

TARONGA ZOO - UPPER AUSTRALIA MAIN WORKS

CIVIL AND STORMWATER SERVICES

STATE SIGNIFICANT DEVELOPMENT APPLICATION



LOCALITY AERIAL
NOT TO SCALE

SOURCE : NEARMAP

DRAWING SCHEDULE		
DWG. No.	DRAWING TITLE	REV
C1.00 Arrangement and Overview Plans		
MW-C1.01	Cover Sheet	1
MW-C1.02	Specification Notes	1
MW-C1.03	Existing Survey	1
C2.00 Sediment and Erosion Control		
MW-C2.01	Sediment and Erosion Control Plan	1
MW-C2.02	Sediment and Erosion Control Details	1
C6.00 Stormwater Drainage		
MW-C6.01	Stormwater Layout Plan	1
MW-C6.02	Stormwater Pit Schedule	1
MW-C6.03	Stormwater Catchment Plan	1
MW-C6.04	Stormwater Drainage Details	1
MW-C6.07	Stormwater Treatment Devices Typical Details	1

Doc No.: X89000071A Rev: 0.20 Log Name: cshyler DO NOT SCALE FROM DRAWINGS. CHECK & VERIFY ALL DIMENSIONS & LEVELS BEFORE COMMENCEMENT OF ANY WORK. THIS DRAWING IS NOT TO BE COPIED IN PART OR WHOLE WITHOUT WRITTEN PERMISSION FROM WARREN SMITH AND PARTNERS.		<table><tr><th>REVISION</th><th>AMENDMENT</th><th>DATE</th><th>REVISION</th><th>AMENDMENT</th><th>DATE</th></tr><tr><td>1</td><td>DEVELOPMENT APPLICATION</td><td>01/07/20</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE	1	DEVELOPMENT APPLICATION	01/07/20																																																																						 TARONGA ZOO - UPPER AUSTRALIA	Warren Smith & Partners  Warren Smith & Partners Pty Ltd Level 9, 233 Castlereagh St, Sydney 2000 NSW Australia 02 9299 1312 wsp@warrensmith.com.au www.warrensmith.com.au ABN 36 300 430 126 CONSULTING ENGINEERS ■ Hydraulic Services ■ Fire Services ■ Civil Services ■ Sydney Water Accredited Water Servicing Co-ordinator and Designer SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.	TITLE SPECIFICATION NOTES <table><tr><td>SCALE</td><td>DRAWN</td><td>SIGNED</td><td>CHECKED</td><td>APPROVED</td></tr><tr><td>AS SHOWN</td><td>M.T.</td><td>M.Cz.</td><td>L.S.</td><td>L.S.</td></tr></table> <table><tr><td>JOB NO.</td><td>DRAWING NO.</td><td>ISSUE</td></tr><tr><td>6906000</td><td>MW-C1.02</td><td>1</td></tr></table> <table><tr><td>DATE</td><td>STATUS</td></tr><tr><td>JULY 2020</td><td>SSDA</td></tr></table>	SCALE	DRAWN	SIGNED	CHECKED	APPROVED	AS SHOWN	M.T.	M.Cz.	L.S.	L.S.	JOB NO.	DRAWING NO.	ISSUE	6906000	MW-C1.02	1	DATE	STATUS	JULY 2020	SSDA
	REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE																																																																																																	
	1	DEVELOPMENT APPLICATION	01/07/20																																																																																																				
SCALE	DRAWN	SIGNED	CHECKED	APPROVED																																																																																																			
AS SHOWN	M.T.	M.Cz.	L.S.	L.S.																																																																																																			
JOB NO.	DRAWING NO.	ISSUE																																																																																																					
6906000	MW-C1.02	1																																																																																																					
DATE	STATUS																																																																																																						
JULY 2020	SSDA																																																																																																						

LEGEND

LIMIT OF WORKS BOUNDARY

EXISTING SEWER LINE

EXISTING POTABLE WATER

EXISTING ELECTRICITY

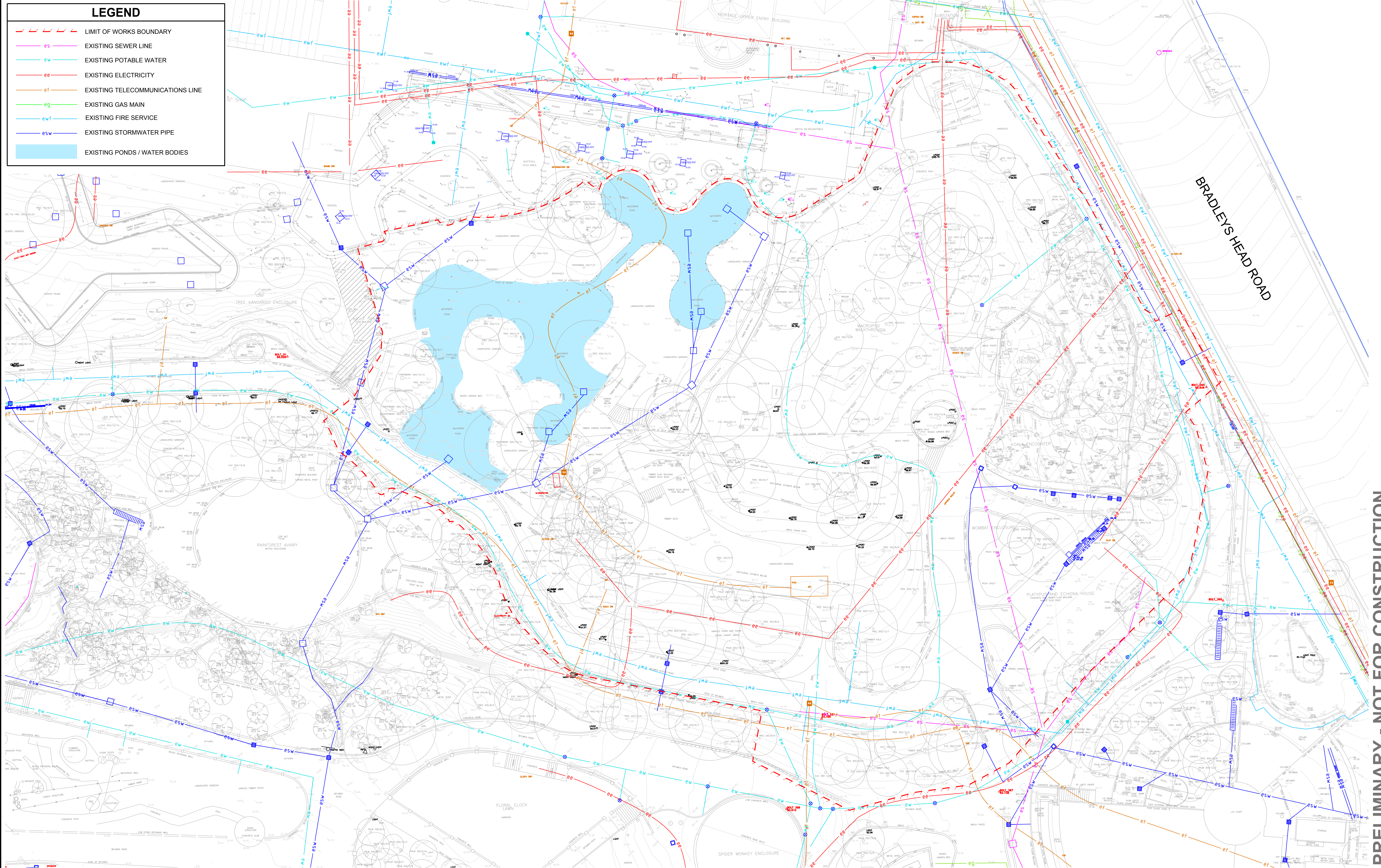
EXISTING TELECOMMUNICATIONS LINE

EXISTING GAS MAIN

EXISTING FIRE SERVICE

EXISTING STORMWATER PIPE

EXISTING PONDS / WATER BODIES



PRELIMINARY - NOT FOR CONSTRUCTION

DO NOT SCALE FROM DRAWINGS. CHECK & VERIFY ALL DIMENSIONS & LEVELS BEFORE COMMENCEMENT OF ANY WORK.

THIS DRAWING IS NOT TO BE COPIED IN PART OR WHOLE WITHOUT WRITTEN PERMISSION FROM WARREN SMITH AND PARTNERS.

NORTH

5.000

0

2.5

5.0

7.5

10.0m

PLAN SCALE 1:250 A1 SHEET

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	DEVELOPMENT APPLICATION	01/07/20			

TARONGA ZOO - UPPER AUSTRALIA

PREPARED BY

Warren Smith & Partners Pty Ltd
Level 9, 233 Castlereagh St, Sydney 2000 NSW Australia
02 9299 1312 wsp@warrensmith.com.au
www.warrensmith.com.au ABN 36 300 430 126

SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.

