



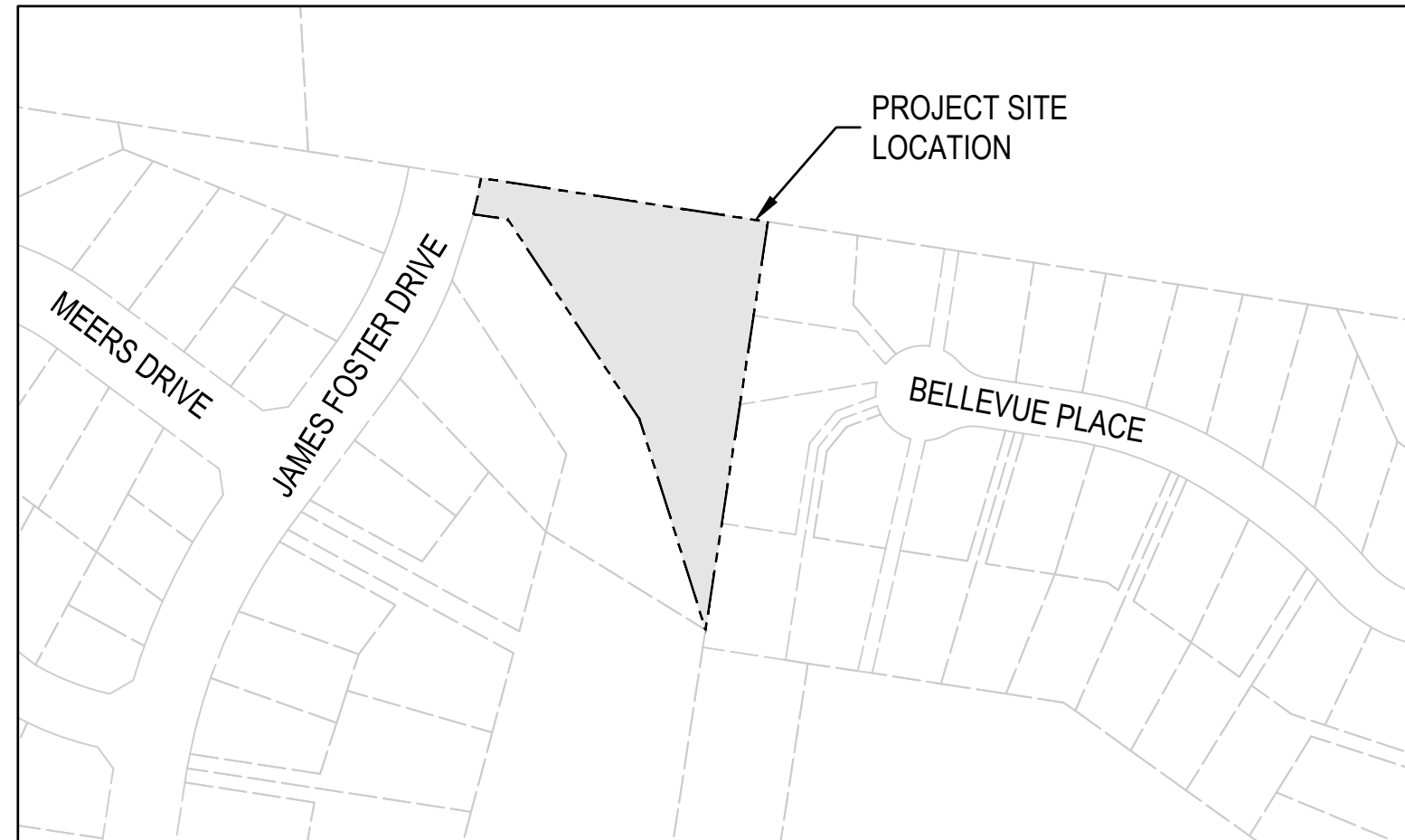
CIVIL & STORMWATER WORKS for 39 JAMES FOSTER DRIVE BLACK HEAD NSW 2430

Prepared by
WALLACE INFRASTRUCTURE DESIGN PTY LTD

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of practice of CIVIL



LOCATION PLAN
(NTS)

DRAWING NUMBER	DRAWING DESCRIPTION
C01.01	LEGEND, DRAWING SCHEDULE AND LOCATION PLAN
C02.01	GENERAL NOTES
C03.01	EROSION AND SEDIMENTATION CONTROL PLAN
C03.02	EROSION AND SEDIMENTATION CONTROL DETAILS
C04.01	OVERALL SITE PLAN
C04.02	SITE DETAIL PLAN
C05.01	STORMWATER MANAGEMENT PLAN
C05.02	MUSIC CATCHMENT PLAN AND RESULTS
C05.03	STORMWATER CATCHMENT PLAN AND RESULTS
C06.01	STORMWATER PIT DETAILS
C06.02	RAINWATER TANK TYPICAL SECTION & DETAILS
C06.03	BIOFILTRATION AND OSD BASIN SECTION & DETAILS

ABBREVIATIONS

A/G	ABOVE GROUND	IFC	ISSUED FOR CONSTRUCTION	SV	STOP VALVE
AGG	AGGREGATE	IFCR	ISSUED FOR CLIENT REVIEW	SW	STORMWATER
ARCH	ARCHITECT	IL	INVERT LEVEL	SWP	STORMWATER PIT
ASP	ASPHALT	IO	INSPECTION OPENING	THK	THICKNESS
BM	BENCHMARK	KIP	KERB INLET PIT	TJ	TRAVERSE JOINT
CAD	COMPUTER AIDED DRAFTING	L	LENGTH	TOW	TOP OF WALL
C-C	CENTRE TO CENTRE	LP	LAMP POST (SURVEY)	TW	TRADE WASTE
CH	CHAINAGE	MAX	MAXIMUM	TYP	TYPICAL
CI	CAST IRON	MC	MASS CONCRETE	U/G	UNDERGROUND
CJ	CONSTRUCTION JOINT	MH	MANHOLE	UNO	UNLESS NOTED OTHERWISE
CL	COVER LEVEL or CENTRE LINE	MIN	MINIMUM	U/S	UPSTREAM
CO	CLEAN OUT (SUBSOIL)	MISC	MISCELLANEOUS	VC	VITRIFIED CLAY PIPE
COG	CHANGE OF GRADE	N	NORTH	VP	VENT PIPE
CONC	CONCRETE	NRV	NON RETURN VALVE	VR	VERTICAL RISER
CTRL	CONTROL	NTS	NOT TO SCALE	W	WIDTH
CR	CROWN	OD	OUTER DIAMETER	WC	WATER CLOSET
CTS	CENTRES	OF	OVERFLOW	WL	WATER LEVEL
D	DEPTH	OH	OVERHEAD	WM	WATER METER
DIA	DIAMETER	PP	POWER POLE	WS	WASTE STACK
DP	DOWNPIPE	PPE	PERSONAL PROTECTIVE EQUIP.		
DRG	DRAWING	PVC	POLYVINYLCHLORIDE	UNITS	
D/S	DOWN STREAM	PV	PRESSURE VENT	mm	MILLIMETRES
DTM	DIGITAL TERRAIN MODEL	PVP	PRESSURE VENT PIPE	cm	CENTIMETRES
EB	EDGE BITUMIN	QA	QUALITY ANALYSIS	m	METRES
EX	EXISTING	QTY	QUANTITY	m ²	SQUARE METRES
ESL	EXISTING SURFACE LEVEL	R	RADIUS	m ³	CUBIC METRES
FH	FIRE HYDRANT	RC	REINFORCED CONCRETE	L/s	LITRES PER SECOND
FHR	FIRE HOSE REEL	REV	REVISION	ha	HECTARES
FFL	FINISHED FLOOR LEVEL	RL	REDUCED LEVEL		
FGL	FINISHED GROUND LEVEL	RW	RETAINING WALL		
FSL	FINISHED SURFACE LEVEL	SFW	SEALED FLOOR WASTE		
FW	FLOOR WASTE	SL	SURFACE LEVEL		
GA	GENERAL ARRANGEMENT	SMH	SEWER MANHOLE		
GI	GALVANISED IRON	SMV	SEWER MAIN VENT		
GFL	GARAGE FINISHED LEVEL	SOD	SIDE OUTLET DRAIN		
IC	INSPECTION CHAMBER	S/S	STAINLESS STEEL		
ID	INSIDE DIAMETER	STD	STANDARD		

LINETYPES & SYMBOLS

GENERAL

SITE BOUNDARY	---
CADASTRAL BOUNDARY	---
EASEMENT BOUNDARY	---
EXISTING FEATURES	
CONTOURS	---30---
STORMWATER PIPE	---
STORMWATER PIT	---
ELECTRICAL CABLE - U/G	---E---
ELECTRICAL CABLE - O/H	---OHE---
EXISTING SEWER PIPE	---S---
EXISTING WATER	---W---
EXISTING WATER (HYDRANT)	●
EXISTING WATER (STOP VALVE)	X
EXISTING TELECOM	---OFC---
COMMUNICATIONS PIT	---
EXISTING GAS	---G---
EXISTING BUILDING	---
TREES / SHRUBS	---
PROPOSED - BUILDING (INDICATIVE ONLY)	
DWELLING NUMBER	UNIT 01
FINISHED FLOOR LEVEL	FFL 5.00
BUILDING FOOTPRINT	---

PROPOSED - UTILITIES

SEWER	---S---
WATER	---W---
COMMUNICATIONS	---T---
COMMUNICATIONS - OPTIC FIBRE	---OFC---
COMMUNICATIONS PIT	---
GAS	---G---
ELECTRICAL CABLE - U/G	---E---
ELECTRICAL CABLE - O/H	---OHE---
REDUNDANT	· X · X · X · X · X · X ·
PROPOSED - EROSION AND SEDIMENT CONTROL	
SITE EXCLUSION FENCE	---[X]---[X]---[X]---
SEDIMENT FENCE	--->--->--->---
DIVERSION DRAIN	--->--->--->---
STABLISED SITE ACCESS	---
MATERIAL STOCKPILE	---
SLOPE DIRECTION	---
GEOTEXTILE INLET FILTER	---
MESH AND GRAVEL INLET FILTER	---
SANDBAG / HAY BALES	---
PROPOSED CONTOURS	
MAJOR CONTOUR INTERVAL	---10---
MINOR CONTOUR INTERVAL	---

PROPOSED - STORMWATER

SW PIPE (INCL. DIA/GRADE/LENGTH)	ØXXXmm uPVC X.X% GRADE, X.XXm
SW PIPE - CHARGED (INCL. DIA/GRADE/LENGTH)	ØXXXmm uPVC CHARGE X.X% GRADE, X.XXm
SW PIT - GRATED / JUNCTION	---
SW - KERB INLET PIT (INCLUDING LINTEL)	---
RAINWATER/REUSE TANK	---
GROSS POLLUTANT TRAP	---
GRATED DRAIN	---
INFILTRATION TRENCH	---
HEADWALL	---
SUBSOIL	---
SW SWALE	---
PIPE RISER	○ XX
PIPE DROPPER	○ XX
OVERLAND FLOW PATH	---
SW PIT NUMBER	?
SW CATCHMENT (NUMBER / AREA IN ha)	XX XXXX

PROPOSED - CIVIL

CONCRETE	---
ASPHALTIC CONCRETE	---
SAND	---
EARTH	---
RIP RAP	---
BUILDING / STRUCTURES	---
TIMBER	---
BLOCK PAVERS	---
RETAINING WALL	---
KERB RAMP	---
VEHICULAR CROSSING	---
FENCE	---
BATTER	---
BOLLARD - TYPE 1 (FIXED)	● B-T1
BOLLARD - TYPE 2 (REMOVABLE)	● B-T2
LINEMARKING - CHEVRON	---
EXPANSION JOINT	---EJ---
TRAVERSE JOINT	---TJ---
CONTROL JOINT	---CJ---
FINISHED GRADE LEVELS	25.758
EXISTING GRADE LEVELS	25.710

AutoCAD Civil 3D 2021

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THIS DRAWING IS NOT APPROVED FOR CONSTRUCTION UNLESS ENDORSED

REV	DESCRIPTION	DATE	APPVD	ENDOD
A	ISSUED FOR DA APPROVAL	05.03.25	K.B.	-
A	PRELIMINARY COORD REVIEW SET	25.02.25	K.B.	-

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PROJECT:

CIVIL WORKS for
LOT 57, DP 1072968
39 JAMES FOSTER DRIVE
BLACK HEAD NSW 2430

DRAWING TITLE:

CIVIL SERVICES
LEGEND, DRAWING SCHEDULE AND LOCATION PLAN

DRAWING STATUS

DA APPROVAL
NOT TO BE USED FOR CONSTRUCTION

SCALE:					ORIG. SIZE	
N.T.S.					A1	
DRAWN	DESIGNED	CHECKED	APPROVED	ENDORSED	DATE	
AK	AK	KB	KB	--	05.03.25	
PROJECT No.			DRAWING No.			
24267			C01.01			
					REV	
					A	

GENERAL NOTES

1. ALL CONSTRUCTION WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL'S ENGINEERING REQUIREMENTS FOR DEVELOPMENTS.
2. ALL DIMENSIONS, EASEMENTS AND LOTS SUBJECT TO REGISTRATION OF DEPOSITED PLAN.
3. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND CONSULTANT'S DRAWINGS AND SPECIFICATIONS, AND OTHER WRITTEN REPORTS (e.g GEOTECHNICAL, ARBORIST, ENVIRONMENTAL, ETC.). ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH ANY WORKS.
4. ALL LEVELS SHALL BE OBTAINED FROM ESTABLISHED BENCH MARKS AS DIRECTED BY THE SUPERVISOR.
5. THE DEVELOPER, SHALL ENSURE ALL ASSOCIATED DOCUMENTATION (GEOTECHNICAL, LANDSCAPE, ARCHITECTURAL, ELECTRICAL, TELECOM, GAS ETC.) HAS BEEN APPROVED FOR CONSTRUCTION BEFORE COMMENCING ANY WORKS.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION, PROTECTION AND ADJUSTMENT TO ALL IN GROUND AND ABOVE GROUND SERVICES. SEE HUNTER WATER'S NOTICE OF REQUIREMENTS.
7. EROSION CONTROL MEASURES, DEVICES, SILT TRAPS. ETC. ARE TO BE INSTALLED BEFORE ANY SITE DISTURBANCE IN ACCORDANCE WITH COUNCIL INSPECTORS REQUIREMENTS AND SITE SEDIMENTATION AND EROSION CONTROL PLANS.
8. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT ALL WORKS ARE CARRIED OUT IN ACCORDANCE WITH THE WORK HEALTH SAFETY ACT.
9. VEHICULAR ACCESS AND ALL SERVICES ARE TO BE MAINTAINED AT ALL TIMES TO ADJOINING PROPERTIES AFFECTED BY CONSTRUCTION WORKS.
10. ALL WASTE OR DEMOLISHED MATERIALS SHALL BE DISPOSED OF OFF SITE TO A COUNCIL APPROVED SITE. ALL FEES AND CHARGES SHALL BE INCLUDED IN THE CONTRACT SUM.
11. CONSTRUCTION VIBRATION TO COMPLY WITH AS2760.1-2004 AND/OR NSW DEPT OF ENVIRONMENT AND CONSERVATION NOISE REQUIREMENTS
12. EMISSIONS FROM SITE ARE NOT TO INTERFERE WITH THE AMENITY OF THE NEIGHBORHOOD.
13. NOISE EMISSIONS ARE TO COMPLY WITH NSW EPA NOISE CONTROL MANUAL. TIME RESTRICTIONS APPLY TO CONSTRUCTION WORKS AS FOLLOWS: 7AM TO 6PM MON-FRI; 8AM TO 1PM SAT.
14. TREES & SHRUBS WHICH ARE FELLED SHALL BE SALVAGED FOR RE-USE, EITHER IN LOG FORM, OR AS A WOODCHIP MULCH FOR EROSION CONTROL AND/OR SITE REHABILITATION. NON-SALVAGEABLE MATERIAL SUCH AS ROOTS & STUMPS SHALL BE DISPOSED OF IN AN APPROVED MANNER.
15. 'ESCP' REFERS TO EROSION AND SEDIMENT CONTROL PLAN, 'SWMP' REFERS TO SOIL AND WATER MANAGEMENT PLAN, AND, 'ESC' REFERS TO EROSION AND SEDIMENT CONTROL.
16. SEDIMENT, INCLUDES, BUT IS NOT LIMITED TO, CLAY, SILT, SAND, GRAVEL, SOIL, MUD, CEMENT AND CERAMIC WASTE.
17. ANY REFERENCE TO THE BLUE BOOK REFERS TO "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION", LANDCOM, 2004.
18. ANY REFERENCE TO THE IECA WHITE BOOKS (2008) REFERS TO IECA 2008, "BEST PRACTICE EROSION AND SEDIMENT CONTROL". BOOKS 1-6. INTERNATIONAL EROSION CONTROL ASSOCIATION (AUSTRALASIA), PICTON, NSW.
19. ANY MATERIAL DEPOSITED IN ANY CONSERVATION AREA FROM WORKS ASSOCIATED WITH THE DEVELOPMENT SHALL BE REMOVED IMMEDIATELY BY MEASURES INVOLVING MINIMAL GROUND AND/OR VEGETATION DISTURBANCES AND NO MACHINERY, OR FOLLOWING DIRECTIONS BY COUNCIL AND/OR WITHIN A TIMEFRAME ADVISED BY COUNCIL.

SURVEY NOTES

1. THE EXISTING SURVEY CONDITIONS SHOWN ON THESE DRAWINGS HAVE BEEN DERIVED FROM SURVEY INFORMATION SUPPLIED BY CALCO SURVEYORS PTY LTD, DATED 27.02.2024, REF NO. 4481.
2. THE FOLLOWING SURVEY INFORMATION HAS BEEN TAKEN DIRECTLY FROM THE ORIGINAL SURVEY DOCUMENTS:

POSITION DATUM:SSM 78589

ORIENTATION:MGA 56

EASTING:456 138.485

NORTHING:6 452 337.470

HEIGHT DATUM:RL: 5.450 (AHD)
3. THE INFORMATION SHOWN IS PROVIDED AS A BASIS FOR THE DESIGN. WALLACE DESIGN GROUP DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.
4. SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTRACTOR SHALL CONTACT CALCO SURVEYORS PTY LTD AND OR WALLACE DESIGN GROUP FOR CLARIFICATION.
5. THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR.

