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

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR INFORMATION	MM		AC	23.05.23
02	ISSUED FOR INFORMATION	MM		AC	15.06.23

CLIENT: flower power

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ARCHITECT: LEFFLER SIMES ARCHITECTS

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NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY.

SCALE 1:1250 @ A1

0 10 20 30 40 50 60m

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PROJECT: FLOWER POWER
277 MONA VALE ROAD,
TERREY HILLS NSW

DRAWING TITLE: CIVIL ENGINEERING PACKAGE
COVER SHEET, DRAWING SCHEDULE AND LOCALITY PLAN

JOB NUMBER: 211979
DRAWING NUMBER: DAC01.01
REVISION: 02
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 3500.1.2-2003 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^3/s	0.688 m^3/s	1.115 m^3/s
POST-DEVELOPMENT	0.284 m^3/s	0.495 m^3/s	0.937 m^3/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 = RL195.900
ORIFICE CENTERLINE = RL194.345
ORIFICE DIAMETER = Ø350mm

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 LANDCOMS 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 AS REQUIRED. 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.

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

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SCALE 1:400@ A1 0 4 8 12 16 20m

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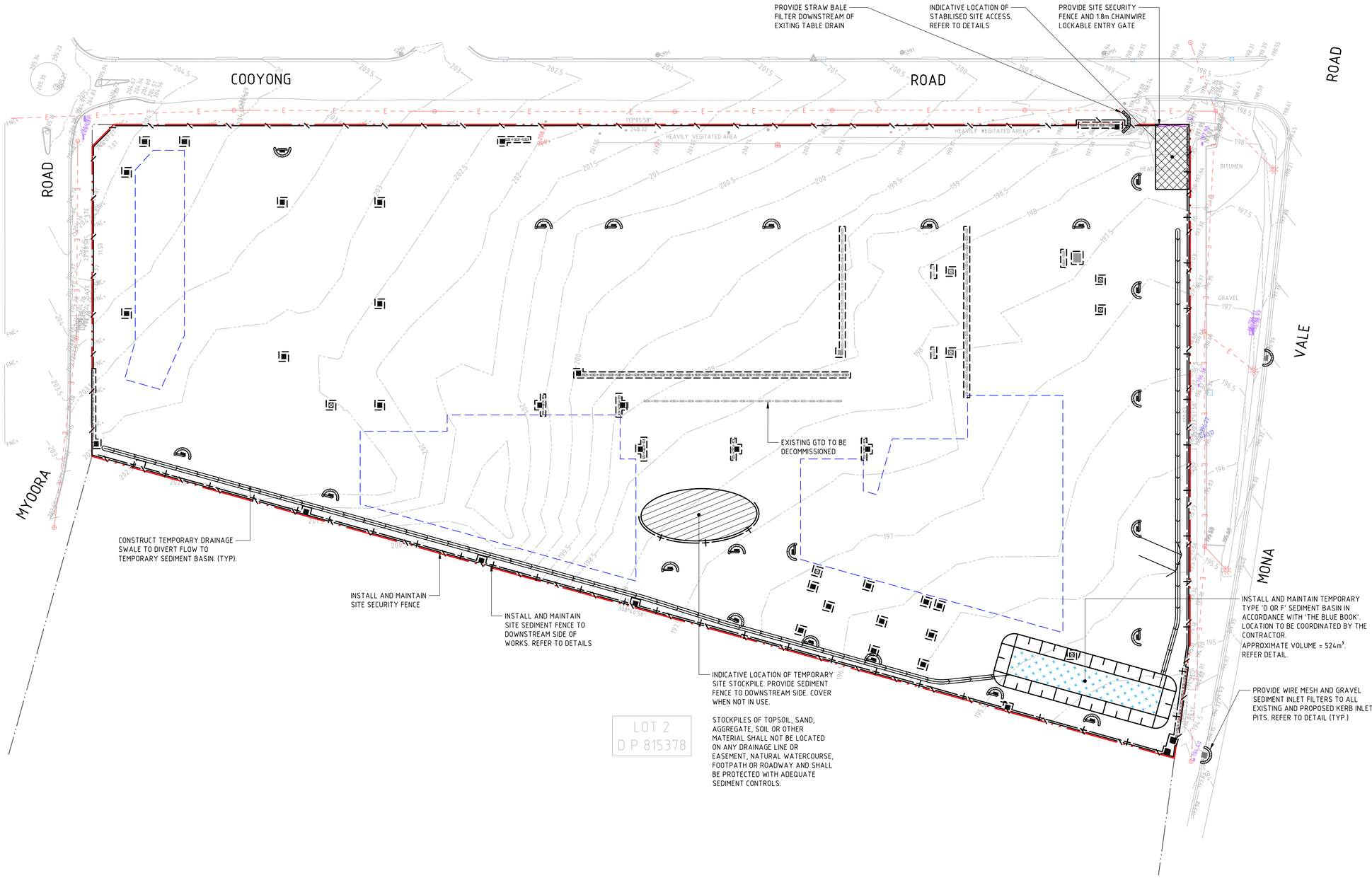
PROJECT: FLOWER POWER
277 MONA VALE ROAD,
TERREY HILLS NSW

DRAWING TITLE: CIVIL ENGINEERING PACKAGE
SPECIFICATION NOTES

JOB NUMBER: 211979
DRAWING NUMBER: DAC01.11
REVISION: 02
DRAWING SHEET SIZE = A1



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

1. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.
2. 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.
3. CONTRACTOR TO PROVIDE 'WIRE MESH AND GRAVEL SEDIMENT FILTER' TO ALL PAVED / ROAD AREAS (BOTH PROPOSED AND EXISTING) IN ACCORDANCE WITH THE 'BLUE BOOK'.
4. 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 (m^3)	349.550
SEDIMENT STORAGE VOLUME (m^3)	174.775
TOTAL BASIN VOLUME REQUIRED (m^3)	524.325

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

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PROJECT: FLOWER POWER
277 MONA VALE ROAD,
TERREY HILLS NSW

DRAWING TITLE: CIVIL ENGINEERING PACKAGE
SEDIMENT AND SOIL EROSION CONTROL PLAN

JOB NUMBER: 211979
DRAWING NUMBER: DAC02.01
REVISION: 02
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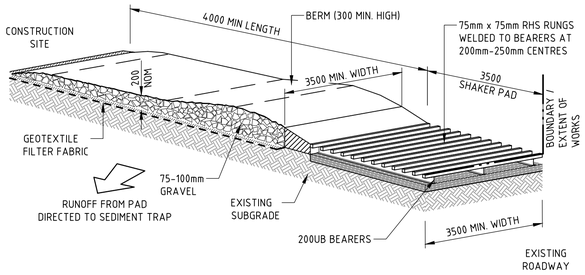
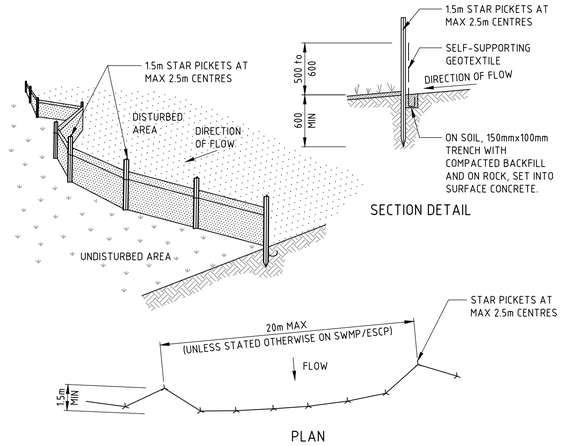


CONSTRUCTION NOTES

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.