TITLE

EXISTING SURVEY

SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	M.T.	M.Cz.	L.S.	L.S.

JOB No.

6906000

DRAWING No.

MW-C1.03

ISSUE

1

DATE

JULY 2020

STATUS

SSDA

LEGEND

LIMIT OF WORKS BOUNDARY

SITE FENCE

SEDIMENT FENCE

SITE GATE

GEOTEXTILE INLET FILTER
- DROP INLET SEDIMENT TRAP

GEOTEXTILE FILTER FITTED ON
SUBSURFACE INLET PITS

VEHICLE ENTRY GATE

SEDIMENT TRAP FOR KERB INLET
- SAND BAGS

NOTE:

1. INSTALLATION OF ALL SEDIMENT AND EROSION CONTROL MEASURES IS TO BE IN ACCORDANCE WITH THE LATEST EDITION OF THE 'BLUE BOOK - MANAGING URBAN STORMWATER'. ALL CONTROLS ARE TO BE INSTALLED PRIOR TO DEMOLITION COMMENCING.

2. THE CONTRACTOR IS RESPONSIBLE FOR THE CORRECT INSTALLATION AND ONGOING MAINTENANCE OF THE CONTROLS. REFER TO DWG MW-2.02 FOR MAINTENANCE REQUIREMENTS.

3. SUITABLE AND APPROVED BINS SHALL BE UTILISED FOR THE CONTAINMENT OF ALL HARD WASTE, INCLUDING CONCRETE SLURRIES, BUILDING WASTE AND LITTER. IN THE CASE OF ACCIDENTAL SPILLS OF SOIL OR OTHER MATERIAL, PARTICULARLY IN THE PUBLIC RESERVE, THE MATERIAL SHALL BE SWEEPED AND CONTAINED AND NOT WASHED INTO GUTTER.

4. FOR THE REMOVAL OF EXISTING LOW LEVEL RETAINING WALLS, PLEASE PROVIDE A 1V:2H BATTER TO COMPENSATE FOR THE LEVEL DIFFERENCES.

5. EXISTING SERVICES TO THE BUILDINGS BEING DEMOLISHED SHALL BE DISUSED AND REMOVED. DETAILED SURVEY INVESTIGATIONS TO BE UNDERTAKEN PRIOR TO ANY DEMOLITION BEING UNDERTAKEN TO UNDERSTAND THE EXTENT OF THE EXISTING SERVICES AND TO MINIMISE IMPACT TO EXISTING BUILDINGS THAT NEED TO REMAIN OPERATIONAL.

6. GEOTEXTILE INLET FILTER BAGS TO BE FITTED IN ALL STORMWATER GRATED PITS WITHIN THE DEVELOPMENT AREA.

PRELIMINARY - NOT FOR CONSTRUCTION

DO NOT SCALE FROM DRAWINGS. CHECK & VERIFY ALL DIMENSIONS & LEVELS BEFORE COMMENCEMENT OF ANY WORK.

THIS DRAWING IS NOT TO BE COPIED IN PART OR WHOLE WITHOUT WRITTEN PERMISSION FROM WARREN SMITH AND PARTNERS.

NORTH

5.00

0

2.5

5.0

7.5

10.0m

PLAN

SCALE 1:250

A1 SHEET

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	DEVELOPMENT APPLICATION	01/07/20			

CLIENT

TARONGA ZOO

TARONGA ZOO - UPPER AUSTRALIA

PREPARED BY

Warren Smith & Partners

Warren Smith & Partners Pty Ltd
Level 9, 233 Castlereagh St, Sydney 2000 NSW Australia
02 9299 1312 wsp@warrensmith.com.au
www.warrensmith.com.au ABN 36 300 430 126

CONSULTING ENGINEERS

Hydraulic Services

Fire Services

Civil Services

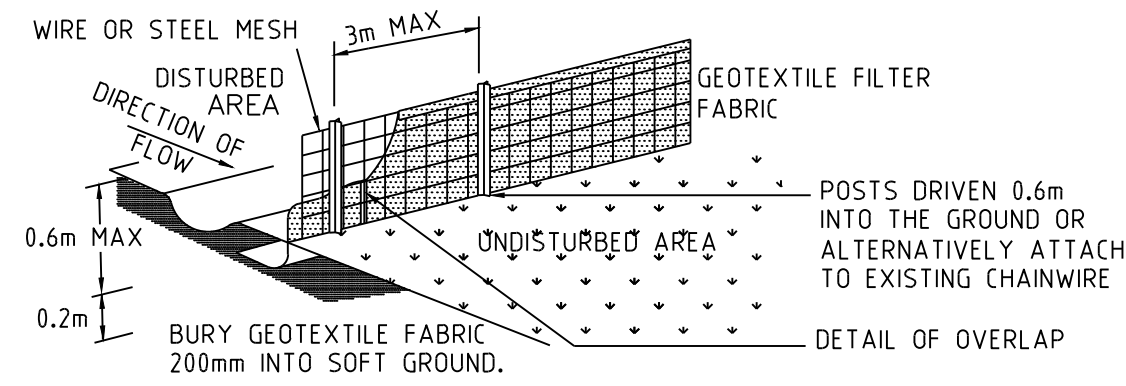
Sydney Water Accredited Water Servicing Co-ordinator and Designer

SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.

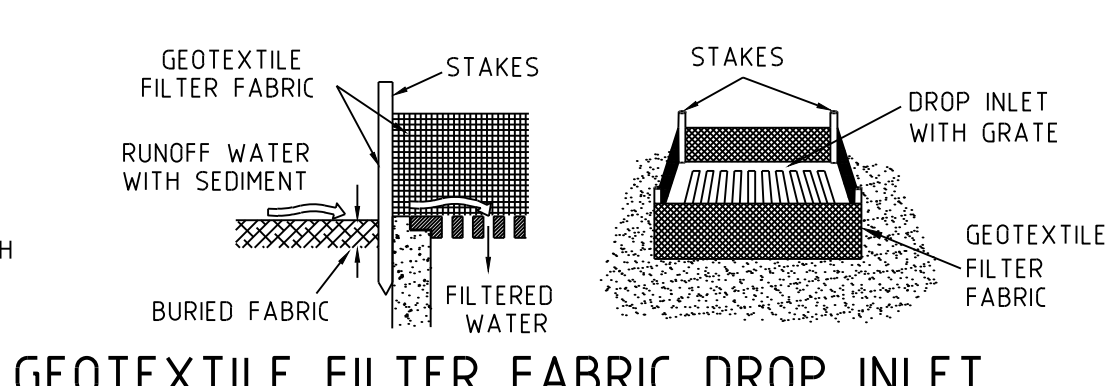
TITLE

SEDIMENT AND EROSION CONTROL PLAN

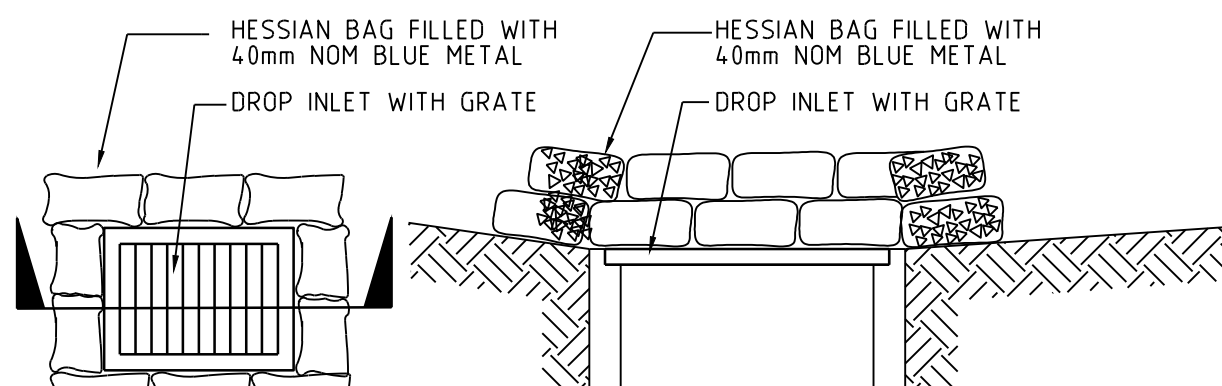
SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	M.T.	M.Cz.	L.S.	L.S.
JOB No.	6906000	DRAWING No.	MW-C2.01	ISSUE
DATE	JULY 2020	STATUS	SSDA	1



