

FOOD PROCESSING & PACKAGING FACILITY

PART LOT 2304 TEMPLAR ROAD, ERSKINE PARK, NSW

LIST OF DRAWINGS

DRAWING NO.	DRAWING TITLE
CO1004.7.03-DA10	DRAWING LIST & GENERAL NOTES
CO1004.7.03-DA20	EROSION AND SEDIMENT CONTROL PLAN
CO1004.7.03-DA25	EROSION AND SEDIMENT CONTROL DETAILS - SHEET 1
CO1004.7.03-DA26	EROSION AND SEDIMENT CONTROL DETAILS - SHEET 2
CO1004.7.03-DA40	STORMWATER DRAINAGE MASTERPLAN
CO1004.7.03-DA41	STORMWATER DRAINAGE PLAN - SHEET 1
CO1004.7.03-DA42	STORMWATER DRAINAGE PLAN - SHEET 2
CO1004.7.03-DA43	STORMWATER DRAINAGE PLAN - SHEET 3
CO1004.7.03-DA44	STORMWATER DRAINAGE PLAN - SHEET 4
CO1004.7.03-DA45	STORMWATER DRAINAGE DETAILS - SHEET 1
CO1004.7.03-DA46	STORMWATER DRAINAGE DETAILS - SHEET 2
CO1004.7.03-DA47	STORMWATER DRAINAGE DETAILS - SHEET 3
CO1004.7.03-DA50	FINISHED LEVELS PLAN

GENERAL NOTES:

- G1 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER 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.
- G2 ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT STANDARDS AUSTRALIA CODES AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARYED BY THE PROJECT SPECIFICATION.
- G3 ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE BUILDER ON SITE. ENGINEER'S DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS. ENGINEER'S DRAWINGS ISSUED IN ANY ELECTRONIC FORMAT MUST NOT BE USED FOR DIMENSIONAL SETOUT.
- G4 DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED. TEMPORARY BRACING SHALL BE PROVIDED BY THE BUILDER TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
- G5 UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
- G6 ALL WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH ACCEPTABLE SAFETY STANDARDS & APPROPRIATE SAFETY SIGNS SHALL BE INSTALLED AT ALL TIMES DURING THE PROGRESS OF THE JOB.

EROSION CONTROL NOTES

- 1 ALL CONTROL WORK INCLUDING DIVERSION BANKS AND CATCH DRAINS, V-DRAINS AND SILT FENCES SHALL BE COMPLETED DIRECTLY FOLLOWING THE COMPLETION OF THE EARTHWORKS.
- 2 SILT FENCES AND SILT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE CONTOUR TO POND WATER.
- 3 HAY BALE BARRIERS AND GEOFABRIC FENCES ARE TO BE CONSTRUCTED TO TOP OF BATTER, PRIOR TO COMMENCEMENT OF EARTHWORKS, IMMEDIATELY AFTER CLEARING OF VEGETATION AND BEFORE REMOVAL OF TOP SOIL.
- 4 ALL TEMPORARY EARTH BERMS, DIVERSION AND SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED AND MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
- 5 CLEAR WATER IS TO BE DIVERTED AWAY FROM DISTURBED GROUND AND INTO THE DRAINAGE SYSTEM.
- 6 THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION.
- 7 ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING. TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE, APPROVED LOCATION.
- 8 ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
- 9 ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS.
- 10 ALL FILL AREAS ARE TO BE LEFT WITH A BOUND AT THE TOP OF THE SLOPE AT THE END OF EACH DAY'S EARTHWORKS. THE HEIGHT OF THE BOUND SHALL BE A MINIMUM OF 200MM.
- 11 ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
- 12 AFTER REVEGETATION OF THE SITE IS COMPLETE AND THE SITE IS STABLE IN THE OPINION OF A SUITABLY QUALIFIED PERSON ALL TEMPORARY WORK SUCH AS SILT FENCE, DIVERSION DRAINS ETC SHALL BE REMOVED.
- 13 ALL TOPSOIL STOCKPILES ARE TO BE SUITABLY COVERED TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR TO PREVENT WIND AND WATER EROSION.
- 14 ANY AREA THAT IS NOT APPROVED BY THE CONTRACT ADMINISTRATOR FOR CLEARING OR DISTURBANCE BY THE CONTRACTOR'S ACTIVITIES SHALL BE CLEARLY MARKED AND SIGN POSTED, FENCED OFF OR OTHERWISE APPROPRIATELY PROTECTED AGAINST ANY SUCH DISTURBANCE.
- 15 ALL STOCKPILE SITES SHALL BE SITUATED IN AREAS APPROVED FOR SUCH USE BY THE CONTRACT ADMINISTRATOR. A 6m BUFFER ZONE SHALL EXIST BETWEEN STOCKPILE SITES AND ANY STREAM OR FLOW PATH. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM EROSION AND CONTAMINATION OF THE SURROUNDING AREA BY USE OF THE MEASURES APPROVED IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
- 16 ACCESS AND EXIT AREAS SHALL INCLUDE SHAKE-DOWN OR OTHER METHODS APPROVED BY THE CONTRACT ADMINISTRATOR FOR THE REMOVAL OF SOIL MATERIALS FROM MOTOR VEHICLES.
- 17 THE CONTRACTOR IS TO ENSURE RUNOFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS ROADS, DEPOT AND STOCKPILE SITES, SHALL BE FREE OF POLLUTANTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS OR DIRECTED TO NATURAL WATERCOURSES.
- 18 THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWNS AND DRAINS ON ALL EXCAVATIONS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES. WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED ESP / SWMP.