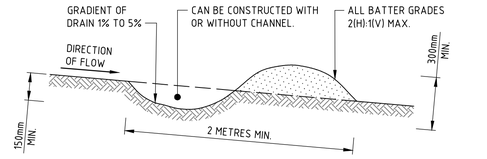
STABILISED SITE ACCESS



CONSTRUCTION NOTES

1. 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 1.5 METRE LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
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

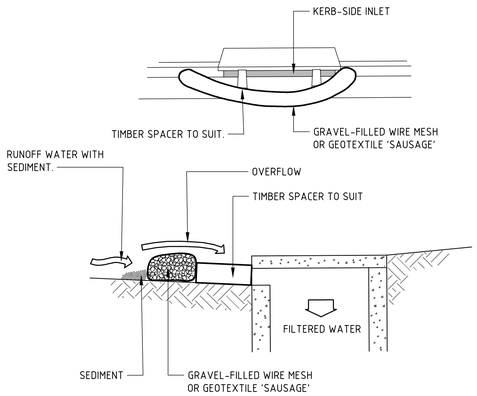


CONSTRUCTION NOTES

1. 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.

NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAXIMUM UPSLOPE LENGTH IS 80 METRES.

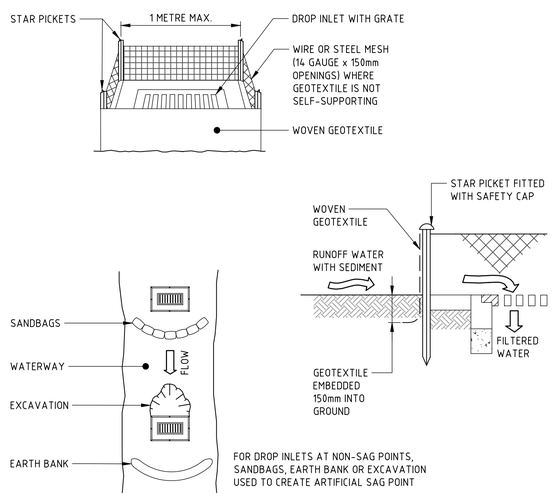
TEMPORARY DRAINAGE SWALE



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.

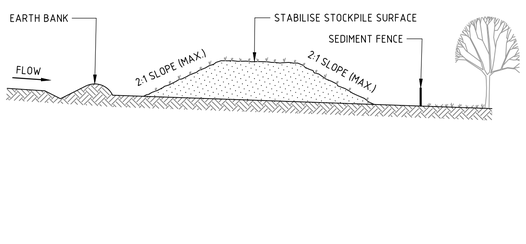
WIRE MESH AND GRAVEL SEDIMENT FILTER



CONSTRUCTION NOTES

1. 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.

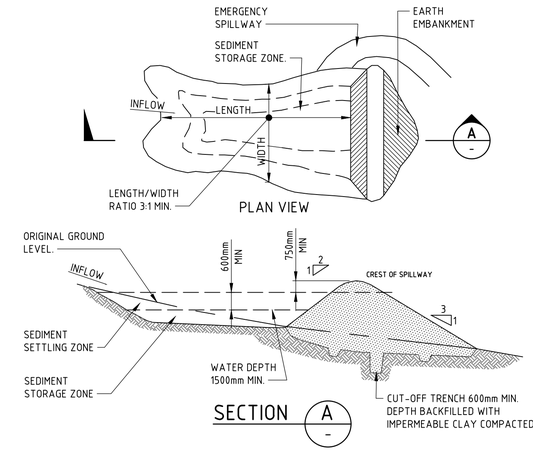
GEOTEXTILE INLET FILTER TRAPS



CONSTRUCTION NOTES

1. 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 CENTRELINE 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

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

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DRAWING TITLE: **CIVIL ENGINEERING PACKAGE**

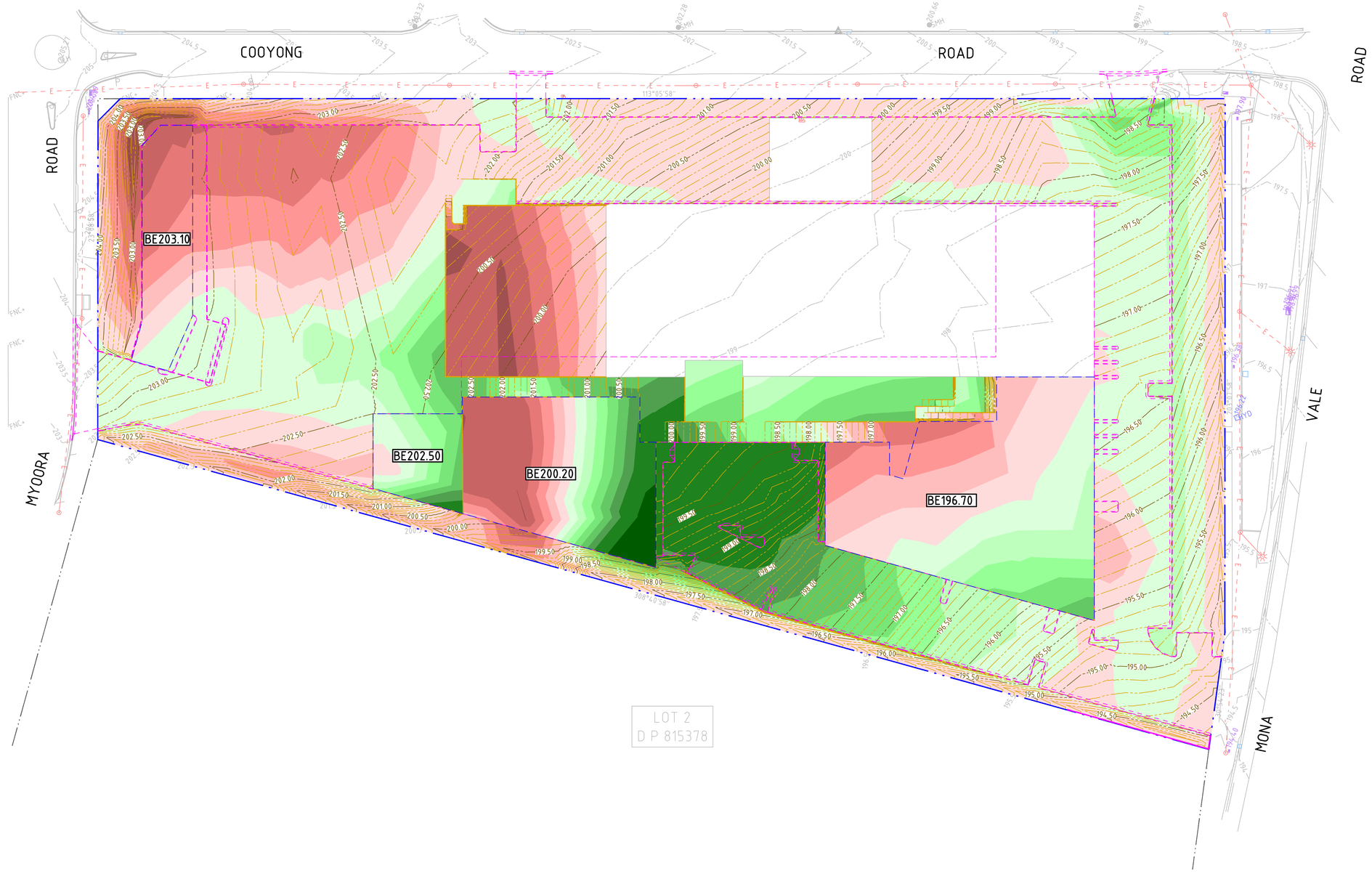
SEDIMENT AND SOIL EROSION CONTROL DETAILS

JOB NUMBER: **211979**

DRAWING NUMBER: **DAC02.11**

REVISION: **02**

DRAWING SHEET SIZE = A1



LEGEND

- SITE BOUNDARY LINE
- ADJACENT BOUNDARY LINE
- BUILDING FOOTPRINT
- DESIGN FOOTPRINT
- BEXX.XX — BULK EARTHWORKS PAD LEVEL
- EXISTING CONTOURS
- BULK EARTHWORKS CONTOURS

DEPTH OF CUT

- 6.0m	TO	- 2.0m
- 2.0m	TO	- 1.5m
- 1.5m	TO	- 1.25m
- 1.25m	TO	- 1.0m
- 1.0m	TO	- 0.75m
- 0.75m	TO	- 0.5m
- 0.5m	TO	- 0.25m
- 0.25m	TO	- 0.0m