SEDIMENT CONTROL FENCE

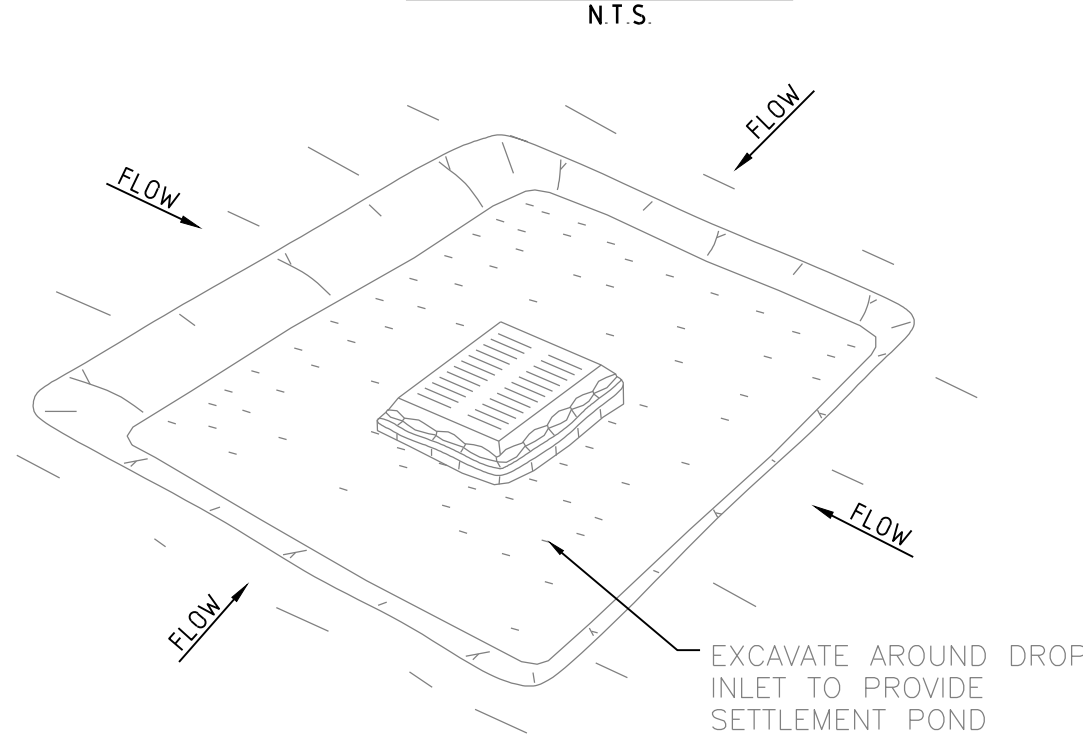


GEOTEXTILE FILTER FABRIC DROP INLET



HESSIAN BAG DROP INLET

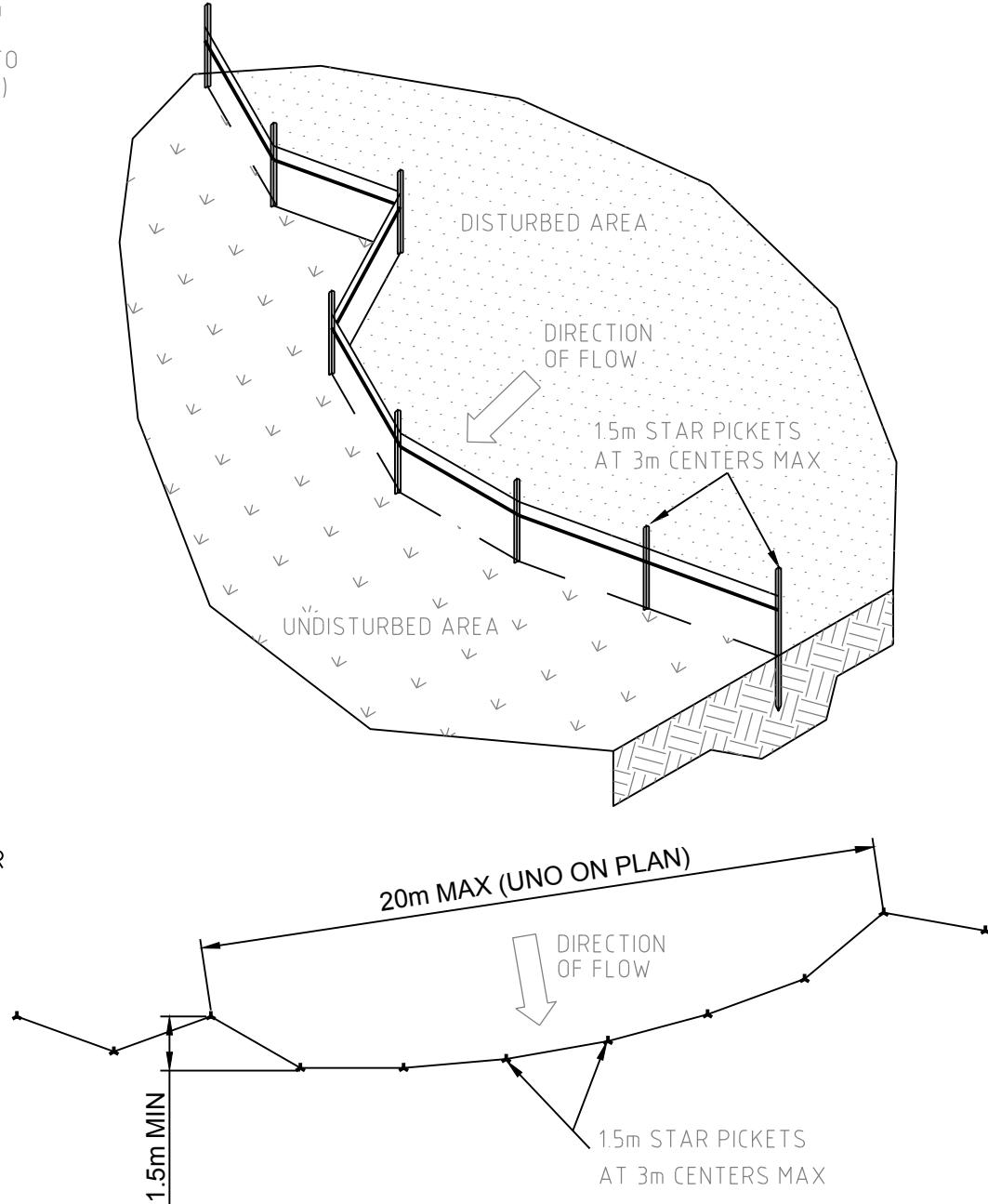
SEDIMENT TRAP



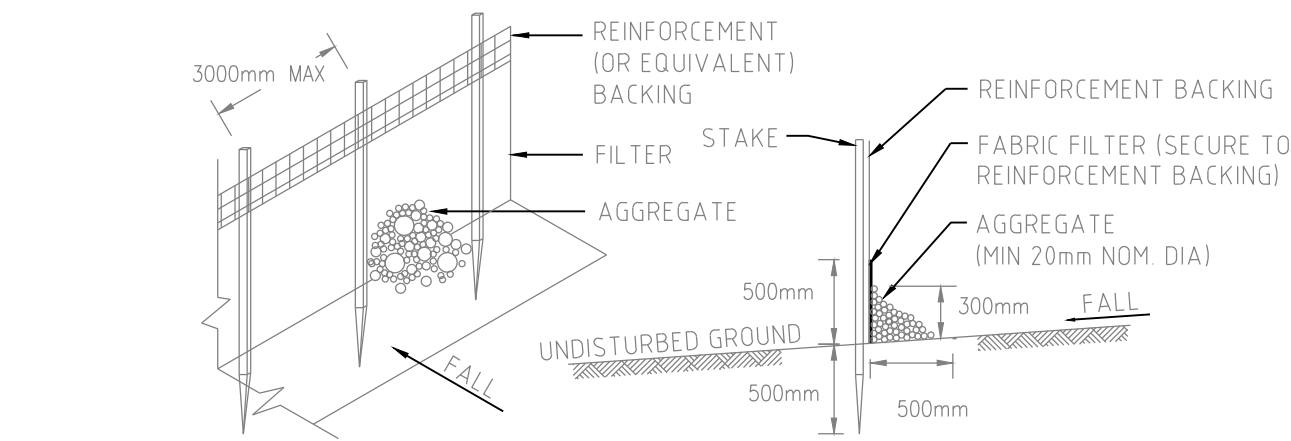
EXCAVATED SEDIMENT TRAP

EXCAVATED SEDIMENT TRAP NOTES:-

1. REMOVE THE SEDIMENT WHEN IT HAS ACCUMULATED TO HALF THE DESIGN DEPTH OF THE TRAP AND RESTORE THE TRAP TO ITS ORIGINAL DIMENSIONS.
2. PROVIDE 50 cu.m/Ha OF SEDIMENT STORAGE VOLUME.
3. REFER TO THE MAINTENANCE REQUIREMENTS.