THE ESCP

1. THE ESCP AND ITS ASSOCIATED ESC MEASURES SHALL BE CONSTANTLY MONITORED, REVIEWED AND MODIFIED AS REQUIRED TO CORRECT DEFICIENCIES. COUNCIL HAS THE RIGHT TO DIRECT CHANGES IF, IN ITS OPINION, THE MEASURES THAT ARE PROPOSED OR HAVE BEEN INSTALLED ARE INADEQUATE TO PREVENT POLLUTION.
2. PRIOR TO ANY ACTIVITIES ONSITE, THE RESPONSIBLE PERSON(S) IS TO BE NOMINATED. THE RESPONSIBLE PERSON(S) SHALL BE RESPONSIBLE FOR THE ESC MEASURES ONSITE. THE NAME, ADDRESS AND 24 HOUR CONTACT DETAILS OF THE PERSON(S) SHALL BE PROVIDED TO COUNCIL IN WRITING. COUNCIL SHALL BE ADVISED WITHIN 48 HOURS OF ANY CHANGES TO THE RESPONSIBLE PERSON(S), OR THEIR CONTACT DETAILS, IN WRITING.
3. AT LEAST 14 DAYS BEFORE THE NATURAL SURFACE IS DISTRIBUTED IN ANY NEW STAGE, THE CONTRACTOR SHALL SUBMIT TO THE CERTIFIER A PLAN SHOWING ESC MEASURES FOR THAT STAGE. THE DEGREE OF DESIGN DETAIL SHALL BE BASED ON THE DISTRIBUTED AREA.
4. AT ANY TIME, THE ESC MEASURES ONSITE SHALL BE APPROPRIATE FOR THE AREA OF DISTURBANCE AND ITS CHARACTERISTICS, INCLUDING SOIL TYPE (IN ACCORDANCE WITH THOSE REQUIRED FOR THE SITE AS PER THE DCP).
5. THE IMPLEMENTATION OF THE ESCP SHALL BE SUPERVISED BY PERSONNEL WITH APPROPRIATE QUALIFICATIONS AND/OR EXPERIENCE IN ESC ON CONSTRUCTION SITES.
6. THE APPROVED ESCP SHALL BE AVAILABLE ON-SITE FOR INSPECTION BY COUNCIL OFFICERS WHILE WORK ACTIVITIES ARE OCCURRING.
7. THE APPROVED ESCP SHALL BE UP TO DATE AND SHOW A TIMELINE OF INSTALLATION, MAINTENANCE AND REMOVAL OF ESC MEASURES.
8. ALL ESC MEASURES SHALL BE APPROPRIATE FOR THE SEDIMENT TYPE(S) OF THE SOILS ONSITE, IN ACCORDANCE WITH THE BLUE BOOK, IECA WHITE BOOKS OR OTHER CURRENT RECOGNISED INDUSTRY STANDARDS PERTAINING TO ESC FOR AUSTRALIAN CONDITIONS.
9. ADEQUATE SITE DATA, INCLUDING SOIL DATA FROM A NATA APPROVED LABORATORY, SHALL BE OBTAINED TO ALLOW FOR THE PREPARATION OF AN APPROPRIATE ESCP, AND TO ALLOW FOR THE SELECTION, DESIGN AND SPECIFICATION OF REQUIRED ESC MEASURES.
10. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE APPROVED ESCP (AS AMENDED FROM TIME TO TIME) UNLESS CIRCUMSTANCES ARISE WHERE:

A) COMPLIANCE WITH THE ESCP WOULD INCREASE THE POTENTIAL FOR ENVIRONMENTAL HARM

B) CIRCUMSTANCES CHANGE DURING CONSTRUCTION AND THOSE CIRCUMSTANCES COULD NOT HAVE BEEN FORSEEN; OR

C) COUNCIL DETERMINES THAT UNACCEPTABLE OFF-SITE SEDIMENTATION IS OCCURRING AS A RESULT OF A LAND-DISTURBING ACTIVITY. IN EITHER CASE, THE PERSON(S) RESPONSIBLE MAY BE REQUIRED TO TAKE ADDITIONAL, OR ALTERNATIVE PROTECTIVE ACTION, AND/OR UNDERTAKE REASONABLE RESTORATION WORKS WITHIN THE TIMEFRAME SPECIFIED BY THE COUNCIL.
11. ADDITIONAL ESC MEASURES SHALL BE IMPLEMENTED, AND A REVISED ESCP SUBMITTED FOR APPROVAL TO THE CERTIFIER (WITHIN 5 BUSINESS DAYS OF AN SUCH AMENDMENTS) IN THE EVENT THAT:

A) THERE IS A HIGH PROBABILITY THAT SERIOUS OR MATERIAL ENVIRONMENTAL HARM MAY OCCUR AS A RESULT OF SEDIMENT LEAVING THE SITE; OR

B) THE IMPLEMENTED WORKS FAIL TO ACHIEVE COUNCIL'S WATER QUALITY OBJECTIVES SPECIFIED IN THESE CONDITIONS; OR

C) SITE CONDITIONS SIGNIFICANTLY CHANGE; OR

D) SITE INSPECTIONS INDICATE THAT THE IMPLEMENTED WORKS ARE FAILING TO ACHIEVE THE "OBJECTIVE" OF THE ESCP.
12. A COPY OF ANY AMENDED ESCP SHALL BE FORWARDED TO AN APPROPRIATE COUNCIL OFFICER, WITHIN FIVE BUSINESS DAYS OF ANY SUCH AMENDMENTS.

SITE ESTABLISHMENT INCLUDING CLEARING AND MULCHING

1. NO LAND CLEARING SHALL BE UNDERTAKEN UNLESS PRECEDED BY THE INSTALLATION OF ADEQUATE DRAINAGE AND SEDIMENT CONTROL MEASURES, UNLESS SUCH CLEARING IS REQUIRED FOR THE PURPOSE OF INSTALLING SUCH MEASURES, IN WHICH CASE, ONLY THE MINIMUM CLEARING REQUIRED TO INSTALL SUCH MEASURES SHALL OCCUR.
2. BULK TREE CLEARING AND GRUBBING OF THE SITE SHALL BE IMMEDIATELY FOLLOWED BY SPECIFIED TEMPORARY EROSION CONTROL MEASURES (E.G. TEMPORARY GRASSING OR MULCHING) PRIOR TO THE COMMENCEMENT OF EACH STAGE OF CONSTRUCTION WORKS.
3. TREES AND VEGETATION CLEARED FROM THE SITE SHALL BE MULCHED ONSITE WITHIN 7 DAYS OF CLEARING.
4. APPROPRIATE MEASURES SHALL BE UNDERTAKEN TO CONTROL ANY DUST ORIGINATING DUE TO THE MULCHING OF VEGETATION ONSITE.
5. ALL OFFICE FACILITIES AND OPERATIONAL ACTIVITIES SHALL BE LOCATED SUCH THAT ANY EFFLUENT, INCLUDING WASH-DOWN WATER, CAN BE TOTALLY CONTAINED AND TREATED WITHIN THE SITE.
6. ALL REASONABLE AND PRACTICABLE MEASURES SHALL BE TAKEN TO ENSURE STORMWATER RUNOFF FROM ACCESS ROADS AND STABILISED ENTRY/EXIT SYSTEMS DRAINS TO AN APPROPRIATE SEDIMENT CONTROL DEVICE.
7. SITE EXIT POINTS SHALL BE APPROPRIATELY MANAGED TO MINIMISE THE RISK OF SEDIMENT BEING TRACKED ONTO SEALED, PUBLIC ROADWAYS.
8. STORMWATER RUNOFF FROM ACCESS ROADS AND STABILIZED ENTRY/EXIT POINTS SHALL DRAIN TO AN APPROPRIATE SEDIMENT CONTROL DEVICE.
9. THE APPLICANT SHALL ENSURE AN ADEQUATE SUPPLY OF ESC, AND APPROPRIATE POLLUTION CLEAN-UP MATERIALS ARE AVAILABLE ON-SITE AT ALL TIMES.
10. ALL TEMPORARY EARTH BANKS, FLOW DIVERSION SYSTEMS, AND SEDIMENT BASIN EMBANKMENTS SHALL BE MACHINE-COMPACTED, SEEDED AND MULCHED WITHIN 10 DAYS OF FORMATION FOR THE PURPOSE OF ESTABLISHING A VEGETATIVE COVER, OR LINED APPROPRIATELY.
11. SEDIMENT DEPOSITED OFF SITE AS A RESULT OF ON-SITE ACTIVITIES SHALL BE COLLECTED AND THE AREA CLEANED/REHABILITATED AS SOON AS REASONABLE AND PRACTICABLE.
12. CONCRETE WASTE AND CHEMICAL PRODUCTS INCLUDING PETROLEUM AND OIL-BASED PRODUCTS, SHALL BE PREVENTED FROM ENTERING ANY INTERNAL OR EXTERNAL WATER BODY, OR ANY EXTERNAL DRAINAGE SYSTEM, EXCLUDING THOSE ON-SITE WATER BODIES

- SPECIFICALLY DESIGNED TO CONTAIN AND/OR TREAT SUCH MATERIAL. APPROPRIATE MEASURES SHALL BE INSTALLED TO TRAP THESE MATERIALS ONSITE.
13. BRICK, TILE OR MASONRY CUTTINGS SHALL BE CARRIED OUT ON A PERVIOUS SURFACE (E.G. GRASS OR OPEN SOIL) AND IN SUCH A MANNER THAT ANY RESULTING SEDIMENT-LADEN RUNOFF IS PREVENTED FROM DISCHARGING INTO A GUTTER, DRAIN OR WATER. APPROPRIATE MEASURES SHALL BE INSTALLED TO TRAP THESE MATERIALS ONSITE.
14. NEWLY SEALED HARD-STAND AREAS (E.G. ROADS, DRIVEWAYS AND CAR PARKS) SHALL BE SWEPT THOROUGHLY AS SOON AS PRACTICABLE AFTER SEALING/SURFACING TO MINIMISE THE RISK OF COMPONENTS OF THE SURFACING COMPOUND ENTERING THE STORMWATER DRAINS.
15. STOCKPILES OF ERODIBLE MATERIAL SHALL BE PROVIDED WITH AN APPROPRIATE PROTECTIVE COVER (SYNTHETIC OR ORGANIC) IF THE MATERIALS ARE LIKELY TO BE STOCKPILED FOR MORE THAN 10 DAYS.
16. STOCKPILES, TEMPORARY OR PERMANENT, SHALL NOT BE LOCATED IN AREAS IDENTIFIED AS NO-GO ZONES (INCLUDING, BUT NOT LIMITED TO, RESTRICTED ACCESS AREAS, BUFFER ZONES, OR AREAS OF NON-DISTURBANCE) ON THE ESCP.
17. NO MORE THAN 150m OF STORMWATER, SEWER LINE OR OTHER SERVICE TRENCH SHALL BE TO OPEN AT ANY ONE TIME.
18. SITE SPOIL SHALL BE LAWFULLY DISPOSED OF IN A MANNER THAT DOES NOT RESULT IN ONGOING SOIL EROSION OR ENVIRONMENTAL HARM.
19. WHEREVER REASONABLE AND PRACTICABLE, STORMWATER RUNOFF ENTERING THE SITE FROM EXTERNAL AREAS, AND NON-SEDIMENT LADEN (CLEAN) STORMWATER RUNOFF ENTERING A WORK AREA OR AREA OF SOIL DISTURBANCE, SHALL BE DIVERTED AROUND OR THROUGH THAT AREA IN A MANNER THAT MINIMISES SOIL EROSION AND THE CONTAMINATION OF THAT WATER FROM ALL DISCHARGES UP TO THE SPECIFIED DESIGN STORM DISCHARGE.

SITE MANAGEMENT INCLUDING DUST

1. PRIORITY SHALL BE GIVEN TO THE PREVENTION, OR AT LEAST THE MINIMISATION, OF SOIL EROSION, RATHER THAN THE TRAPPING OF DISPLACED SEDIMENT. SUCH A CLAUSE SHALL NOT REDUCE THE RESPONSIBILITY TO APPLY AND MAINTAIN, AT ALL TIMES, ALL NECESSARY ESC MEASURES.
2. MEASURES USED TO CONTROL WIND EROSION SHALL BE APPROPRIATE FOR THE LOCATION AND PREVENT SOIL EROSION AND EMISSIONS FROM SITE AT ALL TIMES, INCLUDING WORKING HOURS, OUT OF HOURS, WEEKENDS, PUBLIC HOLIDAYS, AND DURING ANY OTHER SHUTDOWN PERIODS.
3. THE APPLICATION OF LIQUID OR CHEMICAL-BASED DUST SUPPRESSION MEASURES SHALL ENSURE THAT SEDIMENT-LADEN RUNOFF RESULTING FROM SUCH MEASURES DOES NOT CREATE A TRAFFIC OR ENVIRONMENTAL HAZARD.
4. ALL CUT AND FILL EARTH BATTERS LESS THAN 3m IN ELEVATION SHALL BE TOPSOILED, AND GRASS SEEDED/HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF GRADING IN CONSULTATION WITH COUNCIL.
5. ALL DISTURBED AREAS SHALL BE STABILISED IN ACCORDANCE WITH TIMELINES IN THE BLUE BOOK.
6. ALL REASONABLE AND PRACTICABLE MEASURES SHALL BE TAKEN TO PREVENT, OR AT LEAST MINIMISE, THE RELEASE OF SEDIMENT FROM THE SITE.
7. SUITABLE ALL-WEATHER MAINTENANCE ACCESS SHALL BE PROVIDED TO ALL SEDIMENT CONTROL DEVICES.
8. SEDIMENT CONTROL DEVICES OTHER THAN SEDIMENT BASINS SHALL BE DE-SILTED AND MADE FULLY OPERATIONAL AS SOON AS REASONABLE AND PRACTICABLE AFTER A SEDIMENT-PRODUCING EVENT, WETHER NATURAL OR ARTIFICIAL, IF THE DEVICES SEDIMENT RETENTION CAPACITY FALLS BELOW 75% OF ITS DESIGNED RETENTION CAPACITY.
9. ALL EROSION AND SEDIMENT CONTROL MEASURES, INCLUDING DRAINAGE CONTROL MEASURES, SHALL BE MAINTAINED IN PROPER WORKING ORDER AT ALL TIMES DURING THEIR OPERATION LIVES.
10. WASHING/FLUSHING OF SEALED ROADWAYS SHALL ONLY OCCUR WHERE SWEEPING HAS FAILED TO REMOVE SUFFICIENT SEDIMENT AND THERE IS A COMPELLING NEED TO REMOVE THE REMAINING SEDIMENT (E.G. FOR SAFETY REASONS). IN SUCH CIRCUMSTANCES, ALL REASONABLE AND PRACTICABLE SEDIMENT CONTROL MEASURES SHALL BE USED TO PREVENT, OR AT LEAST MINIMISE, THE RELEASE OF SEDIMENT INTO THE RECEIVING WATERS. ONLY THOSE MEASURES THAT WILL NOT CAUSE SAFETY AND PROPERTY FLOODING ISSUES SHALL BE EMPLOYED. SEDIMENT REMOVED FROM ROADWAYS SHALL BE DISPOSED OF IN A LAWFUL MANNER THAT DOES NOT CAUSE ONGOING SOIL EROSION OR ENVIRONMENTAL HARM.
11. SEDIMENT REMOVED FROM SEDIMENT TRAPS AND PLACES OF SEDIMENT DEPOSITIONS SHALL BE DISPOSED OF IN A LAWFUL MANNER THAT DOES NOT CAUSE ONGOING SOIL EROSION OR ENVIRONMENTAL HARM.

REVEGETATION/STABILISATION

1. TEMPORARY STABILISATION MAY BE ATTAINED USING VEGETATION, NON WETTABLE SOIL POLYMERS, OR PNEUMATICALLY APPLIED EROSION CONTROLS.
2. ALL CUT AND FILL EARTH BATTERS LESS THAN 3m IN ELEVATION SHALL BE TOPSOILED, AND GRASS SEEDED/HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF GRADING IN CONSULTATION WITH COUNCIL.
3. AT THE COMPLETION OF FORMATION IN ANY SECTION, ALL DISTRIBUTED AREAS SHALL BE STABILISED IN ACCORDANCE WITH TIME LINES IN THE BLUE BOOK.
4. THE COUNCIL SEED MIX SHALL BE USED UNLESS STATED ON THE ESCP/SWMP.
5. THE PH LEVEL OF TOPSOIL SHALL BE APPROPRIATE TO ENABLE ESTABLISHMENT AND GROWTH OF SPECIFIED VEGETATION PRIOR TO INITIATING THE ESTABLISHMENT OF VEGETATION.
6. NON REWETTABLE BINDER SHALL BE USED IN ALL HYDROMULCH/HYDROSEED POLYMER MIXES ON SLOPES OR WORKS ADJACENT TO A WATER COURSE.
7. SOIL AMELIORANTS SHALL BE ADDED TO THE SOIL IN ACCORDANCE WITH AN APPROVED LANDSCAPE PLAN, VEGETATION MANAGEMENT PLAN, AND/OR SOIL ANALYSIS.
8. PROCEDURES FOR INITIATING A SITE SHUTDOWN, WHETHER PROGRAMMED OR UN-PROGRAMMED, SHALL INCORPORATE REVEGETATION OF ALL SOIL DISTURBANCES UNLESS OTHERWISE APPROVED BY COUNCIL. THE STABILISATION WORKS SHALL NOT RELY UPON THE LONGEVITY OF NON-VEGETATED EROSION CONTROL BLANKETS, OR TEMPORARY SOIL BINDERS.

SITE MONITORING AND MAINTENANCE

1. THE APPLICANT SHALL ENSURE THAT APPROPRIATE PROCEDURES AND SUITABLY QUALIFIED PERSONNEL ARE ENGAGED TO PLAN AND CONDUCT SITE INSPECTIONS AND WATER QUALITY MONITORING THROUGHOUT THE CONSTRUCTION AND MAINTENANCE PHASE.
2. ALL ESC MEASURES SHALL BE INSPECTED AND ANY MAINTENANCE UNDERTAKEN:

A) AT LEAST DAILY (WHEN WORKS IS OCCURRING ON-SITE); AND

B) AT LEAST WEEKLY (WHEN WORKS IS NOT OCCURRING ON-SITE) AND

C) WITHIN 24 HOURS OF EXPECTED RAINFALL; AND

D) WITHIN 18 HOURS OF A RAINFALL EVENT THAT CAUSES RUNOFF ON THE SITE.
3. WRITTEN RECORDS SHALL BE KEPT ONSITE OF ESC MONITORING AND MAINTENANCE ACTIVITIES CONDUCTED DURING THE CONSTRUCTION AND MAINTENANCE PERIODS, AND BE AVAILABLE TO COUNCIL OFFICERS ON REQUEST.
4. ALL ENVIRONMENTAL RELEVANT INCIDENTS SHALL BE RECORDED IN A FIELD LOG THAT SHALL REMAIN ACCESSIBLE TO ALL RELEVANT REGULATORY AUTHORITIES.
5. ALL WATER QUALITY DATA, INCLUDING DATES OF RAINFALL, DATES OF TESTING, TESTING RESULTS AND DATES OF WATER RELEASE, SHALL BE KEPT IN AN ON-SITE REGISTER. THE REGISTER IS TO BE MAINTAINED UP TO DATE FOR THE DURATION OF THE APPROVED WORKS AND BE AVAILABLE ON-SITE FOR INSPECTION BY ALL RELEVANT REGULATORY AUTHORITIES ON REQUEST.
6. AT NOMINATED INSTREAM WATER MONITORING SITES, A MINIMUM OF 3 WATER SAMPLES SHALL BE TAKEN AND ANALYSED, AND THE AVERAGE RESULT USED TO DETERMINE QUALITY.

STORMWATER NOTES

1. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH RELEVANT ARCHITECTURAL DETAILS.
2. ALL WORKS ARE TO BE IN ACCORDANCE WITH AS3500, COUNCIL'S DEVELOPMENT CONTROL PLAN AND PROPRIETARY MANUFACTURERS RECOMMENDATIONS.
3. UNLESS OTHERWISE STATED, ALL STORMWATER PIPES (INCLUDING DOWNPIPES AND RAINWATER TANK OVERFLOW PIPES) ARE TO BE uPVC SEWER GRADE, U.N.O JOINTED & INSTALLED TO MANUFACTURERS RECOMMENDATIONS.
4. ALL uPVC STORMWATER LINES TO HAVE ALL JOINTS, INC. DOWNPIPE CONNECTIONS, FULLY SOLVENT WELDED, INCLUDING ANY CHARGED LINES.
5. CONNECT DOWNPIPES AS REQUIRED TO NOMINATED HARVESTING TANK IN ACCORDANCE WITH APPROVED DEVELOPMENT PLANS AND HYDRAULIC ENGINEERS DESIGN.
6. ALL LEVELS ARE DATUM AHD.
7. ALL LEVELS ARE FINISHED PAVEMENT OR LAWN LEVELS.
8. CONTRACTOR TO ALLOW FOR ALL PIPE SUPPORT SYSTEM TO SOFFIT AS PER MANUFACTURERS SPECIFICATIONS.
9. ALL CONCRETE TO BE MANUFACTURED AND SUPPLIED IN ACCORDANCE WITH AS1379.
10. AT COUNCILS DISCRETION, ALL CONCRETE CAN BE SUBJECT TO PROJECT ASSESSMENT AND TESTING TO AS1379
11. MINIMUM PIPE COVERS TO BE IN ACCORDANCE WITH AS3500.
12. PITS TO BE FILLED ACCORDINGLY TO MEET INVERTS AS NEEDED.
13. CONTRACTOR TO CONFIRM ALL LEVELS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES ARE TO BE IMMEDIATELY REPORTED TO WALLACE DESIGN GROUP.

SUBSOIL DRAINAGE NOTES

1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH COUNCIL'S CONSTRUCTION SPECIFICATIONS FOR SUBSURFACE DRAINAGE.
2. SUBSOIL PIPE TO BE Ø100 SLOTTED PVC OR CORRUGATED CIRCULAR PLASTIC PIPE AND ENCLOSED IN SEAMLESS FILTER FABRIC SOCK
3. SUBSOIL DRAINS SHALL CONSIST OF A 300 (MINIMUM) WIDE TRENCH, BACKFILLED WITH 7 OR 10mm AGGREGATE AND WRAPPED IN BIDIM A12 GEOTEXTILE FABRIC OR SIMILAR, LAPPED AT THE TOP. DEPTH OF TRENCH TO EXTEND 450 (MINIMUM) IN ROCK OR 600 (MINIMUM) IN EARTH BELOW FINISHED SUB-GRADE LEVEL. INVERT OF TRENCH SHOULD ALSO BE LOWER THAN THE INVERT OF ANY SERVICE CROSSINGS.