DEPTH OF FILL

0.0m	TO	0.25m
0.25m	TO	0.5m
0.5m	TO	0.75m
0.75m	TO	1.0m
1.0m	TO	1.25m
1.25m	TO	1.5m
1.5m	TO	2.0m
2.0m	TO	4.0m

GENERAL NOTES:

1. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.
2. CAD FILES / DTM FILES TO BE SUPPLIED IN AUTOCAD FORMAT FOR SETOUT PURPOSES (UPON REQUEST).
3. STRIP EXISTING TOPSOIL IN CONSULTATION WITH THE GEOTECHNICAL ENGINEER / REPORT. FOR THE PURPOSES OF EARTHWORKS CALCULATIONS A TOPSOIL STRIPPING DEPTH OF 150mm HAS BEEN ASSUMED.
4. NO ALLOWANCE HAS BEEN MADE FOR BULKING FACTORS. NOTE ALL VOLUMES DEPICTED ARE SOLID VOLUMES ONLY AND MAY NOT REFLECT DETAILED EARTHWORKS.
5. NO ALLOWANCE HAS BEEN MADE FOR DETAILED EARTHWORKS; ie SERVICE TRENCHING, DETAILED EXCAVATION, FOOTINGS, RETAINING WALLS AND THE LIKE. CONTRACTOR IS TO ALLOW FOR REMOVAL OF ALL EXCESS MATERIAL GENERATED BY THE WORKS.
6. THE CONTRACTOR SHALL USE FINAL SURFACE LEVELS AND TYPICAL PAVEMENT DETAILS FOR ACTUAL EARTHWORKS LEVELS.
7. BULK EARTHWORKS ARE BASED ON THE FOLLOWING DEPTHS FROM FINISHED SURFACE LEVELS;
   - 7.1. ASPHALT PAVEMENT 300mm
   - 7.2. CONCRETE PAVEMENT 300mm
   - 7.3. BUILDING SLAB 300mm
   - 7.4. FOOTPATH PAVEMENT 300mm
   - 7.5. LANDSCAPE AREA 300mm
8. APPROXIMATE BULK EARTHWORK VALUES AS FOLLOWS;
   - 9.1 CUT -5,086 cu.m
   - 9.2 FILL 6,227 cu.m
   - 9.3 BALANCE 1,141 cu.m
   - 9.4 SITE STRIPPING LAYER 3,546 cu.m

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

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR INFORMATION	MM		AC	23.05.23
04	ISSUED FOR INFORMATION	MM		AC	15.06.23

CLIENT: flower power

DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED

ARCHITECT: LEFFLER SIMES ARCHITECTS

ALL SETOUT TO ARCHITECT'S DRAWINGS. DIMENSIONS TO BE VERIFIED WITH THE ARCHITECT AND ON SITE BEFORE MAKING SHOP DRAWINGS OR COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY.

SCALE 1:400@ A1 (0 4 8 12 16 20m)

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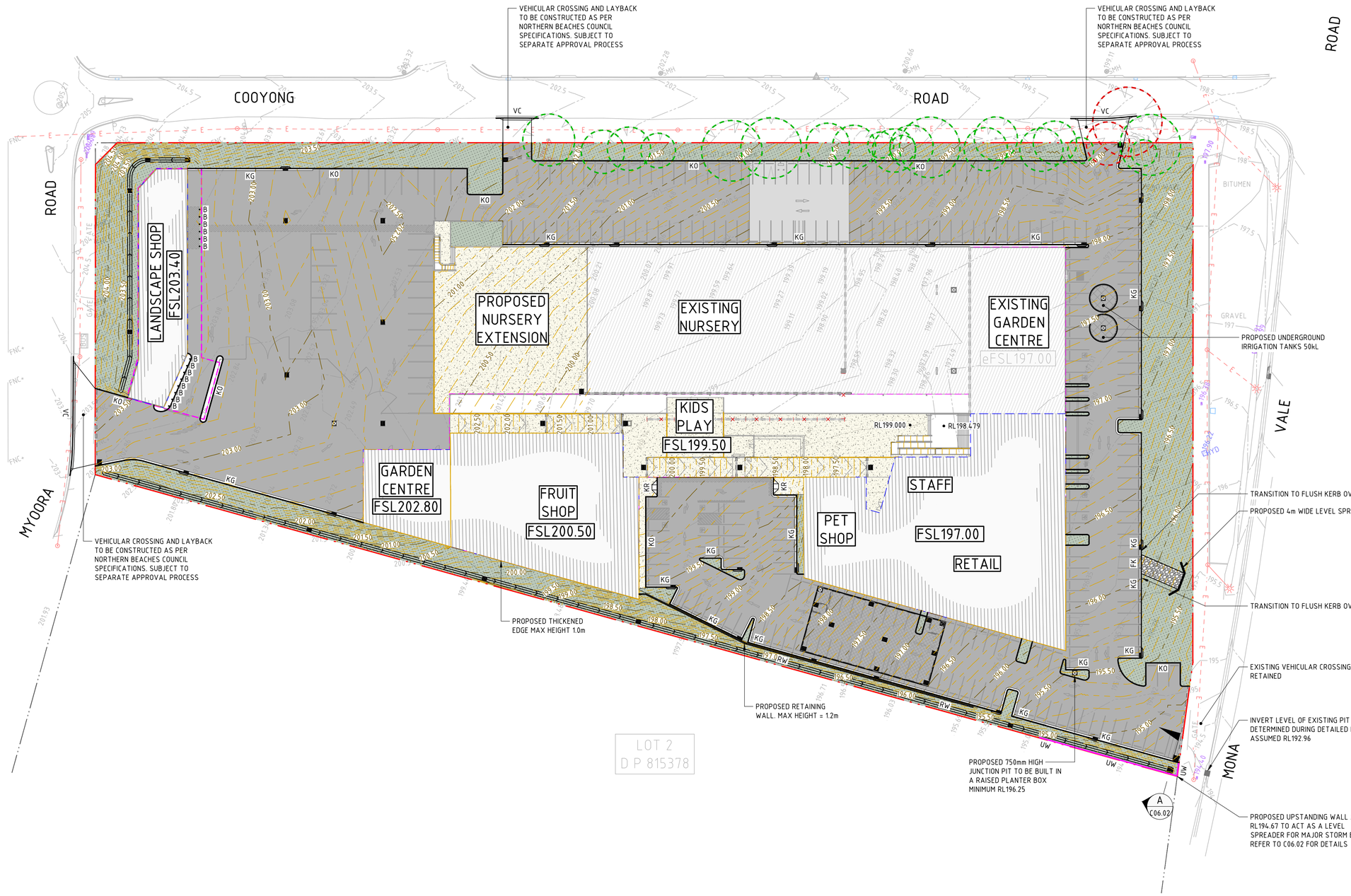
Email sydney@northrop.com.au ABN 81 094 433 100

PROJECT: FLOWER POWER
277 MONA VALE ROAD,
TERREY HILLS NSW

DRAWING TITLE: CIVIL ENGINEERING PACKAGE
BULK EARTHWORKS CUT AND FILL PLAN

JOB NUMBER: 211979
DRAWING NUMBER: DAC03.01
REVISION: 02
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
- KO — KERB ONLY
- KG — KERB AND GUTTER
- FK — FLUSH KERB
- KR — KERB RAMP
- VC — VEHICULAR CROSSING
- B — BOLLARD
- RW — RETAINING WALL
- UW — UPSTANDING WALL
- RLXX.XX — PROPOSED LEVEL
- FSLXX.XX — PROPOSED FINISHED SURFACE LEVEL
- eFSLXX.XX — 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

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

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
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

CLIENT: flower power
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ARCHITECT: LEFFLER SIMES ARCHITECTS

ALL SETOUT TO ARCHITECT'S DRAWINGS, DIMENSIONS TO BE VERIFIED WITH THE ARCHITECT AND ON SITE BEFORE MAKING SHOP DRAWINGS OR COMMENCING WORK.
NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY.

