

SYDNEY HELICOPTERS

89-151 OLD CASTLEREAGH ROAD, CASTLEREAGH
CIVIL ENGINEERING PACKAGE



LOCALITY PLAN

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CIVIL DRAWING SCHEDULE

DWG No.	DRAWING TITLE
DAC01.01	COVER SHEET, DRAWING SCHEDULE AND LOCALITY PLAN
DAC01.11	SPECIFICATION NOTES
DAC02.01	CONCEPT SEDIMENT AND SOIL EROSION CONTROL PLAN
DAC02.11	SEDIMENT AND SOIL EROSION CONTROL DETAILS
DAC04.01	SITWORKS AND STORMWATER MANAGEMENT PLAN
DAC05.11	STORMWATER LONGITUDINAL SECTIONS - SHEET 01
DAC05.11	STORMWATER CATCHMENT PLAN
DAC10.01	DETAILS - SHEET 01

DRAWN: A.SUTHIPHOSUWAN DESIGNED: E.JACOBS JOB MANAGER: S.NOBLE VERIFIER:

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR APPROVAL	XX	XX	SN	X30.XX.XX

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SCALE 1:1250 @ A1

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PROJECT

SYDNEY HELICOPTERS
89-151 OLD CASTLEREAGH ROAD, CASTLEREAGH

DRAWING TITLE

CIVIL ENGINEERING PACKAGE
COVER SHEET, DRAWING SCHEDULE AND LOCALITY PLAN

JOB NUMBER

201524

DRAWING NUMBER	REVISION
DAC01.01	1

DRAWING SHEET SIZE = A1

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FILENAME: C:\Users\jacobson\Documents\2015\201507\Northrop\89-151 Old Castlereagh Road\89-151 Old Castlereagh Road_Civil_Engineering_Package_Drawing.dwg

NOTE: ALL CIVIL ENGINEERING CONSTRUCTION WORKS TO BE CARRIED OUT IN ACCORDANCE WITH PENRITH CITY 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 1 DATA WAS SUPPLIED BY CRAIG & RHODES SURVEYORS PLANNERS CIVIL & STRUCTURAL ENGINEERS
DRAWING NAME: 1740117 [00] acad 2000
DRAWING DATED 13/12/2011

DETAIL SURVEY 2 DATA WAS SUPPLIED BY MATTHEW FREEBURN
DRAWING DATED 27/07&09/08/2021
DRAWING NAME: 37786DETAIL

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

- ALL DRAINAGE LINES SHALL BE UPVC (CLASS SN4) SEWER GRADE DRAINAGE PIPE, U.N.O.
- ALL DRAINAGE LINES SHALL BE LAID AT 1% MIN. FALL, UNO.
- ALL LEVELS ARE AUSTRALIAN HEIGHT DATUM (AHD).
- ALL DOWNPIPES/GUTTERS TO BE DESIGNED IN ACCORDANCE WITH AS/NZS 3500.3.2 - 2003 'STORMWATER' DRAINAGE.
- THE STORMWATER DRAINAGE DESIGN HAS BEEN CARRIED OUT IN ACCORDANCE WITH AS/NZS 3500.3.2-2003 'STORMWATER' DRAINAGE.
- ANY VARIATIONS TO THE NOMINATED LEVELS SHALL BE REFERRED TO ENGINEER IMMEDIATELY.
- SUBSOIL DRAINAGE SHALL BE PROVIDED TO ALL RETAINING WALLS & EMBANKMENTS, WITH THE LINES FEEDING INTO THE STORMWATER DRAINAGE SYSTEM.
- ALL GRATES TO BE GALVANISED STEEL WITH HINGES AND CHILD PROOF LOCK.
- ALL GRATES TO BE HEEL SAFE WITHIN AGED CARE DEVELOPMENTS.
- THE STORMWATER DRAINAGE IS DESIGNED IN ACCORDANCE WITH COUNCIL'S STORMWATER DRAINAGE POLICY.

RAINWATER RE-USE

- PROVIDE RAINWATER RE-USE SYSTEM TO SUPPLY WATER FOR TOILET FLUSHING AND IRRIGATION.
- GUTTER GUARD TO BE INSTALLED ON ALL EAVES GUTTERS.
- A PERMANENT SIGN IS TO BE LOCATED IN THE VICINITY OF THE TANK STATING THE WATER IS "NON POTABLE WATER" WITH APPROPRIATE HAZARD IDENTIFICATION.
- PIPEWORK USED FOR RAINWATER SERVICES SHALL BE COLOURED LILAC IN ACCORDANCE WITH AS1345.
- ALL VALVES AND APERTURES SHALL BE CLEARLY AND PERMANENTLY LABELLED WITH SAFETY SIGNS TO COMPLY WITH AS1319.
- 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.
- A FIRST FLUSH FILTRATION DEVICE IS TO BE PROVIDED AT RAINWATER TANK OR ON ALL DOWNPIPES.

DESIGN SUMMARY

CATCHMENT CALCULATIONS:

CATCHMENT	AREA (m ² / %)	SOURCE NODE TYPE	TREATMENT
HARDSTAND AREA	1,203m ² (33%)	INDUSTRIAL, 100% IMPERVIOUS	RAINGARDEN
BATTERS AND DISTURBED LANDSCAPE	1,314m ² (36%)	INDUSTRIAL, 99% PERVIOUS	LANDSCAPE BUFFER AND APPROX 30% TO RAINGARDEN
EXISTING OFFICE ROOF	1,117m ² (31%)	ROOF AREA, 100% IMPERVIOUS	RAINWATER TANK

WATER QUALITY:

MUSIC MODEL SUMMARY (REFER STORMWATER MANAGEMENT AND WSUD STRATEGY REPORT BY NORTHPROP FOR FURTHER INFORMATION.

MUSIC MODEL PARAMETERS ARE IN ACCORDANCE WITH PENRITH COUNCIL'S WATER SENSITIVE URBAN DESIGN TECHNICAL GUIDELINES.

TREATMENT TRAIN:

- RAINWATER RE-USE TANK
- RAINGARDEN
- LANDSCAPED BUFFERS

RESULTS:

POLLUTANT	REDUCTION STANDARDS	REDUCTION ACHIEVED
GROSS POLLUTANTS	90%	99.7%
TOTAL SUSPENDED SOLIDS	85%	85%
TOTAL PHOSPHORUS	60%	69%
TOTAL NITROGEN	45%	61.2%

RAINWATER RE-USE:

PENRITH COUNCIL REQUIREMENT - RAINWATER TO SUPPLY 80% OF NON-POTABLE DEMAND FOR THE DEVELOPMENT.

RAINWATER RE-USE STORAGE REQUIRED TO MEET REQUIREMENT = 75m³

- RAINWATER RE-USE TO BE USED FOR THE FOLLOWING;
- TOILET FLUSHING (5 TOILETS)
 - IRRIGATION OF 1,000sqm

CONCEPT SOIL & WATER MANAGEMENT

- 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.
- 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'.
- ESTABLISH ALL REQUIRED SEDIMENT FENCES IN ACCORDANCE WITH DETAIL SD6-8 OF THE 'BLUE BOOK'.
- INSTALL SEDIMENT FENCING AROUND INDIVIDUAL BUILDING ZONES/AREAS AS REQUIRED AND AS DIRECTED BY THE SUPERINTENDENT.
- 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.
- 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.
- ALL VEGETATION TO BE REMOVED SHALL BE MULCHED ONSITE AND SPREAD/STOCKPILED AS DIRECTED BY THE SUPERINTENDENT.
- 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.
- 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).
- ENSURE STOCKPILES DO NOT EXCEED 2.0m HIGH. PROVIDE WIND AND RAIN EROSION PROTECTION AS REQUIRED IN ACCORDANCE WITH THE 'BLUE BOOK'.
- PROVIDE WATER TRUCKS OR SPRINKLER DEVICES DURING CONSTRUCTION AS REQUIRED TO SUPPRESS DUST.
- 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.
- 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.
- GROUNDWATER SEEPAGE RATES AND QUALITY TO BE MONITORED AND TREATED IF REQUIRED DURING CONSTRUCTION IN ACCORDANCE WITH REQUIREMENTS OF SUPERVISING GEOTECHNICAL ENGINEER.