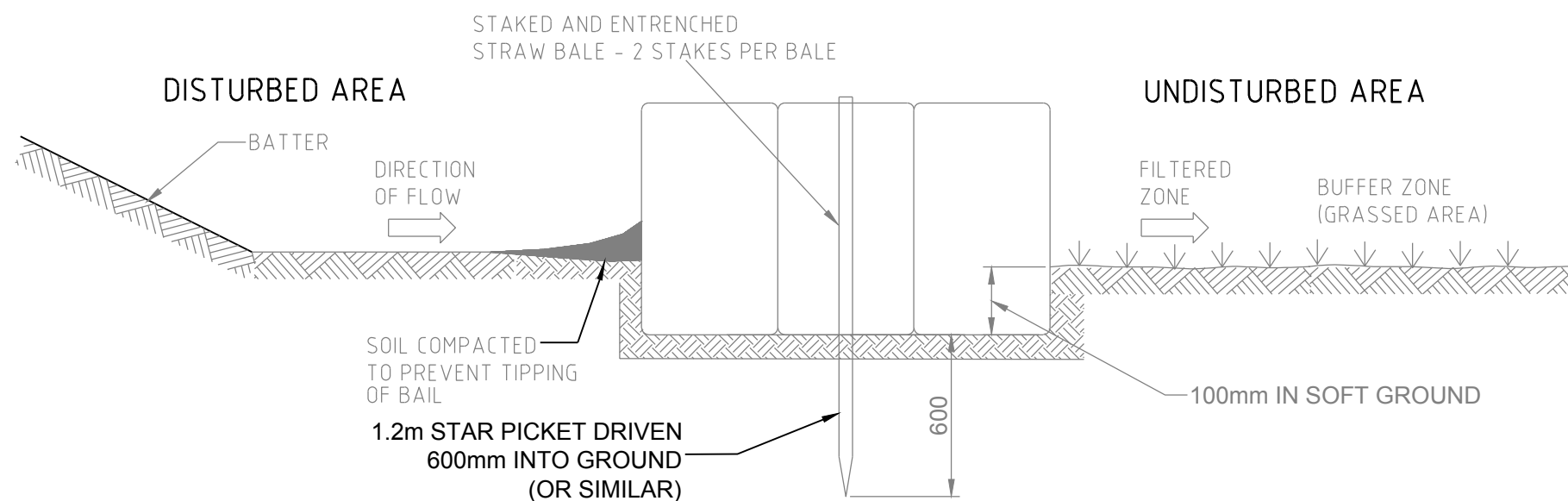
SEDIMENT FENCE LAYOUT PLAN



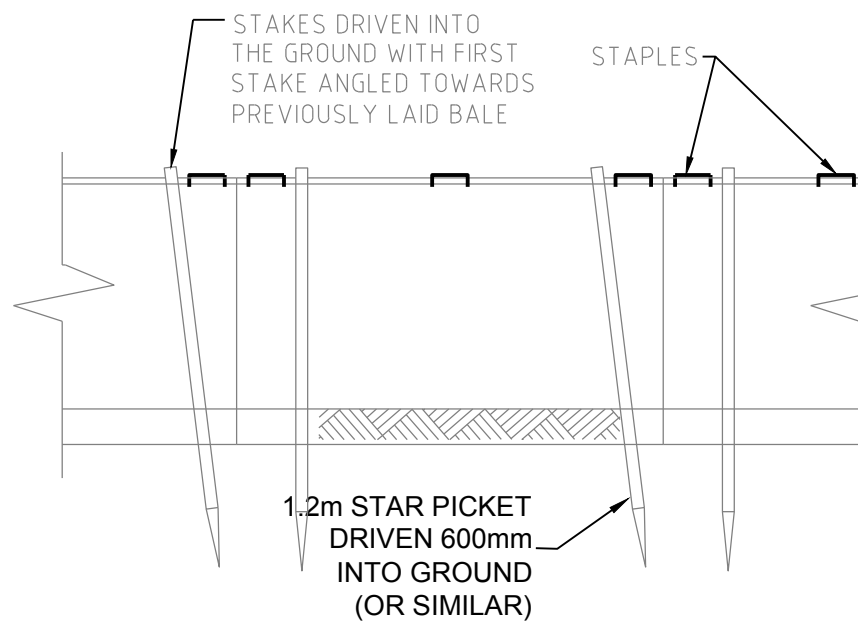
SEDIMENT FENCE DETAIL FOR ROCKY GROUND

SEDIMENT FENCE NOTES:-

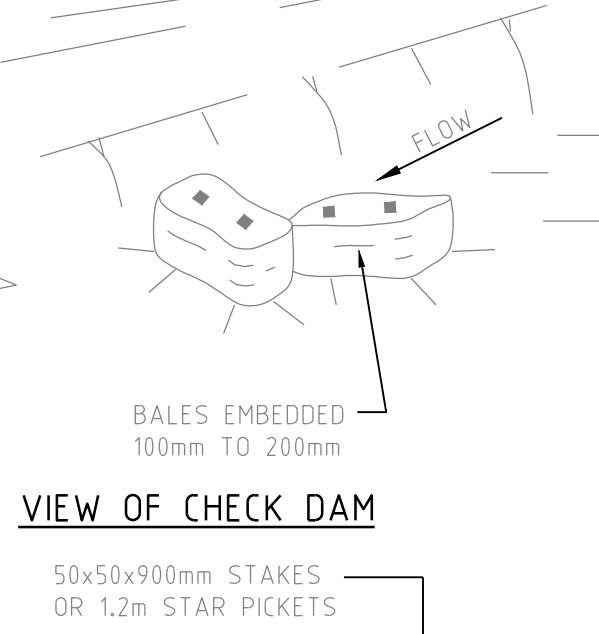
1. CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE OR AT THE TOE OF A SLOPE.
2. DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND SUFFICIENT TO PROVIDE RIGID SUPPORT, 3 METERS APART. WHERE THERE IS INSUFFICIENT SOIL DEPTH OVER ROCK, HOLES ARE TO BE DRILLED INTO ROCK TO ACCEPT THE STAR PICKETS.
- ON SOFT GROUND MATERIALS, DIG A 150mm DEEP TRENCH ALONG THE UPSLOPE
3. LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
- BACKFILL TRENCH OVER BASE OF FABRIC & COMPACT.
4. FIX SELF-SUPPORTING GEOTEXTILE TO UPSLOPE SIDE OF POSTS WITH WIRE TIES OR AS RECOMMENDED BY THE GEOTEXTILE MANUFACTURER, USE A REINFORCEMENT
5. BACKING WITH NON SELF-SUPPORTING GEOTEXTILE FABRIC.
- JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
- ON HARD OR ROCKY GROUND, SMOOTH A 500mm WIDE STRIP UPSLOPE OF THE FENCE LINE. TURN THE BOTTOM 500mm OF THE FABRIC UPSLOPE AND ANCHOR IN PLACE WITH SUITABLE AGGREGATE.
7. WHERE A SEDIMENT FENCE IS CONSTRUCTED DOWN SLOPE FROM A DISTURBED BATTER THE FENCE SHOULD BE LOCATED 1.5 TO 2.0 METERS DOWN SLOPE FROM THE TOE OF THE BATTER.
- 8.