PAVEMENT NOTES


1. THE PAVEMENT DESIGN RECOMMENDATIONS SHOWN ON THESE DRAWINGS ARE INDICATIVE ONLY, AND ARE TO BE CONFIRMED BEFORE CONSTRUCTION CERTIFICATE STAGE BY A QUALIFIED/REGISTERED GEOTECHNICAL ENGINEER.

RETAINING WALL NOTES

1. ALL RETAINING WALLS SHOWN ON THESE PLANS SHALL BE DESIGNED BY A QUALIFIED & REGISTERED STRUCTURAL ENGINEERING AT TIME OF CONSTRUCTION CERTIFICATE STAGE.

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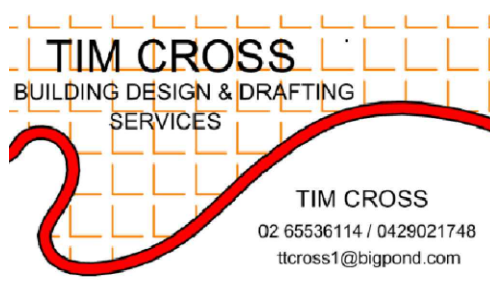


DWG IN COLOUR

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A	ISSUED FOR DA APPROVAL	05.03.25	K.B.	-	
A	PRELIMINARY COORD REVIEW SET	25.02.25	K.B.	-	
REV	DESCRIPTION	DATE	APP'VD	END'OD	

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web: www.wdesigngroup.com.au

PROJECT:

CIVIL WORKS for

LOT 57, DP 1072968

39 JAMES FOSTER DRIVE

BLACK HEAD NSW 2430

DRAWING TITLE:

CIVIL SERVICES

GENERAL NOTES

DRAWING STATUS					
DA APPROVAL					
NOT TO BE USED FOR CONSTRUCTION					
SCALE:				ORIG. SIZE	
N.T.S.				A1	
DRAWN	DESIGNED	CHECKED	APPROVED	ENDORSED	DATE
AK	AK	KB	KB	--	05.03.25
PROJECT No.		DRAWING No.			REV
24267		C02.01			A



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THIS DRAWING IS NOT APPROVED FOR CONSTRUCTION UNLESS ENDORSED

REV	DESCRIPTION	DATE	APPVD	ENDOD
A	ISSUED FOR DA APPROVAL	05.03.25	K.B.	-
A	PRELIMINARY COORD REVIEW SET	25.02.25	K.B.	-

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PROJECT:

CIVIL WORKS for
LOT 57, DP 1072968
39 JAMES FOSTER DRIVE
BLACK HEAD NSW 2430

DRAWING TITLE:

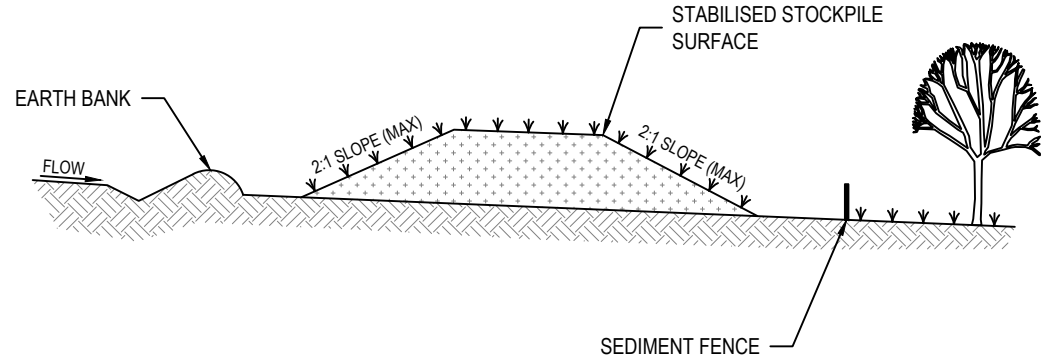
CIVIL SERVICES
EROSION AND SEDIMENTATION
CONTROL PLAN

DRAWING STATUS					DA APPROVAL NOT TO BE USED FOR CONSTRUCTION	
SCALE:				ORIG. SIZE		
1:200				A1		
DRAWN	DESIGNED	CHECKED	APPROVED	ENDORSED	DATE	
AK	AK	KB	KB	--	05.03.25	
PROJECT No.				DRAWING No.		
24267				C03.01		
					REV	
					A	

PLOTTED BY: ARYAN DATE: 5 March 2025 11:6 AM FILENAME: O:\PROJECTS\2024\24267 - 39 JAMES FOSTER DRIVE, BLACK HEAD\CAD\TITLE\24267_CIV_DA-[A].39 JAMES FOSTER DRIVE

NOTE

1. ALL EROSION & SEDIMENTATION CONTROL (ESC) PLAN DETAILS SHOWN ARE FROM "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION", LANDCOM, 2004. DETAILS, ALTHOUGH NOT SPECIFICALLY IDENTIFIED FOR USE ON THE ESC PLAN (SHEET C03.01), ARE PROVIDED IN THE EVENT ADDITIONAL CONTROLS ARE REQUIRED TO MINIMISE ON-SITE EROSION DURING THE COURSE OF CONSTRUCTION. IF AN ESC DETAIL IS NOT SHOWN, CONTRACTOR SHALL REFER TO THE ABOVE REFERENCED GUIDE.



STABILISED STOCKPILE SURFACE

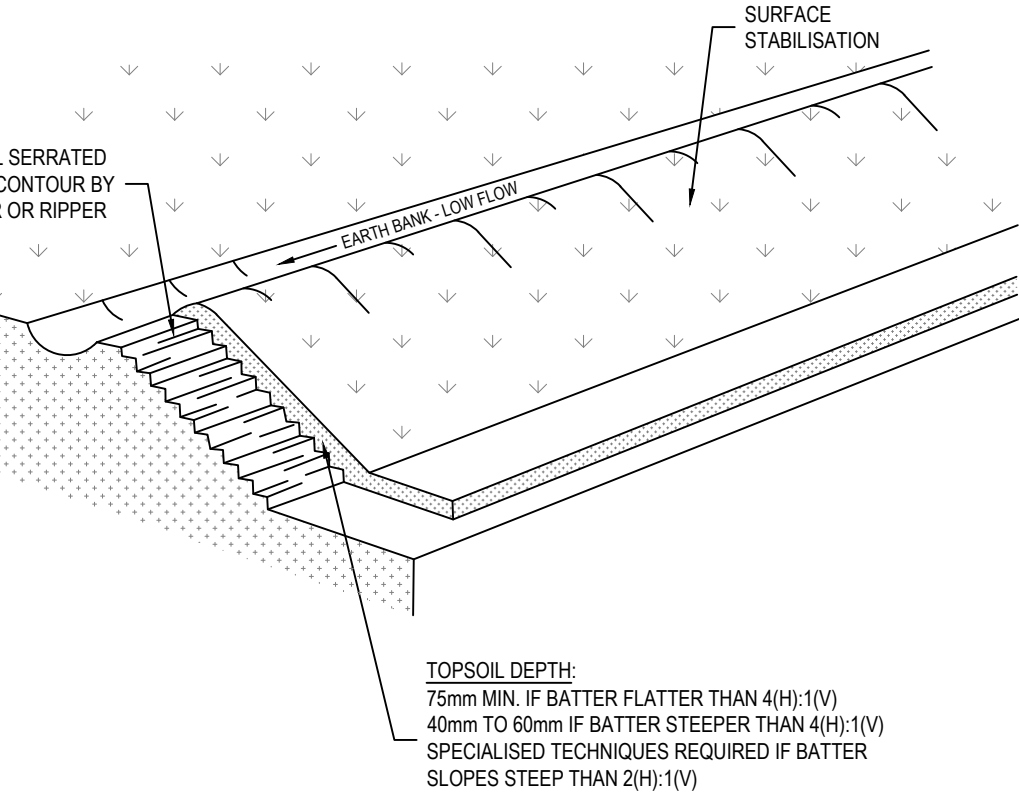
SEDIMENT FENCE

CONSTRUCTION NOTES:

- PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METERS FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
- CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
- WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METERS IN HEIGHT.
- 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.
- 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 2 METERS DOWNSLOPE.

STOCKPILES

SD 4-1



SUBSOIL SERRATED ALONG CONTOUR BY GRADER OR RIPPER

EARTH BANK - LOW FLOW

SURFACE STABILISATION

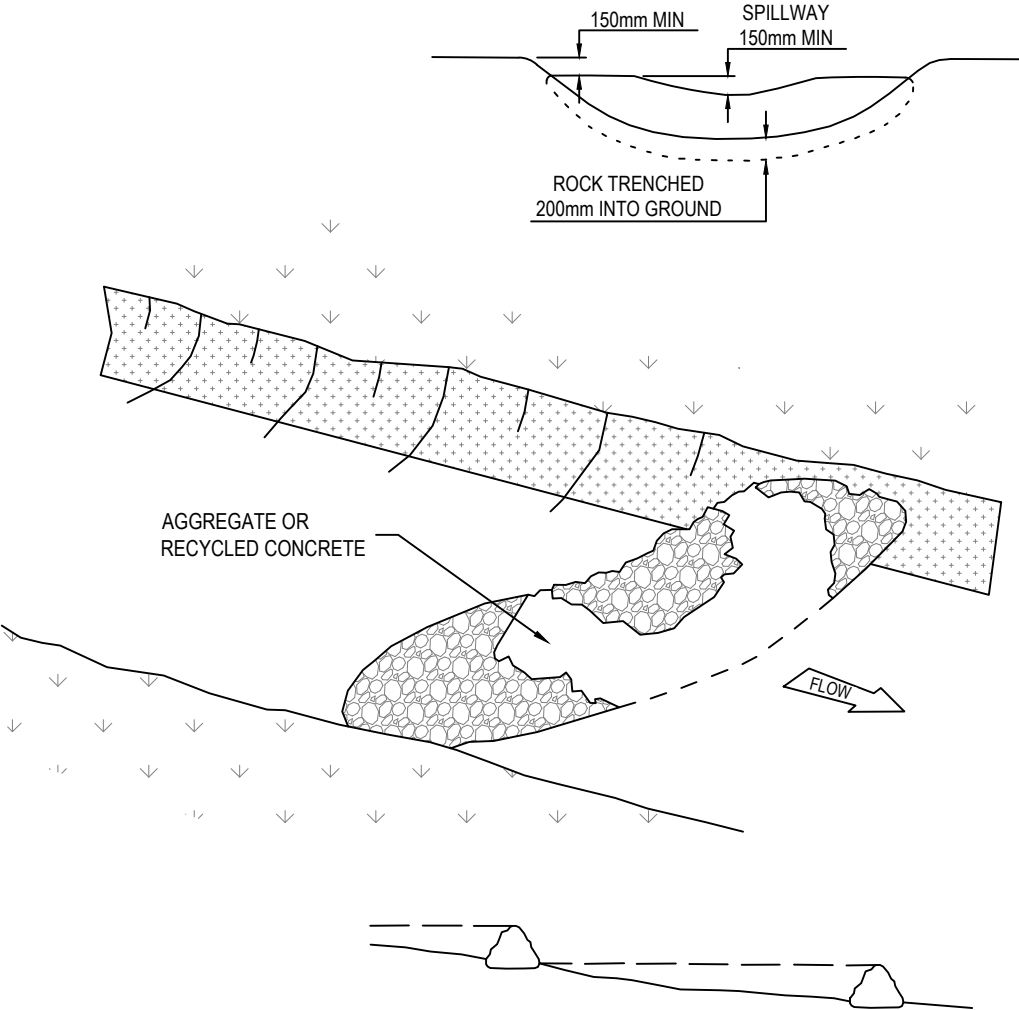
TOPSOIL DEPTH:
75mm MIN. IF BATTER FLATTER THAN 4(H):1(V)
40mm TO 60mm IF BATTER STEEPER THAN 4(H):1(V)
SPECIALISED TECHNIQUES REQUIRED IF BATTER SLOPES STEEPER THAN 2(H):1(V)

CONSTRUCTION NOTES:

- SCARIFY THE GROUND SURFACE ALONG THE LINE OF THE CONTOUR TO A DEPTH OF 50mm TO 100mm TO BREAK UP ANY HARDBETTING SURFACES AND TO PROVIDE A GOOD BOND BETWEEN THE RESPREAD MATERIAL AND SUBSOIL.
- ADD SOIL AMELIORANTS AS REQUIRED BY THE ESCP OR SWMP.
- RIP TO A DEPTH OF 300mm IF COMPACTED LAYERS OCCUR.
- WHERE POSSIBLE, REPLACE TOPSOIL TO A DEPTH OF 40 TO 60mm ON LANDS WHERE THE SLOPE EXCEEDS 4(H):1(V) AND TO AT LEAST 75mm ON LOWER GRADIENTS.

REPLACING TOPSOIL

SD 4-2



ROCK TRENCH
200mm INTO GROUND

SPILLWAY
150mm MIN

AGGREGATE OR RECYCLED CONCRETE

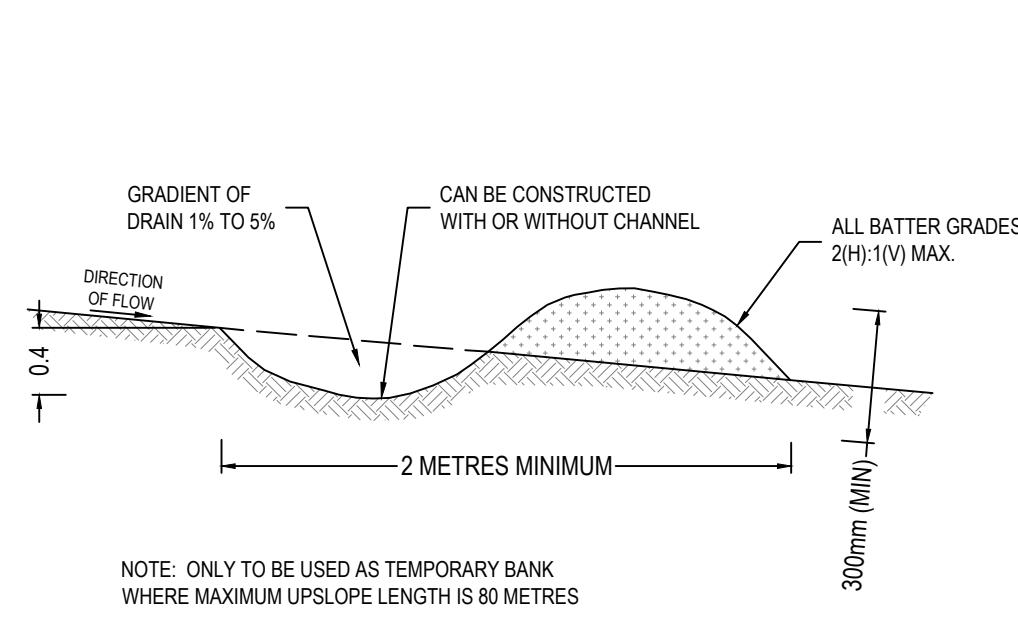
SPACING OF CHECK DAMS ALONG CENTRELINE AND SCOUR PROTECTION BELOW EACH CHECK DAM TO BE SPECIFIED ON SWMP/ESCP.

CONSTRUCTION NOTES:

- CHECK DAMS CAN BE BUILT WITH VARIOUS MATERIALS, INCLUDING ROCKS, LOGS, SANBAGS AND STRAW BALES. THE MAINTENANCE PROGRAM SHOULD ENSURE THEIR INTEGRITY IS RETAINED, ESPECIALLY WHERE CONSTRUCTED WITH STRAW BALES. IN THE CASE OF BALES, THIS MIGHT REQUIRE THEIR REPLACEMENT EACH TWO TO FOUR MONTHS.
- TRENCH THE CHECK DAM 200mm INTO THE GROUND ACROSS ITS WHOLE WIDTH. WHERE ROCK IS USED, FILL THE TRENCHES TO AT LEAST 100mm ABOVE THE GROUND SURFACE TO REDUCE THE RISK OF UNDERCUTTING.
- NORMALLY, THEIR MAXIMUM HEIGHT SHOULD NOT EXCEED 600mm ABOVE THE GULLY FLOOR. THE CENTRE SHOULD ACT AS A SPILLWAY, BEING AT LEAST 150mm LOWER THAN THE OUTER EDGE.
- SPACE THE DAMS SO THE TOE OF THE UPSTREAM DAM IS LEVEL WITH THE SPILLWAY OF THE NEXT DOWNSTREAM DAM.

ROCK CHECK DAM

SD 5-4



GRADIENT OF DRAIN 1% TO 5%

CAN BE CONSTRUCTED WITH OR WITHOUT CHANNEL

ALL BATTER GRADES 2(H):1(V) MAX.

2 METRES MINIMUM

300mm (MIN)

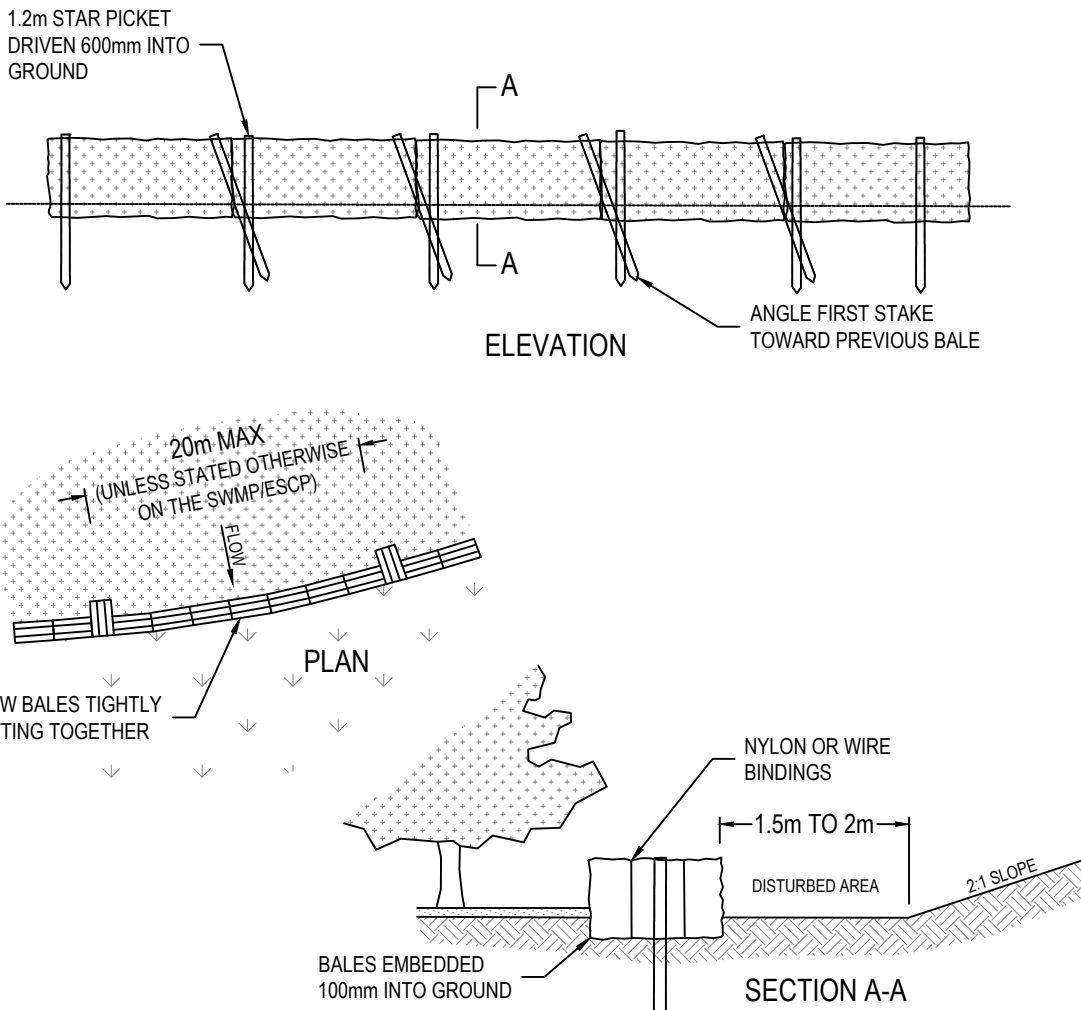
NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAXIMUM UPSLOPE LENGTH IS 80 METRES

CONSTRUCTION NOTES:

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

EARTH BANK (LOW FLOW)

SD 5-5



1.2m STAR PICKET DRIVEN 600mm INTO GROUND

ELEVATION

ANGLE FIRST STAKE TOWARD PREVIOUS BALE

20m MAX (UNLESS STATED OTHERWISE ON THE SWMP/ESCP)