DRAWN: A.SUTHIPHOSUWAN DESIGNED: E.JACOBS JOB MANAGER: S.NOBLE VERIFIER:

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PROJECT
SYDNEY HELICOPTERS
89-151 OLD CASTLEREAGH ROAD, CASTLEREAGH

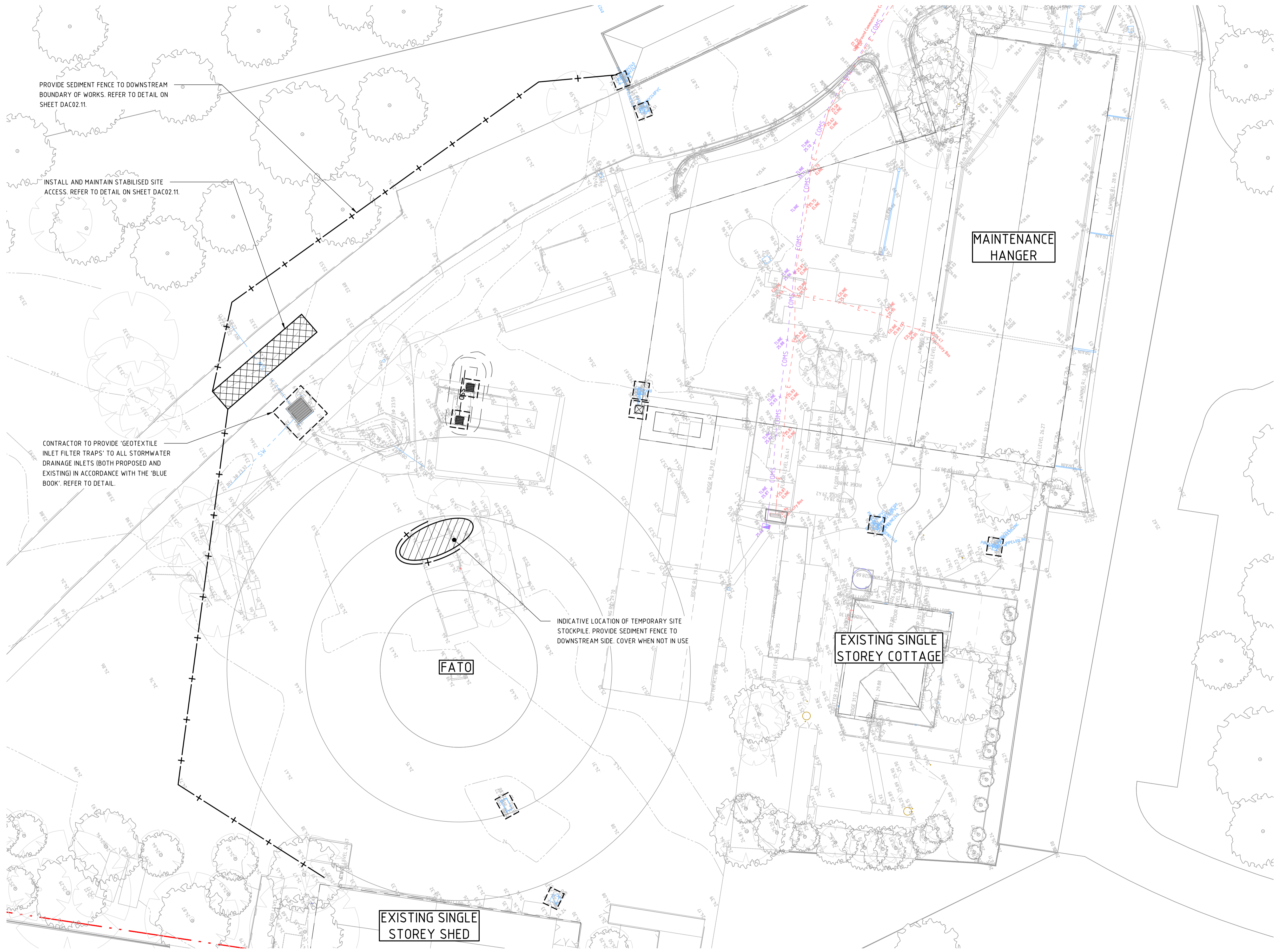
DRAWING TITLE
CIVIL ENGINEERING PACKAGE
SPECIFICATION NOTES

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PROVIDE SEDIMENT FENCE TO DOWNSTREAM BOUNDARY OF WORKS. REFER TO DETAIL ON SHEET DAC02.11.

INSTALL AND MAINTAIN STABILISED SITE ACCESS. REFER TO DETAIL ON SHEET DAC02.11.

CONTRACTOR TO PROVIDE 'GEOTEXTILE INLET FILTER TRAPS' TO ALL STORMWATER DRAINAGE INLETS (BOTH PROPOSED AND EXISTING) IN ACCORDANCE WITH THE 'BLUE BOOK'. REFER TO DETAIL.

INDICATIVE LOCATION OF TEMPORARY SITE STOCKPILE. PROVIDE SEDIMENT FENCE TO DOWNSTREAM SIDE. COVER WHEN NOT IN USE

DRAWN: A.SUTHIPHOSUWAN DESIGNED: E.JACOBS VERIFIER: S.NOBLE JOB MANAGER: S.NOBLE

LEGEND	
	SITE BOUNDARY LINE
	EXISTING ELECTRICITY
	EXISTING TELECOMMUNICATIONS
	EXISTING STORMWATER
	EXISTING SEWER
	EXISTING CONTOURS
	SEDIMENT FENCE
	SECURITY FENCE
	GEOTEXTILE INLET FILTER TRAPS
	SITE ACCESS GATE
	STABILISED SITE ACCESS
	STOCKPILE

- GENERAL NOTES:**
- REFER SPECIFICATIONS NOTES FOR SEDIMENT AND SOIL EROSION CONTROL GENERAL REQUIREMENTS.
 - ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH PENRITH LAKES SEPP / PENRITH CITY 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'.
 - CONTRACTOR TO IMMEDIATELY TOP SOIL AND TURF ALL AREAS DISTURBED BY THE WORKS TO MINIMISE SEDIMENT RUNOFF.