STORMWATER DRAINAGE NOTES:

- 1 ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON FINISHED LEVELS PLANS DA50.
- 2 PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDED ON PLAN.
- 3 EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE.
- 4 ALL STORMWATER PIPES Ø375 OR GREATER SHALL BE CLASS 2 REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
- 5 ALL PIPES UP TO AND INCLUDING Ø300 TO BE UPVC GRADE S8.
- 6 ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING N12-200 EACH WAY CENTERED IN WALL AND BASE. LAP MINIMUM 300mm WHERE REQUIRED. ALL CONCRETE FOR PITS SHALL BE F'c 32 MPa. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
- 7 IN ADDITION TO ITEM 6 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.
- 8 PIPES SHALL BE LAID AS PER PIPE LAYING DETAILS. PARTICULAR CARE SHALL BE TAKEN TO ENSURE THAT THE PIPE IS FULLY AND EVENLY SUPPORTED. RAM AND PACK FILLING AROUND AND UNDER BACK OF PIPES AND PIPE FAUCETS, WITH NARROW EDGED RAMMERS OR OTHER SUITABLE TAMPING DETAILS.
- 9 WHERE PIPE LINES ENTER PITS, PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED Ø100 UPVC TO EACH SIDE OF PIPE.
- 10 ALL SUBSOIL DRAINAGE LINES SHALL BE Ø100 SLOTTED UPVC WITH APPROVED FILTER WRAP LAID IN 300mm WIDE GRANULAR FILTER UNLESS NOTED OTHERWISE. LAY SUBSOIL LINES TO MATCH FALLS OF LAND AND/OR 1 IN 200 MINIMUM. PROVIDE CAPPED CLEANING EYE (RODDING POINT) AT UPSTREAM END OF LINE AND AT 30m MAX. CTS. PROVIDE SUBSOIL LINES TO ALL PAVEMENT / LANDSCAPED INTERFACES, TO REAR OF RETAINING WALLS (AS NOMINATED BY STRUCTURAL ENGINEER) AND AS SHOWN ON PLAN.
- 11 ALL PIPE GRADES 1 IN 100 MINIMUM UNO.
- 12 PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.
- 13 MIN. 600 COVER TO PIPE OVERBRI BEHATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND PEDESTRIAN AREAS.
- 14 PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D 'HEAVY DUTY'. THOSE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS B 'MEDIUM DUTY' UNO.
- 15 PROVIDE CLEANING EYES (RODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE NO PITS ARE PRESENT.
- 16 DOWN PIPES (DP) TO BE AS PER HYDRAULIC ENGINEERS DETAILS WITH CONNECTOR TO MATCH DP SIZE UNO. ON PLAN PROVIDE CLEANING EYE AT GROUND LEVEL.
- 17 PIPE LENGTHS NOMINATED ON PLAN OR LONGSECTIONS ARE MEASURED FROM CENTER OF PITS TO THE NEAREST 0.5m AND DO NOT REPRESENT ACTUAL LENGTH. THE CONTRACTOR IS TO ALLOW FOR THIS.