PLAN

STRAW BALES TIGHTLY ABUTTING TOGETHER

SECTION A-A

NYLON OR WIRE BINDINGS

1.5m TO 2m

DISTURBED AREA

2:1 SLOPE

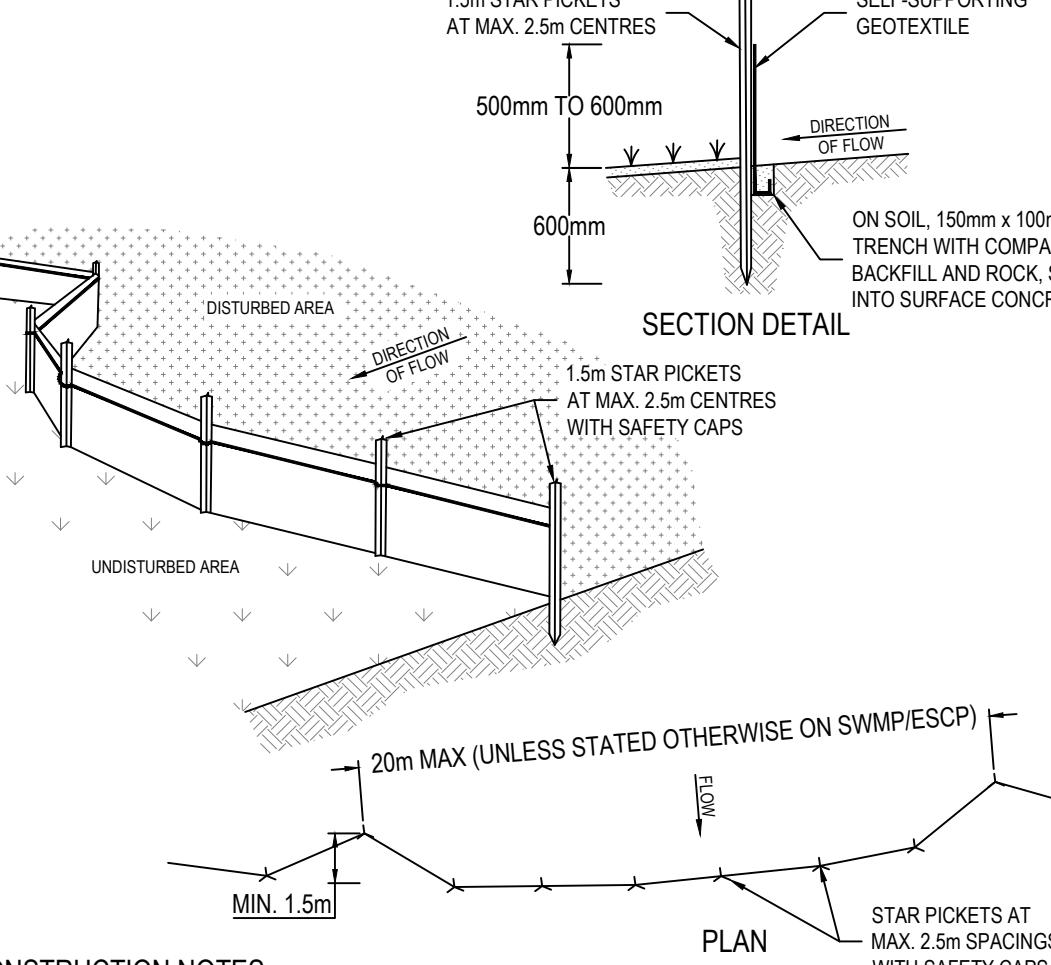
BALES EMBEDDED 100mm INTO GROUND

CONSTRUCTION NOTES:

- CONSTRUCT THE STRAW BALE FILTER AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE.
- PLACE BALES LENGTHWISE IN A ROW WITH ENDS TIGHTLY ABUTTING. USE STRAW TO FILL ANY GAPS BETWEEN BALES. STRAWS ARE TO BE PLACED PARALLEL TO GROUND.
- ENSURE THAT THE MAXIMUM HEIGHT OF THE FILTER IS ONE BALE.
- EMBED EACH BALE IN THE GROUND 75mm TO 100mm AND ANCHOR WITH TWO 1.2m STAR PICKETS OR STAKES. ANGLE THE FIRST STAR PICKET OR STAKE IN EACH BALE TOWARDS THE PREVIOUSLY LAID BALE. DRIVE THEM 600mm INTO THE GROUND AND, IF POSSIBLE, FLUSH WITH THE TOP OF THE BALES. WHERE STAR PICKETS ARE USED AND THEY PROTRUDE ABOVE THE BALES, ENSURE THEY ARE FITTED WITH SAFETY CAPS.
- WHERE A STRAW BALE FILTER IS CONSTRUCTED DOWNSLOPE FROM A DISTURBED BATTER, ENSURE THE BALES ARE PLACED 1 TO 2 METRES DOWNSLOPE FROM THE TOE.
- ESTABLISH A MAINTENANCE PROGRAM THAT ENSURES THE INTEGRITY OF THE BALES IS RETAINED - THEY COULD REQUIRE REPLACEMENT EACH TWO TO FOUR MONTHS.

STRAW BALE FILTER

SD 6-7



1.5m STAR PICKETS AT MAX. 2.5m CENTRES

500mm TO 600mm

600mm

SECTION DETAIL

1.5m STAR PICKETS AT MAX. 2.5m CENTRES WITH SAFETY CAPS

20m MAX (UNLESS STATED OTHERWISE ON SWMP/ESCP)

MIN. 1.5m

PLAN

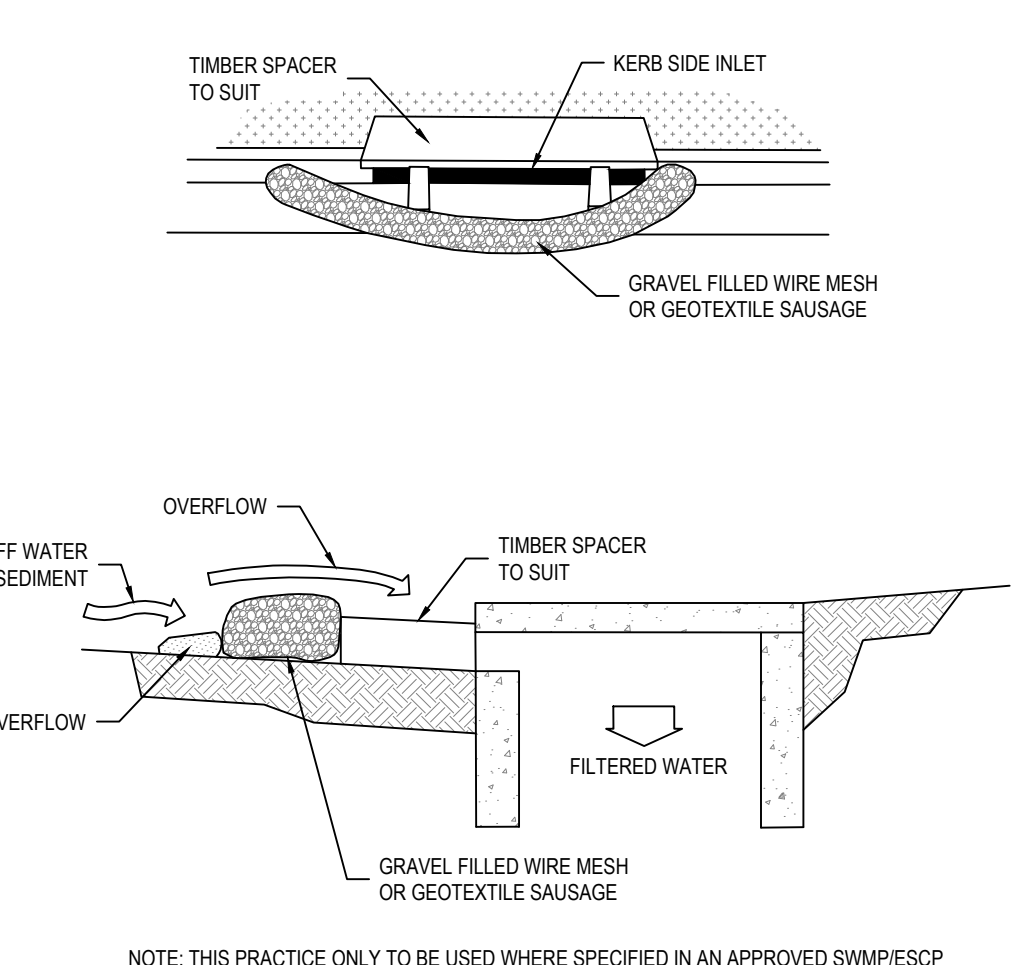
STAR PICKETS AT MAX. 2.5m SPACINGS WITH SAFETY CAPS

CONSTRUCTION NOTES:

- 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.
- CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
- 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.
- 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.
- JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
- BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

SEDIMENT FENCE

SD 6-8



TIMBER SPACER TO SUIT

KERB SIDE INLET

GRAVEL FILLED WIRE MESH OR GEOTEXTILE SAUSAGE

SECTION DETAIL

20m MAX (UNLESS STATED OTHERWISE ON SWMP/ESCP)

MIN. 1.5m

PLAN

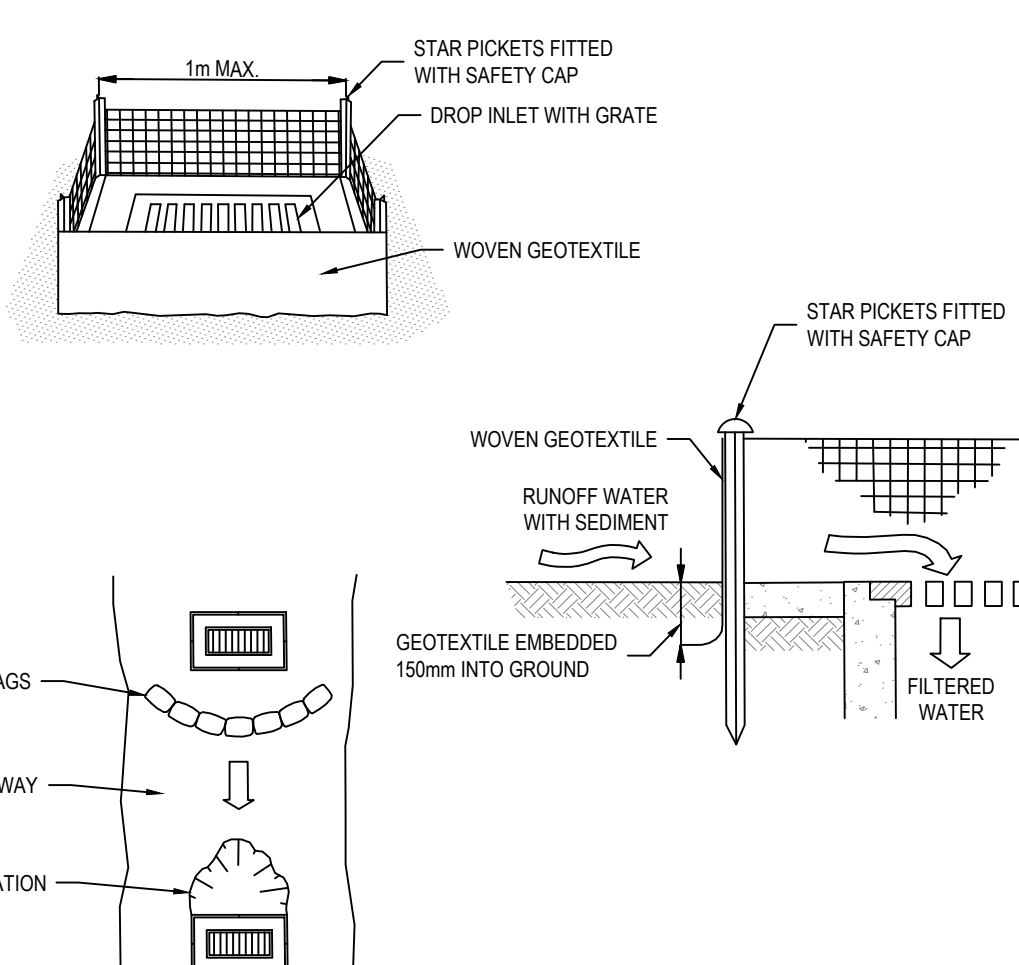
STAR PICKETS AT MAX. 2.5m SPACINGS WITH SAFETY CAPS

CONSTRUCTION NOTES:

- INSTALL FILTERS TO KERB INLETS ONLY AT SAG POINTS.
- 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.
- FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH X 400mm WIDE.
- PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
- FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
- SANBAGS 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.

MESH AND GRAVEL INLET FILTER

SD 6-11



1m MAX

STAR PICKETS FITTED WITH SAFETY CAP

DROP INLET WITH GRATE

WOVEN GEOTEXTILE

SECTION DETAIL

20m MAX (UNLESS STATED OTHERWISE ON SWMP/ESCP)

MIN. 1.5m

PLAN

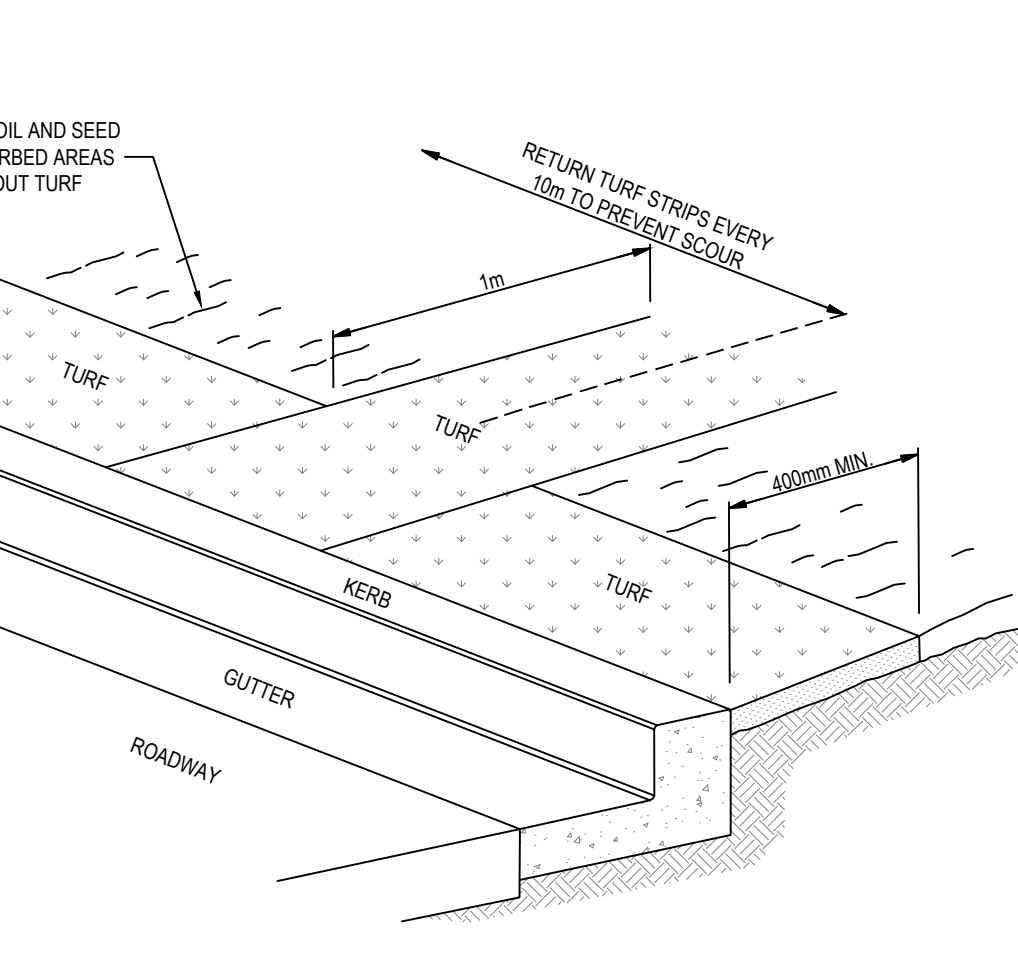
STAR PICKETS AT MAX. 2.5m SPACINGS WITH SAFETY CAPS

CONSTRUCTION NOTES:

- FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
- 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.
- IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
- DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

GEOTEXTILE INLET FILTER

SD 6-12



1m MAX

STAR PICKETS FITTED WITH SAFETY CAP

DROP INLET WITH GRATE

WOVEN GEOTEXTILE

SECTION DETAIL

20m MAX (UNLESS STATED OTHERWISE ON SWMP/ESCP)

MIN. 1.5m

PLAN

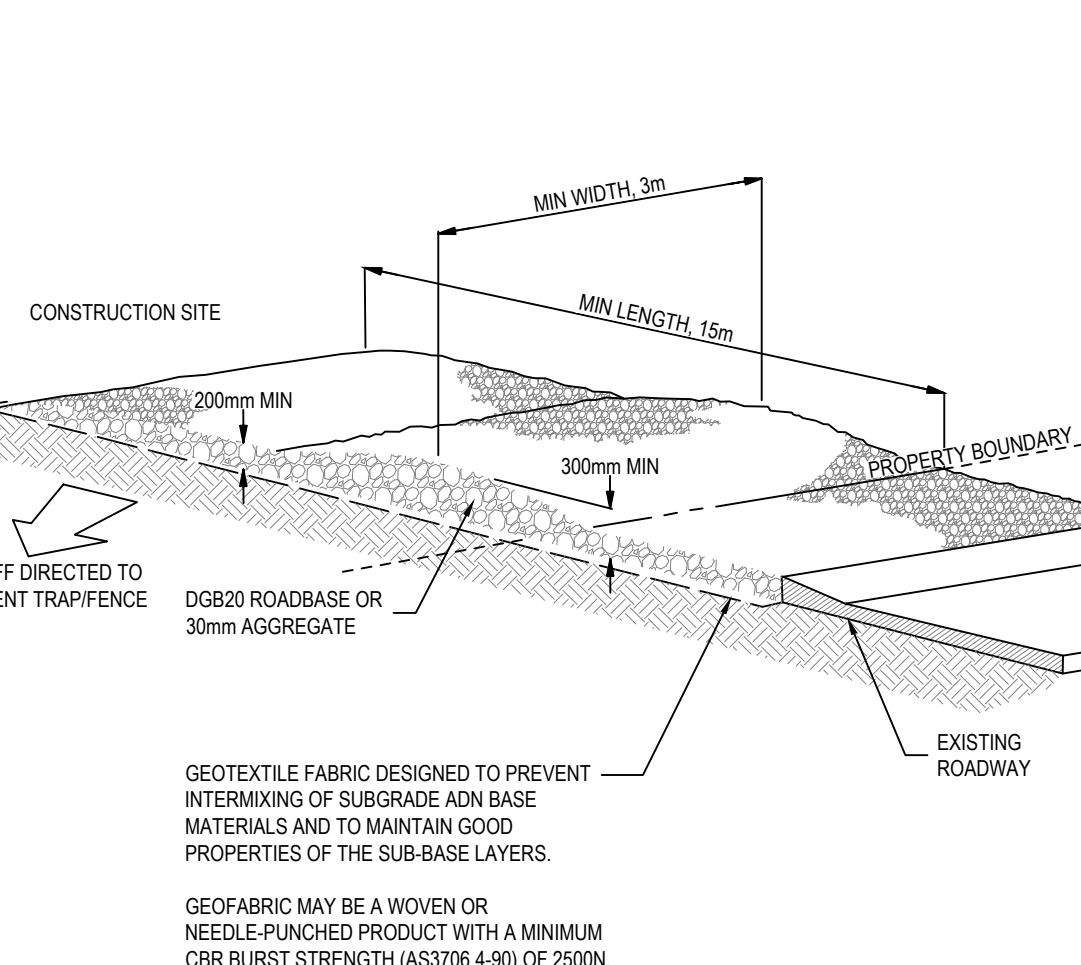
STAR PICKETS AT MAX. 2.5m SPACINGS WITH SAFETY CAPS

CONSTRUCTION NOTES:

- INSTALL A 400mm MINIMUM WIDE ROLL OF TURF ON THE FOOTPATH NEXT TO THE KERB AND AT THE SAME LEVEL AS THE TOP OF THE KERB AND LIGHTLY COMPACTED INTO THE TOPSOIL.
- LAY 1.4 METRE LONG TURF STRIPS NORMAL TO THE KERB EVERY 10 METRES.
- REHABILITATE DISTURBED SOIL BEHIND THE KERB BY SPREADING 20-25mm THICK LAYER OF TOPSOIL AND BROADCAST SEED MIX AT A RATE OF 0.3kg/10m². UNLESS SPECIFIED OTHERWISE, TO DISTURBED AREAS WHERE TURF HAS NOT BEEN INSTALLED. SEEDS SHOULD BE SCRATCHED INTO THE SURFACE TO REDUCE THE INCIDENCE OF INGESTION BY BIRDS. IF SEED MIX DOES NOT INCLUDE STARTER FERTILISER, APPLY FERTILISER AT A RATE AS SPECIFIED.