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PROJECT

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DRAWING TITLE

CIVIL ENGINEERING PACKAGE
CONCEPT SEDIMENT AND SOIL EROSION CONTROL PLAN

JOB NUMBER

201524

DRAWING NUMBER

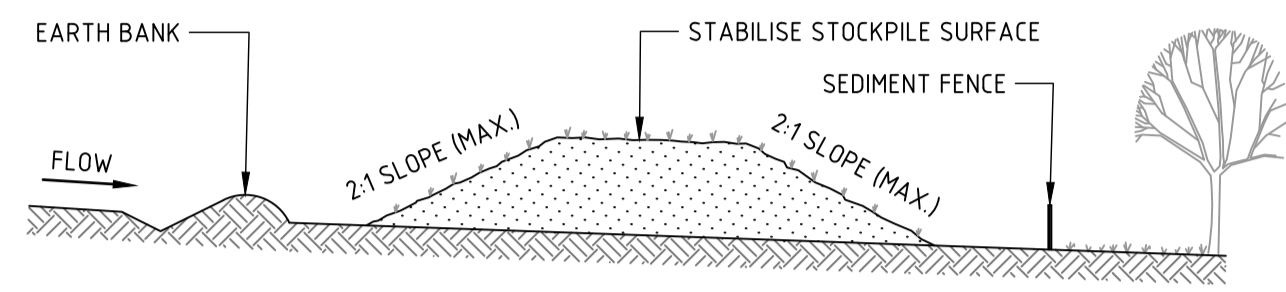
DAC02.01

REVISION

1

DRAWING SHEET SIZE = A1

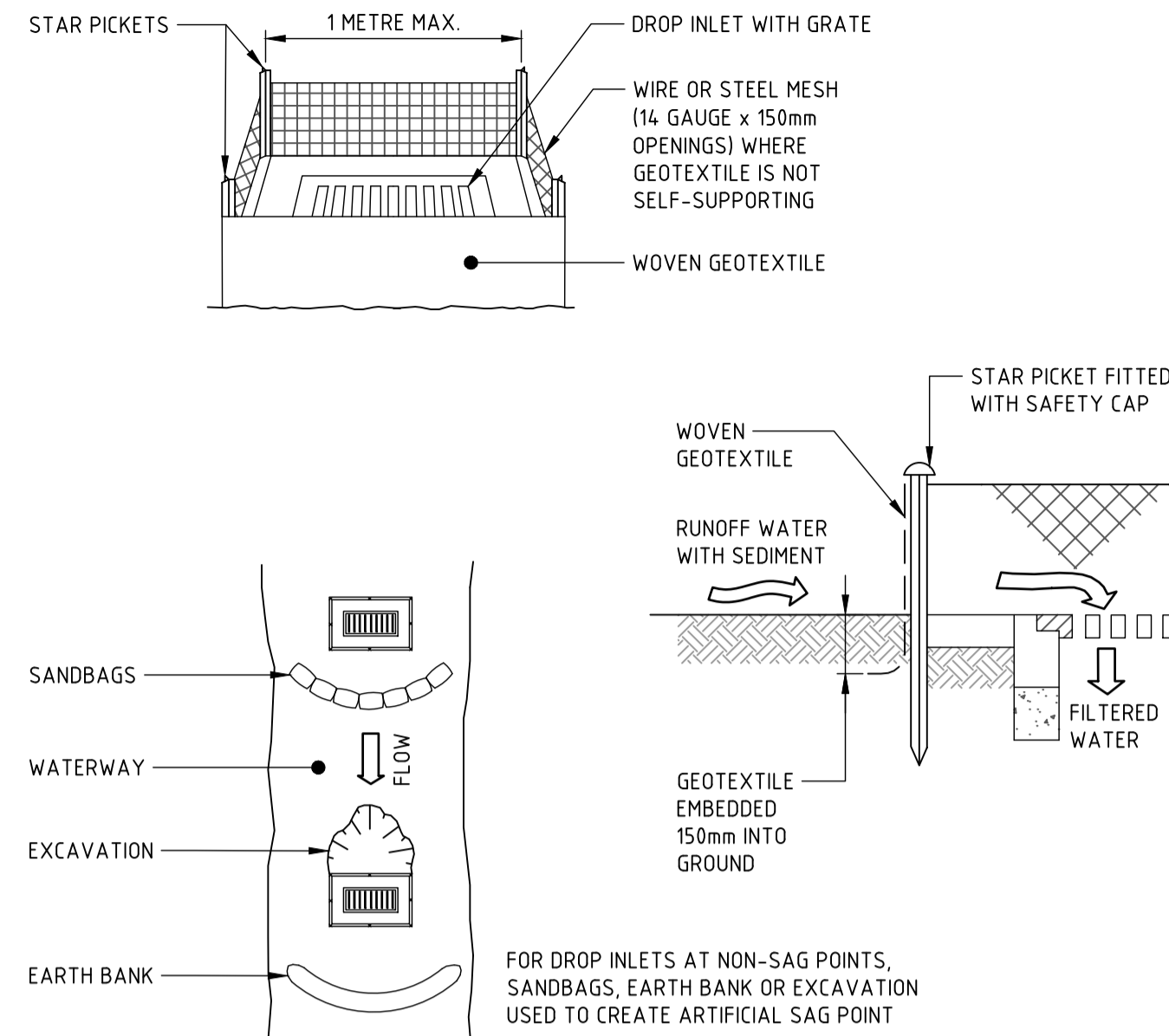
PROJECT: C:\Users\jacobson\Documents\Projects\201524\201524_01.dwg



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.

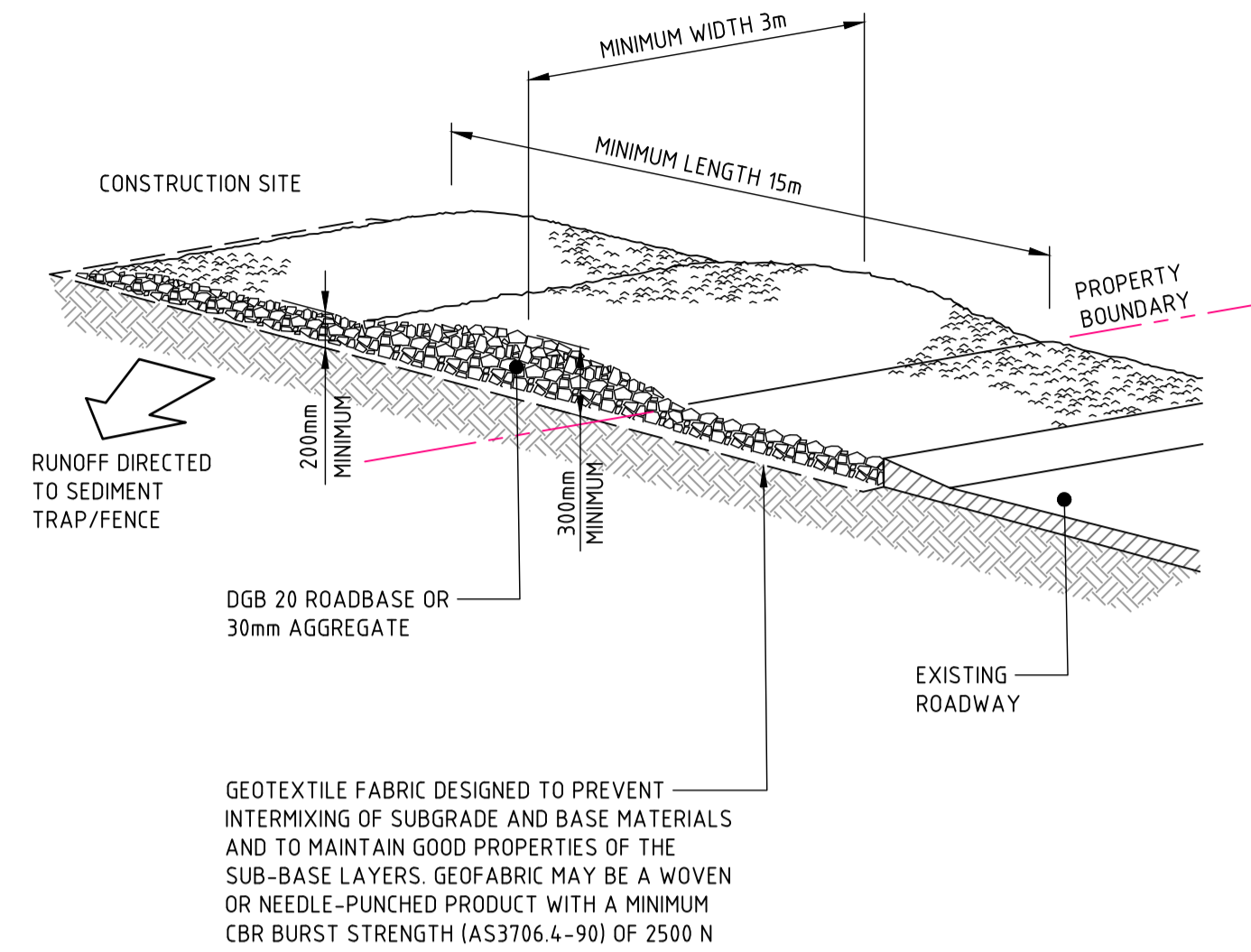
STOCKPILE



CONSTRUCTION NOTES

1. 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.

