL SEDIMENT FENCING AROUND INDIVIDUAL BUILDING ZONES/AREAS AS REQUIRED AND AS DIRECTED BY THE SUPERINTENDENT.
5. ALL TRENCHES INCLUDING ALL SERVICE TRENCHES AND SWALE EXCAVATION SHALL BE SIDE-CAST TO THE HIGH SIDE AND CLOSED AT THE END OF EACH DAYS WORK.
6. THE CONTRACTOR SHALL ENSURE THAT ALL VEGETATION (TREE, SHRUB & GROUND COVER) WHICH IS TO BE RETAINED SHALL BE PROTECTED DURING THE DURATION OF CONSTRUCTION. REFER ARCHITECTS PLANS FOR TREES TO BE KEPT.
7. ALL VEGETATION TO BE REMOVED SHALL BE MULCHED ONSITE AND SPREAD/STOCKPILED AS DIRECTED BY THE SUPERINTENDENT.
8. STRIP TOPSOIL IN AREAS DESIGNATED FOR STRIPPING AND STOCKPILE FOR RE-USE ON SITE. ANY SURPLUS MATERIAL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE WITH EPA GUIDELINES.
9. CONSTRUCT AND MAINTAIN ALL MATERIAL STOCKPILES IN ACCORDANCE WITH DETAIL SD4-1 OF THE 'BLUE BOOK' INCLUDING CUT-OFF SWALES TO THE HIGH SIDE AND SEDIMENT FENCES TO THE LOW SIDE.
10. ENSURE STOCKPILES DO NOT EXCEED 2.0m HIGH. PROVIDE WIND AND RAIN EROSION PROTECTION AS REQUIRED IN ACCORDANCE WITH THE 'BLUE BOOK'.
11. PROVIDE WATER TRUCKS OR SPRINKLER DEVICES DURING CONSTRUCTION AS REQUIRED TO SUPPRESS DUST.
12. ONCE CUT/FILL OPERATIONS HAVE BEEN FINALIZED ALL DISTURBED AREAS THAT ARE NOT BEING WORKED ON SHALL BE RE-VEGETATED AS SOON AS IS PRACTICAL.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING A DETAILED WRITTEN RECORD OF ALL EROSION & SEDIMENT CONTROLS ON-SITE DURING THE CONSTRUCTION PERIOD. THIS RECORD SHALL BE UPDATED ON A DAILY BASIS & SHALL CONTAIN DETAILS ON THE CONDITION OF CONTROLS AND ANY/ ALL MAINTENANCE, CLEANING & BREACHES. THIS RECORD SHALL BE KEPT ON-SITE AT ALL TIMES AND SHALL BE MADE AVAILABLE FOR INSPECTION BY THE PRINCIPAL CERTIFYING AUTHORITY AND THE SUPERINTENDENT DURING NORMAL WORKING HOURS.
14. GROUNDWATER SEEPAGE RATES AND QUALITY TO BE MONITORED AND TREATED IF REQUIRED DURING CONSTRUCTION IN ACCORDANCE WITH REQUIREMENTS OF SUPERVISING GEOTECHNICAL ENGINEER.

REVISION		DESCRIPTION		ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT		PROJECT	DRAWING TITLE	JOB NUMBER					
01	ISSUED FOR INFORMATION			MM		AC	23.05.23		 LEFFLER SIMES ARCHITECTS	 Sydney Level 11 345 George Street, Sydney NSW 2000 Ph (02) 9241 4188 Fax (02) 9241 4324 Email sydney@northrop.com.au ABN 81 094 433 100	FLOWER POWER 277 MONA VALE ROAD, TERREY HILLS NSW	CIVIL ENGINEERING PACKAGE	211979					
02	ISSUED FOR INFORMATION			MM		AC	15.06.23							THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD.	SCALE 1:400@A1 	SPECIFICATION NOTES	DRAWING NUMBER	REVISION
																	DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	DAC01.11



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JOB MANAGER: A. CARVALHAES  
VERIFIER:  
DRAWN: M. MAI



## LEGEND

- SITE BOUNDARY LINE
- ADJACENT BOUNDARY LINE
- BUILDING FOOTPRINT
- EXISTING ELECTRICITY (OVERHEAD)
- EXISTING CONTOURS
- SEDIMENT FENCE
- SECURITY FENCE
- SITE SECURITY GATE
- WIRE MESH AND GRAVEL SEDIMENT FILTER
- STRAW BALE FILTER
- GEOTEXTILE INLET FILTER TRAPS
- TEMPORARY DRAINAGE SWALE
- SEDIMENT BASIN
- STABILISED SITE ACCESS
- STOCKPILE

## GENERAL NOTES

- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.
- ALL SEDIMENT AND SOIL EROSION CONTROL MEASURES TO BE INSTALLED IN ACCORDANCE WITH THE 'BLUE BOOK'. CONTRACTOR TO ENSURE THESE MEASURES ARE IN PLACE AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION WORKS.
- CONTRACTOR TO PROVIDE 'WIRE MESH AND GRAVEL SEDIMENT FILTER' TO ALL PAVED / ROAD AREAS (BOTH PROPOSED AND EXISTING) IN ACCORDANCE WITH THE 'BLUE BOOK'.
- CONTRACTOR TO PROVIDE 'GEOTEXTILE INLET FILTER TRAPS' TO ALL STORMWATER DRAINAGE INLETS (BOTH PROPOSED AND EXISTING) IN ACCORDANCE WITH THE 'BLUE BOOK'.

## SEDIMENT BASIN CALCULATIONS

PARAMETER	ADOPTED VALUE
TOTAL DISTURBED AREA (ha)	2.3644
SOIL TEXTURE GROUP	D OR F
DESIGN RAINFALL DEPTH (DAYS)	5
DESIGN RAINFALL DEPTH (PERCENTILE)	80%
x-DAY, y-PERCENTILE RAINFALL EVENT	35.2
Cv	0.42
SETTLING ZONE VOLUME (m³)	349.550
SEDIMENT STORAGE VOLUME (m³)	174.775
TOTAL BASIN VOLUME REQUIRED (m³)	524.325

NOT FOR CONSTRUCTION

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01	ISSUED FOR INFORMATION	MM		AC	23.05.23
02	ISSUED FOR INFORMATION	MM		AC	15.06.23

CLIENT	<b>flower power</b>
DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	

ARCHITECT	<b>LEFFLER SIMES ARCHITECTS</b>
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SCALE 1:500 @ A1
0 5 10 15 20 25m