KERBSIDE TURF STRIP

SD 6-13



1m MAX

STAR PICKETS FITTED WITH SAFETY CAP

DROP INLET WITH GRATE

WOVEN GEOTEXTILE

SECTION DETAIL

20m MAX (UNLESS STATED OTHERWISE ON SWMP/ESCP)

MIN. 1.5m

PLAN

STAR PICKETS AT MAX. 2.5m SPACINGS WITH SAFETY CAPS

CONSTRUCTION NOTES:

- STRIP THE TOPSOIL, LEVEL THE SITE AND COMPACT THE SUBGRADE.
- COVER THE AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
- CONSTRUCTION A 200mm THICK PAD OVER THE GEOTEXTILE USING ROAD BASE OR 30mm AGGREGATE.
- ENSURE THE STRUCTURE IS AT LEAST 15 METRES LONG OR TO BUILDING ALIGNMENT AND AT LEAST 3 METRES WIDE.
- 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

SD 6-14

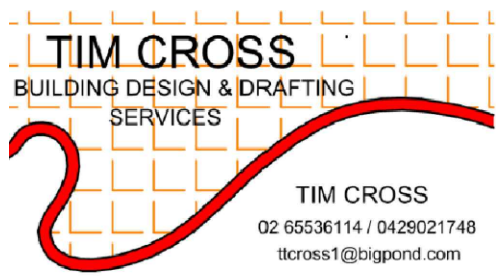
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A	ISSUED FOR DA APPROVAL	05.03.25	K.B.	-
A	PRELIMINARY COORD REVIEW SET	25.02.25	K.B.	-

ARCHITECT:



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web: www.wdsgrgroup.com.au

PROJECT:

CIVIL WORKS for
LOT 57, DP 1072968
39 JAMES FOSTER DRIVE
BLACK HEAD NSW 2430

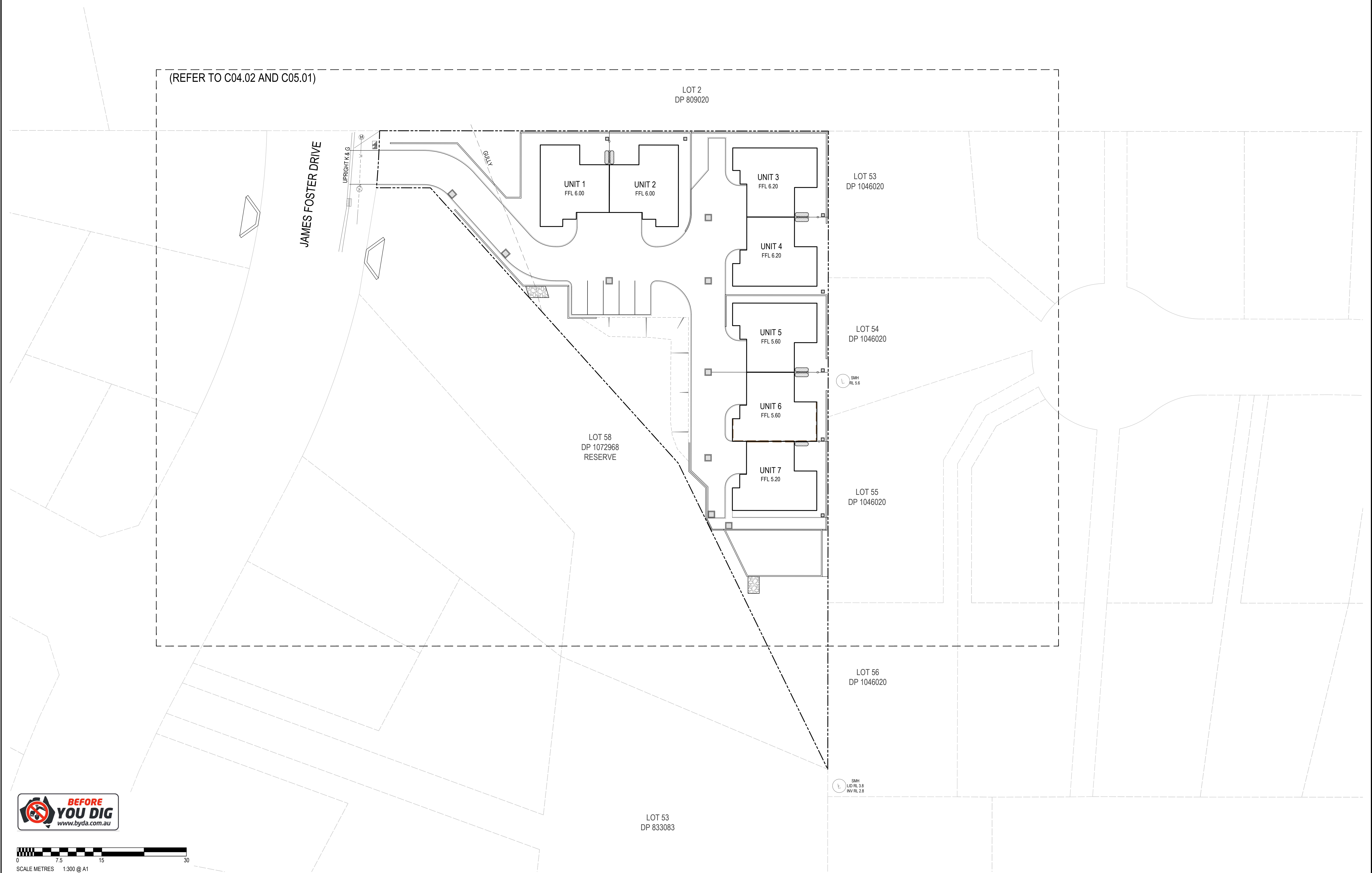
DRAWING TITLE:

CIVIL SERVICES
EROSION AND SEDIMENTATION
CONTROL DETAILS

DRAWING STATUS

DA APPROVAL
NOT TO BE USED FOR CONSTRUCTION

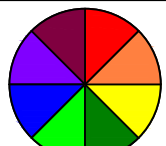
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DRAWN	DESIGNED	CHECKED	APPROVED	ENDORSED	DATE
AK	AK	KB	KB	--	05.03.25
PROJECT No.		DRAWING No.		REV	
24267		C03.02		A	



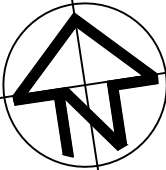
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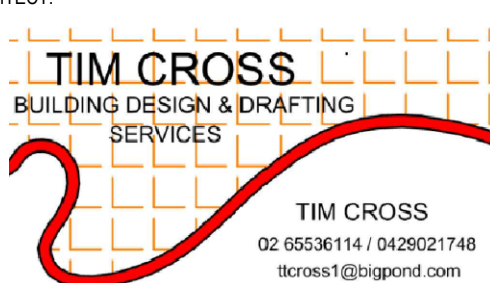
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PROJECT:

CIVIL WORKS for
LOT 57, DP 1072968
39 JAMES FOSTER DRIVE
BLACK HEAD NSW 2430

DRAWING TITLE:

CIVIL SERVICES
OVERALL SITE PLAN

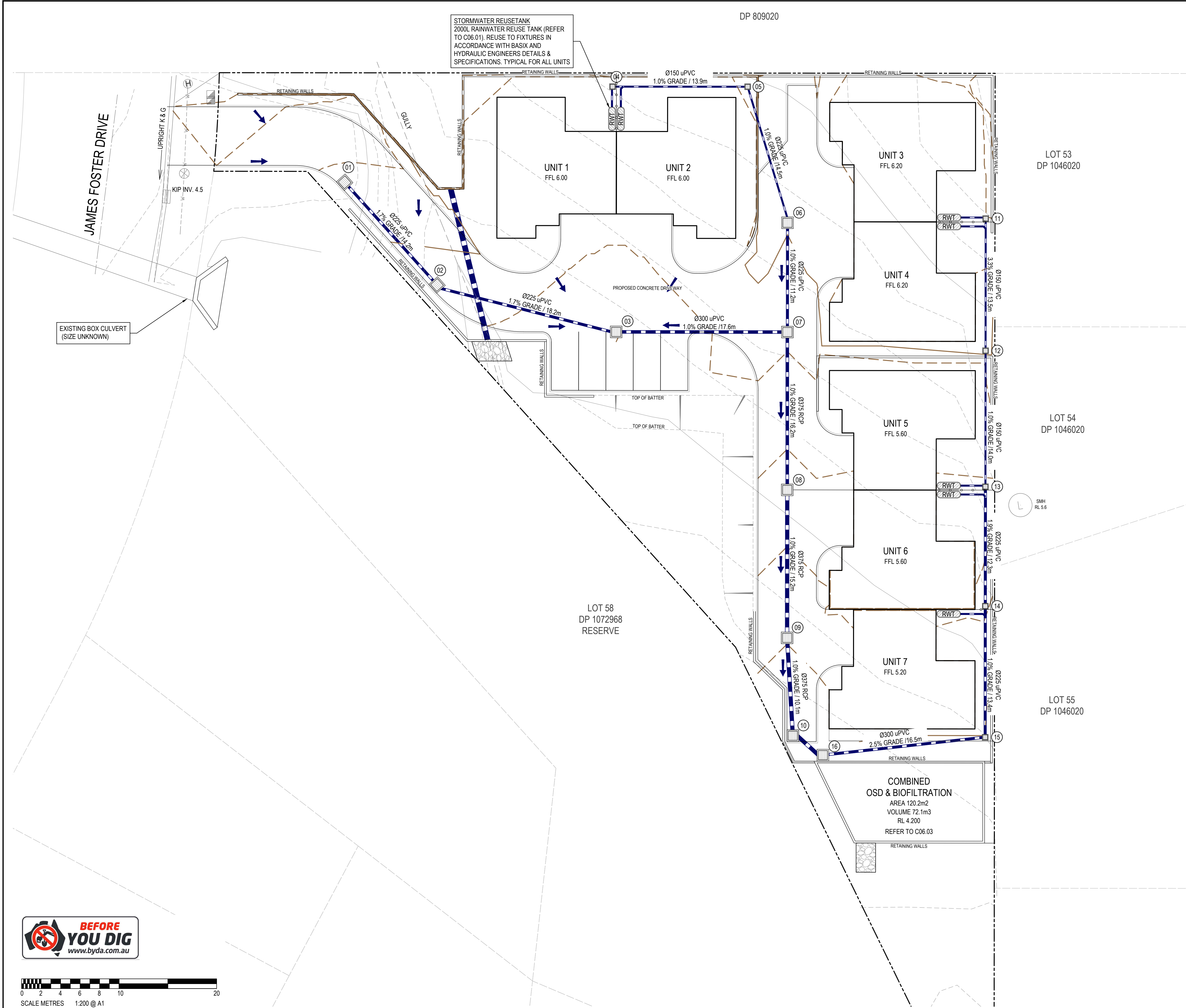
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PROJECT No.				DRAWING No.		REV
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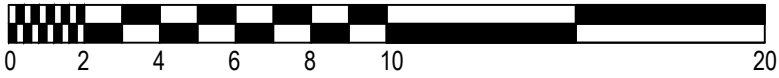
LOT 55
DP 1046020

PLOTTED BY:- ARYAN DATE:- 5 March 2025 11 6 AM FILENAME:- O:\PROJECTS\2024\24267 - 39 JAMES FOSTER DRIVE, BLACK HEAD\CAD\TITLE\24267 CIV DA-1A\ 39 JAMES FOSTER DRIVE



PIT SCHEDULE				
PIT No.	PIT SIZE	TYPE	FSL	IL
1	900 x 900	GRATED INLET PIT	6.132	5.432
2	900 x 900	GRATED INLET PIT	5.891	5.191
3	900 x 900	GRATED INLET PIT	5.590	4.890
4	450 x 450	GRATED YARD DRAIN PIT	5.800	5.350
5	450 x 450	GRATED YARD DRAIN PIT	5.800	5.211
6	900 x 900	GRATED INLET PIT	6.012	5.066
7	900 x 900	GRATED INLET PIT	5.840	4.714
8	900 x 900	GRATED INLET PIT	5.516	4.552
9	900 x 900	GRATED INLET PIT	5.213	4.400
10	900 x 900	GRATED INLET PIT	5.012	4.300
11	450 x 450	GRATED YARD DRAIN PIT	6.050	5.600
12	600 x 600	GRATED INLET PIT	6.000	5.200
13	450 x 450	GRATED YARD DRAIN PIT	5.500	5.050
14	450 x 450	GRATED YARD DRAIN PIT	5.350	4.800
15	900 x 900	GRATED INLET PIT	5.100	4.650
16	900 x 900	OSD BASIN	4.900	4.200

* FSL AT DRIVEWAY EDGE WHERE ADJACENT TO KERB; OR CENTRE OF PIT WHERE NOT ADJACENT TO A KERB.



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DWG IN COLOUR

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REV	DESCRIPTION	DATE	APPVD	ENDOD

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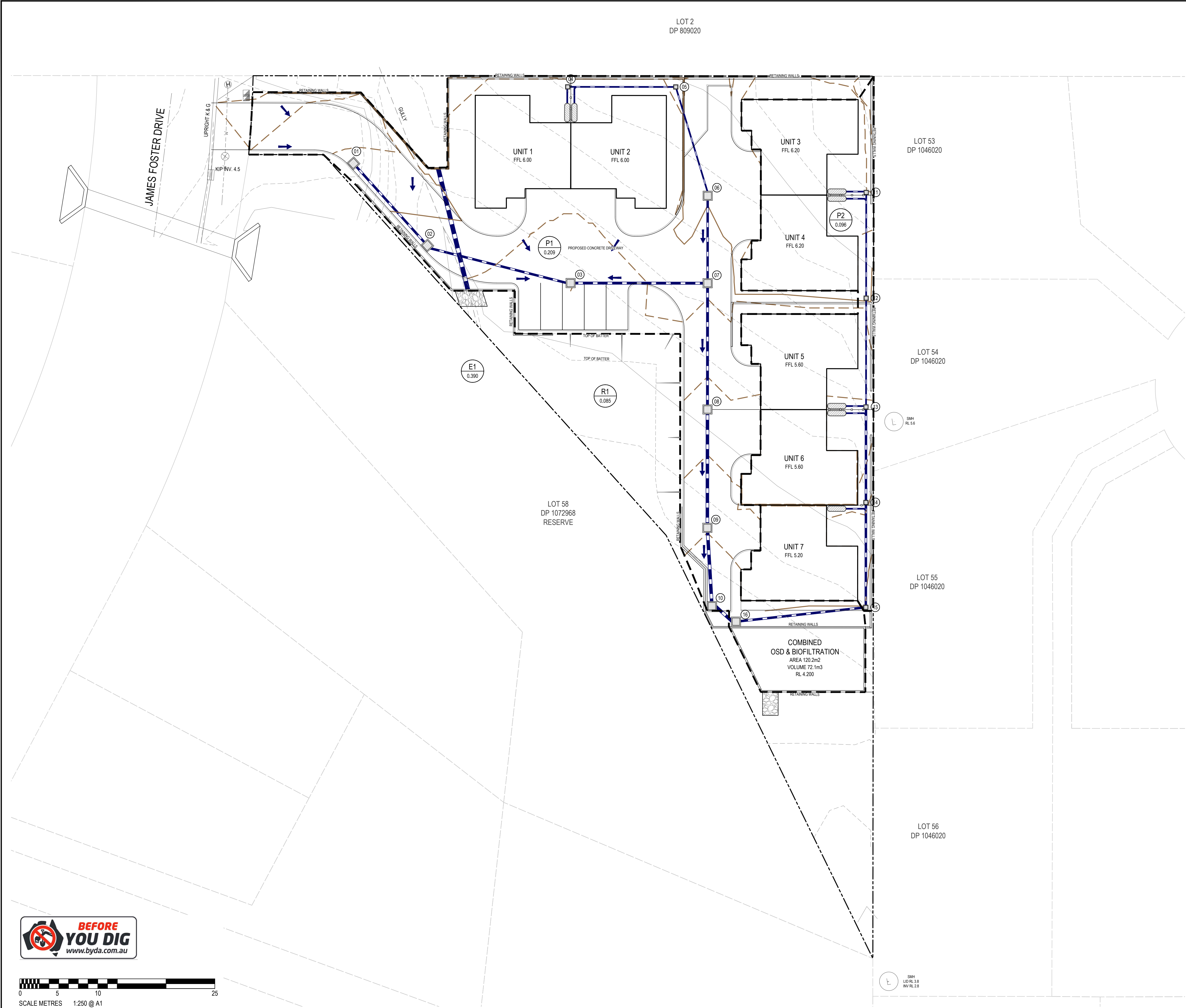


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PROJECT:
CIVIL WORKS for
LOT 57, DP 1072968
39 JAMES FOSTER DRIVE
BLACK HEAD NSW 2430

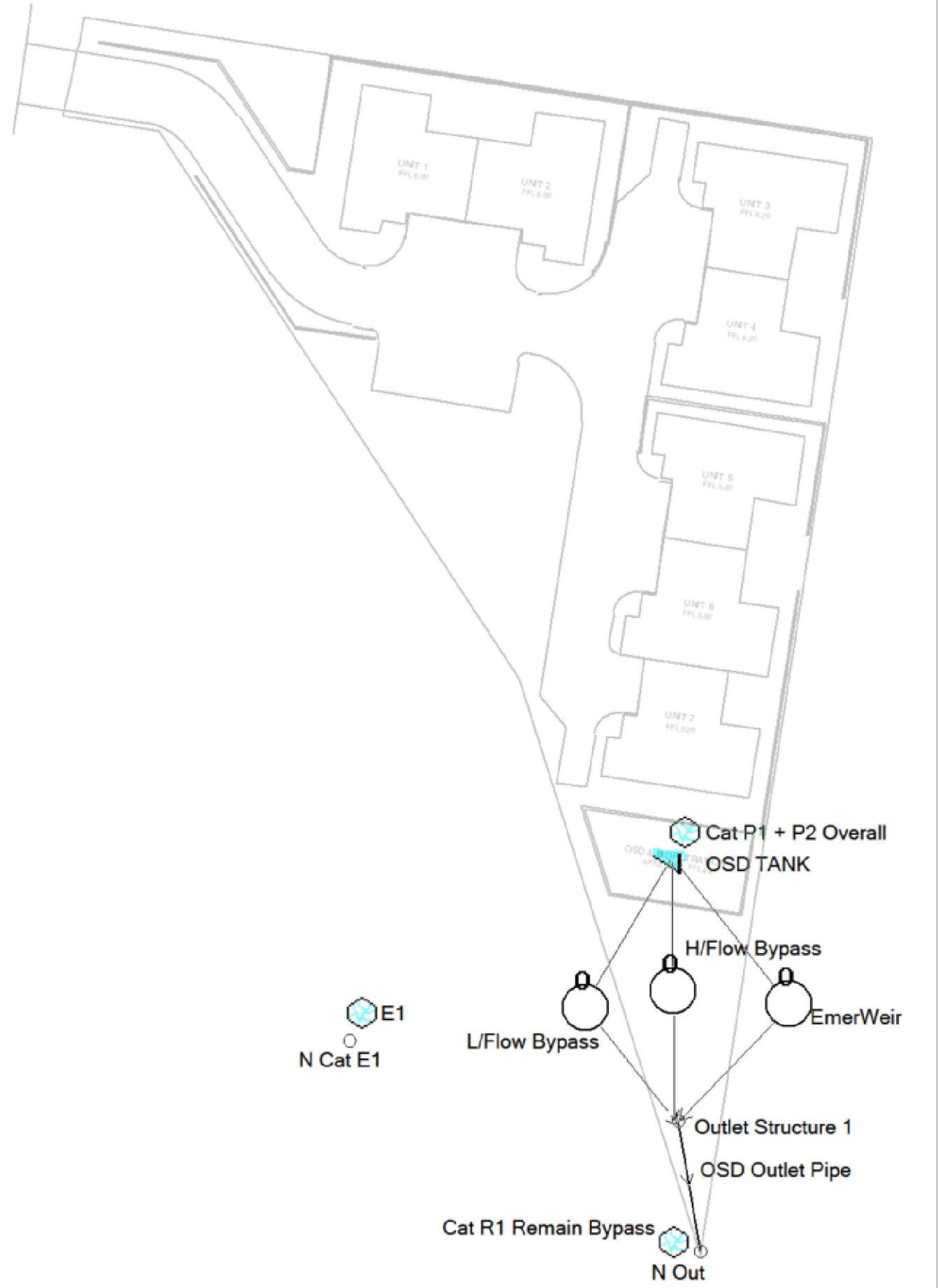
DRAWING TITLE:
CIVIL SERVICES
STORMWATER MANAGEMENT PLAN

DRAWING STATUS					ORIG. SIZE	
DA APPROVAL NOT TO BE USED FOR CONSTRUCTION					A1	
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DRAWN	DESIGNED	CHECKED	APPROVED	ENDORSED	DATE	
AK	AK	KB	KB	---	05.03.25	
PROJECT No.		DRAWING No.			REV	
24267		C05.01			A	



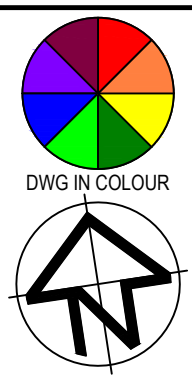
STORMWATER DETENTION RESULTS			
DESCRIPTION / STORM EVENT	20% AEP	5% AEP	1% AEP
PRE-DEVELOPED PEAK FLOW (L/s)	140	213	298
DEVELOPED PEAK FLOW (L/s) w/DETENTION	108	161	235

- NOTE:
- STORMWATER ANALYSIS HAS BEEN COMPLETED USING DRAINS MODELLING SOFTWARE IN ACCORDANCE WITH BOOK 9, RUNOFF IN URBAN AREAS, AUSTRALIA RAINFALL AND RUNOFF, A GUIDE TO FLOOD ESTIMATING, 2019.
 - ASSUMPTIONS FOR STORMWATER ANALYSIS INCLUDE:
 - BASIX REQUIREMENT EXCLUDED FROM ANALYSIS.
 - RAINWATER REUSE VOLUMES EXCLUDED FROM PRELIMINARY ANALYSIS.
 - OSD VOLUME PROVIDED INCLUDES THE EXTENDED DETENTION DEPTH WITHIN THE BIOFILTRATION BASIN.
 - OULET CONTROL STRUCTURE:
 - Ø300mm LOW FLOW ORIFICE OUTLET AT THE BIOFILTRATION EXTENDED DETENTION DEPTH OF 200mm FOR CONTROL OF 20% AEP.
 - 900mm HIGH FLOW WEIR FOR CONTROL OF THE 5% AND 1% AEP AT INVERT LEVEL 4.65.
 - EMERGENCY OVERFLOW WIER WITH 100mm OF FREEBOARD IN THE EVENT CONTROL OUTLETS BECOME CLOGGED FOR ANY REASON.