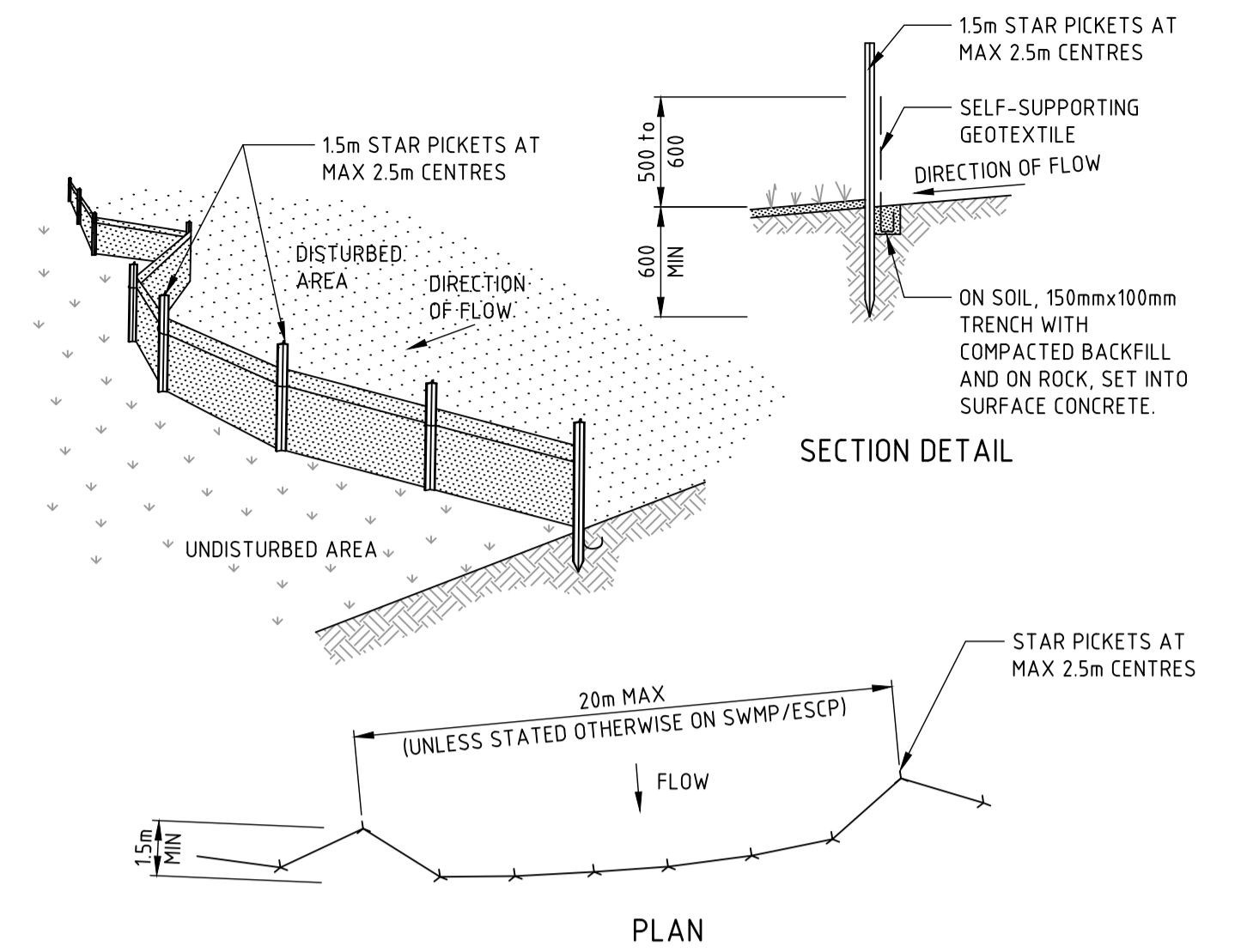
GEOTEXTILE INLET FILTER TRAPS



CONSTRUCTION NOTES

1. STRIP THE TOPSOIL, LEVEL THE SITE AND COMPACT THE SUBGRADE.
2. COVER THE AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
3. CONSTRUCT A 200mm THICK PAD OVER THE GEOTEXTILE USING ROAD BASE OR 30mm AGGREGATE.
4. ENSURE THE STRUCTURE IS AT LEAST 15 METRES LONG OR TO BUILDING ALIGNMENT AND AT LEAST 3 METRES WIDE.
5. WHERE A SEDIMENT FENCE JOINS ONTO THE STABILISED ACCESS, CONSTRUCT A HUMP IN THE STABILISED ACCESS TO DIVERT WATER TO THE SEDIMENT FENCE.

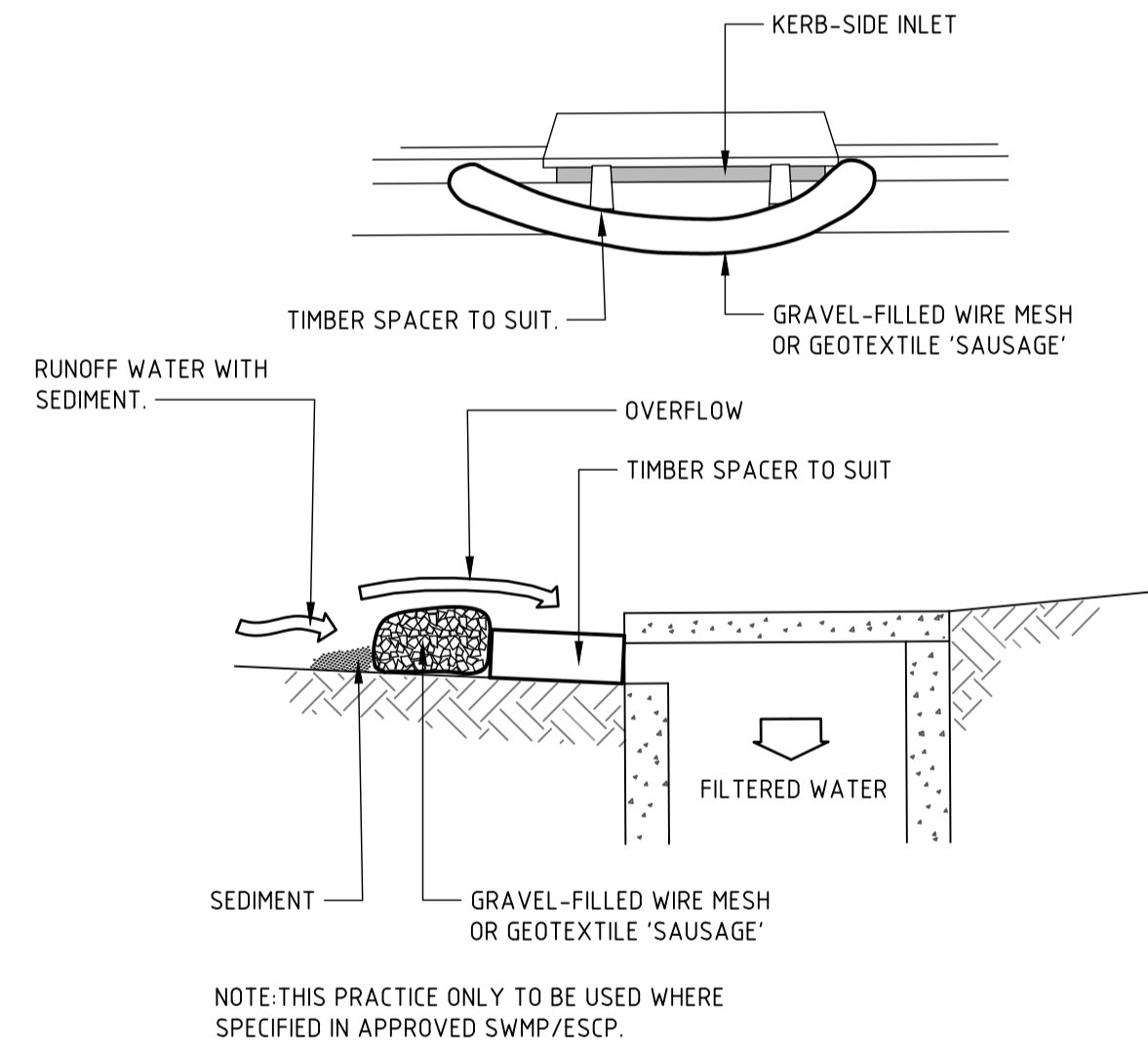
STABILISED SITE ACCESS



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 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. 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

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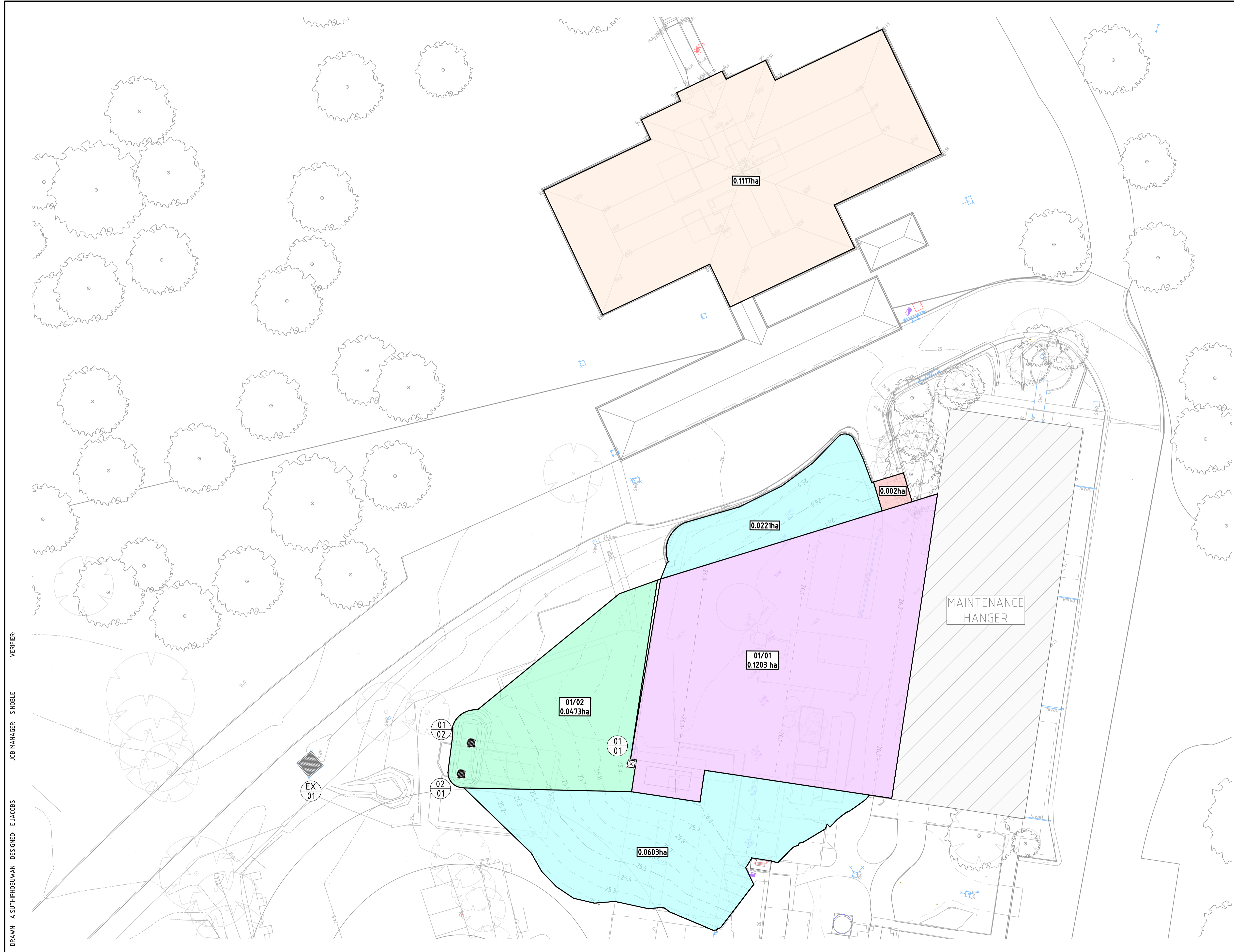
DRAWING TITLE: **CIVIL ENGINEERING PACKAGE**
SEDIMENT AND SOIL EROSION CONTROL DETAILS