SCALE 1:500@A1 — 0 5 10 15 20 25m

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

PROJECT: FLOWER POWER
277 MONA VALE ROAD,
TERREY HILLS NSW

DRAWING TITLE: CIVIL ENGINEERING PACKAGE
SITEWORKS AND GRADING PLAN

JOB NUMBER: 211979
DRAWING NUMBER: DAC04.01
REVISION: 05
DRAWING SHEET SIZE = A1

PROPOSED IRRIGATION WATER COLLECTION TANKS, COLLECTS SURFACE RUNOFF FROM OPEN NURSERY AREA. WATER TO BE TREATED AND REUSED FOR IRRIGATION

Ø225 uPVC PIPE
LENGTH: 8.28m
GRADE: 1.1%
uIL201.766
dIL201.675

Ø300 uPVC PIPE
LENGTH: 21.79m
GRADE: 1.0%
uIL200.972
dIL200.745

Ø375 RCP PIPE
LENGTH: 21.61m
GRADE: 1.0%
uIL200.565
dIL200.340

Ø150 uPVC PIPE
LENGTH: 21.06m
GRADE: 5.3%
uIL201.716
dIL200.599

Ø300 uPVC PIPE
LENGTH: 15.26m
GRADE: 4.1%
uIL200.385
dIL199.754

Ø300 uPVC PIPE
LENGTH: 35.47m
GRADE: 2.7%
uIL199.693
dIL198.735

Ø300 uPVC PIPE
LENGTH: 35.60m
GRADE: 2.1%
uIL198.705
dIL197.947

Ø375 RCP PIPE
LENGTH: 34.00m
GRADE: 3.1%
uIL197.297
dIL196.248

COOYONG ROAD

MYOORA ROAD

VALE ROAD

MONA

Ø150 uPVC PIPE
LENGTH: 7.47m
GRADE: 1.1%
uIL201.878
dIL201.796

Ø300 uPVC PIPE
LENGTH: 11.22m
GRADE: 1.1%
uIL200.715
dIL200.595

Ø375 RCP PIPE
LENGTH: 22.50m
GRADE: 1.0%
uIL200.310
dIL200.076

Ø375 RCP PIPE
LENGTH: 22.50m
GRADE: 1.0%
uIL200.046
dIL199.813

LANDSCAPE SHOP

Ø150 uPVC PIPE
LENGTH: 31.68m
GRADE: 1.0%
uIL202.234
dIL201.908

Ø150 uPVC PIPE
LENGTH: 15.00m
GRADE: 1.1%
uIL202.070
dIL201.909

Ø300 uPVC PIPE
LENGTH: 20.16m
GRADE: 1.0%
uIL200.549
dIL200.339

PROPOSED NURSERY EXTENSION

Ø450 RCP PIPE
LENGTH: 9.98m
GRADE: 1.1%
uIL199.162
dIL199.053

Ø450 RCP PIPE
LENGTH: 21.15m
GRADE: 5.7%
uIL199.023
dIL197.827

Ø300 uPVC PIPE
LENGTH: 29.26m
GRADE: 1.1%
uIL196.069
dIL195.748

EXISTING NURSERY

3 x Ø225 PIPES
Ø225
6TD
2xØ300
Ø300
IWT

EXISTING GARDEN CENTRE

KIDS PLAY

eGTD

GTD

GARDEN CENTRE

FRUIT SHOP

STAFF

PET SHOP

RETAIL

Ø525 RCP PIPE
LENGTH: 22.74m
GRADE: 1.0%
uIL195.737
dIL195.502

Ø525 RCP PIPE
LENGTH: 31.58m
GRADE: 0.6%
uIL194.605
dIL194.400

Ø525 RCP PIPE
LENGTH: 8.95m
GRADE: 1.2%
uIL195.311
dIL195.204

OSD

FOR DETAIL OF RAINWATER TANK AND OSD TANK REFER TO DRAWING DA6.01

LOT 2
DP 815378

Ø150 uPVC PIPE
LENGTH: 19.23m
GRADE: 2.7%
uIL202.492
dIL201.980

Ø150 uPVC PIPE
LENGTH: 34.52m
GRADE: 1.0%
uIL201.950
dIL201.596

Ø300 uPVC PIPE
LENGTH: 10.34m
GRADE: 1.1%
uIL200.309
dIL200.197

Ø375 RCP PIPE
LENGTH: 36.00m
GRADE: 1.0%
uIL199.783
dIL199.413

Ø450 RCP PIPE
LENGTH: 18.22m
GRADE: 1.0%
uIL199.383
dIL199.192

Ø225 uPVC PIPE
LENGTH: 15.03m
GRADE: 0.9%
uIL196.416
dIL196.287

Ø225 uPVC PIPE
LENGTH: 10.82m
GRADE: 1.3%
uIL196.584
dIL196.446

Ø525 RCP PIPE
LENGTH: 12.37m
GRADE: 1.0%
uIL195.472
dIL195.341

Ø150 uPVC PIPE
LENGTH: 14.10m
GRADE: 1.1%
uIL196.279
dIL196.129

Ø450 RCP PIPE
LENGTH: 17.07m
GRADE: 1.0%
uIL194.140
dIL193.960

Ø675 RCP PIPE
LENGTH: 22.25m
GRADE: 1.0%
uIL193.940
dIL193.709

Ø225 uPVC PIPE
LENGTH: 37.36m
GRADE: 1.0%
uIL193.753
dIL193.370

Ø150 uPVC PIPE
LENGTH: 6.21m
GRADE: 1.1%
uIL200.646
dIL200.579

Ø225 uPVC PIPE
LENGTH: 35.97m
GRADE: 5.6%
uIL198.640
dIL196.614

Ø150 uPVC PIPE
LENGTH: 17.00m
GRADE: 4.5%
uIL197.668
dIL196.910

Ø225 uPVC PIPE
LENGTH: 10.82m
GRADE: 1.1%
uIL196.099
dIL195.980

Ø675 RCP PIPE
LENGTH: 17.70m
GRADE: 1.8%
uIL193.680
dIL193.370

Ø450 RCP PIPE
LENGTH: 7.52m
GRADE: 5.1%
uIL193.347
dIL192.960

EXISTING STORMWATER PIT:
RL:194.034
IL: 193.000
(WITH ASSUMED 1.034 COVER)

Ø150 uPVC PIPE
LENGTH: 12.70m
GRADE: 1.0%
uIL197.226
dIL197.099

Ø150 uPVC PIPE
LENGTH: 24.10m
GRADE: 5.1%
uIL197.069
dIL195.835

Ø375 RCP PIPE
LENGTH: 19.41m
GRADE: 2.0%
uIL196.218
dIL195.822

Ø525 RCP PIPE
LENGTH: 24.10m
GRADE: 2.0%
uIL195.792
dIL195.292

Ø525 RCP PIPE
LENGTH: 29.15m
GRADE: 1.0%
uIL195.262
dIL194.961

Ø525 RCP PIPE
LENGTH: 32.02m
GRADE: 1.0%
uIL194.931
dIL194.621

Ø150 uPVC PIPE
LENGTH: 21.27m
GRADE: 1.0%
uIL193.920
dIL193.700

Ø150 uPVC PIPE
LENGTH: 2.0m
GRADE: 1.5%
uIL193.399
dIL193.370

BITUMEN

GRAVEL

GATE

LEGEND

- SITE BOUNDARY LINE
- ADJACENT BOUNDARY LINE
- BUILDING FOOTPRINT
- ROOF EXTENTS
- STORMWATER PIPE
- EXISTING STORMWATER PIPE – ASSUMED LOCATION TO BE CONFIRMED BY SURVEY
- DRAINAGE SWALE
- SURFACE INLET PIT
- SEALED JUNCTION PIT
- KERB INLET PIT
- EXISTING KERB INLET PIT
- EXISTING GRATED INLET PIT
- GTD – GRATED TRENCH DRAIN
- eGTD – EXISTING GRATED TRENCH DRAIN
- OSD – ON-SITE DETENTION TANK
- IWT – IRRIGATION WATER COLLECTION TANK
- EXISTING CONTOURS