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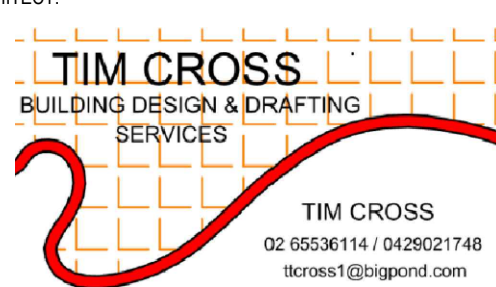
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LOT 57, DP 1072968
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BLACK HEAD NSW 2430

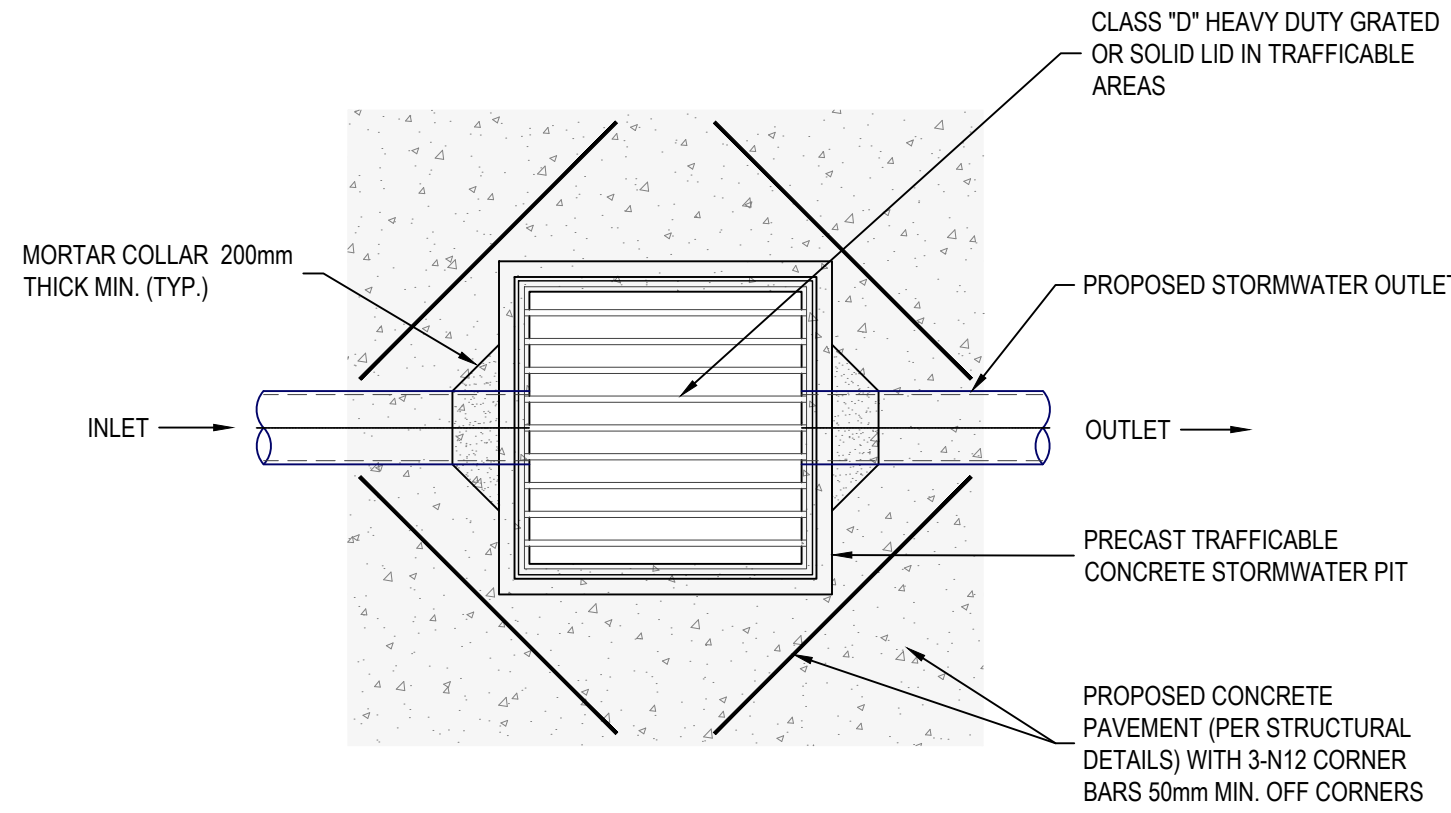
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CIVIL SERVICES
STORMWATER CATCHMENT
PLAN AND RESULTS

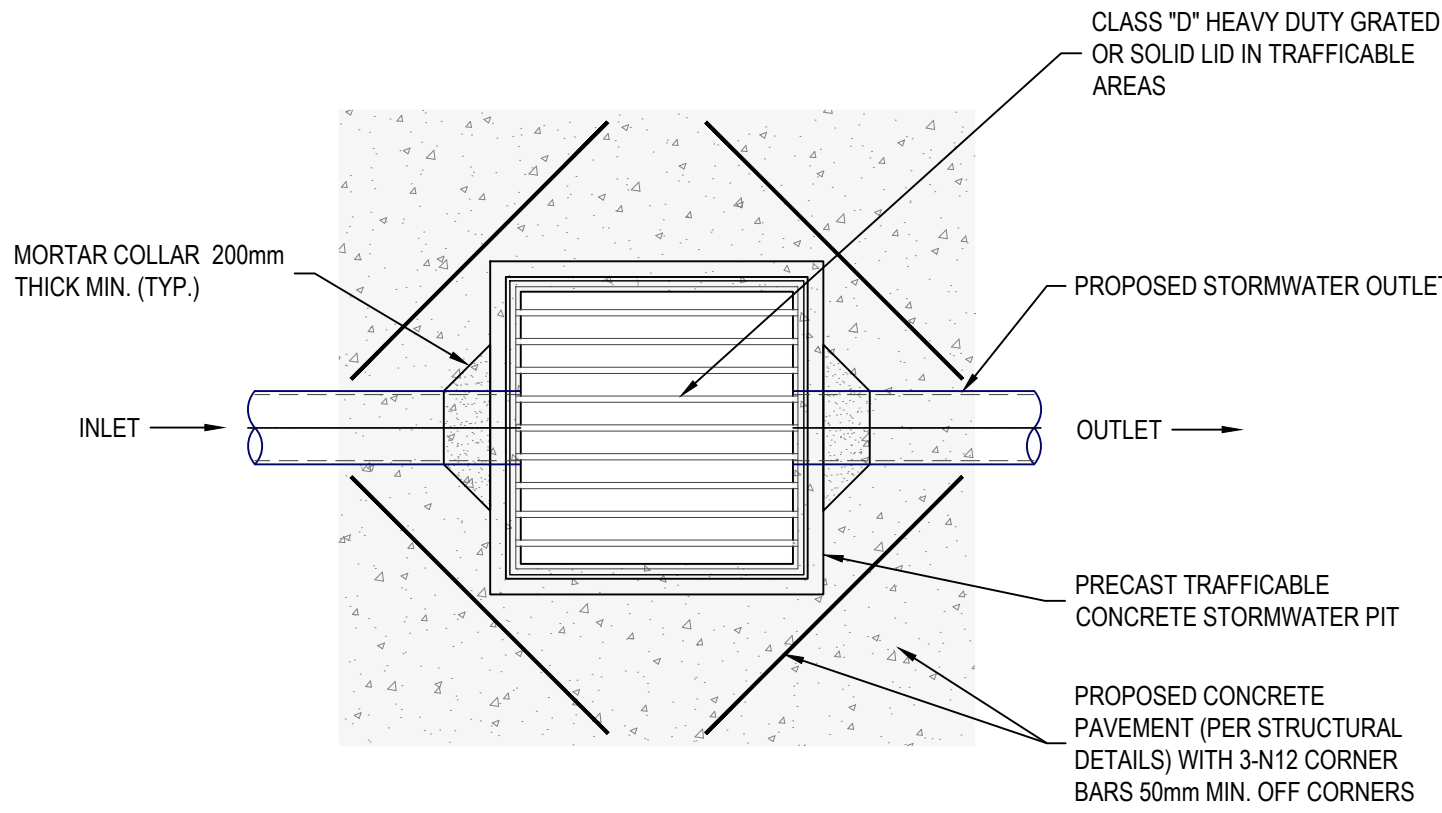
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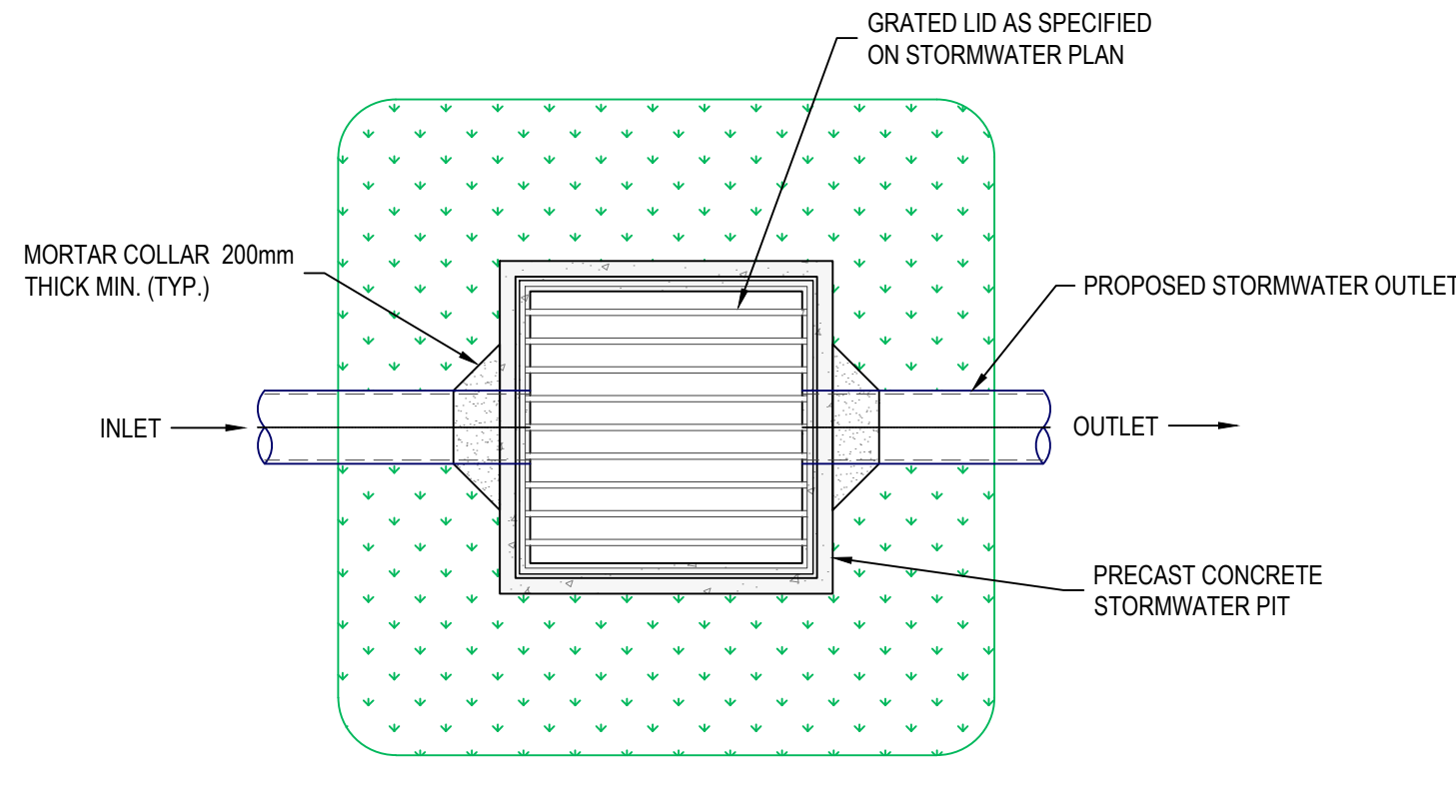
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PROJECT No.		DRAWING No.			REV
24267		C05.03			A