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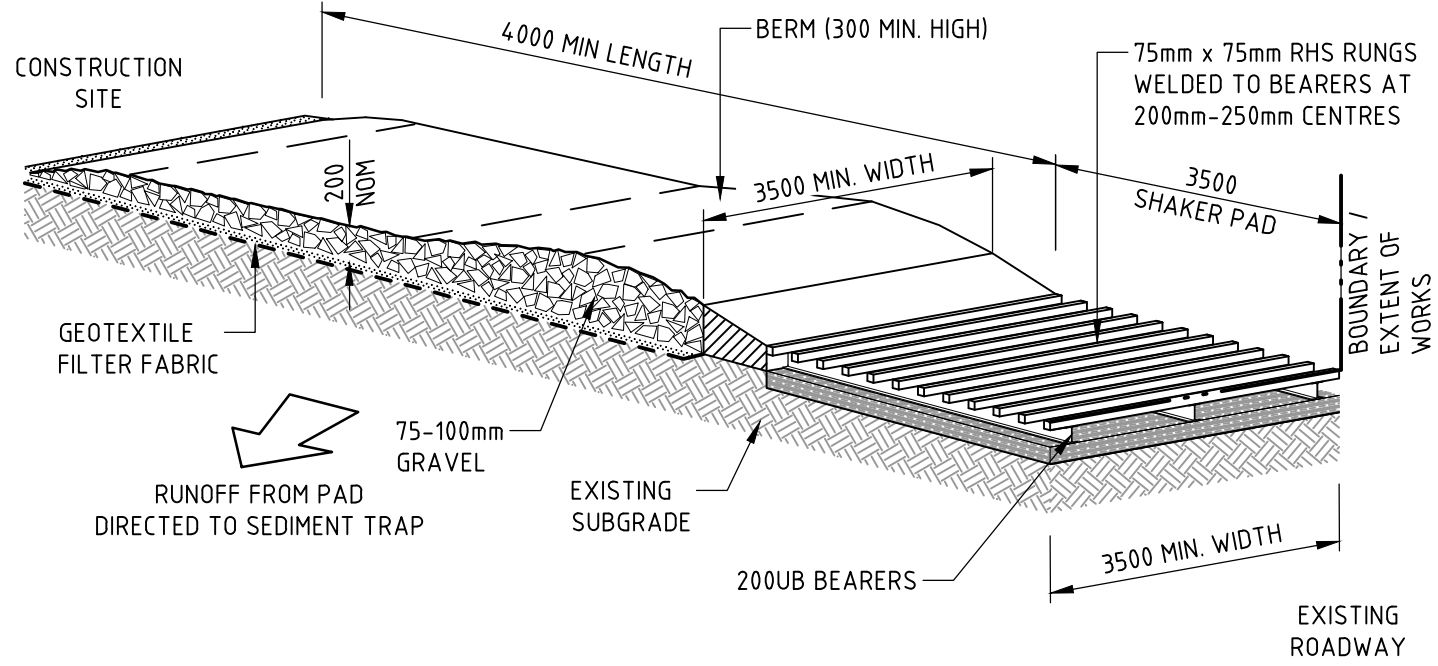
PROJECT	<b>FLOWER POWER</b> <b>277 MONA VALE ROAD,</b> <b>TERREY HILLS NSW</b>
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DRAWING TITLE	<b>CIVIL ENGINEERING PACKAGE</b> <b>SEDIMENT AND SOIL EROSION</b> <b>CONTROL PLAN</b>
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JOB NUMBER	<b>211979</b>
DRAWING NUMBER	<b>DAC02.01</b>
REVISION	<b>02</b>
DRAWING SHEET SIZE	≈ A1