GENERAL NOTES

1. REFER SPECIFICATIONS NOTES FOR STORMWATER REQUIREMENTS.
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NOT FOR CONSTRUCTION

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

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR INFORMATION	MM		AC	15.06.23

CLIENT: flower power
DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED

ARCHITECT: LEFFLER SIMES ARCHITECTS

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

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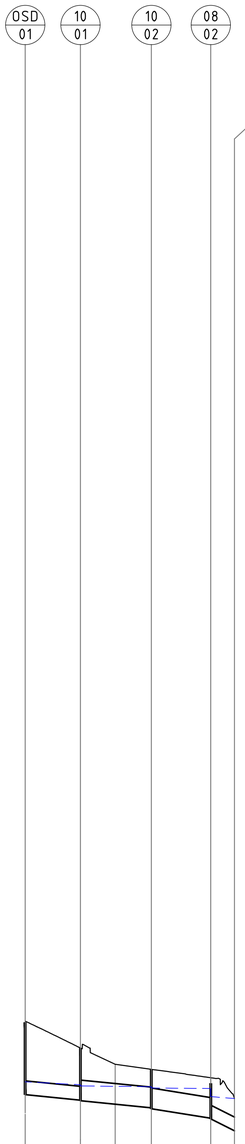
PROJECT: FLOWER POWER
277 MONA VALE ROAD,
TERREY HILLS NSW

DRAWING TITLE: CIVIL ENGINEERING PACKAGE
STORMWATER MANAGEMENT PLAN

JOB NUMBER: 211979
DRAWING NUMBER: DAC04.02
REVISION: 01
DRAWING SHEET SIZE = A1



PIPE CLASS	RRJ2	RRJ2	RRJ2	RRJ2
PIPE GRADE (%)	1.00	1.00	1.60	5.00
PIPE SIZE (mm)	450	675	675	450
Vf - FULL PIPE VELOCITY (m/s)	1.48	0.84	0.67	1.61
Q - PIPE FLOW (L/s)	228	231	240	255
Datum El. 187				
HGL 20%AEP	194.559 / 194.463	194.425 / 194.397	194.354 / 194.340	194.075 / 194.013
FINISHED SURFACE	196.500	195.661 / 195.13	194.965 / 194.96	194.503 / 194.613
INVERT LEVEL	194.140 / 193.960	193.940 / 193.709	193.680 / 193.370	193.347 / 192.960
CHAINAGE	0	18.04 / 29.38	41.19	60.59 / 68.33

1:1000 HORIZ 1:100 VERTICAL

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

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR INFORMATION	MM		AC	23.05.23
02	ISSUED FOR INFORMATION	MM		AC	12.02.24

CLIENT
flower power
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ARCHITECT
LEFFLER SIMES ARCHITECTS

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SCALE 1:1000 @ A1 (0 10 20 30 40 50m)
SCALE 1:100 @ A1 (0 1 2 3 4 5m)

NORTHROP
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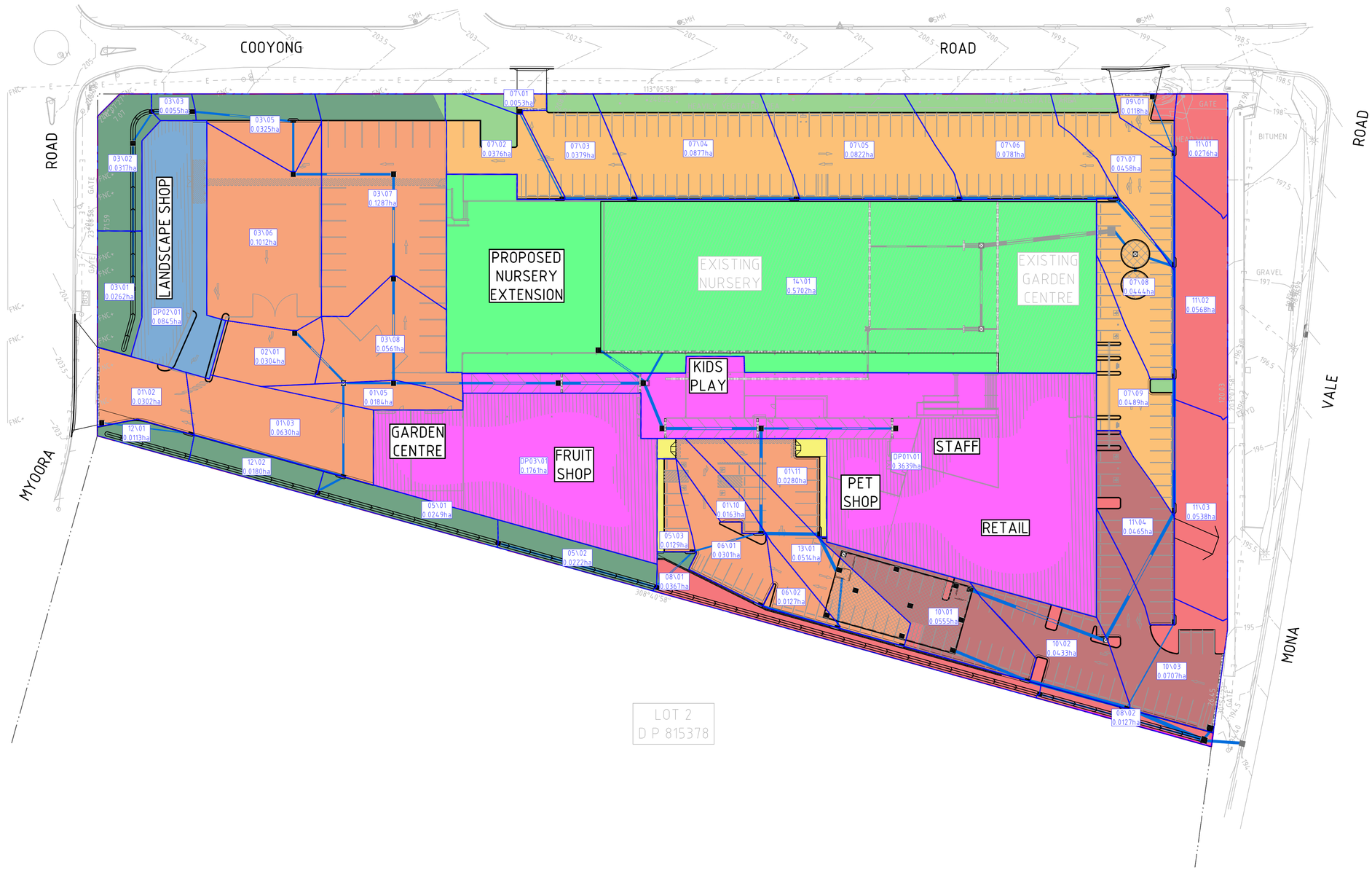
PROJECT
FLOWER POWER
277 MONA VALE ROAD,
TERREY HILLS NSW

DRAWING TITLE
CIVIL ENGINEERING PACKAGE
STORMWATER LONGITUDINAL SECTIONS - SHEET 01

JOB NUMBER **211979**
DRAWING NUMBER **DAC04.21**
REVISION **01**
DRAWING SHEET SIZE = A1



LEGEND

- SITE BOUNDARY LINE
- ADJACENT BOUNDARY LINE
- CATCHMENT BOUNDARY
- XX\XX X.XXXha — CATCHMENT TAG
- ROOF CATCHMENT TO RWT – 5,406m²
- ROOF CATCHMENT – 852m²
- EXISTING NURSERY CATCHMENT – 5,708m²
- ROAD CATCHMENT TO WQC – 5,676m²
- ROAD CATCHMENT TO WQC2 – 4,071m²
- FOOTPATH CATCHMENT – 110m²
- LANDSCAPE CATCHMENT TO WQC1 – 1,747m²
- LANDSCAPE CATCHMENT TO WQC2 – 709m²
- IMPERVIOUS OSD BYPASS TO STORMFILTER PIT – 1,979m²
- PERVIOUS OSD BYPASS TO STORMFILTER PIT – 2,041m²