JOB NUMBER: **201524**

DRAWING NUMBER	REVISION
DAC02.11	1

DRAWING SHEET SIZE = A1

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LEGEND	
	SITE BOUNDARY LINE
	EXISTING CONTOURS
	CATCHMENT BOUNDARY
	EXISTING DRAINAGE STRUCTURE
	NEW DRAINAGE STRUCTURE
	STORMWATER PIT TAG LINE ID / STRUCTURE No
	EXISTING OFFICE BUILDING ROOF TO RAINWATER REUSE TANKS
	PROPOSED HARDSTAND TO RAINGARDEN
	IMPERVIOUS AREA BYPASS
	LANDSCAPING TO RAINGARDEN
	LANDSCAPING BUFFER
	CATCHMENT'S STORMWATER PIT ID CATCHMENT AREA (ha)

GENERAL NOTES:	
1.	REFER TO STORMWATER MANAGEMENT AND WSUD REPORT AND MUSIC MODEL FOR FURTHER INFORMATION

DRAWN: A.SUTHIPHOSUWAN DESIGNED: E.JACOBS
 JOB MANAGER: S.NOBLE
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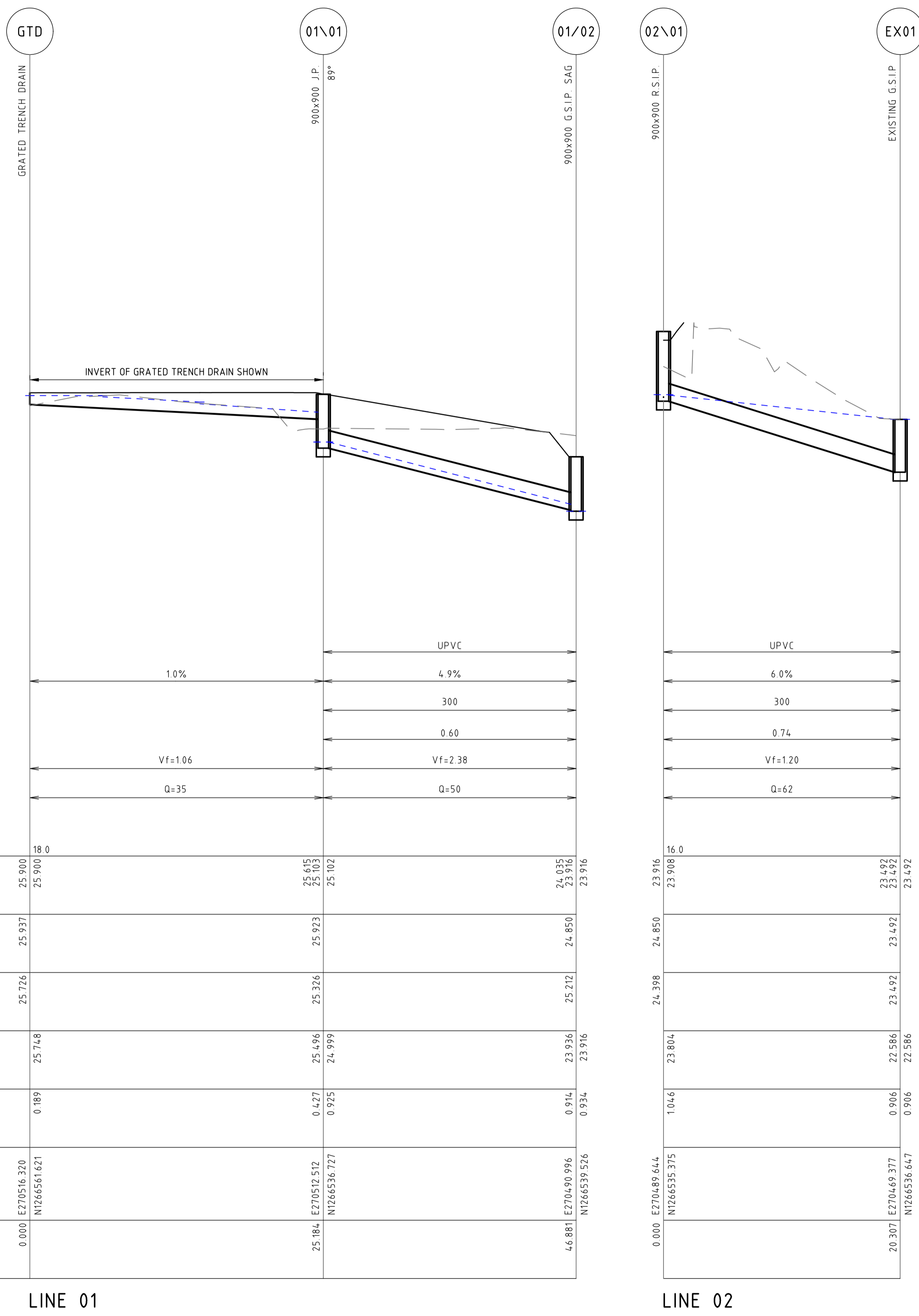
DRAWING TITLE

CIVIL ENGINEERING PACKAGE
STORMWATER CATCHMENT PLAN

JOB NUMBER 201524	
DRAWING NUMBER DAC05.41	REVISION 1
DRAWING SHEET SIZE = A1	

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PIPE CLASS
 PIPE GRADE (%)
 PIPE SIZE (mm)
 MINIMUM COVER (m)
 Vf - FULL PIPE VELOCITY (m/s)
 Q - PIPE FLOW (L/s)

	LINE 01	LINE 02
DATUM RL	18.0	16.0
H.G.L.	25.900 25.900	23.916 23.908
FINISHED SURFACE	25.937	24.850
NATURAL SURFACE	25.726	23.492
PIPE INVERT LEVEL	25.748 25.496 24.999	23.936 22.586 22.586
DEPTH TO INVERT	0.189 0.427 0.925	0.906 0.906 0.906
CO-ORDINATED SETOUT	0.000 E270516.320 N1266536.621	0.000 E270489.644 N1266535.375
CHAINAGE	25.184 E270512.512 N1266536.727	20.307 E270469.377 N1266536.647

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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR APPROVAL	AS		SN	30.09.21