SITE PLAN
N.T.S

ISSUED FOR DEVELOPMENT APPLICATION	30/07/13	C
ISSUED FOR CLIENT REVIEW	22/07/13	B
ISSUED FOR CLIENT REVIEW	17/07/13	A
AMENDMENTS	DATE	ISSUE

CLIENT

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DESIGNED	DRAWN	CHECKED	SCALE	DATE	PROJECT
NW	KC	AT	A5 SWMM	06/2013	FOOD PROCESSING & PACKAGING FACILITY PART LOT 2304, TEMPLAR ROAD ERSKINE PARK, NSW

CONDUCT AUSTRALIA

COSTIN ROE CONSULTING ENGINEERS

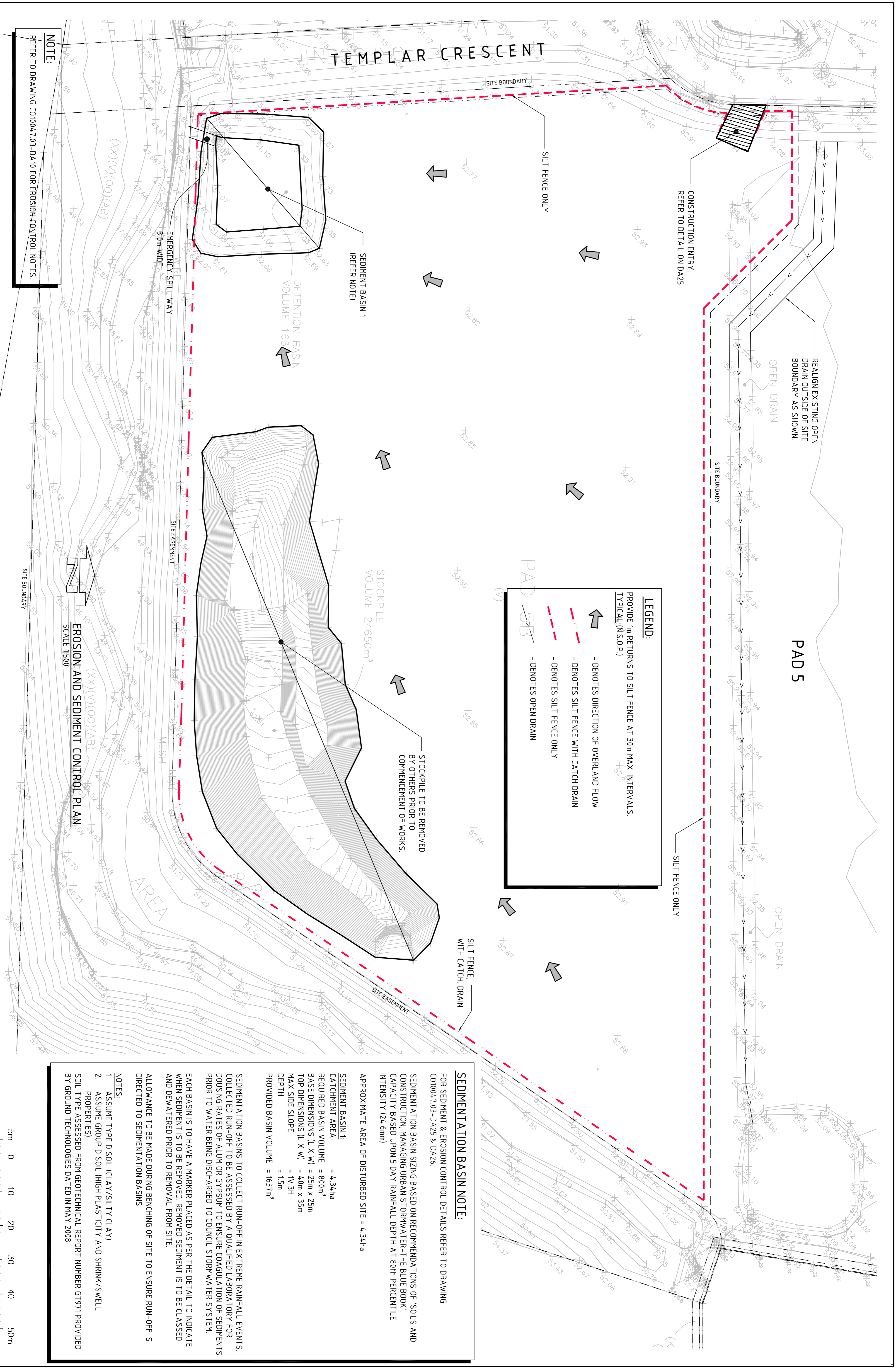
Level 1, 8 Windmill Street
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DRAWING TITLE	DRAWING NO.	ISSUE
DRAWING LIST & GENERAL NOTES	CO1004.7.03-DA10	C

FOR DEVELOPMENT APPLICATION



NOTE:
REFER TO DRAWING C01004.7.03-DA10 FOR EROSION-CONTROL NOTES.