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

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR INFORMATION	MM		AC	23.05.23
02	ISSUED FOR INFORMATION	MM		AC	15.06.23

CLIENT: flower power

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ARCHITECT: LEFFLER SIMES ARCHITECTS

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SCALE 1:500@ A1 — 0 5 10 15 20 25m

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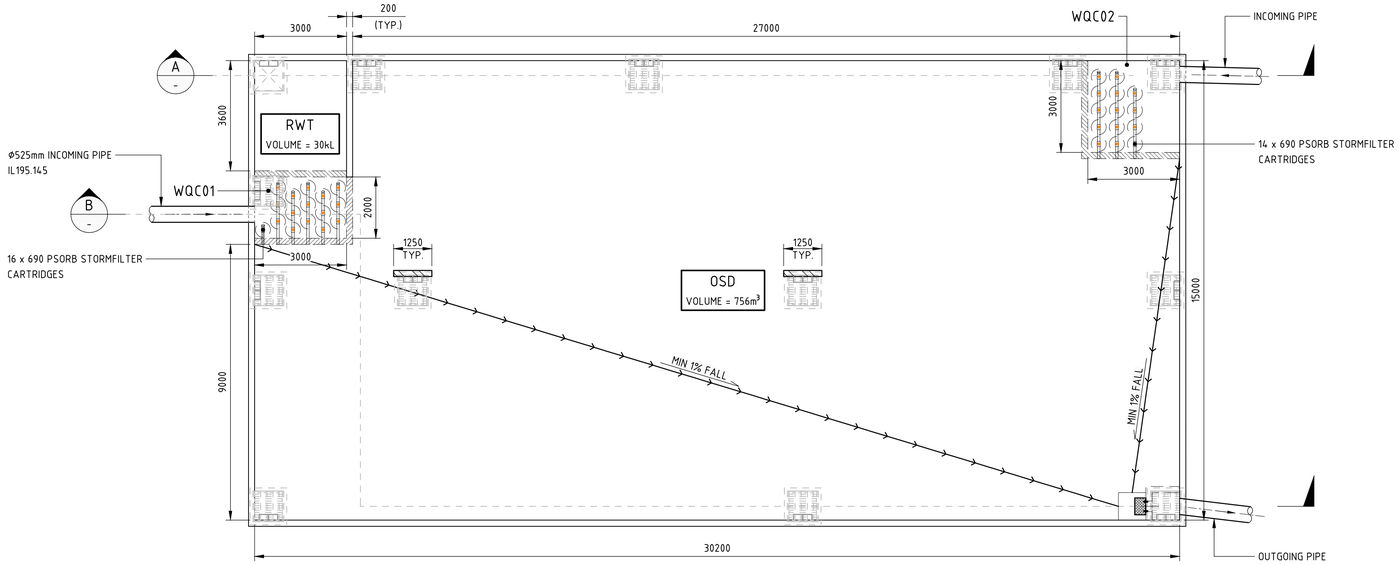
Email sydney@northrop.com.au ABN 81 094 433 100

PROJECT: FLOWER POWER
277 MONA VALE ROAD,
TERREY HILLS NSW

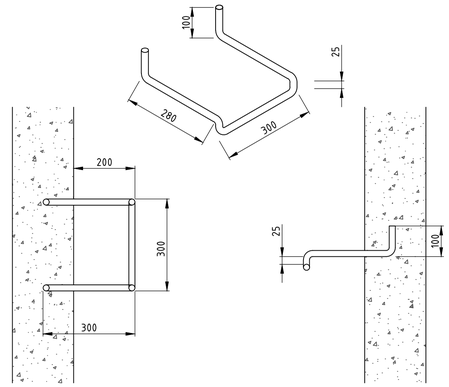
DRAWING TITLE: CIVIL ENGINEERING PACKAGE
STORMWATER CATCHMENT PLAN

JOB NUMBER: 211979
DRAWING NUMBER: DAC05.01
REVISION: 02
DRAWING SHEET SIZE = A1



OSD BASE PLAN

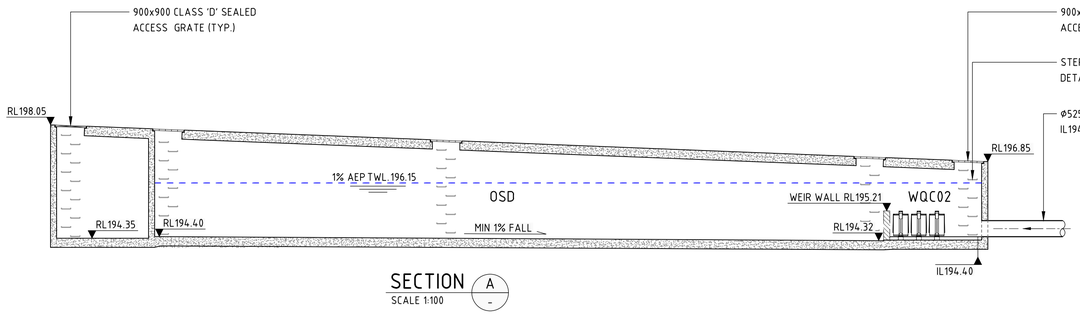
SCALE 1:100



STEP IRON DETAIL

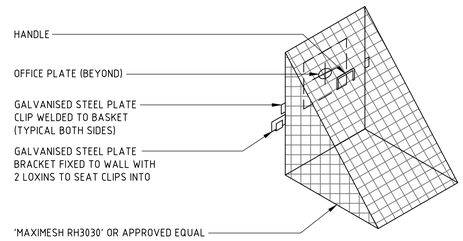
STEP IRON OF 20mm GALVANISED STEEL MADE TO SHAPE AND DIMENSIONS AS SHOWN, PLACED AT 300 CENTRES AND STAGGERED HORIZONTALLY FOR ALL PITS DEEPER THAN 1.0m. THE USE OF PROPRIETARY STEP IRONS ARE ACCEPTABLE PROVIDED THE PRODUCT IS IN ACCORDANCE WITH AUSTRALIAN STANDARDS

SCALE 1:10



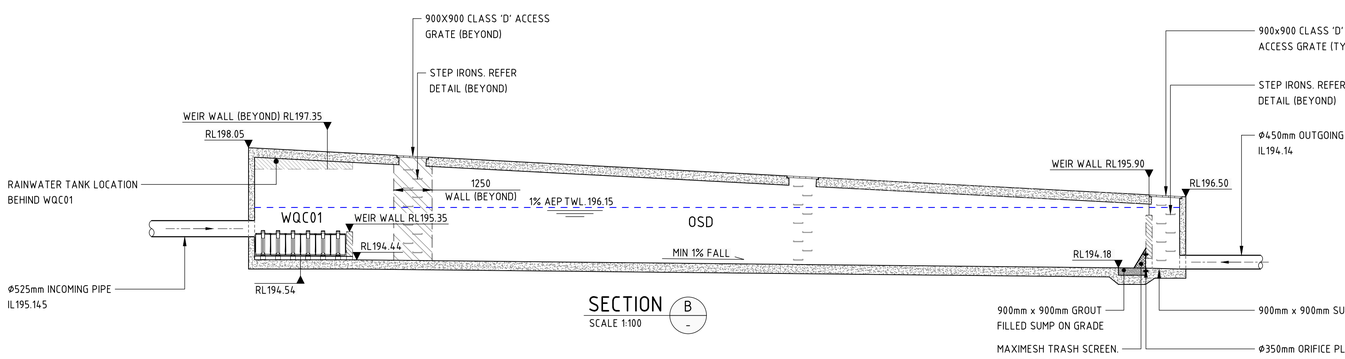
SECTION A

SCALE 1:100



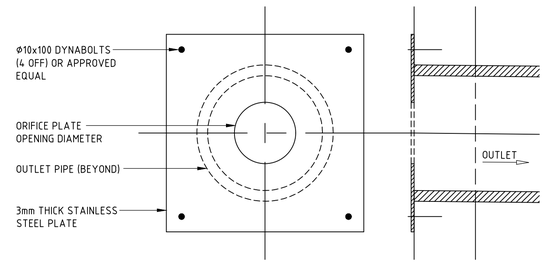
TRASH SCREEN DETAIL

SCALE 1:10



SECTION B

SCALE 1:100



ORIFICE PLATE DETAIL

- ORIFICE PLATE - ø350mm

SCALE 1:10

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

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR INFORMATION	MM		AC	23.05.23
04	ISSUED FOR INFORMATION	MM		AC	15.06.23