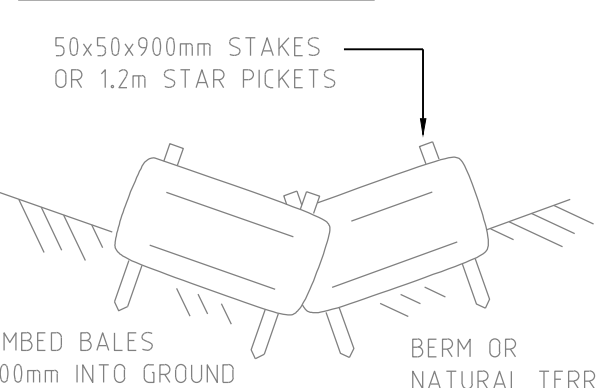
TYPICAL STRAW BALE SECTION



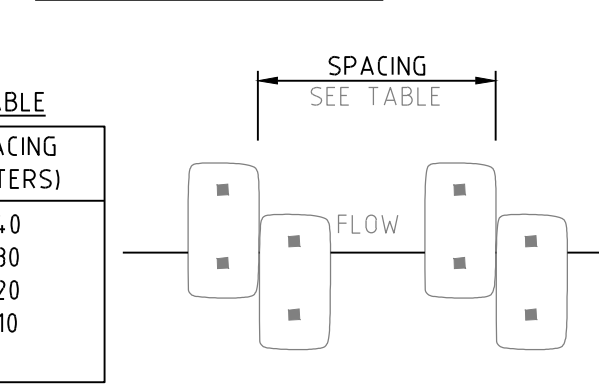
TYPICAL STRAW BALE DETAIL



VIEW OF CHECK DAM



CHECK DAM SECTION



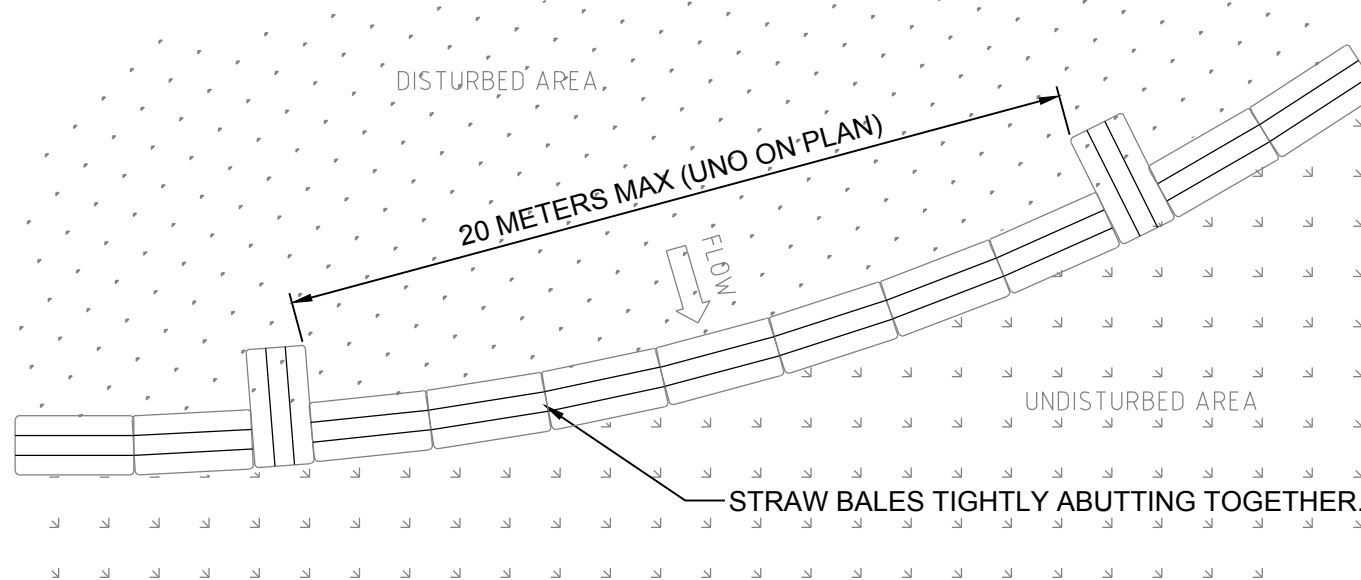
CHECK DAM PLAN

STRAW BALE CHECK DAM DETAILS

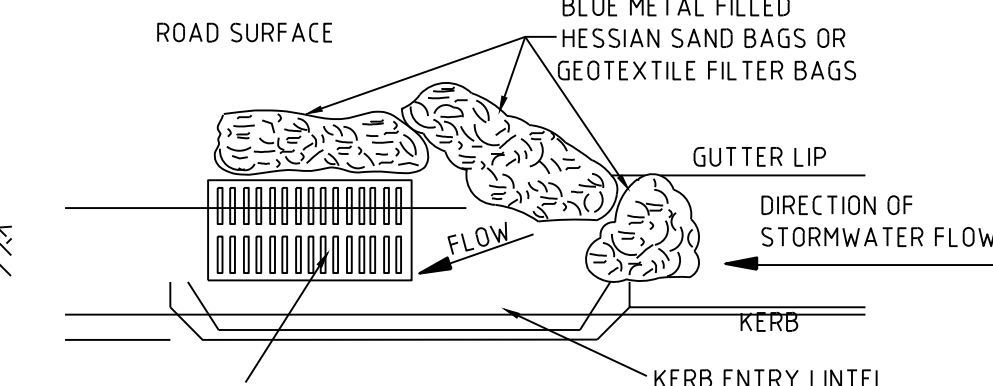
LONGITUDINAL GRADE (%)	SPACING (METERS)
0 - 5	40
5 - 10	30
10 - 15	20
GREATER THAN 15	10

STRAW BALE NOTES:-

1. CONSTRUCT STRAW BALE FILTER AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE OR AT THE TOE OF A SLOPE.
- PLACE BALES LENGTHWISE IN A ROW WITH ENDS TIGHTLY ABUTTING.
2. USE STRAW TO FILL ANY GAPS BETWEEN BALES, STRAWS TO BE PLACED PARALLEL TO GROUND.
- MAXIMUM HEIGHT OF FILTER IS ONE BALE.
3. ON SOFT MATERIALS, EMBE EACH BALE IN THE GROUND 75mm TO 100mm
4. AND ANCHOR WITH TWO 1.2 METRE STAR PICKETS. ANGLE THE FIRST STAKE IN EACH BALE TOWARDS THE PREVIOUSLY LAID BALE. DRIVE STAKES 600mm INTO THE GROUND AND FLUSH WITH THE TOP OF THE BALES.
- WHERE A STRAW BALE FILTER IS CONSTRUCTED DOWN SLOPE FROM A DISTURBED BATTER THE BALES SHOULD BE LOCATED 1.5 TO 2.0 METERS DOWN SLOPE FROM THE TOE OF THE BATTER.
- WHERE REQUIRED WRAP GEOTEXTILE FILTER FABRIC AROUND BALES AND STAPLE IN POSITION.
- 6.