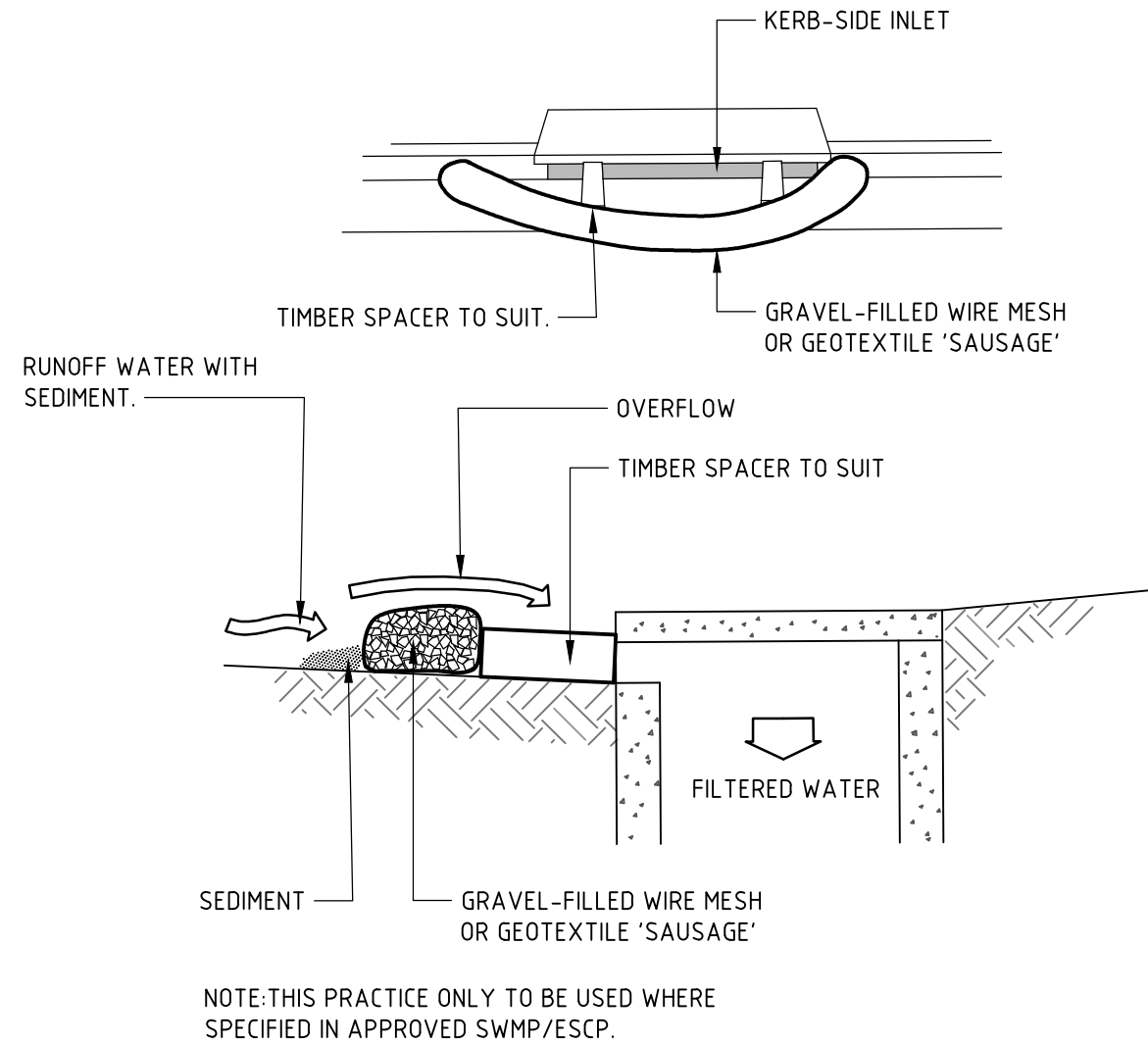


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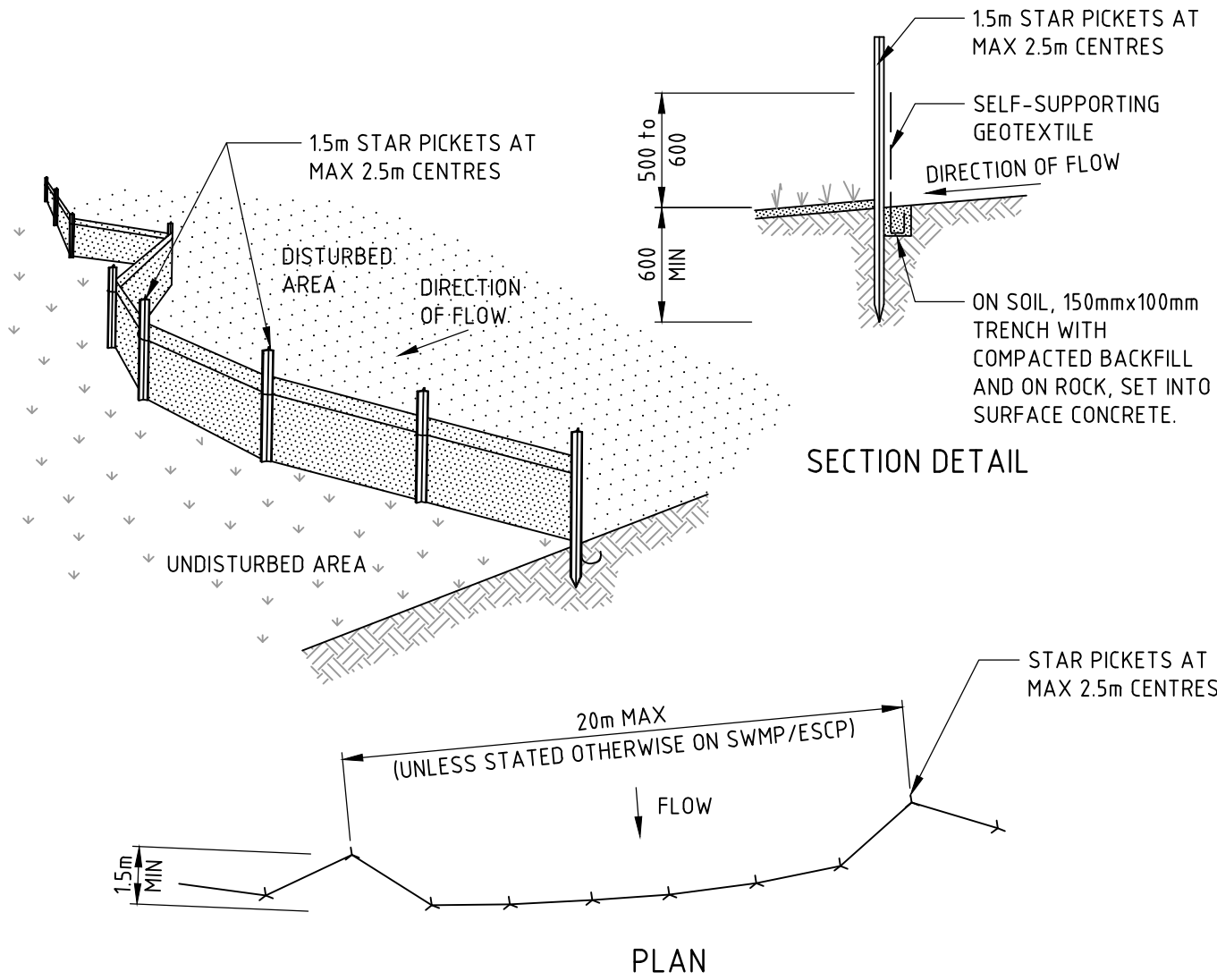
- CONSTRUCTION NOTES**
1. THE TEMPORARY ACCESS SHALL BE MAINTAINED IN A CONDITION THAT PREVENTS TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY.
    - THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL GRAVEL AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
  2. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY.
  3. INSTALL BARRIER ON EITHER SIDE OF SHAKER PAD. TO ENSURE VEHICLES ARE GUIDED ON TO THE PAD.
  4. INVERT OF SHAKER PAD TO BE DRAINED VIA AGRICULTURAL PIPE WRAPPED IN GEOTEXTILE FABRIC.

STABILISED SITE ACCESS



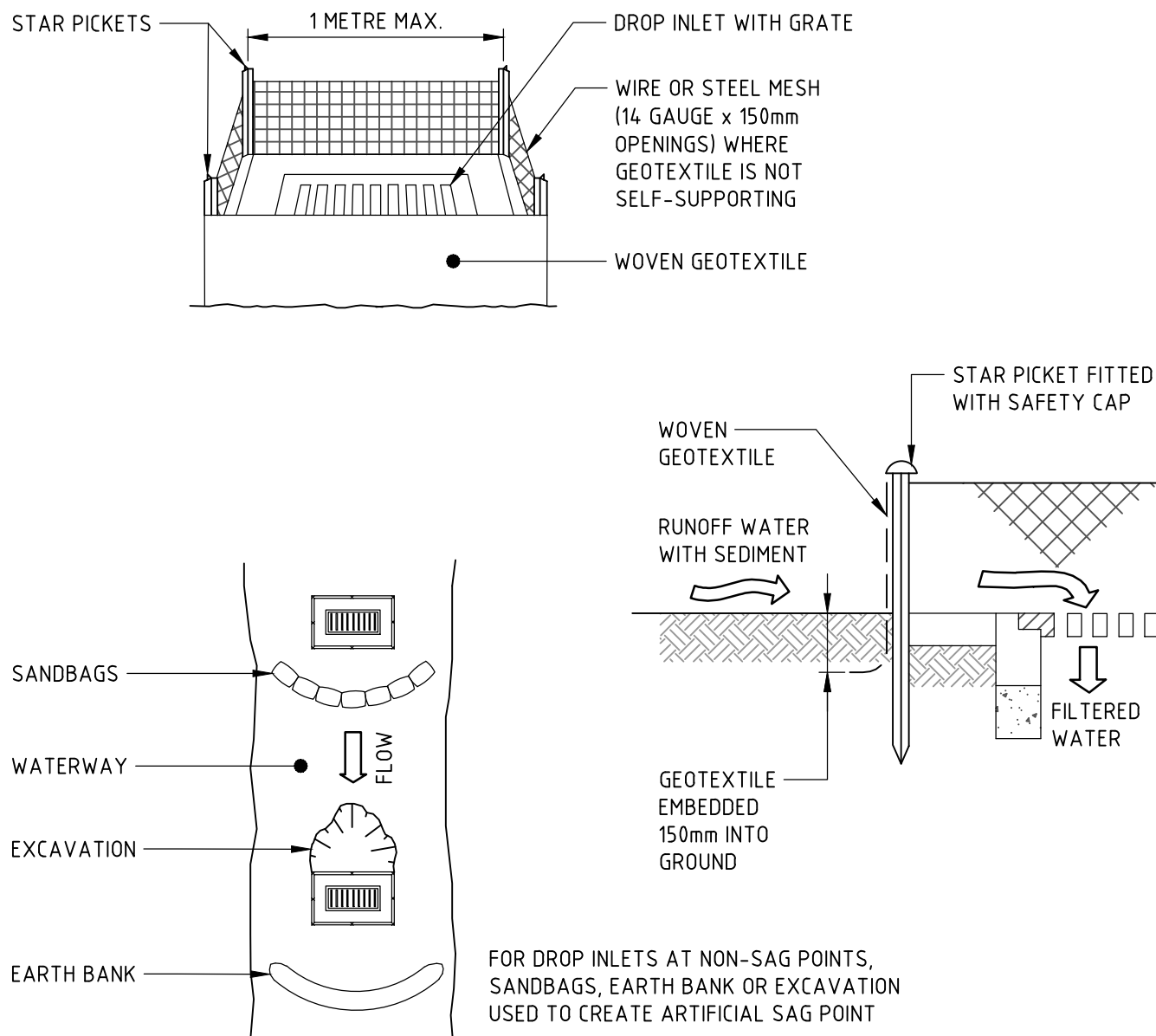
- CONSTRUCTION NOTES**
1. INSTALL FILTERS TO KERB INLETS ONLY AT SAG POINTS.
  2. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.
  3. FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
  4. PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
  5. FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
  6. SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY FIRMLY ABUT EACH OTHER AND SEDIMENT-LADEN WATERS CANNOT PASS BETWEEN.