LEGEND:
PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS. TYPICAL (N.S.O.P.)

- ↑ - DENOTES DIRECTION OF OVERLAND FLOW
- - - - - DENOTES SILT FENCE WITH CATCH DRAIN
- - - - - DENOTES SILT FENCE ONLY
- - - - - DENOTES OPEN DRAIN

SEDIMENTATION BASIN NOTE:
FOR SEDIMENT & EROSION CONTROL DETAILS REFER TO DRAWING C01004.7.03-DA25 & DA26.

SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION: MANAGING URBAN STORMWATER - THE BLUE BOOK'. CAPACITY BASED UPON 5 DAY RAINFALL DEPTH AT 80th PERCENTILE INTENSITY (24.6mm).

APPROXIMATE AREA OF DISTURBED SITE = 4,34ha

SEDIMENT BASIN 1:
CATCHMENT AREA = 4,34ha
REQUIRED BASIN VOLUME = 800m³
BASE DIMENSIONS (L X W) = 25m x 25m
TOP DIMENSIONS (L X W) = 4.0m x 35m
MAX SIDE SLOPE = 1V/3H
DEPTH = 1.5m
PROVIDED BASIN VOLUME = 1637m³

SEDIMENTATION BASINS TO COLLECT RUN-OFF IN EXTREME RAINFALL EVENTS. COLLECTED RUN-OFF TO BE ASSESSED BY A QUALIFIED LABORATORY FOR DOUSING RATES OF ALUM OR GYPSUM TO ENSURE COAGULATION OF SEDIMENTS PRIOR TO WATER BEING DISCHARGED TO COUNCIL STORMWATER SYSTEM.

EACH BASIN IS TO HAVE A MARKER PLACED AS PER THE DETAIL TO INDICATE WHEN SEDIMENT IS TO BE REMOVED. REMOVED SEDIMENT IS TO BE CLASSED AND DEWATERED PRIOR TO REMOVAL FROM SITE.

ALLOWANCE TO BE MADE DURING BENCHING OF SITE TO ENSURE RUN-OFF IS DIRECTED TO SEDIMENTATION BASINS.

NOTES:
1. ASSUME TYPE D SOIL (CLAY/SILT Y CLAY)
2. ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)
SOIL TYPE ASSESSED FROM GEOTECHNICAL REPORT NUMBER GT 971 PROVIDED BY GROUND TECHNOLOGIES DATED IN MAY 2008

FOR DEVELOPMENT APPLICATION

ISSUED FOR DEVELOPMENT APPLICATION	30.07.13	C	CLIENT	CIP Developing Relationships Building Success
ISSUED FOR CLIENT REVIEW	22.07.13	B	PROJECT	FOOD PROCESSING & PACKAGING FACILITY
ISSUED FOR CLIENT REVIEW	17.07.13	A	PART LOT 2304, TEMPLAR ROAD ERSKING PARK, NSW	DESIGNED (P/AM) DATE 06/2013
AMENDMENTS	DATE	ISSUE	CHECKED	SIZE SCALE
			AT	AS SHOWN
			CAD REF:	C01004.7.03-DA20