CLIENT: flower power

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ARCHITECT: LEFFLER SIMES ARCHITECTS

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SCALE 1:100 @ A1
SCALE 1:10 @ A1

0 1 2 3 4 5m
0.0 0.1 0.2 0.3 0.4 0.5m

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277 MONA VALE ROAD,
TERREY HILLS NSW

DRAWING TITLE: **CIVIL ENGINEERING PACKAGE**

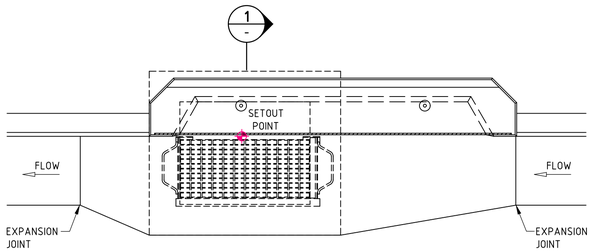
STORMWATER MANAGEMENT DETAILS - SHEET 01

JOB NUMBER: **211979**

DRAWING NUMBER: **DAC06.01**

REVISION: **02**

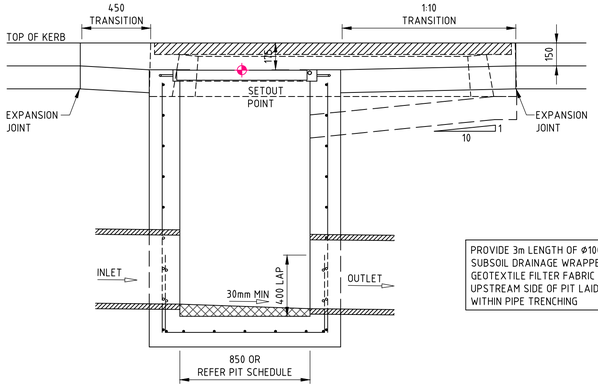
DRAWING SHEET SIZE = A1



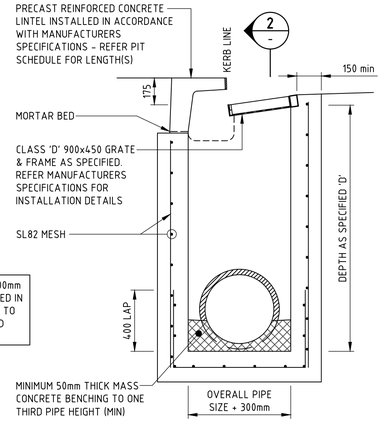
PLAN

FOR SAG PITS, ENSURE PIT LINTEL IS LOCATED CENTRAL TO PIT GRATE AND FRAME AND 1:10 CHUTE IS CONSTRUCTED TO BOTH SIDES OF PIT

REFER EXTENDED CHAMBER PIT DETAIL FOR PIPEWORK IN EXCESS OF Φ450 AND WHERE REQUIRED



PROVIDE 3m LENGTH OF Φ100mm SUBSOIL DRAINAGE WRAPPED IN GEOTEXTILE FILTER FABRIC TO UPSTREAM SIDE OF PIT LAID WITHIN PIPE TRENCHING

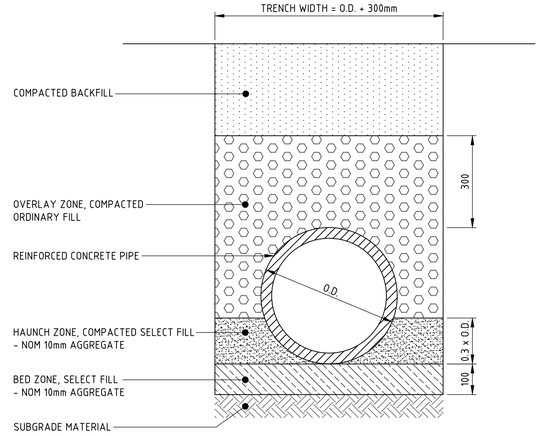


SECTION 2 -

SECTION 1 -

KERB INLET PIT 'KIP'

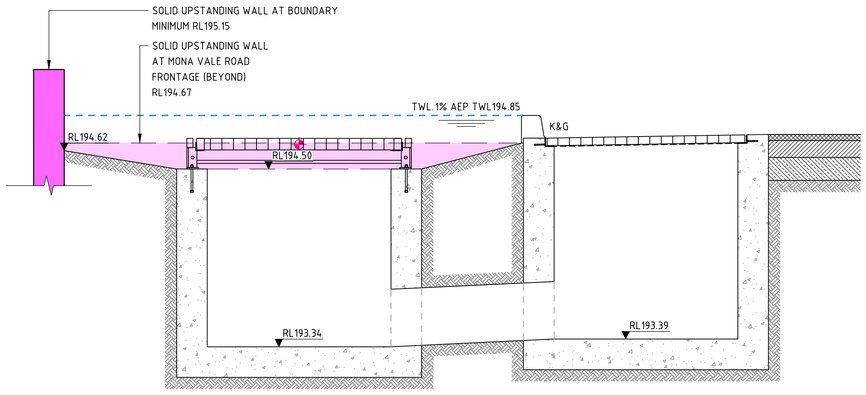
PIT STRUCTURE TO BE 200mm THICK UNLESS SHOWN OTHERWISE. DRILL AND EPOXY PLASTIC PROPRIETARY STEP IRONS IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND MANUFACTURERS SPECIFICATIONS (PITS > 1000mm DEPTH).
REFER PIT INTERFACE DETAIL 'F' FOR CORNER REINFORCEMENT
SCALE 1:20



TYPICAL PIPE TRENCH - GENERAL AREAS

1. TRENCH WIDTH MAY NEED TO BE INCREASED SUBJECT TO ACHIEVING COMPACTION. ENSURE MINIMUM 300mm CLEARANCE BETWEEN, WHEN USING MULTIPLE PIPES TO ACHIEVE ADEQUATE COMPACTION.
2. MINIMUM PIPE COVER NOT UNDER ROADS TO BE 300mm U.N.O.
3. THE CONTRACTOR SHALL ENSURE THAT SHORING OF TRENCHES IS INSTALLED AS REQUIRED BY STATUTORY REQUIREMENTS.
4. ENSURE BACKFILLING COMPACTION MEETS THE FOLLOWING STANDARDS;
   - 4.1. TRENCHES UNDER PAVED AREAS / BUILDING - 100% SMDD
   - 4.2. TRENCHES NOT UNDER PAVEMENTS - 95% SMDD

SCALE 1:10



UPSTANDING WALL TYPICAL SECTION A C04.01

SCALE 1:20

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

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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR INFORMATION	MM		AC	15.06.23

CLIENT: flower power

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ARCHITECT: LEFFLER SIMES ARCHITECTS

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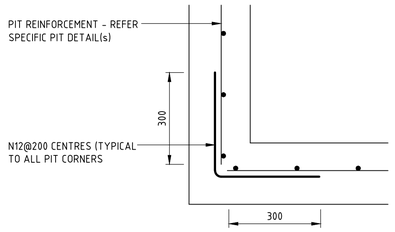
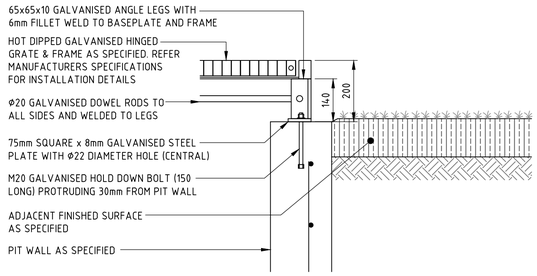
DRAWING TITLE: CIVIL ENGINEERING PACKAGE
STORMWATER MANAGEMENT DETAILS - SHEET 02