WIRE MESH AND GRAVEL SEDIMENT FILTER



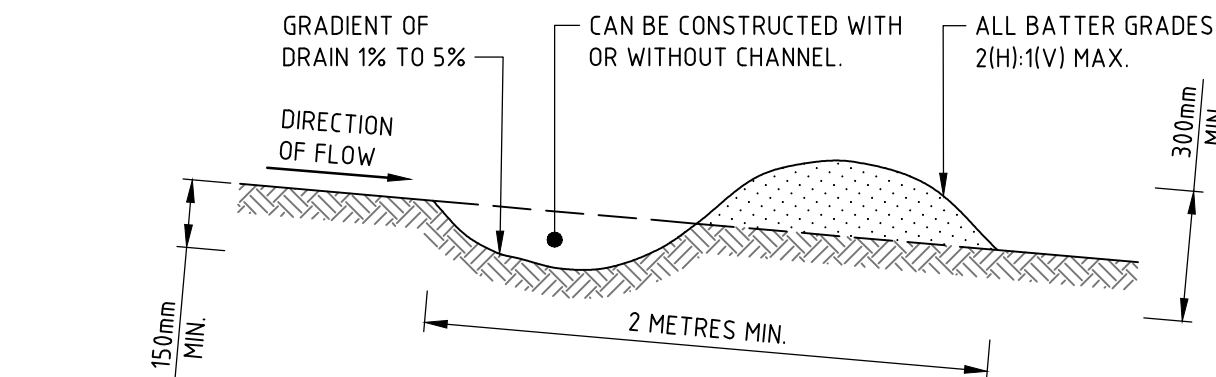
- CONSTRUCTION NOTES**
1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
  2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
  3. DRIVE 15 METRE LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
  4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
  5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
  6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

SEDIMENT FENCE



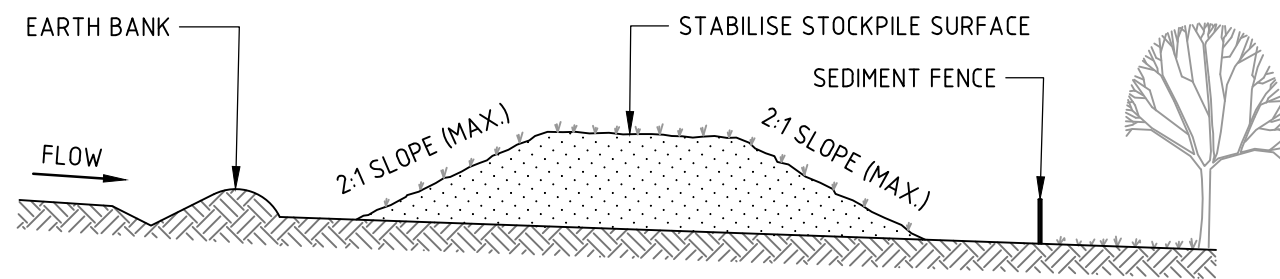
- CONSTRUCTION NOTES**
1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
  2. FOLLOW STANDARD DRAWING 6-7 AND STANDARD DRAWING 6-8 FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOFABRIC. REDUCE THE PICKET SPACING TO 1 METRE CENTRES.
  3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
  4. DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

GEOTEXTILE INLET FILTER TRAPS



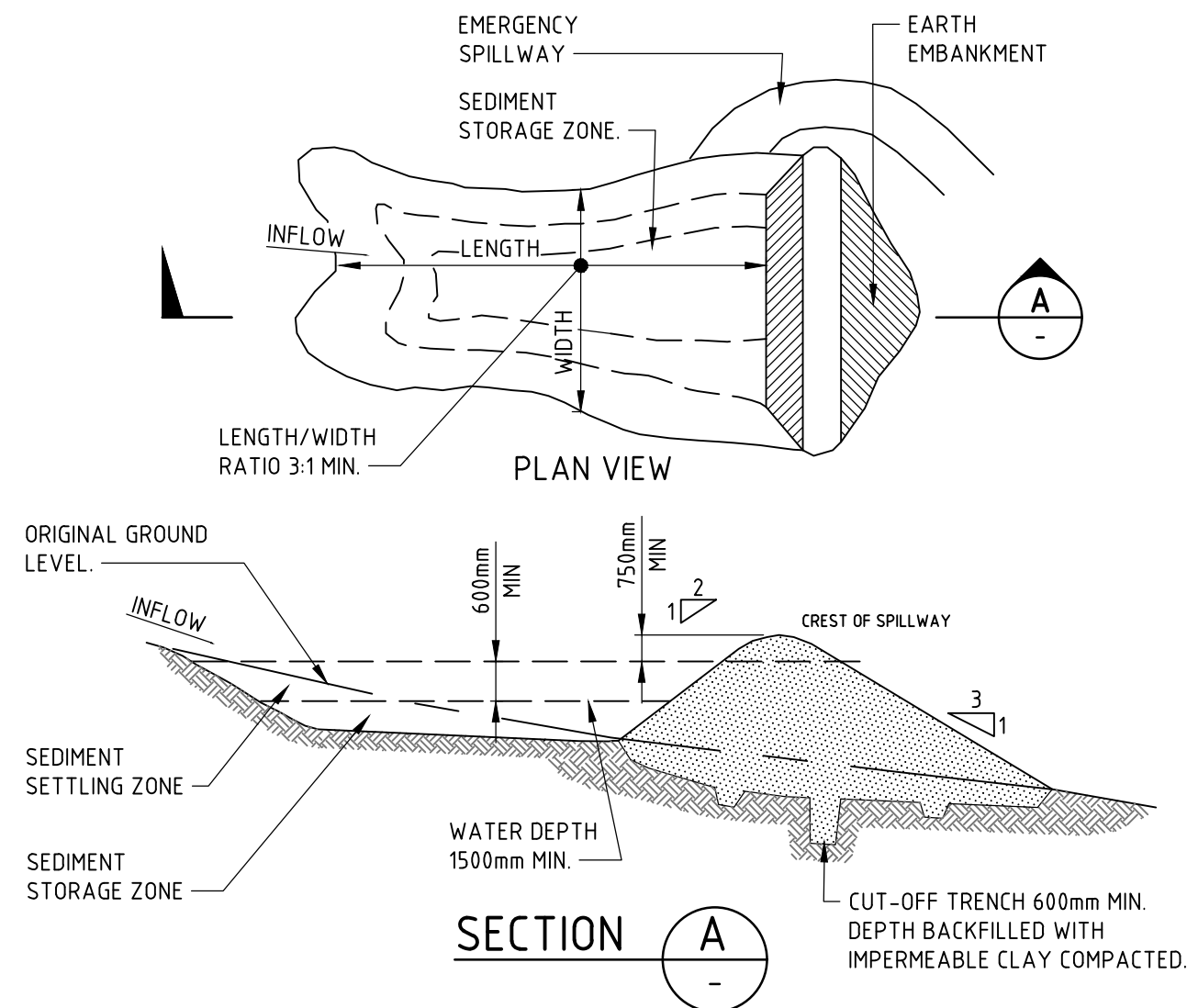
- CONSTRUCTION NOTES**
1. BUILD WITH GRADIENTS BETWEEN 1 AND 5 PERCENT.
  2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM.
  3. ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPEDE WATER FLOW.
  4. BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V SHAPED.
  5. ENSURE THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
  6. COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION.