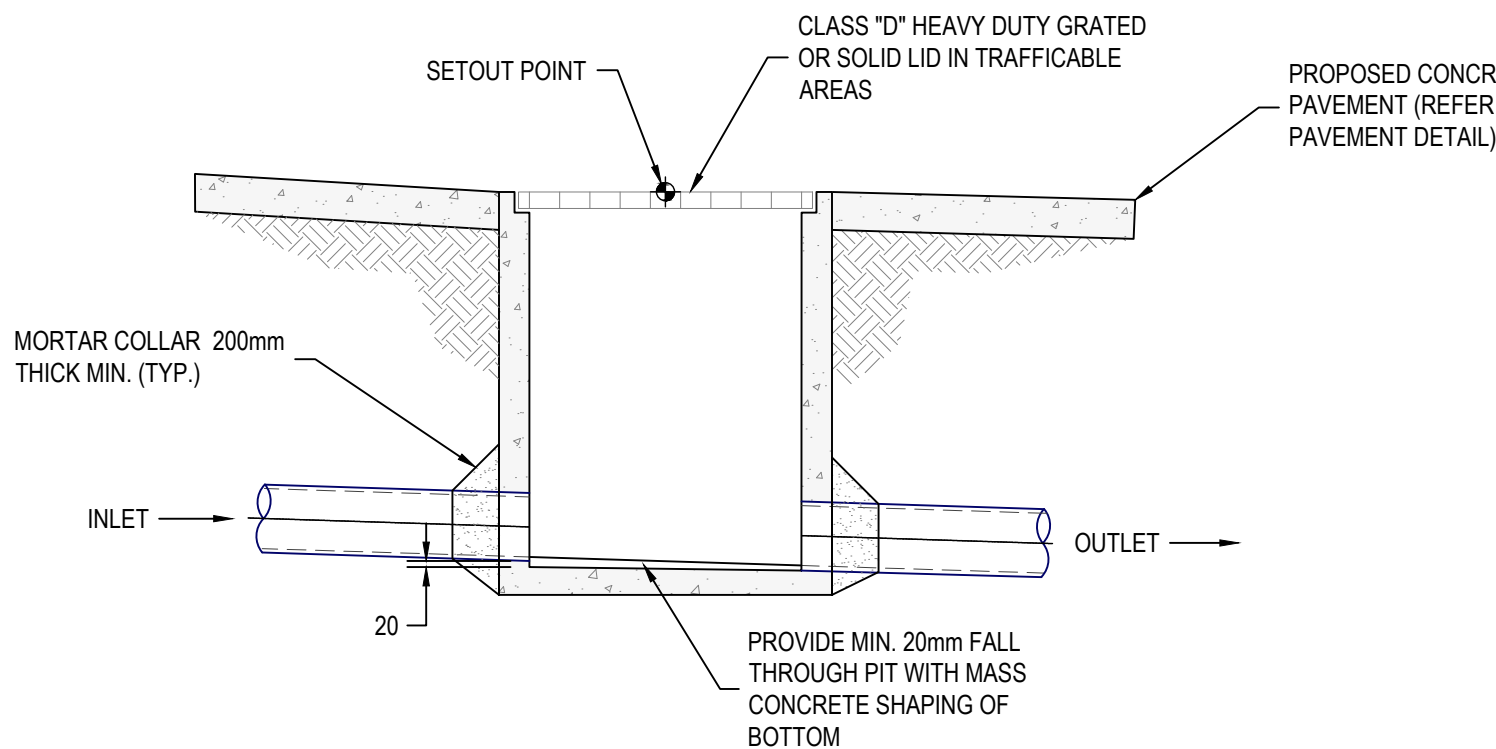
PLAN VIEW



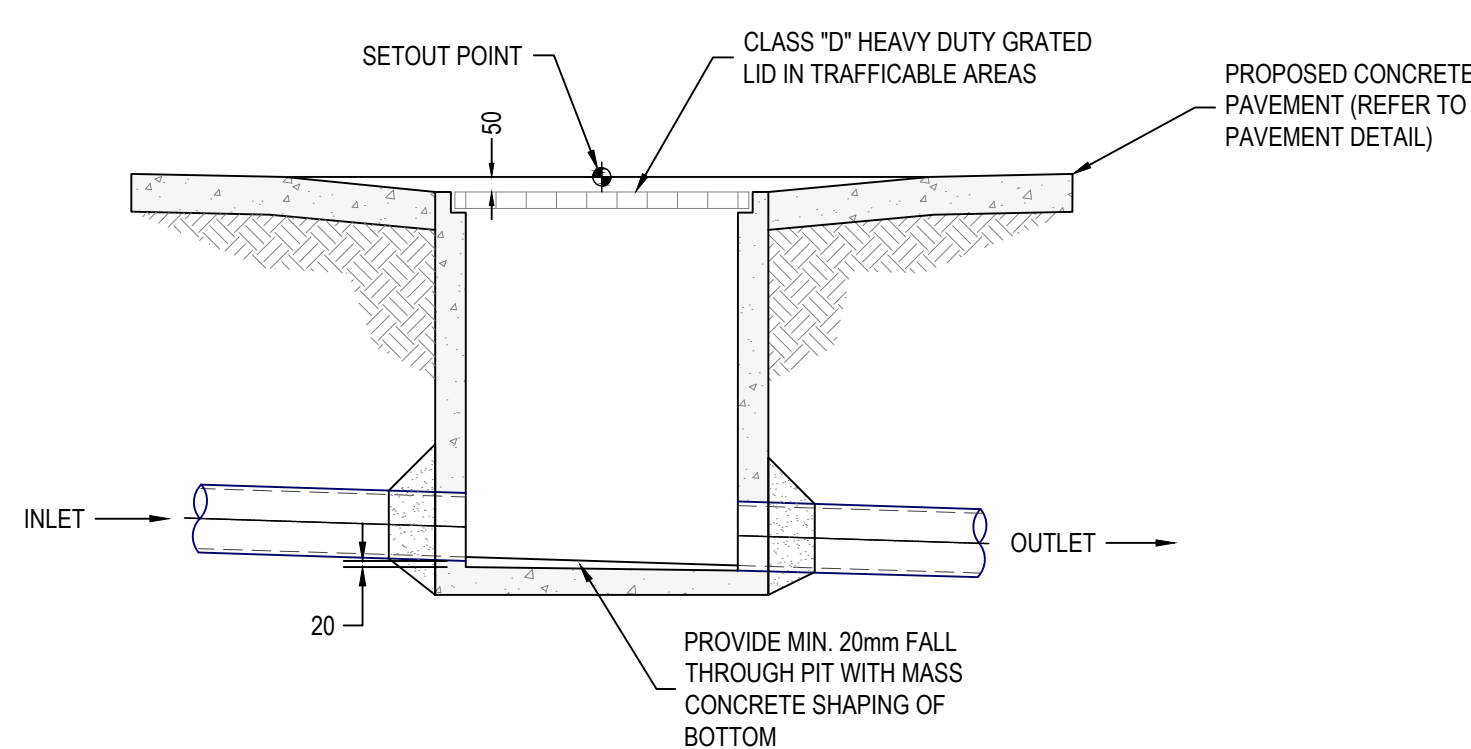
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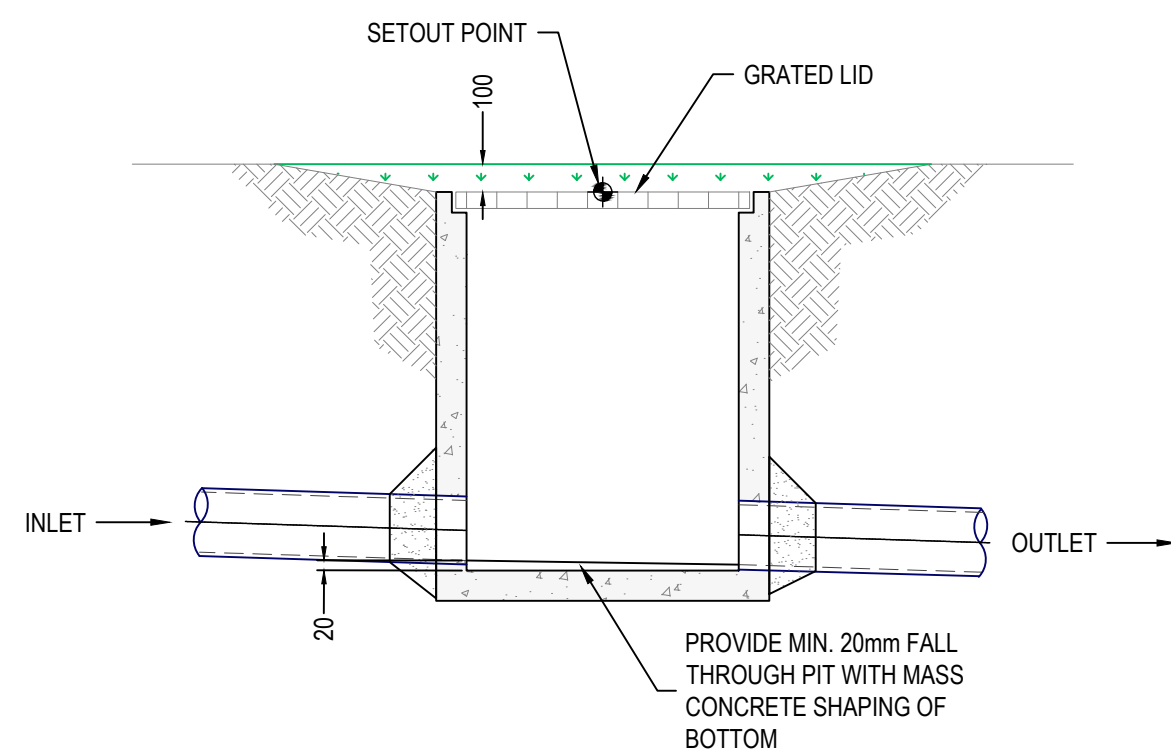
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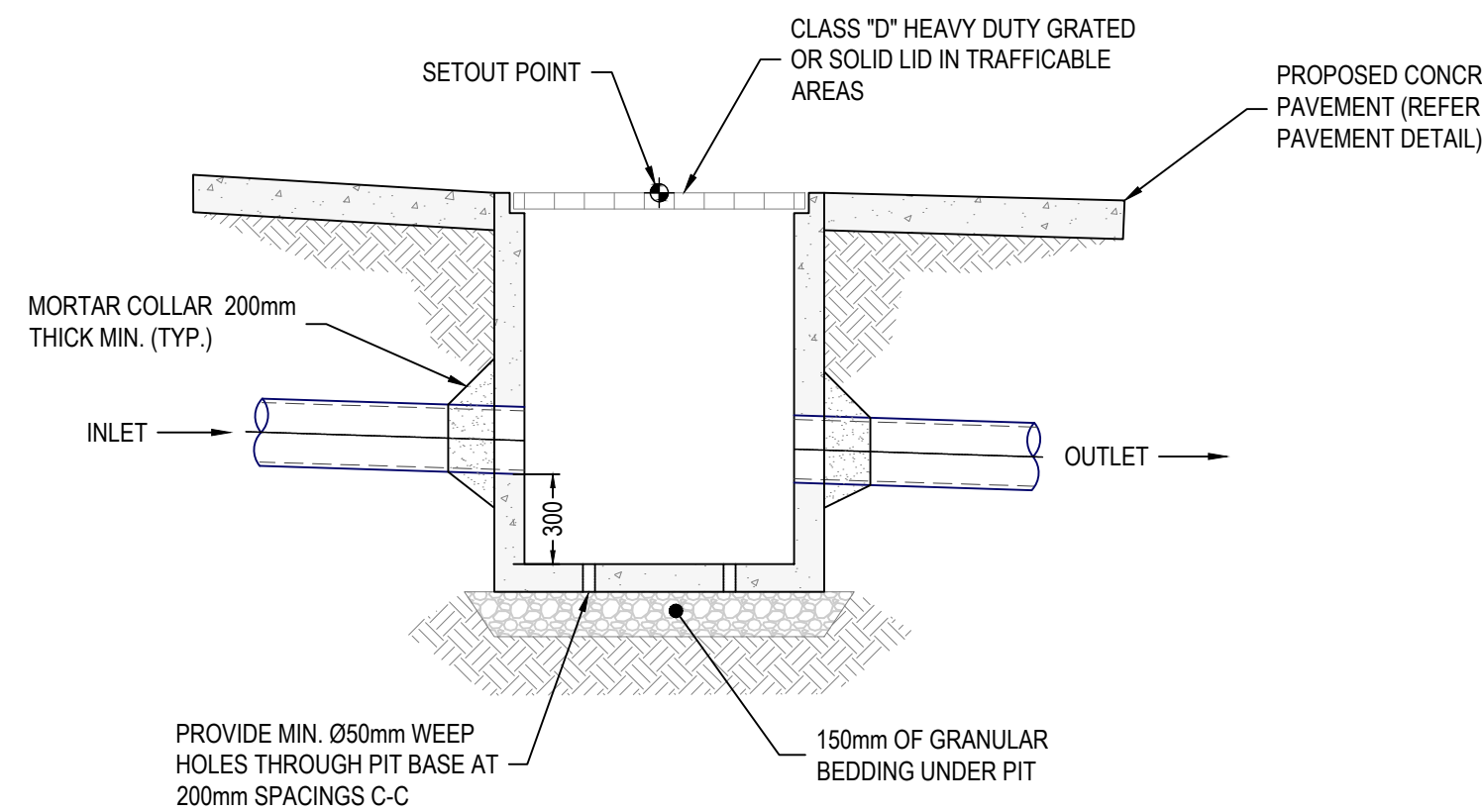
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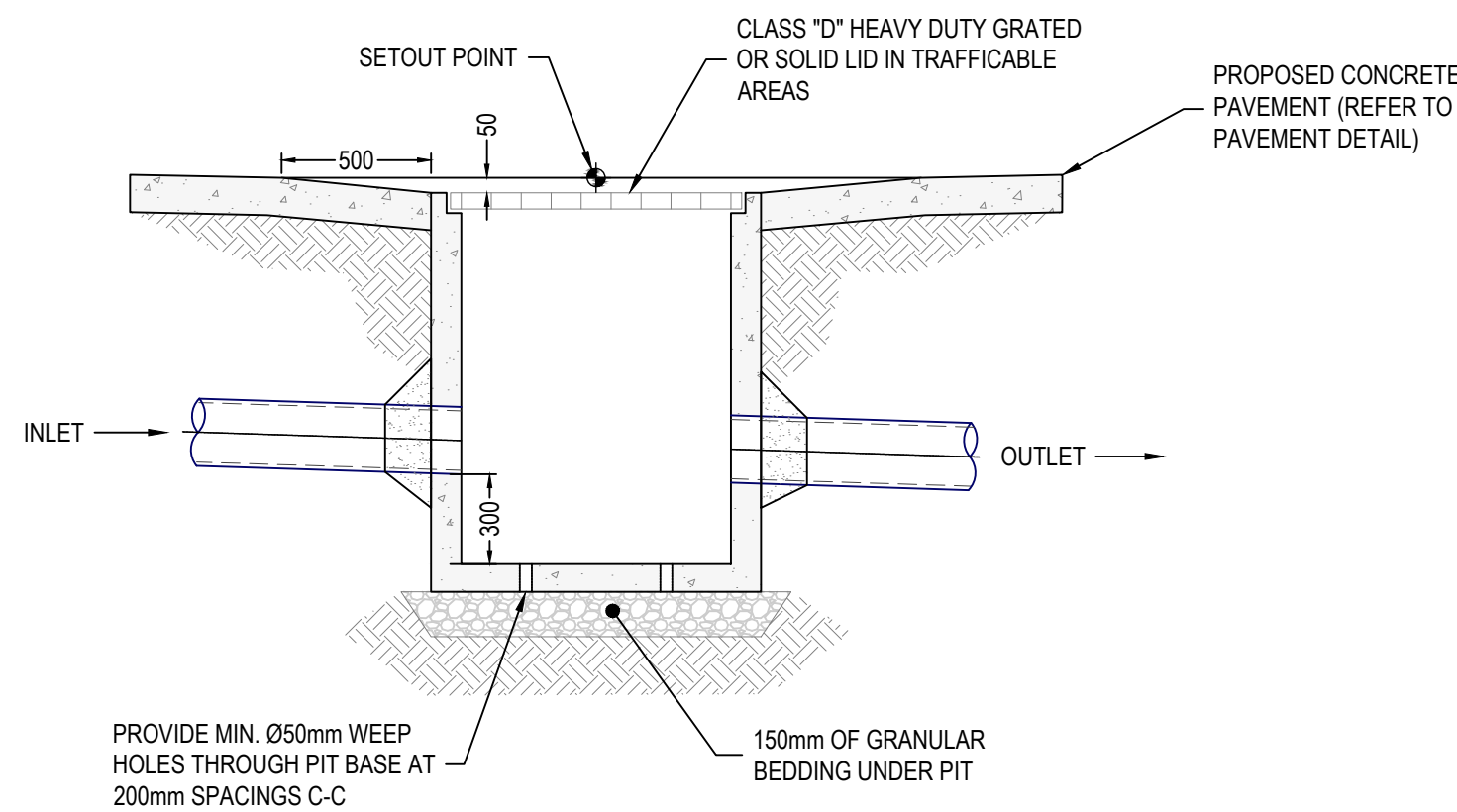
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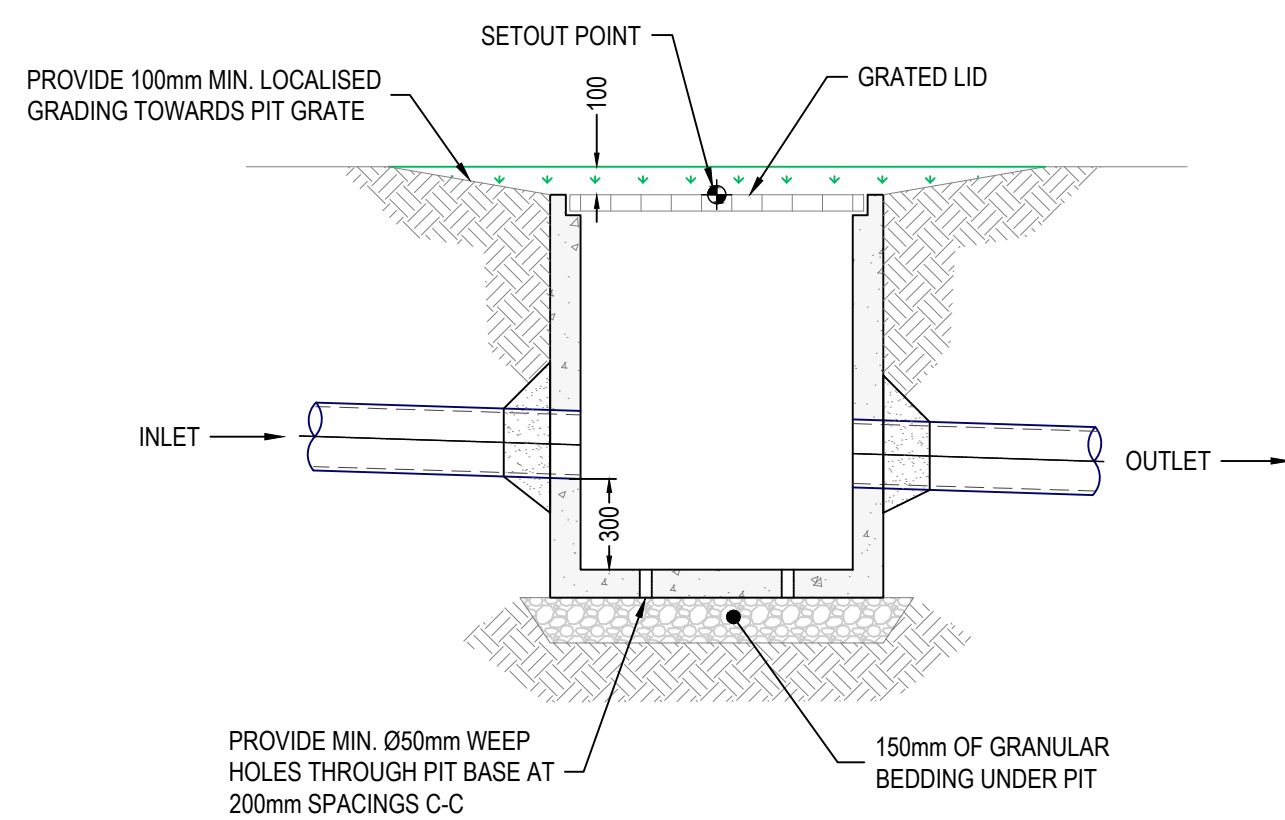
SECTION VIEW



SECTION VIEW WITH 300 SUMP PIT



SECTION VIEW WITH 300 SUMP PIT



SECTION VIEW WITH 300 SUMP PIT

TYPICAL AT-GRADE STORMWATER DRAINAGE PIT IN PAVED AREAS

1:25

TYPICAL DEPRESSED STORMWATER DRAINAGE PIT IN PAVED AREAS

1:25

TYPICAL DEPRESSED STORMWATER DRAINAGE PIT IN GRASSED AREAS

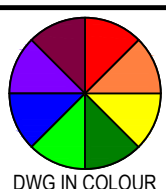
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SCALE METRES 1:25 @ A1

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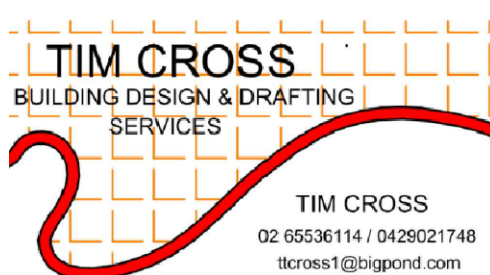
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PROJECT:

CIVIL WORKS for
LOT 57, DP 1072968
39 JAMES FOSTER DRIVE
BLACK HEAD NSW 2430

DRAWING TITLE:

CIVIL SERVICES
STORMWATER PIT DETAILS

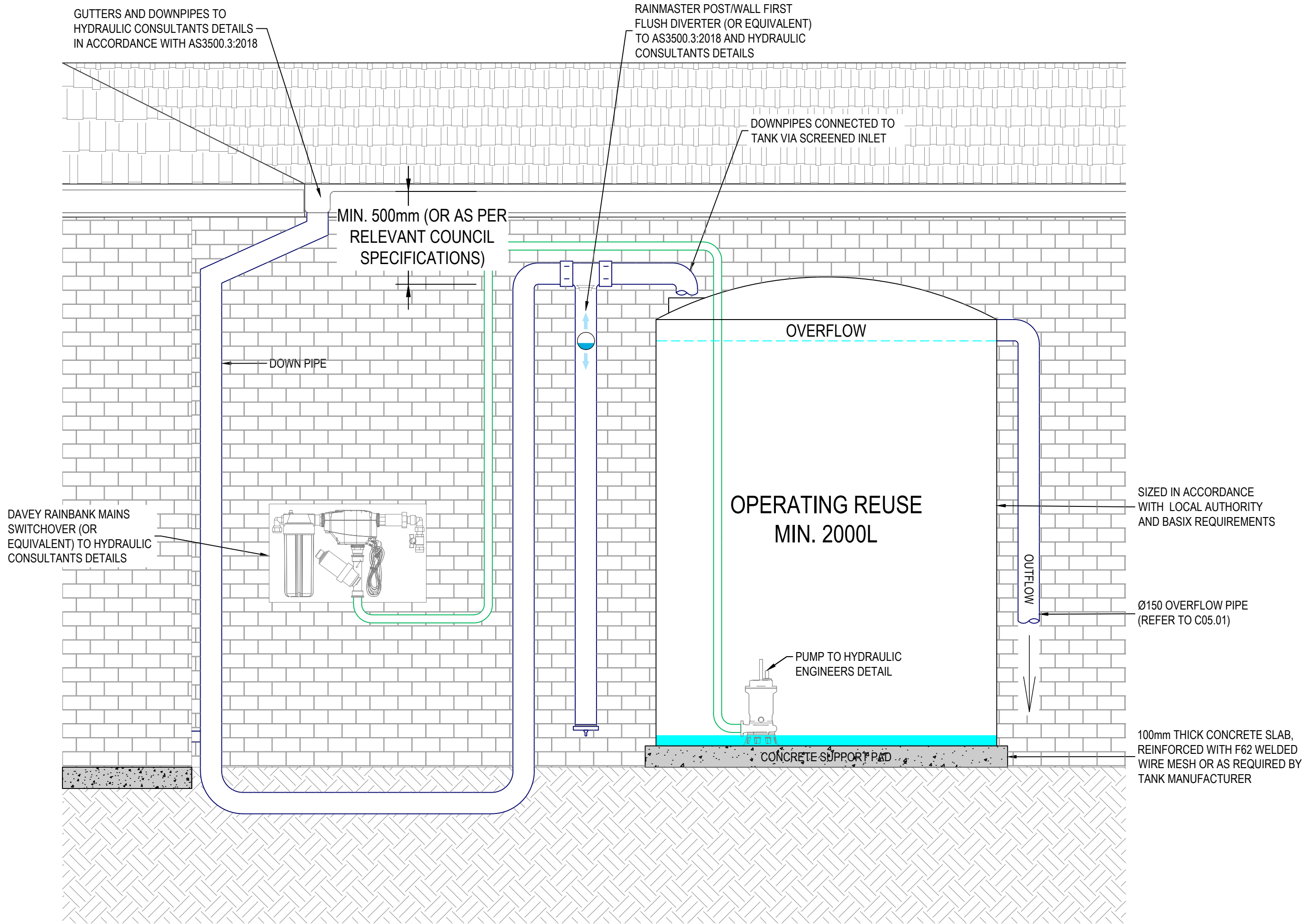
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PROJECT No.		DRAWING No.			REV
24267		C06.01			A

GENERAL RAINWATER TANK NOTES:

1.
- ALL UNITS ARE TO BE CONNECTED TO THE SPECIFIED RAINWATER REUSE TANK AS NOTED ON THE STORMWATER MANAGEMENT PLAN (REFER TO C05.01).
2.
- DAVEY RAINBANK MAINS SWITCHOVER (OR EQUIVALENT) AND RAINWATER TANK TO BE INSTALLED PER MANUFACTURERS SPECIFICATIONS.
3.
- VOLUMES SHOWN FOR REUSE ARE PROVIDED TO COMPLY WITH BASIX AND/OR COUNCIL GUIDELINES AND DO NOT INCLUDE THE PERMANENT VOLUME REQUIRED FOR OPERATION OF THE PUMP.