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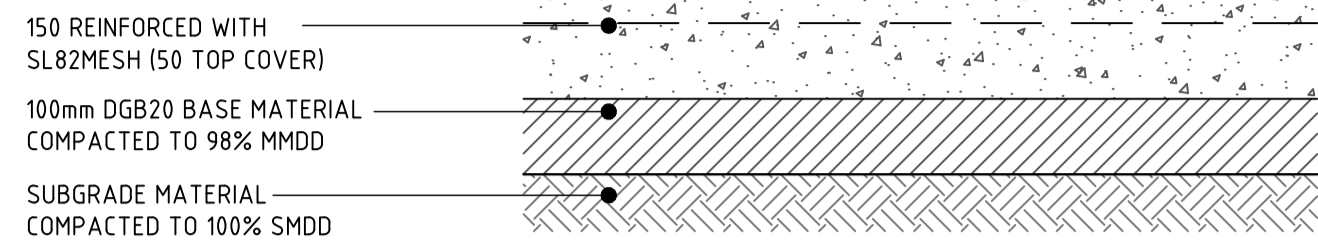
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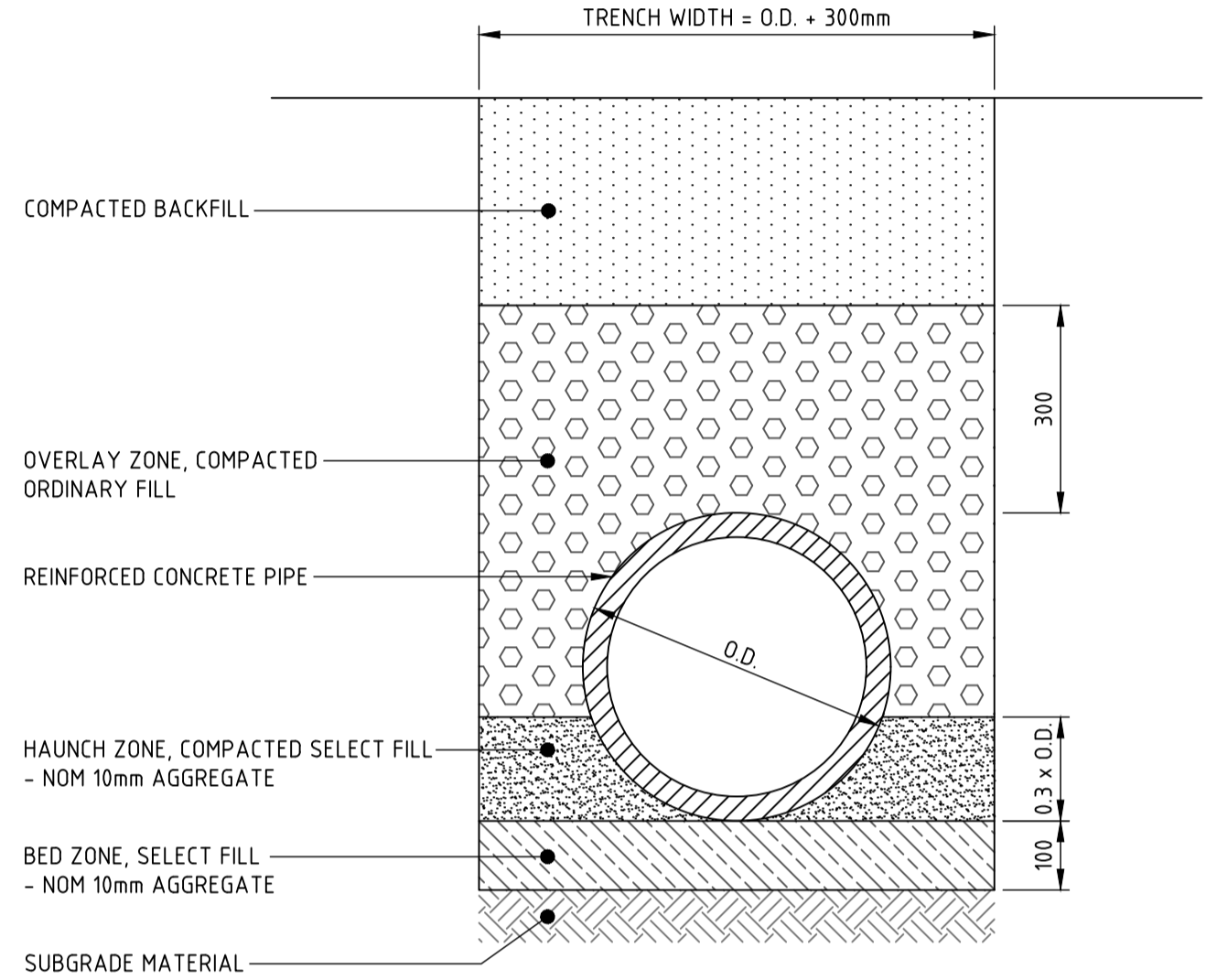
DRAWING TITLE
CIVIL ENGINEERING PACKAGE
STORMWATER LONGITUDINAL SECTIONS - SHEET 01

JOB NUMBER 201524	
DRAWING NUMBER DAC05.11	REVISION 1
DRAWING SHEET SIZE = A1	

P:\Projects\201524\Drawings\Stormwater\DAC05.11\Stormwater Longitudinal Sections - Sheet 01.dwg