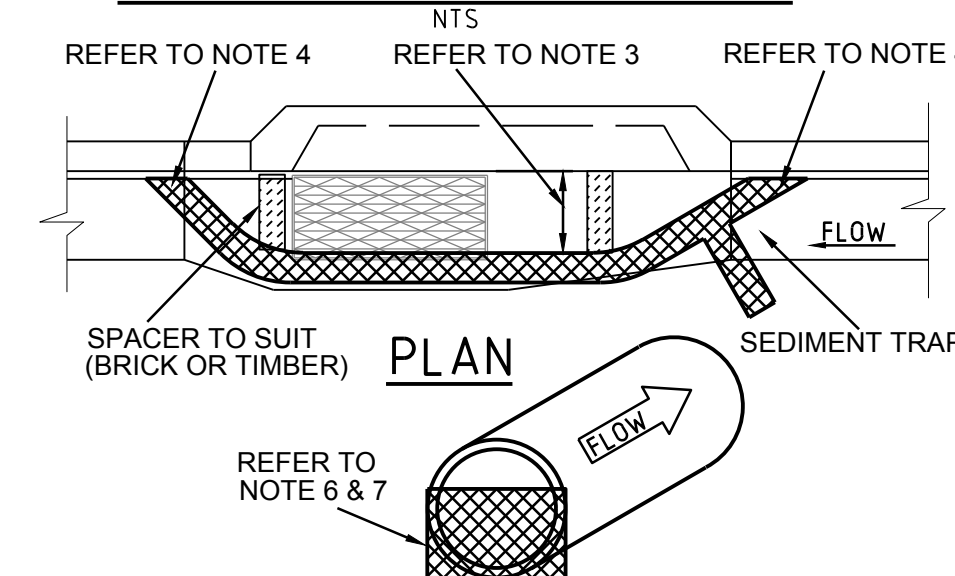


TYPICAL STRAW BALE LAYOUT PLAN



NEW/EXISTING GRATED KERB ENTRY PIT

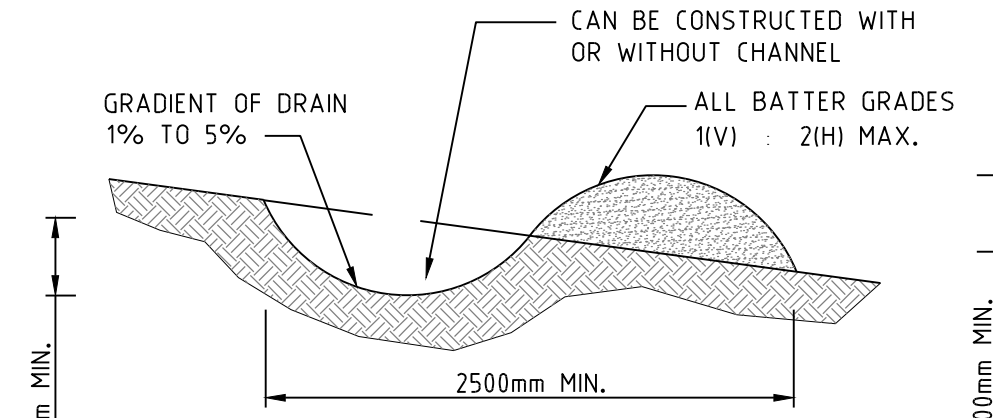
SEDIMENT CONTROL BARRIER



GEOTEXTILE FILTER BAGS

SEDIMENT BARRIER FOR PITS & PIPES, NOTES:-

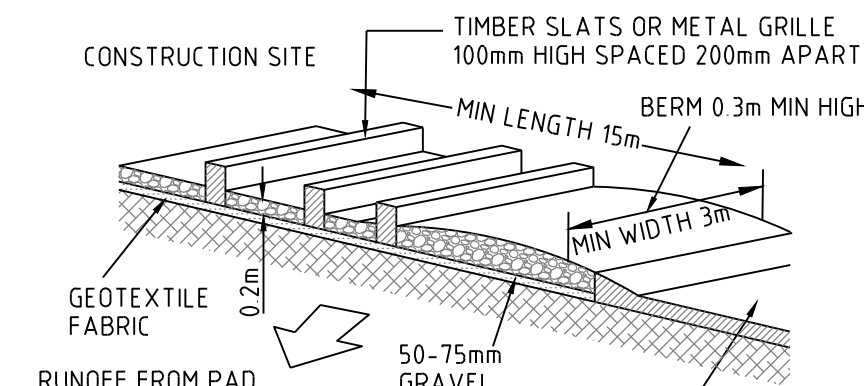
1. SLEEVES ARE TO BE MADE FROM GEOTEXTILE FABRIC LONGER THEN THE LENGTH OF THE INLET PIT.
2. FILL SLEEVE WITH 5 OR 10mm CLEAN GRAVEL.
3. PLACE THE SLEEVE AT THE OPENING OF THE KERB INLET LEAVING A 100mm GAP TO ACT AS AN EMERGENCY OVERFLOW.
- SLEEVE MUST BE PLACED AGAINST THE KERB TO PREVENT BYPASS.
4. FIT SLEEVE TO ALL INLETS DOWNSTREAM OF THE WORKS.
5. FOR DRAINAGE WORKS FIT GEOTEXTILE FABRIC OR GEO BAGS TO UPSTREAM FACE OF ALL OPEN PIPES.
6. MAINTAIN AN OPENING AT THE TOP OF THE PIPE OF 1/3 OF THE PIPE DIAMETER.
7. THE FILTERS ARE TO BE CLEANED AND MAINTAINED DAILY.
8. ALL CARE SHOULD BE TAKEN TO MINIMIZE SEDIMENT REACHING THE STORMWATER SYSTEM BY MINIMIZING EXCAVATION WORKS AND PREVENTING EXCESS WATER FLOW THROUGH WORKS.
- 9.



DIVERSION DRAIN (LOW FLOW)

DIVERSION DRAIN NOTES:-

1. CONSTRUCT WITH GRADIENT OF 1 PER CENT TO 5 PER CENT.
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE.
3. DRAINS TO BE OF CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTION NOT V-SHAPED.
4. EARTH BANKS TO BE ADEQUATELY COMPACTED IN ORDER TO PREVENT FAILURE.
5. PERMANENT OR TEMPORARY STABILIZATION OF THE EARTH BANK TO BE COMPLETED WITHIN 10 DAYS OF CONSTRUCTION.
- ALL OUTLETS FROM DISTURBED LANDS ARE TO FEED INTO A SEDIMENT BASIN OR SIMILAR.
6. DISCHARGE RUN OFF COLLECTED FROM UNDISTURBED LANDS ONTO EITHER A STABILIZED OR AN UNDISTURBED DISPOSAL SITE WITHIN THE SAME SUBCATCHMENT AREA FROM WHICH THE WATER ORIGINATED.
7. COMPACT BANK WITH A SUITABLE IMPLEMENT IN SITUATIONS WHERE THEY ARE REQUIRED TO FUNCTION FOR MORE THAN FIVE DAYS.
8. EARTH BANKS TO BE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT WILL IMPEDE NORMAL FLOW.
- 9.

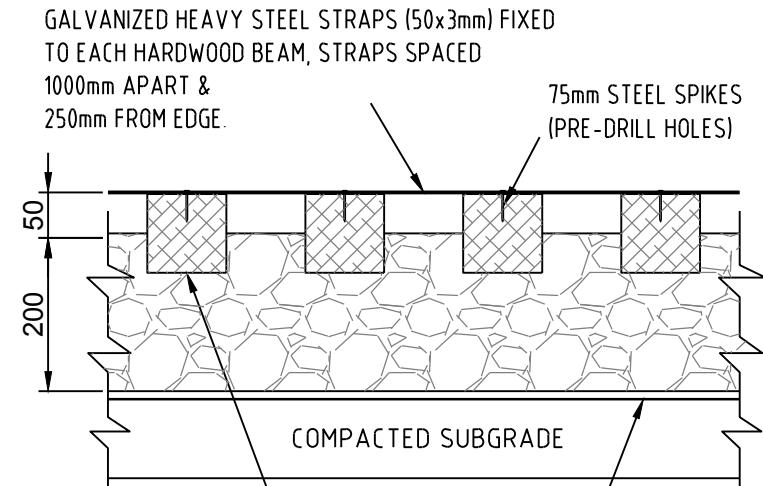


STABILIZED CONSTRUCTION SITE

VEHICLE ENTRY/EXIT

SITE ENTRY/EXIT NOTES:-

- ALL VEHICLE ENTRANCES & EXITS TO THE CONSTRUCTION SITE MUST BE STABILIZED TO PREVENT THEM BECOMING A SOURCE OF SEDIMENT, BY PROVIDING A VEHICLE SHAKE AREA. THIS MAY CONSIST OF A TIMBER, CONCRETE OR STEEL SHAKER GRID OR RUBBLE AREA.
- THE VEHICLE EXIT AREA IS TO BE MAINTAINED IN A CLEAN & SERVICEABLE CONDITION DURING THE TOTAL TIME OF USAGE.
- ANY UNSEALED ROAD BETWEEN THE DEVICE AND COUNCILS ROADWAY IS TO BE TOPPED WITH 100mm THICK, 40mm NOMINAL SIZE AGGREGATE.
- PUBLIC ROADS MUST BE KEPT FREE OF DIRT AND MUD. SEDIMENT TRACKED ONTO THE PUBLIC ROADWAY BY VEHICLES LEAVING THE CONSTRUCTION SITE IS TO BE SWEEPED UP IMMEDIATELY.
- FENCES SHOULD BE ERECTED TO ENSURE VEHICLES CAN NOT BYPASS THE STABILIZED ACCESS POINTS, UNLESS COMING FROM A STABILIZED AREA.
- 5.



VEHICLE SHAKER GRID

SITE ENTRY/EXIT CONSTRUCTION NOTES:-

1. STRIP TOP SOIL & LEVEL SITE, PROVIDE CATCH DRAIN AT SIDES TO DIRECT RUNOFF WATER TO SEDIMENT TRAPS.
2. COMPACT SUBGRADE AND REMOVE ANY HIGH POINTS.
3. COVER AREA WITH GEOTEXTILE FABRIC. THIS MAY BE WOVEN OR NEEDLE PUNCHED PRODUCT WITH A MINIMUM CBR BURST STRENGTH (AS3706.4-90) OF 2500 N.
4. CONSTRUCT 200mm THICK RUBBLE PAD OVER GEOTEXTILE USING ROAD BASE OR 30-40mm AGGREGATE. MINIMUM LENGTH 15 METRES OR TO BUILDING ALIGNMENT. MINIMUM WIDTH 3 METRES. CONSTRUCT 300mm HIGH HUMP IMMEDIATELY WITHIN BOUNDARY TO DIVERT WATER TO A SEDIMENT TRAP.
- WHERE GRIDS ARE USED FIRST CONSTRUCT A 150 THICK PAD OVER GEOTEXTILE FABRIC. LEVEL THIS IN BOTH DIRECTIONS. LOWER GRID ON TO THE PREPARED BASE AND ENSURE THAT NO PART IS SITING ON ANY HIGH POINTS. BACKFILL THE SPACES BETWEEN THE GRIDS TO WITHIN 50mm OF THE TOP.
- PROVIDE RAMPS AT ENDS AND SIDE OF GRIDS. IF DEPRESSIONS OCCUR IN THE RAMPS DURING USE, ADD ADDITIONAL MATERIAL.
- 6.