JOB NUMBER: 211979
DRAWING NUMBER: DAC06.02
REVISION: 01
DRAWING SHEET SIZE = A1



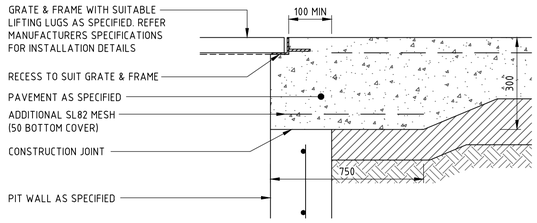
PIT INTERFACE (PLAN VIEW)

APPLICABLE TO ALL STORMWATER DRAINAGE STRUCTURES
SCALE 1:10



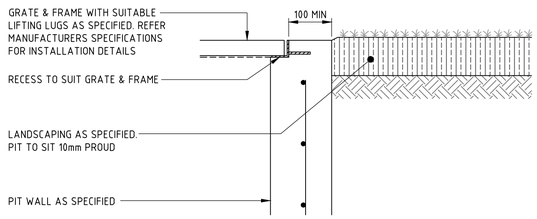
PIT INTERFACE - DETAIL 'D'

SCALE 1:10



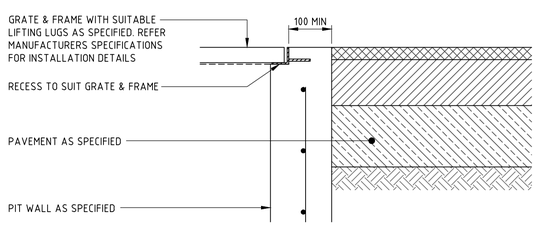
PIT INTERFACE - DETAIL 'C'

SCALE 1:10



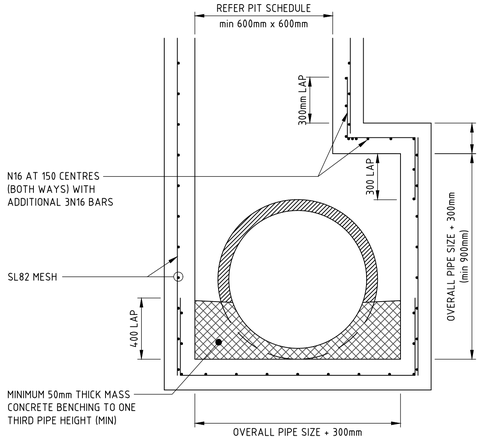
PIT INTERFACE - DETAIL 'B'

SCALE 1:10

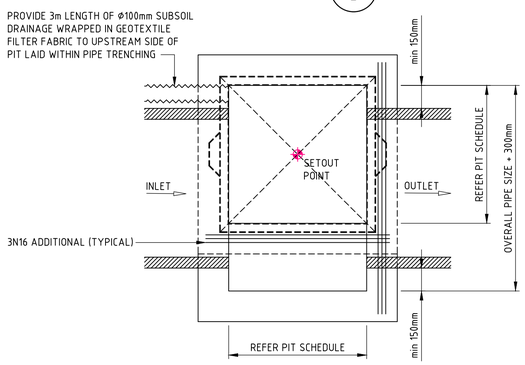


PIT INTERFACE - DETAIL 'A'

SCALE 1:10

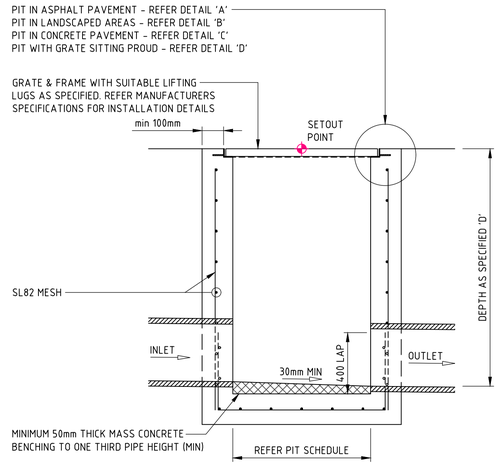


SECTION 1/-



PLAN
DRAINAGE PIT - EXTENDED CHAMBER

PIT STRUCTURE TO BE 200mm THICK UNLESS SHOWN OTHERWISE. DRILL AND EPOXY PLASTIC PROPRIETARY STEP IRONS IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND MANUFACTURERS SPECIFICATIONS (PITS > 1000mm DEPTH).
REFER PIT INTERFACE DETAIL 'F' FOR CORNER REINFORCEMENT
SCALE 1:20



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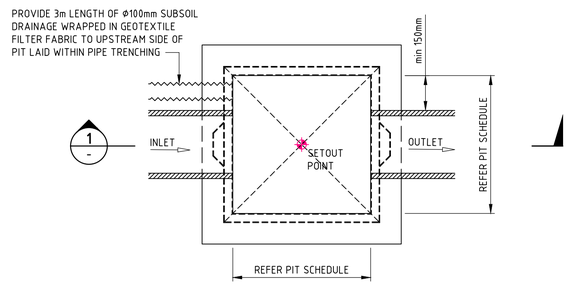
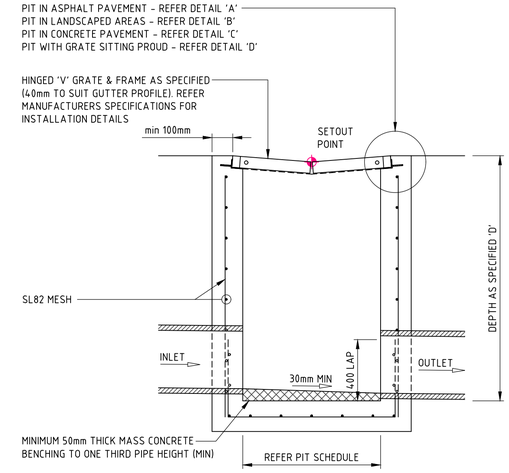


PLAN
SURFACE INLET 'SIP' / JUNCTION PIT 'JP'

PIT STRUCTURE TO BE 200mm THICK UNLESS SHOWN OTHERWISE. DRILL AND EPOXY PLASTIC PROPRIETARY STEP IRONS IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND MANUFACTURERS SPECIFICATIONS (PITS > 1000mm DEPTH).
REFER PIT INTERFACE DETAIL 'F' FOR CORNER REINFORCEMENT
SCALE 1:20



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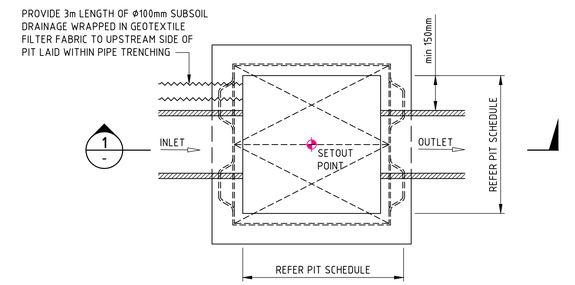

PLAN
DISH DRAIN / 'V' GRATE PIT

PIT STRUCTURE TO BE 200mm THICK UNLESS SHOWN OTHERWISE. DRILL AND EPOXY PLASTIC PROPRIETARY STEP IRONS IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND MANUFACTURERS SPECIFICATIONS (PITS > 1000mm DEPTH).
REFER PIT INTERFACE DETAIL 'F' FOR CORNER REINFORCEMENT
SCALE 1:20

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

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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR INFORMATION	MM		AC	15.06.23

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SCALE 1:20@ A1 — 0.0 0.2 0.4 0.6 0.8 1.0m

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DRAWING TITLE: **CIVIL ENGINEERING PACKAGE**

STORMWATER MANAGEMENT DETAILS - SHEET 03

JOB NUMBER: **211979**
DRAWING NUMBER: **DAC06.03**
REVISION: **01**
DRAWING SHEET SIZE = A1