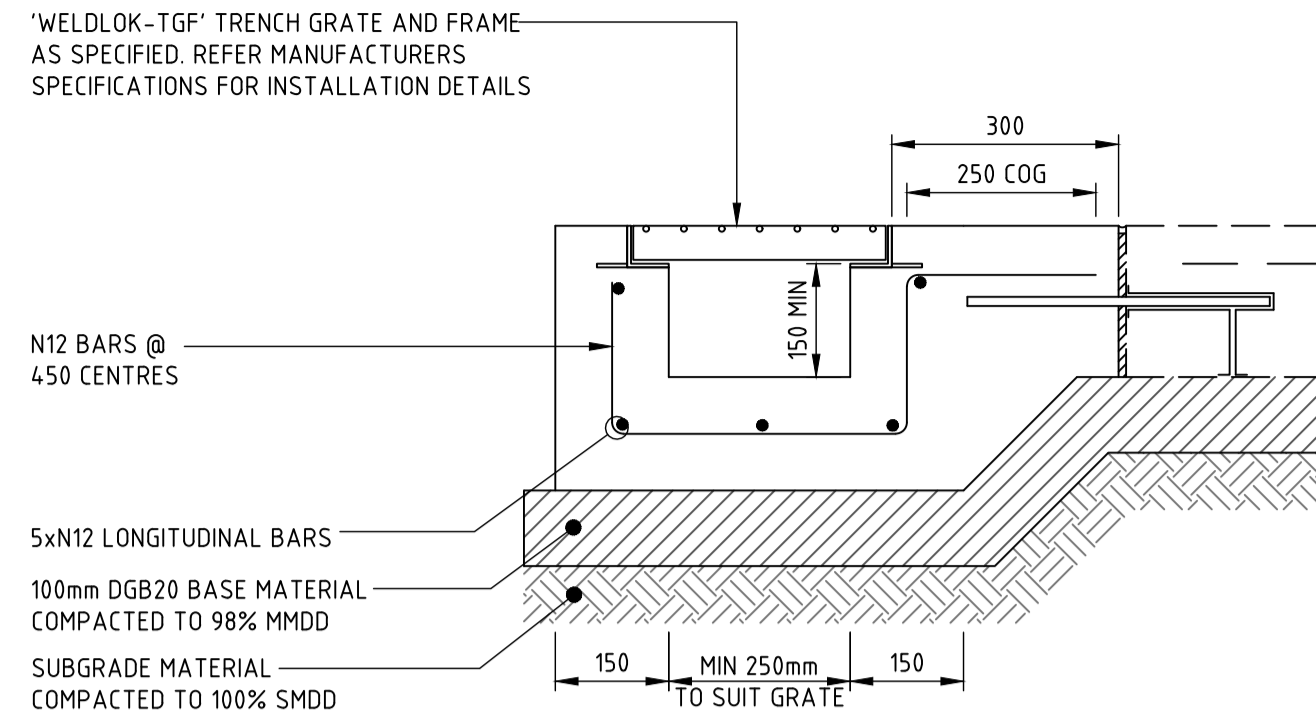


CONCRETE HARDSTAND



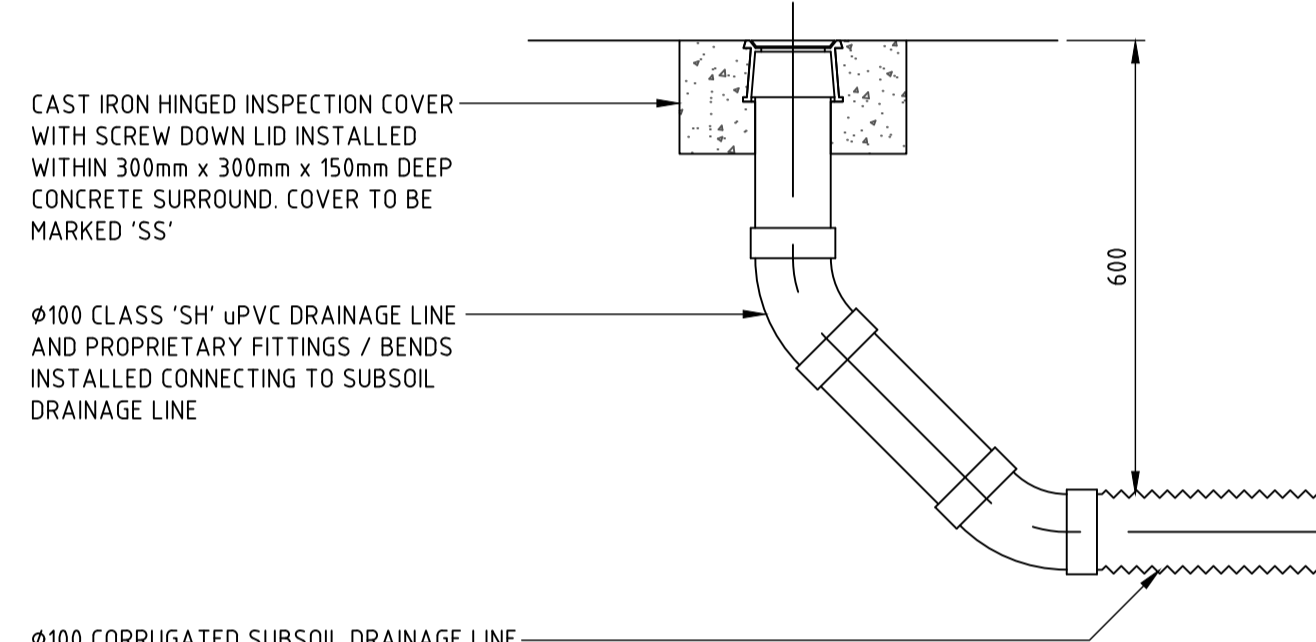
TYPICAL PIPE TRENCH - GENERAL AREAS

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



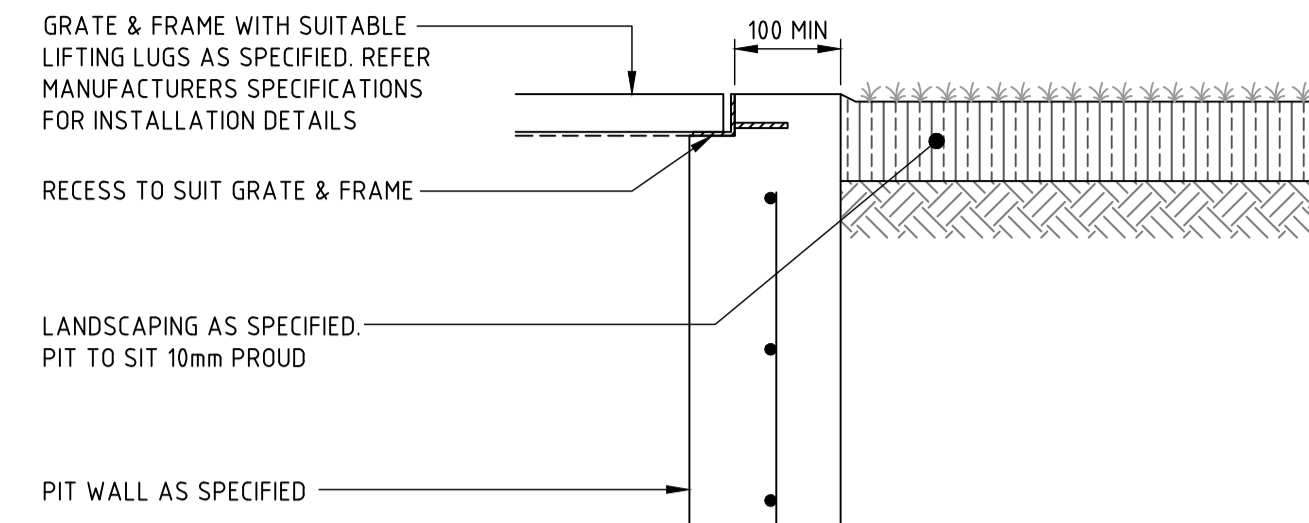
GRADED TRENCH DRAIN 'GTD'

GRADED TRENCH DRAIN TO HAVE MINIMUM 150mm CLEARANCE AND 1% LONGITUDINAL FALL. GRATE CLASS TO BE CLASS 'B' HEELSAFE IN PEDESTRIAN AREAS AND CLASS 'D' IN TRAFFICKED AREAS UNLESS NOTED OTHERWISE ON PLAN. REFER PLAN FOR JOINT TYPES AND LOCATIONS

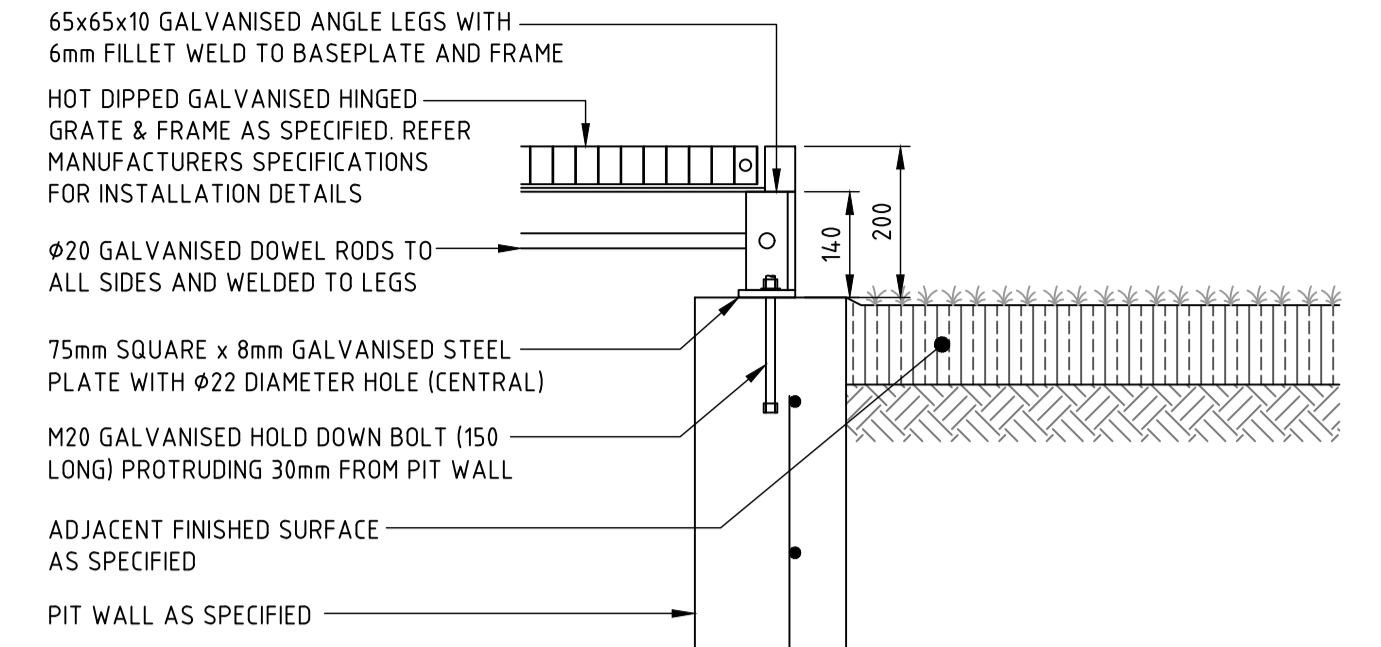


SUBSOIL DRAINAGE CLEAROUT 'CO'

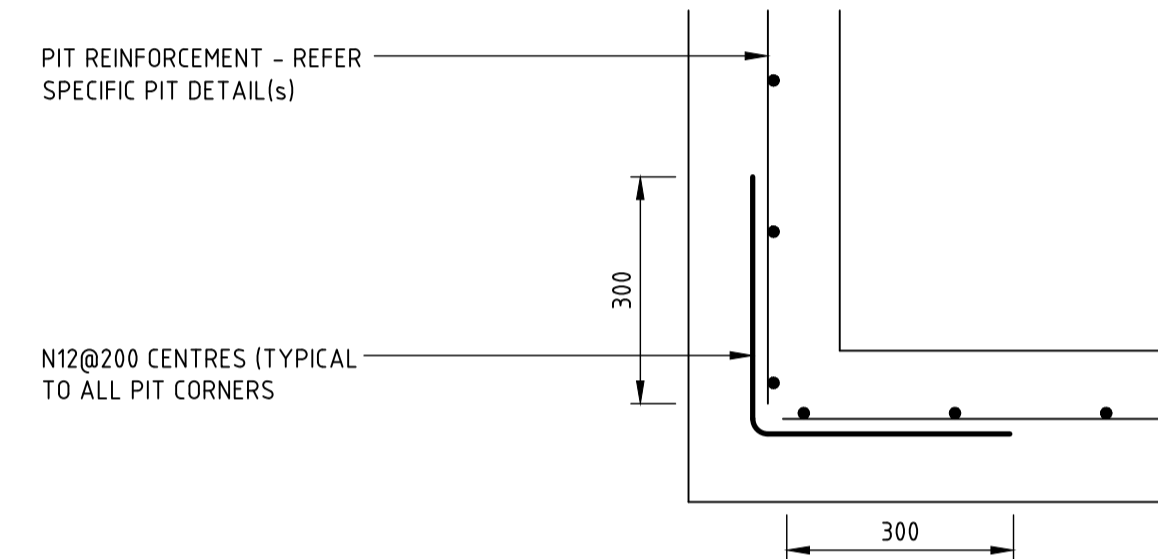
CLEAROUT TO BE INSTALLED AT UPSTREAM POINTS ALONG SUBSOIL DRAINAGE LINES @ MAX 30m CENTRES AND DISCHARGING TO DRAINAGE STRUCTURES @ MAX 60m CENTRES.