MAINTENANCE REQUIREMENTS:-

1. ACCUMULATED SILT & SEDIMENT MUST BE REMOVED AT REGULAR INTERVALS AND AFTER EACH MAJOR STORM.
2. SILT & SEDIMENT MUST BE REMOVED FROM OFF THE SITE OR TO A COUNCIL APPROVED LOCATION WITHIN THE SITE, WHERE IT WILL NOT ERODE.
3. THE SEDIMENT FENCES, BALES & TRAPS SHALL BE REGULARLY INSPECTED, ESPECIALLY AFTER RAIN AND KEPT IN GOOD REPAIR AND FUNCTIONING CONDITION AT ALL TIMES.
- CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT SEDIMENT, EROSION & WATER POLLUTION SHALL BE MINIMIZED.
5. THE SEDIMENT TRAPS SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE CONSTRUCTION AREA HAS BEEN PROPERLY STABILIZED.

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	DEVELOPMENT APPLICATION	01/07/20			

CLIENT

TARONGA ZOO

PROJECT

TARONGA ZOO - UPPER AUSTRALIA

PREPARED BY

Warren Smith & Partners Pty Ltd
Level 9, 233 Castlereagh St, Sydney 2000 NSW Australia
02 9299 1312 wsp@warrensmith.com.au
www.warrensmith.com.au ABN 36 300 430 126

CONSULTING ENGINEERS

Hydraulic Services Fire Services
Civil Services Sydney Water Accredited Water
Serving Co-ordinator and Designer

SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.

SEDIMENT AND EROSION CONTROL DETAILS				
SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	M.T.	M.Cz.	L.S.	L.S.
JOB No.	6906000		DRAWING No.	ISSUE
	MW-C2.02			1
DATE	JULY 2020		STATUS	SSDA

Ver: X:\696000_TB_AH1
 Log: Name: mczamola
 Cad File: T:\696000\Drawings\AutoCAD\CivilDesign\Civil2D\Man Works\WM_C6.02 Stormwater PI Schedule.dwg
 Plot Date: 01/07/2020@09:15:35

Name	Surface Elev. (m)	Pit Depth (m)	Pit Size and Type	From	To	Length (m)	U/S IL (m)	D/S IL (m)	Slope (%)	Pipe Type	Dia (mm)	No. Pipes
Pit 1/1	64.75	1.52	900SQ PIT, CLASS B GRATE	Pit 1/1	Pit 2/1	18	63.23	63.05	1.00	RCP (CLASS 3)	300	1
Pit 2/1	64.58	1.56	900SQ PIT WITH 600 x 900 CLASS D GRATE	Pit 2/1	CO1	4.18	63.02	62.769	6.00	RCP (CLASS 3)	300	1
				CO1	Pit 3/1	8.65	62.769	61.75	11.78	RCP (CLASS 3)	300	1
Pit 3/1	62.5	0.78	900SQ PIT, CLASS B GRATE	Pit 3/1	1/EX	15.27	61.72	61.567	1.00	RCP (CLASS 3)	300	1
Pit 1/2	65.43	1.64	900SQ PIT, CLASS B GRATE	Pit 1/2	Pit 2/1	13.18	63.79	63.65	1.06	RCP (CLASS 3)	300	1
Pit 1/3	63.638	0.2 - 0.22m	2.10m LONG ACO K200 TRENCH DRAIN WITH CLASS B HEEL SAFE GRATE	Pit 1/3	CO1	11.94	62.888	62.769	1.00	uPVC (SN8)	150	1
Pit 1/4	68.51	0.2 - 0.23m	3.00m LONG ACO K200 TRENCH DRAIN WITH CLASS B HEEL SAFE GRATE	Pit 1/4	CO2	4.5	67.91	67.7	4.67	uPVC (SN8)	150	1
				CO2	CO3	17.06	67.7	66.63	6.27	uPVC (SN8)	150	1
				CO3	Pit 2/4	19.43	66.63	65.17	7.51	uPVC (SN8)	225	1
Pit 2/4	66	0.86	900SQ PIT WITH 600 x 900 CLASS D GRATE	Pit 2/4	2/EX	28.34	65.14	63.86	4.52	uPVC (SN8)	225	1
Pit 1/5	69.6	0.2 - 0.22m	3.85m LONG ACO K200 TRENCH DRAIN WITH CLASS B HEEL SAFE GRATE	Pit 1/5	CO2	1.06	67.711	67.7	1.04	uPVC (SN8)	150	1
Pit 1/6	69.60	0.2 - 0.22m	2.00m LONG ACO K200 TRENCH DRAIN WITH CLASS B HEEL SAFE GRATE	Pit 1/6	CO4	3.64	67.813	67.777	1.00	uPVC (SN8)	150	1
				CO4	CO2	7.62	67.777	67.70	1.00	uPVC (SN8)	150	
Pit 1/7	67.23	0.2 - 0.23m	3.00m LONG ACO K200 TRENCH DRAIN WITH CLASS B HEEL SAFE GRATE	Pit 1/7	CO3	1.05	66.64	66.63	0.95	uPVC (SN8)	150	1
Pit 1/8	65.68	0.2 - 0.23m	3.00m LONG ACO K200 TRENCH DRAIN WITH CLASS B HEEL SAFE GRATE	Pit 1/8	CO5	9.43	65.08	64.98	1.06	uPVC (SN8)	150	1
				CO5	2/EX	4.05	64.27	64.23	1.00	uPVC (SN8)	150	1
Pit 1/9	64.94	0.2 - 0.25m	4.40m LONG ACO K200 TRENCH DRAIN WITH CLASS B HEEL SAFE GRATE	Pit 1/9	CO5	3.22	64.34	64.3	1.00	uPVC (SN8)	150	1
Pit 1/10	64.94	0.2 - 0.25m	5.30m LONG ACO K200 TRENCH DRAIN WITH CLASS D HEEL SAFE GRATE	Pit 1/10	2/EX	3.19	63.552	63.52	1.00	uPVC (SN8)	150	1
Pit 1/11	68.78	68.78	600SQ PIT, CLASS B GRATE	Pit 1/11	Pit 2/11	17.12	67.88	67.2	3.97	uPVC (SN8)	225	1
Pit 2/11	67.8	0.68	600SQ PIT, CLASS B GRATE	Pit 2/11	3/EX	13.88	67.12	66.981	1.00	uPVC (SN8)	225	1
Pit 1/12	69.82	1.27	600SQ PIT, CLASS B GRATE	Pit 1/12	CO10	11.88	68.55	68.43	1.00	uPVC (SN8)	150	1
				CO10	4/EX	5.83	68.43	68.4	2.22	uPVC (SN8)	150	1
Pit 1/13	70.57	0.2 - 0.23m	2.20m LONG ACO K200 TRENCH DRAIN WITH CLASS B HEEL SAFE GRATE	Pit 1/13	Pit 2/13	3.9	67.04	67	1.03	uPVC (SN8)	150	1
Pit 2/13	67.6	1.88	900SQ PIT, CLASS B GRATE	Pit 2/13	Pit 3/13	7.81	65.72	65.64	1.02	uPVC (SN8)	150	1
Pit 3/13	66.3	0.67	900SQ PIT, CLASS B GRATE	Pit 3/13	6/EX	15.04	65.63	65.15	3.19	uPVC (SN8)	225	1
Pit 1/14	62.981	0.2 - 0.26m	5.90m LONG ACO K200 TRENCH DRAIN WITH CLASS B HEEL SAFE GRATE	Pit 1/14	Pit 3/1	9.71	62.381	61.9	4.95	uPVC (SN8)	150	1
Pit 1/15	65.9	65.90	900SQ PIT WITH 600 x 900 CLASS D GRATE									

DO NOT SCALE FROM
 DRAWINGS. CHECK &
 VERIFY ALL DIMENSIONS
 & LEVELS BEFORE
 COMMENCEMENT OF
 ANY WORK.

THIS DRAWING IS NOT
 TO BE COPIED IN PART
 OR WHOLE WITHOUT
 WRITTEN PERMISSION
 FROM WARREN SMITH
 AND PARTNERS.

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	DEVELOPMENT APPLICATION	01/07/20			



CLIENT

PROJECT

TARONGA ZOO - UPPER AUSTRALIA

PREPARED BY



Warren Smith & Partners Pty Ltd

Level 9, 233 Castlereagh St, Sydney 2000 NSW Australia

02 9299 1312 wsp@warrensmith.com.au

www.warrensmith.com.au ABN 36 300 430 126

CONSULTING ENGINEERS

Hydraulic Services

Civil Services

Fire Services

Sydney Water Accredited Water Servicing Co-ordinator and Designer



SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.

TITLE

STORMWATER PIT SCHEDULE

SCALE

AS SHOWN

DRAWN

M.T.

DESIGNED

M.CZ.

CHECKED

L.S.

APPROVED

L.S.

JOB No.

6906000

DRAWING No.