TEMPORARY DRAINAGE SWALE



- CONSTRUCTION NOTES**
1. PLACE STOCKPILES MORE THAN 2m (PREFERABLY 5m) FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
  2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
  3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
  4. WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESCP OR SWMP TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
  5. CONSTRUCT EARTH BANKS (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES (STANDARD DRAWING 6-8) 1 TO 2m DOWNSLOPE.

STOCKPILE



- CONSTRUCTION NOTES**
1. REMOVE ALL VEGETATION AND TOPSOIL FROM UNDER THE DAM WALL AND FROM WITHIN THE STORAGE AREA.
  2. CONSTRUCT A CUT-OFF TRENCH 500mm DEEP AND 1200mm WIDE ALONG THE CENTRELIN OF THE EMBANKMENT EXTENDING TO A POINT ON THE GULLY WALL LEVEL WITH THE RISER CREST.
  3. MAINTAIN THE TRENCH FREE OF WATER AND RECOMPACT THE MATERIALS WITH EQUIPMENT AS SPECIFIED IN THE SWMP TO 95 PER CENT STANDARD PROCTOR DENSITY.
  4. SELECT FILL FOLLOWING THE SWMP THAT IS FREE OF ROOTS, WOOD, ROCK, LARGE STONE OR FOREIGN MATERIAL.
  5. PREPARE THE SITE UNDER THE EMBANKMENT BY RIPPING TO AT LEAST 100mm TO HELP BOND COMPACTED FILL TO THE EXISTING SUBSTRATE.
  6. SPREAD THE FILL IN 100mm TO 150mm LAYERS AND COMPACT IT AT OPTIMUM MOISTURE CONTENT FOLLOWING THE SWMP.
  7. CONSTRUCT THE EMERGENCY SPILLWAY.
  8. REHABILITATE THE STRUCTURE FOLLOWING THE SWMP.

(APPLIES TO 'TYPE D' AND 'TYPE F' SOILS ONLY)  
SEDIMENT BASIN

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THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD.

NOT TO SCALE

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Email sydney@northrop.com.au ABN 81 094 433 100





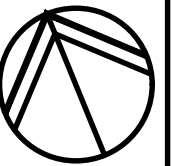


DESIGNED: T. BUGAEV  
JOB MANAGER: A. CARVALHAES  
VERIFIER:  
DRAWN: MMAI

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT
01	ISSUED FOR INFORMATION	MM		AC	01.05.23	
02	ISSUED FOR INFORMATION	MM		AC	12.05.23	
03	ISSUED FOR INFORMATION	MM		AC	18.05.23	
04	ISSUED FOR INFORMATION	MM		AC	23.05.23	
05	ISSUED FOR INFORMATION	MM		AC	15.06.23	

	
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ARCHITECT <b>LEFFLER SIMES ARCHITECTS</b>	
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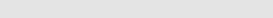



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SCALE 1:500@A1	0 5 10 15 20 25m

	<b>NORTHTROP</b>
Sydney Level 11 345 George Street, Sydney NSW 2000 Ph (02) 9241 4188 Fax (02) 9241 4324 Email sydney@northrop.com.au ABN 81 094 433 100	

PROJECT <b>FLOWER POWER 277 MONA VALE ROAD, TERREY HILLS NSW</b>
---

DRAWING TITLE <b>CIVIL ENGINEERING PACKAGE SITeworks AND GRADING PLAN</b>
--

JOB NUMBER <b>211979</b>	REVISION
DRAWING NUMBER <b>DAC04.01</b>	<b>05</b>
DRAWING SHEET SIZE = A1	

LEGEND	
	SITE BOUNDARY LINE
	ADJACENT BOUNDARY LINE
	BUILDING FOOTPRINT
	ROOF EXTENTS
	PROPOSED KERB
	EXISTING ELECTRICITY (OVERHEAD)
	EXISTING SERVICE TO BE REMOVED
	KERB ONLY
	KERB AND GUTTER
	FLUSH KERB
	KERB RAMP
	VEHICULAR CROSSING
	BOLLARD
	RETAINING WALL
	UPSTANDING WALL
	PROPOSED LEVEL
	PROPOSED FINISHED SURFACE LEVEL
	EXISTING FINISHED SURFACE LEVEL
	DRAINAGE SWALE
	EXISTING PAVEMENT
	CARPARK PAVEMENT
	FOOTPATH PAVEMENT
	LANDSCAPING
	TREES TO BE REMOVED (TBC)
	TREES TO BE RETAINED
	EXISTING CONTOURS
	DESIGN CONTOURS

GENERAL NOTES	
1.	REFER SPECIFICATIONS NOTES FOR STORMWATER REQUIREMENTS.
2.	ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.
3.	CAD FILES TO BE SUPPLIED IN AUTOCAD FORMAT FOR SETOUT PURPOSES (UPON REQUEST).
4.	SUBSOIL DRAINAGE TO RETAINING WALLS, KERBS AND SWALE DRAINS NOT SHOWN FOR CLARITY - REFER RELEVANT DETAILS.
5.	REFER 'STORMWATER LONGITUDINAL SECTIONS' FOR PIPE INFORMATION.
6.	REFER 'STORMWATER LONGITUDINAL SECTIONS' FOR PIT INFORMATION.
7.	REFER HYDRAULIC ENGINEERS / ARCHITECTS DRAWINGS FOR DOWNPIPE LOCATIONS AND SIZING.
8.	PROVIDE DRAINAGE CONNECTIONS TO KERB IN ACCORDANCE WITH COUNCIL STANDARD DETAILS AND SPECIFICATION.
9.	CONTRACTOR TO ALLOW TO ADJUST AND LIAISE WITH RELEVANT SERVICE AUTHORITIES IN RELATION TO EXISTING SERVICE ADJUSTMENT AND MODIFICATIONS.
10.	WHEEL STOPS TO BE INSTALLED TO ALL CAR SPACES AS SHOWN AND INSTALLED IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND MANUFACTURERS SPECIFICATIONS. IF WHEEL STOPS ARE NOT SHOWN, ALLOW FOR WHEEL STOPS WHERE CAR SPACES ARE FRONTING A WALL.