TYPICAL ABOVEGROUND
RAINWATER REUSE TANK SECTION
NTS

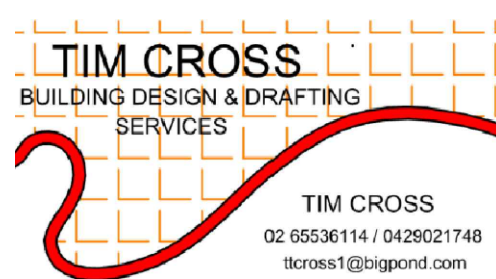
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PROJECT:

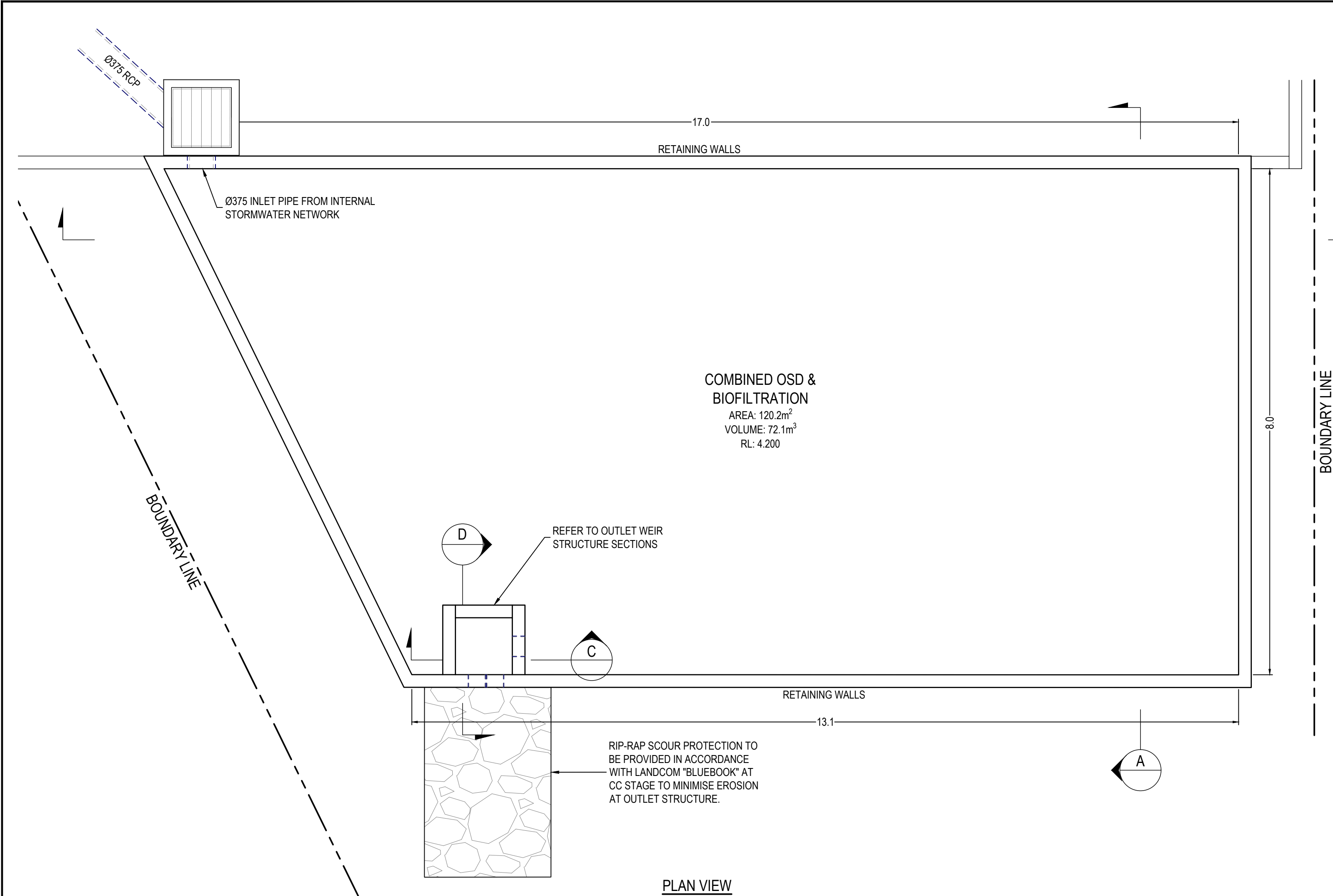
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LOT 57, DP 1072968
39 JAMES FOSTER DRIVE
BLACK HEAD NSW 2430

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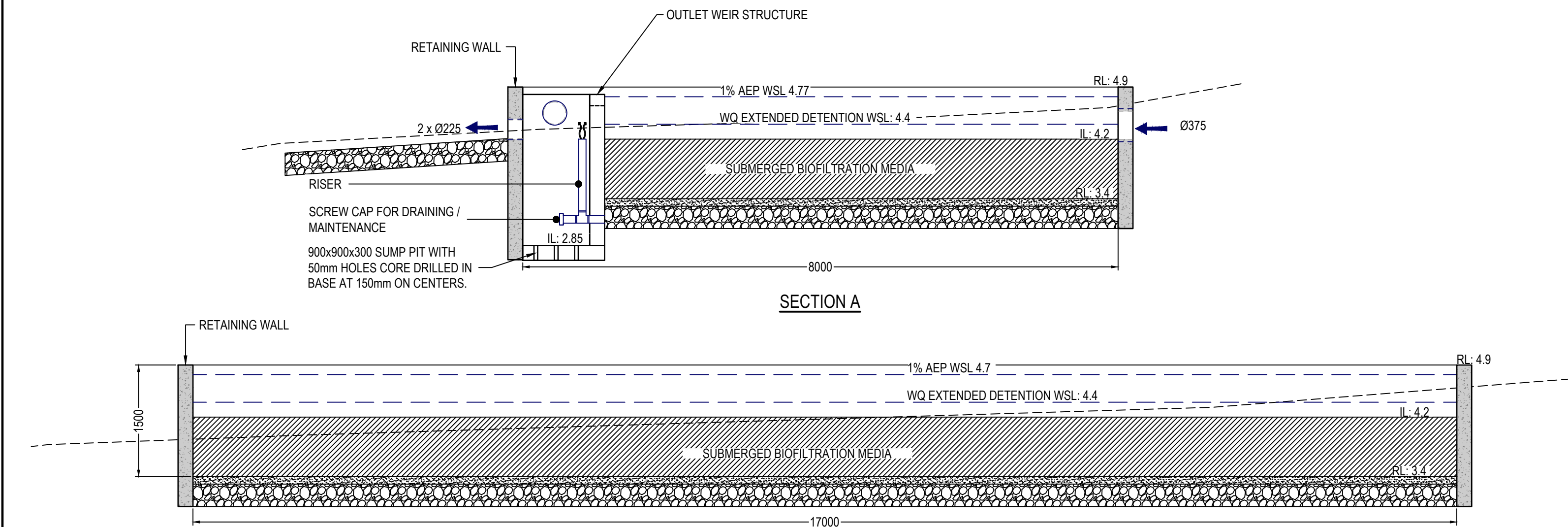
CIVIL SERVICES
RAINWATER TANK TYPICAL
SECTION & DETAILS

DRAWING STATUS **DA APPROVAL**
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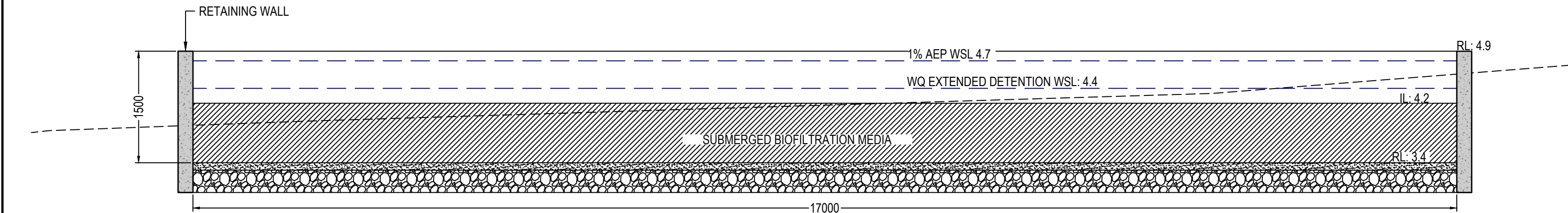
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PLAN VIEW



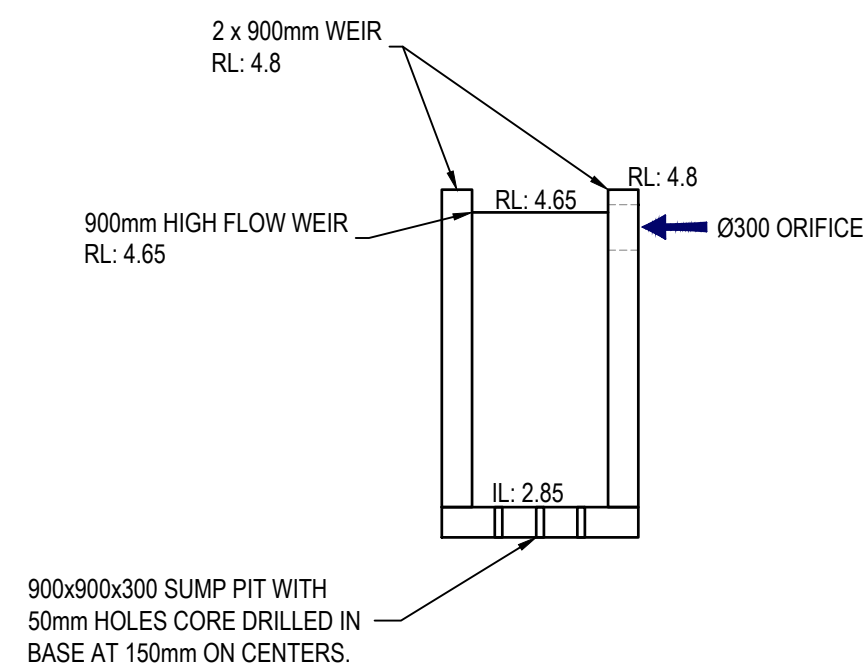
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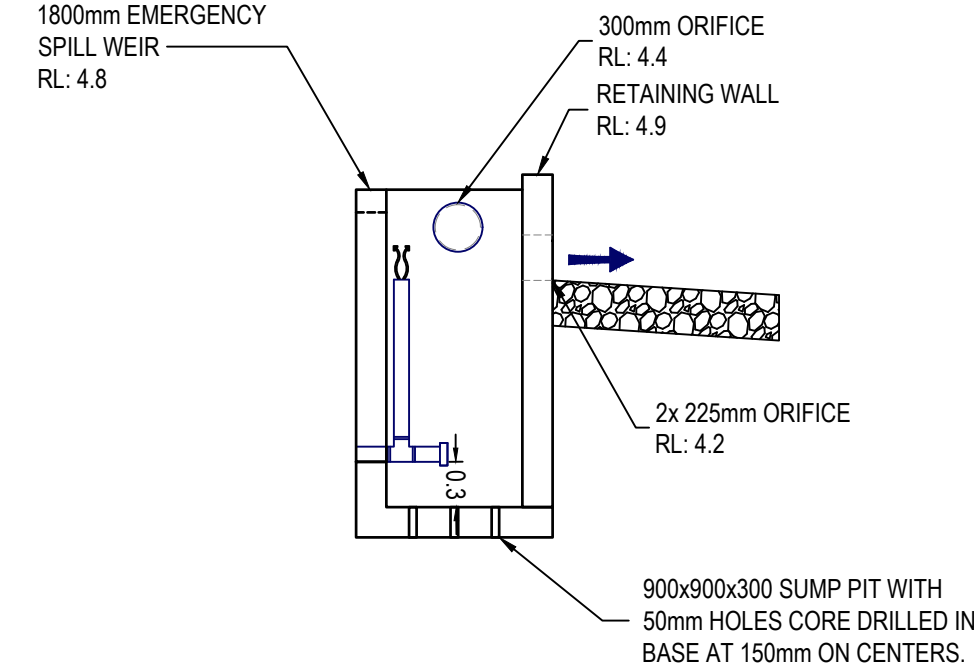
SECTION B

OSD & BIOFILTRATION BASIN
TYPICAL SECTIONS & DETAILS

1:50



SECTION C



SECTION D

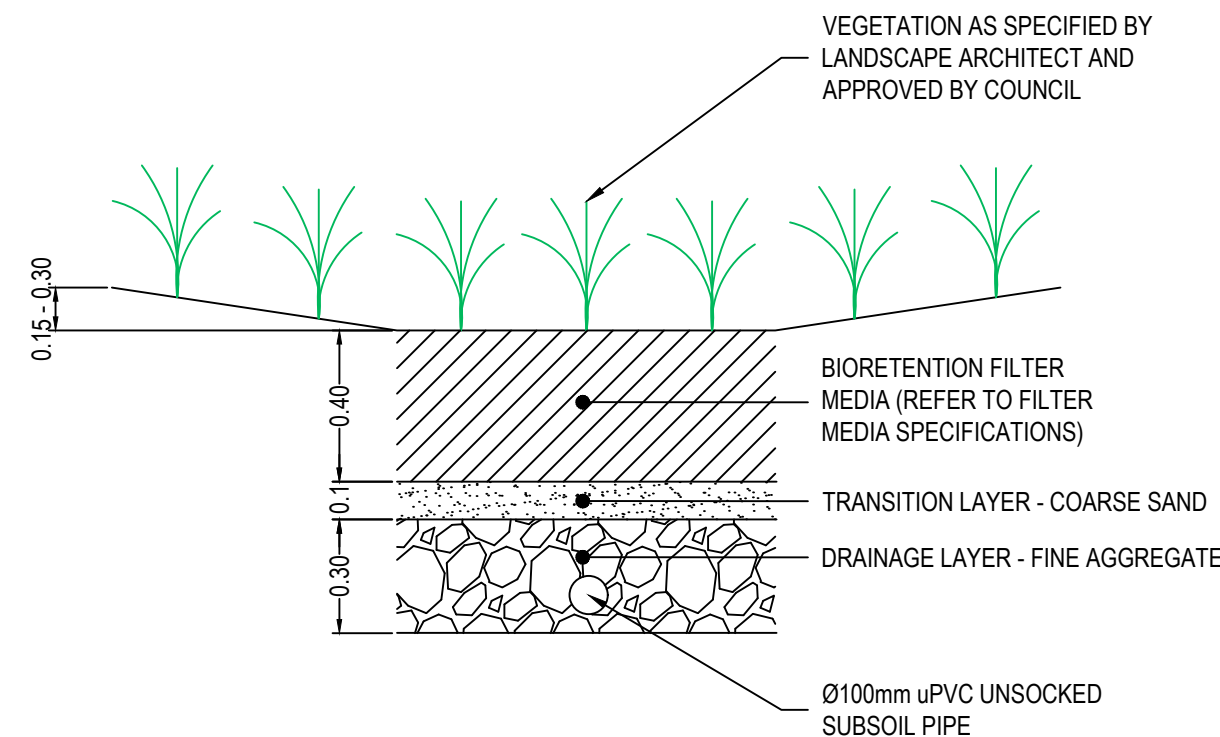
OUTLET WEIR STRUCTURE TYPICAL
SECTIONS & DETAILS

1:50

BIOFILTRATION CONSTRUCTION NOTES:

- A 150mm TOPSOIL TEMPORARY SURFACE TREATMENT AND GEOTECTILE LAYER ARE TO BE INSTALLED WITHIN THE TOP 150mm OF THE FILTER MEDIA UNTIL SUCH TIME THAT THE UPSTREAM CATCHMENT DRAINING TO THE BASIN IS 80% DEVELOPED.
- ONCE THE UPSTREAM CATCHMENT AREA DRAINING TO THE BASIN IS 80% DEVELOPED, THE TOP LAYER IS TO BE REMOVED BY PEELING BACK AND DISPOSING OF THE GEOTECTILE LAYER, TOPSOIL AND TURF, AND REFILLING THE AREA WITH THE APPROPRIATE FILTER MEDIA, AND LANDSCAPING.
- THE FILTER MEDIA SPECIFICATION AND GRADING ARE TO BE VERIFIED BY COUNCIL'S INSPECTOR PRIOR TO PLACEMENT. RELEVANT MATERIAL SPECIFICATION SHEETS ARE TO BE PROVIDED BY THE CONTRACTOR.
- THE SUBSOIL DRAINAGE PIPES WITHIN THE BIORETENTION SYSTEM ARE TO BE SLOTTED 100mm uPVC CONSISTENT WITH AS/NZS 1254. JOINTS ARE TO BE SOLVENT CEMENT GLUED AND BENDS ARE TO BE 45° TO MINIMIZE BLOCKAGE. FILTER MEDIA TO BE LIGHTLY COMPACTED USING A SINGLE PASS VIBRATING PLATE OR ROLLER (ETC. DRUM LAWN ROLLER). UNDER NO CIRCUMSTANCES SHOULD HEAVY COMPACTION OR MULTIPLE PASSES BE MADE.
- FILTER MEDIA MUST BE INSTALLED IN TWO LIFTS UNLESS DEPTH OF MEDIA IS <50mm.
- DURING CONSTRUCTION, THE TOP 100mm OF THE MEDIA IS TO BE AMELIORATED WITH APPROPRIATE ORGANIC MATTER, FERTILISER AND TRACE ELEMENTS TO AID PLANT ESTABLISHMENT AS PER THE TABLE BELOW:

CONSTITUENT AND QUANTITY (kg/100m² OF FILTER AREA)	
GRANULATED POULTRY MANURE FINES	50
SUPERPHOSPHATE	2
MAGNESIUM SULPHATE	3
POTASSIUM SULPHATE	2
TRACE ELEMENT MIX	1
FERTILIZER NPK (16.4.14)	4
LIME	20
- THE MEDIA IS TO BE PLANTED IN ACCORDANCE WITH THE LANDSCAPE ARCHITECT REQUIREMENTS.

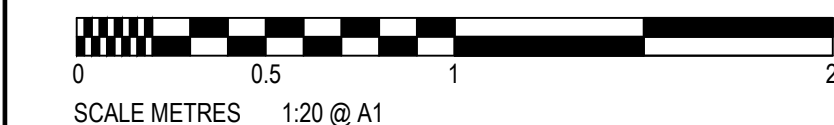


NOTES:

- BIORETENTION FILTER MEDIA: SPECIFICATION AND HYDRAULIC CONDUCTIVITY SHALL BE IN ACCORDANCE WITH THE FACILITY FOR ADVANCING WATER BIOFILTRATION (FAWB, 2009) "ADOPTION GUIDELINES FOR STORMWATER BIOFILTRATION SYSTEM".
- THE FILTER MEDIA SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
 - pH BETWEEN 5.5 AND 7.5
 - ORTHOPHOSPHATE CONTENT = 50mg/kg
 - ORGANIC MATTER CONTENT 3 TO 5% w/w
 - TOTAL NITROGEN CONTENT = 800mg/kg
 - SATURATED HYDRAULIC CONDUCTIVITY = 180mm/hr
- THE FILTER MEDIA SHALL BE WELL GRADED AND GENERALLY BE A LOAMY SAND AND BE FREE OF CONTAMINANTS SUCH AS RUBBISH, DELETERIOUS MATERIAL, TOXICANTS, DECLARED PLANTS AND WEEDS AND SHOULD NOT BE HYDROPHOBIC.
- THE COURSE SAND TRANSITION LAYER SHALL BE OF A CLEAN WELL GRADED SAND/COARSE SAND MATERIAL CONTAINING LITTLE OR NO FINES.
- THE DRAINAGE LAYER SHALL BE OF A CLEAN FINE GRAVEL CONSISTING OF 5 TO 7mm WASHED SCREENINGS.
- REFER TO COUNCIL'S LANDSCAPE DESIGN GUIDELINES FOR TOPSOIL, MULCH AND PLANTING SPECIFICATIONS.

TYPICAL BIORETENTION FILTER MEDIA DETAIL

1:20



AutoCAD Civil 3D 2021

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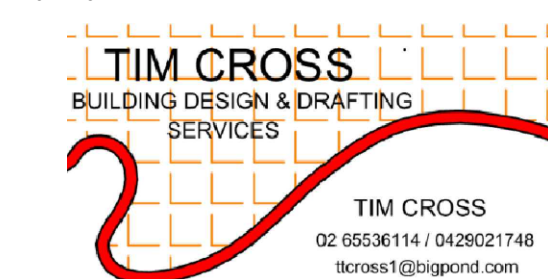


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A	ISSUED FOR DA APPROVAL	05.03.25	K.B.	-
A	PRELIMINARY COORD REVIEW SET	25.02.25	K.B.	-

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DRAWING TITLE:

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BIOFILTRATION AND OSD BASIN
SECTION & DETAILS

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