MW-C6.02

ISSUE

1

DATE

JULY 2020

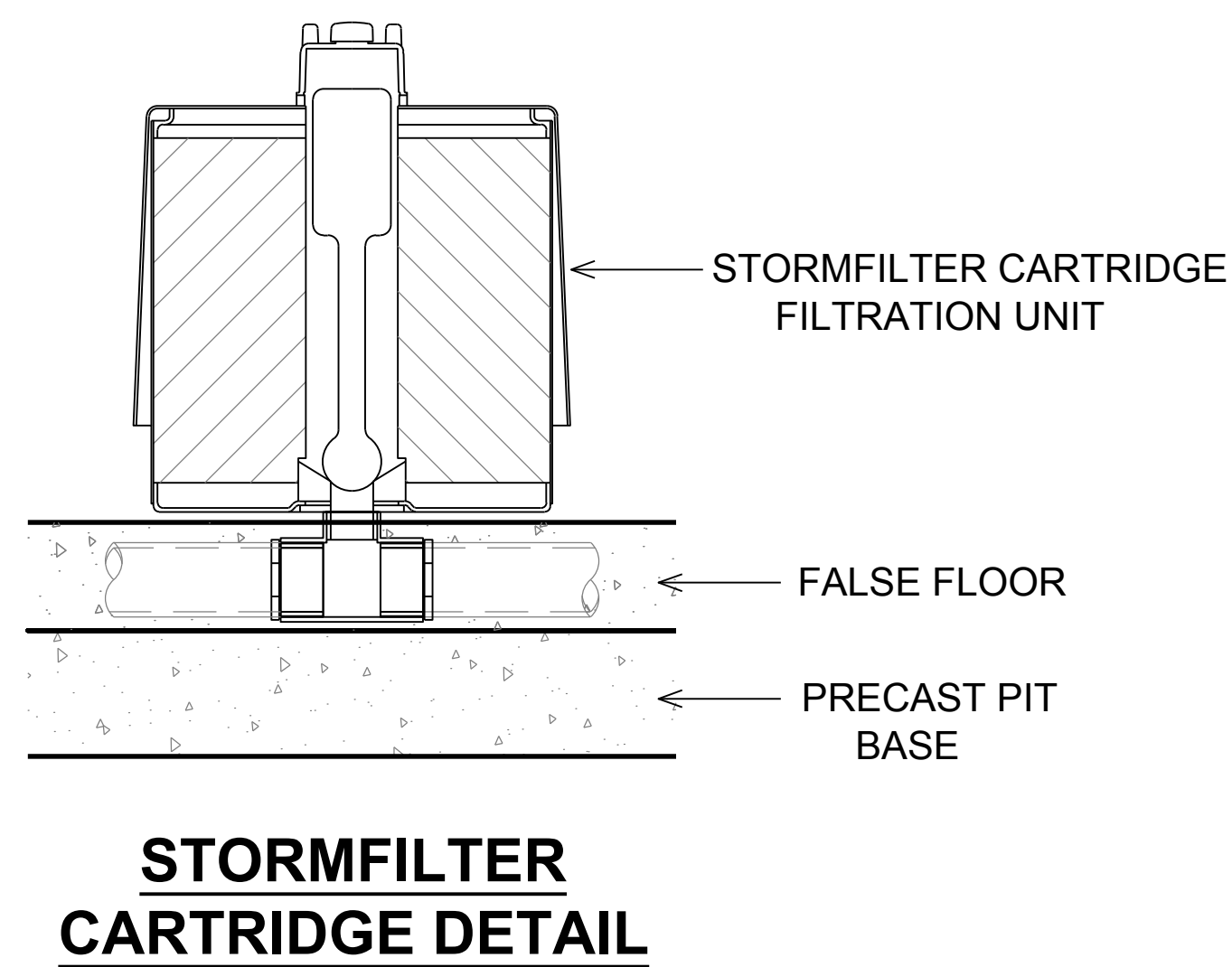
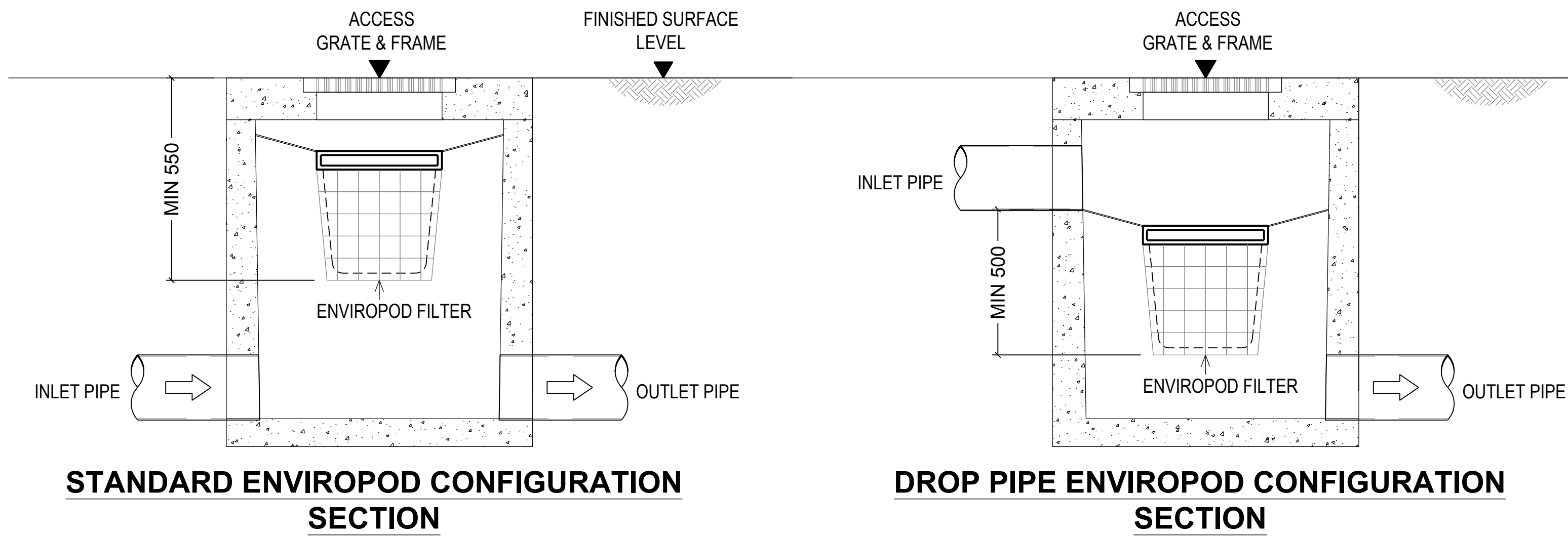
STATUS

SSDA

PRELIMINARY - NOT FOR CONSTRUCTION



TITLE				
STORMWATER CATCHMENT PLAN				
SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	M.T.	M.Cz.	L.S.	L.S.
JOB No.		DRAWING No.		ISSUE
6906000		MW-C6.03		1
DATE	STATUS			
JULY 2020	SSDA			



PRELIMINARY - NOT FOR CONSTRUCTION

Y:\2020\2020_T0_A1H1 Login Name: mbylor Cad File: T:\69060001 Drawings\AutoCAD\Civil\Design\Civil_20\Main Views\MW-C6.07 Stormwater Treatment Devices Typical Details.dwg Plot Date: 30.06.2020 07:22:59

DO NOT SCALE FROM DRAWINGS. CHECK & VERIFY ALL DIMENSIONS & LEVELS BEFORE COMMENCEMENT OF ANY WORK.

THIS DRAWING IS NOT TO BE COPIED IN PART OR WHOLE WITHOUT WRITTEN PERMISSION FROM WARREN SMITH AND PARTNERS.

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	DEVELOPMENT APPLICATION	01/07/20			

CLIENT



PROJECT

TARONGA ZOO - UPPER AUSTRALIA

PREPARED BY



Warren Smith & Partners Pty Ltd

Level 9, 233 Castlereagh St, Sydney 2000 NSW Australia

02 9299 1312 wsp@warrensmith.com.au

www.warrensmith.com.au ABN 36 300 430 126

CONSULTING ENGINEERS

■ Hydraulic Services ■ Fire Services

■ Civil Services ■ Sydney Water Accredited Water Servicing Co-ordinator and Designer



MEMBER OF THE CONSTRUCTION INDUSTRY GROUP

SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.

TITLE					
STORMWATER TREATMENT DEVICES TYPICAL DETAILS					
SCALE	DRAWN	DESIGNED	CHECKED	APPROVED	
AS SHOWN	M.T.	M.Cz	L.S.	L.S.	
JOB No.		DRAWINGS No.		ISSUE	
6906000		MW-C6.07		1	
DATE	STATUS				
JULY 2020	SSDA				