NOT FOR CONSTRUCTION

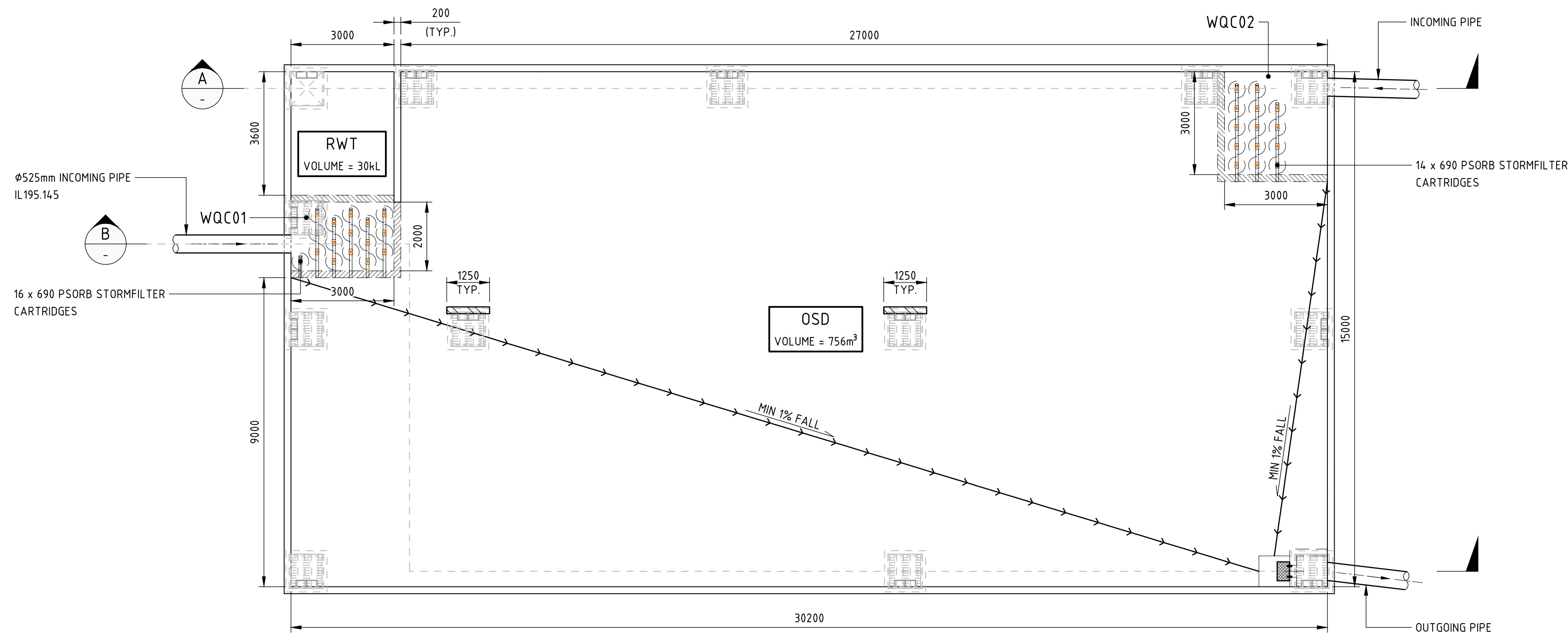




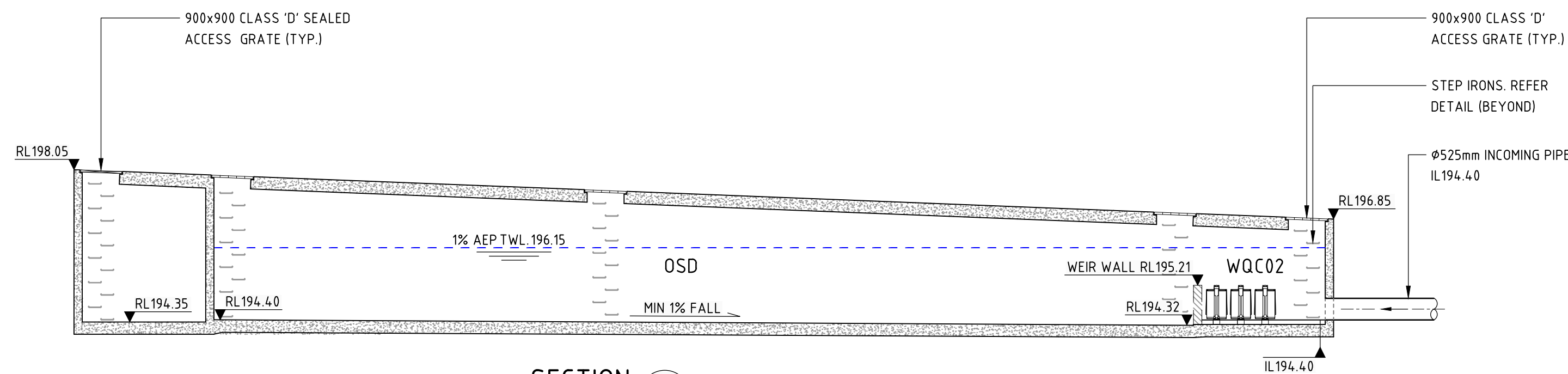




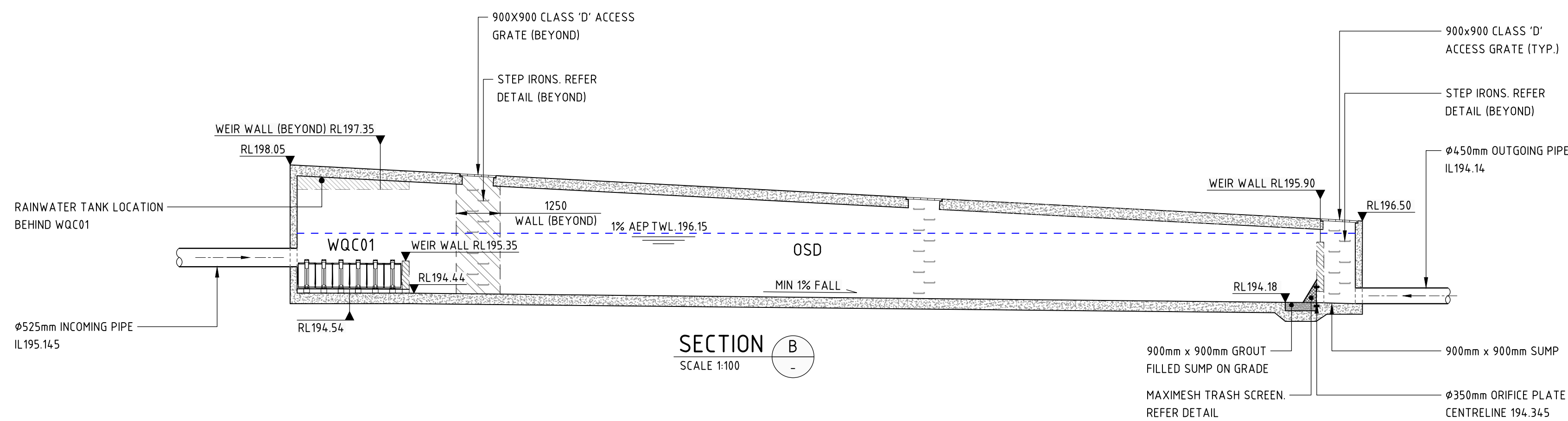




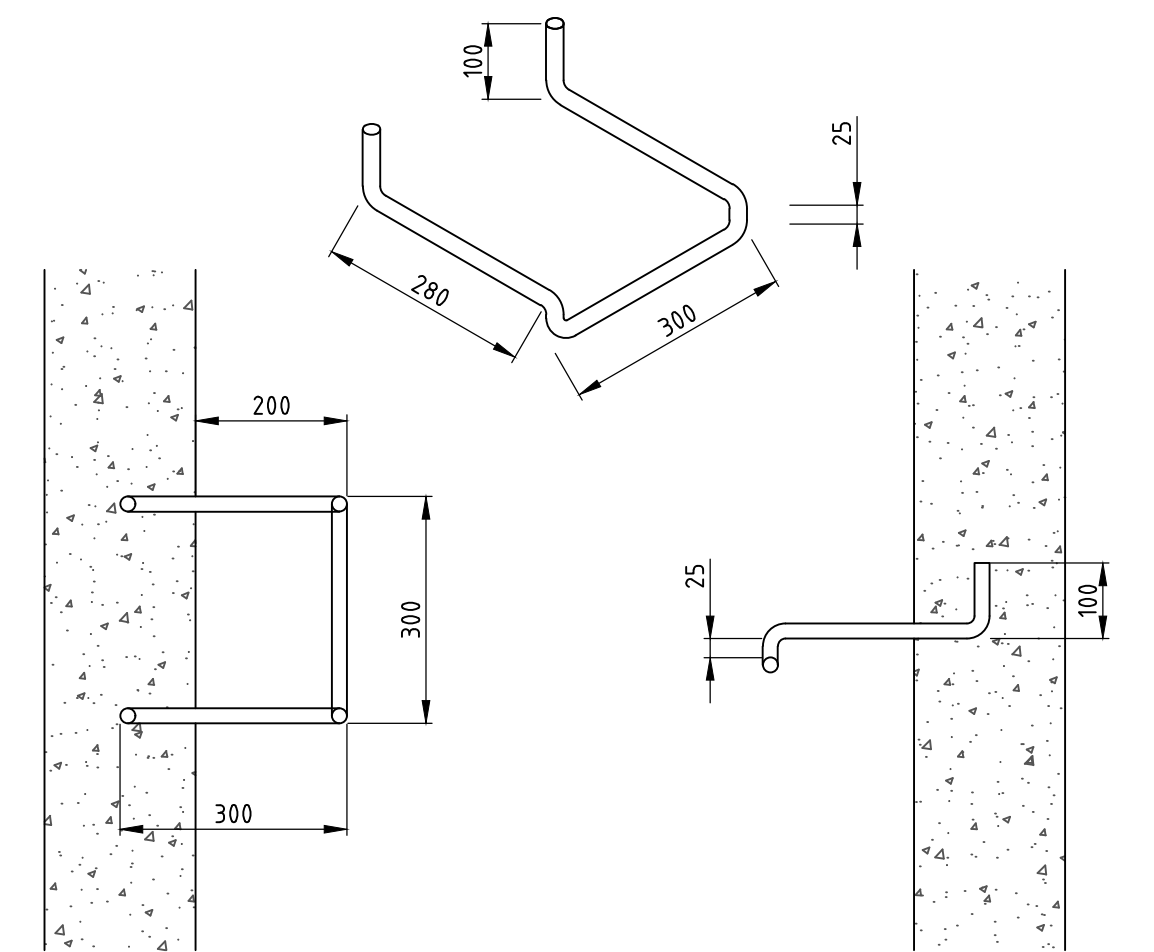
OSD BASE PLAN  
SCALE 1:100



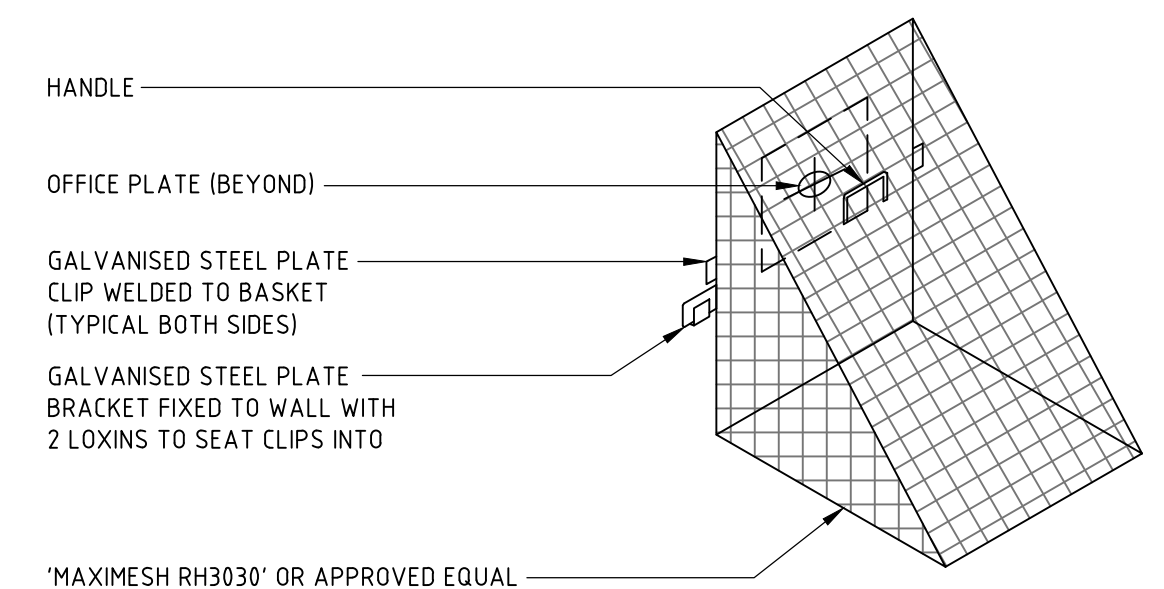
SECTION A  
SCALE 1:100



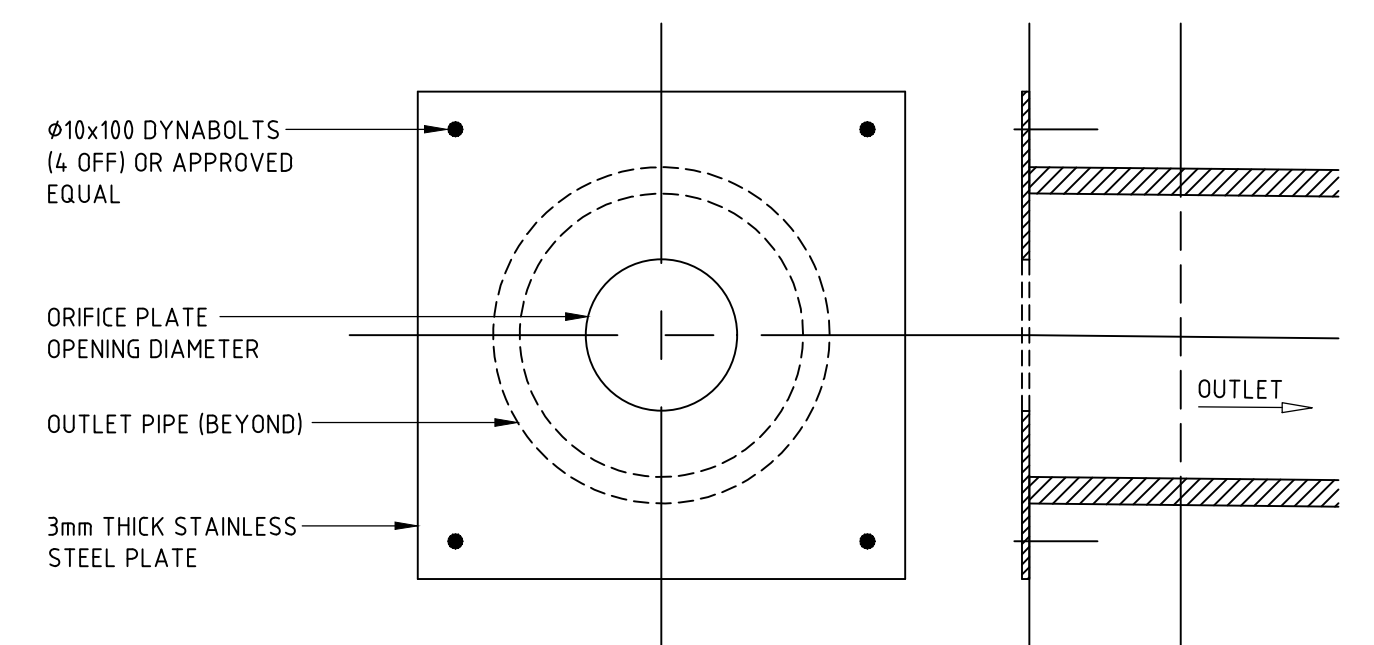
SECTION B  
SCALE 1:100



STEP IRON DETAIL  
STEP IRON OF 20mm GALVANISED STEEL MADE TO SHAPE AND DIMENSIONS AS SHOWN, PLACED AT 300 CENTRES AND STAGGERED HORIZONTALLY FOR ALL PITS DEEPER THAN 1.0m. THE USE OF PROPRIETARY STEP IRONS ARE ACCEPTABLE PROVIDED THE PRODUCT IS IN ACCORDANCE WITH AUSTRALIAN STANDARDS  