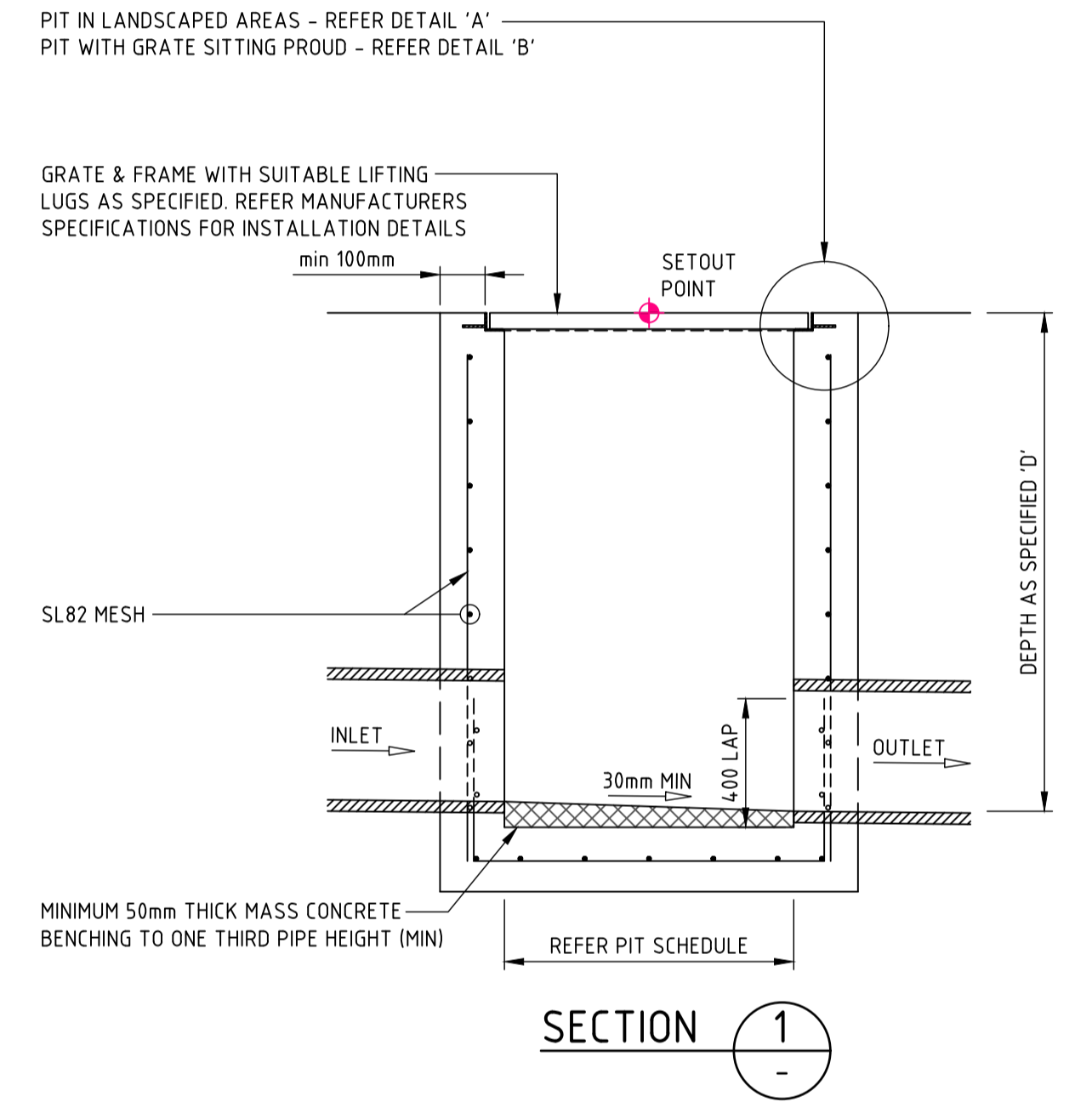
PIT INTERFACE - DETAIL 'A'



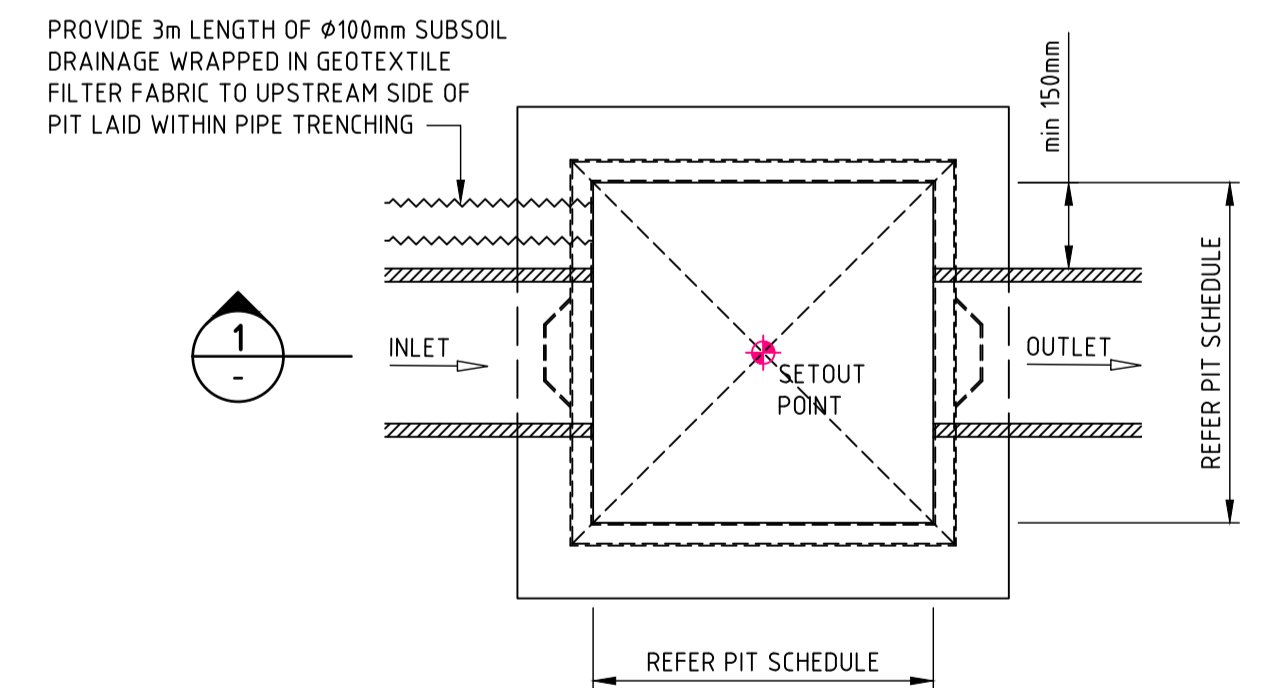
PIT INTERFACE - DETAIL 'B'



PIT INTERFACE (PLAN VIEW) - DETAIL 'F'
APPLICABLE TO ALL STORMWATER DRAINAGE STRUCTURES

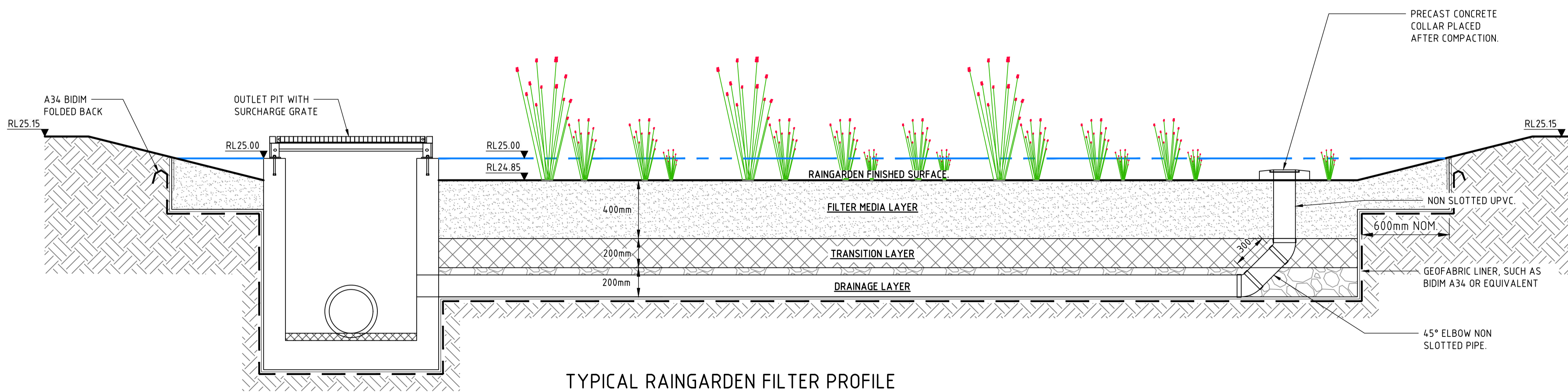


SECTION 1



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. THE USE OF PRE-CAST PITS TO BE PRE-APPROVED BY SUPERINTENDENT

DRAWN: A.SUTHIPHOSUWAN DESIGNED: E.JACOBS
JOB MANAGER: S.NOBLE
VERIFIER:



TYPICAL RAINGARDEN FILTER PROFILE
NTS

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