SCALE 1:10






TRASH SCREEN DETAIL  
SCALE 1:10



ORIFICE PLATE DETAIL  
• ORIFICE PLATE - 350mm  
SCALE 1:10

NOT FOR CONSTRUCTION

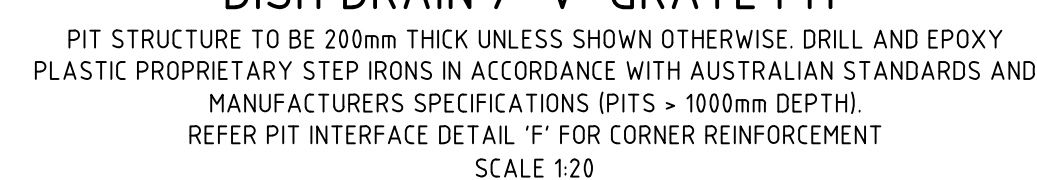
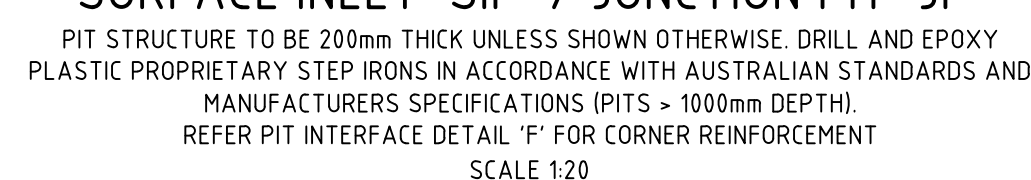
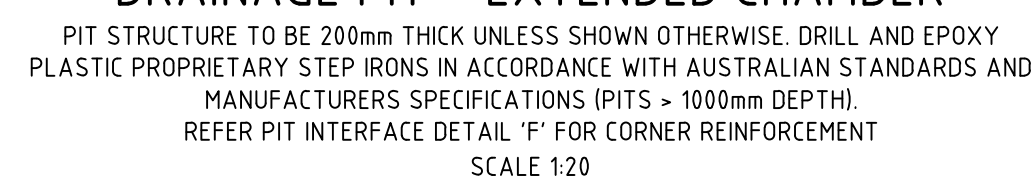
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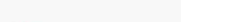


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01	ISSUED FOR INFORMATION	MM		AC	23.05.23			 Level 11 345 George Street, Sydney NSW 2000 Ph (02) 9241 4188 Fax (02) 9241 4324 Email sydney@northrop.com.au ABN 81 094 433 100	FLOWER POWER 277 MONA VALE ROAD, TERREY HILLS NSW	CIVIL ENGINEERING PACKAGE  STORMWATER MANAGEMENT DETAILS - SHEET 01	211979		
04	ISSUED FOR INFORMATION	MM		AC	15.06.23							DRAWING NUMBER	REVISION
												DAC06.01	02
												DRAWING SHEET SIZE = A1	
						DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD.						









REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT		PROJECT	DRAWING TITLE	JOB NUMBER
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						DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD.	<div><div>0.01.02.03.04.0.5m</div><div>0.02.04.06.08.1.0m</div></div>			DRAWING NUMBER <b>DAC06.03</b>
											REVISION <b>01</b>
											DRAWING SHEET SIZE = A1