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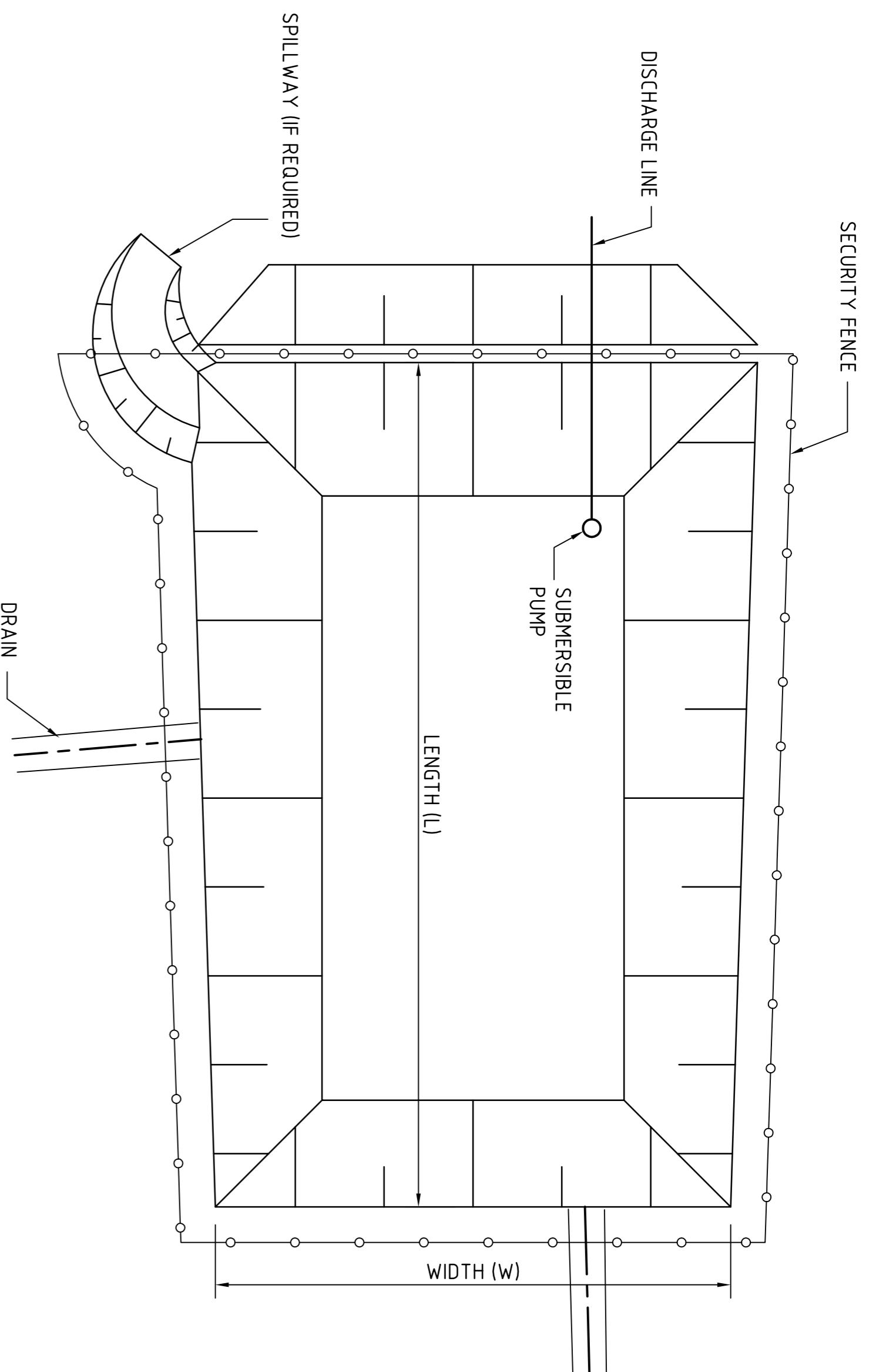
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DRAWING TITLE: **EROSION & SEDIMENT CONTROL PLAN**

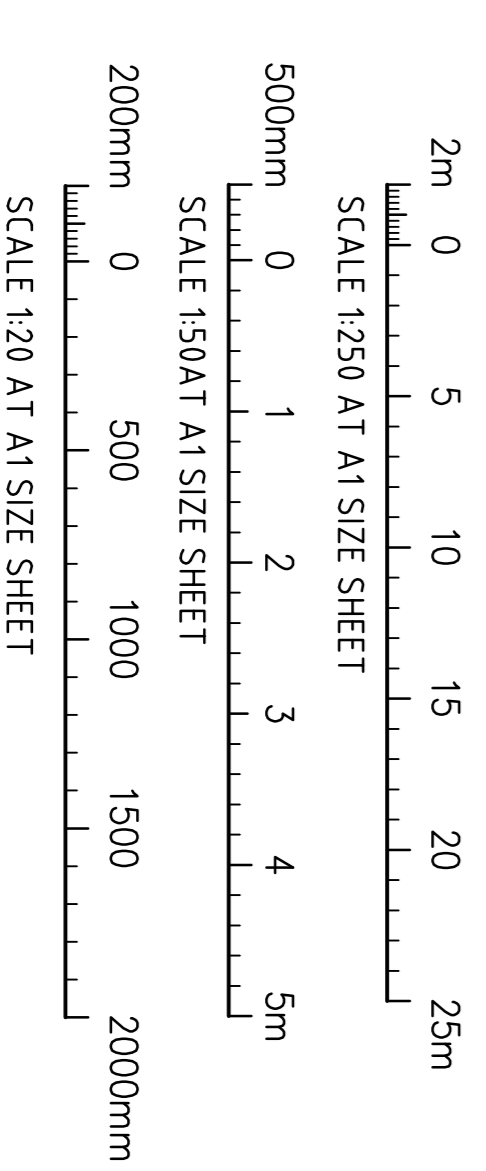
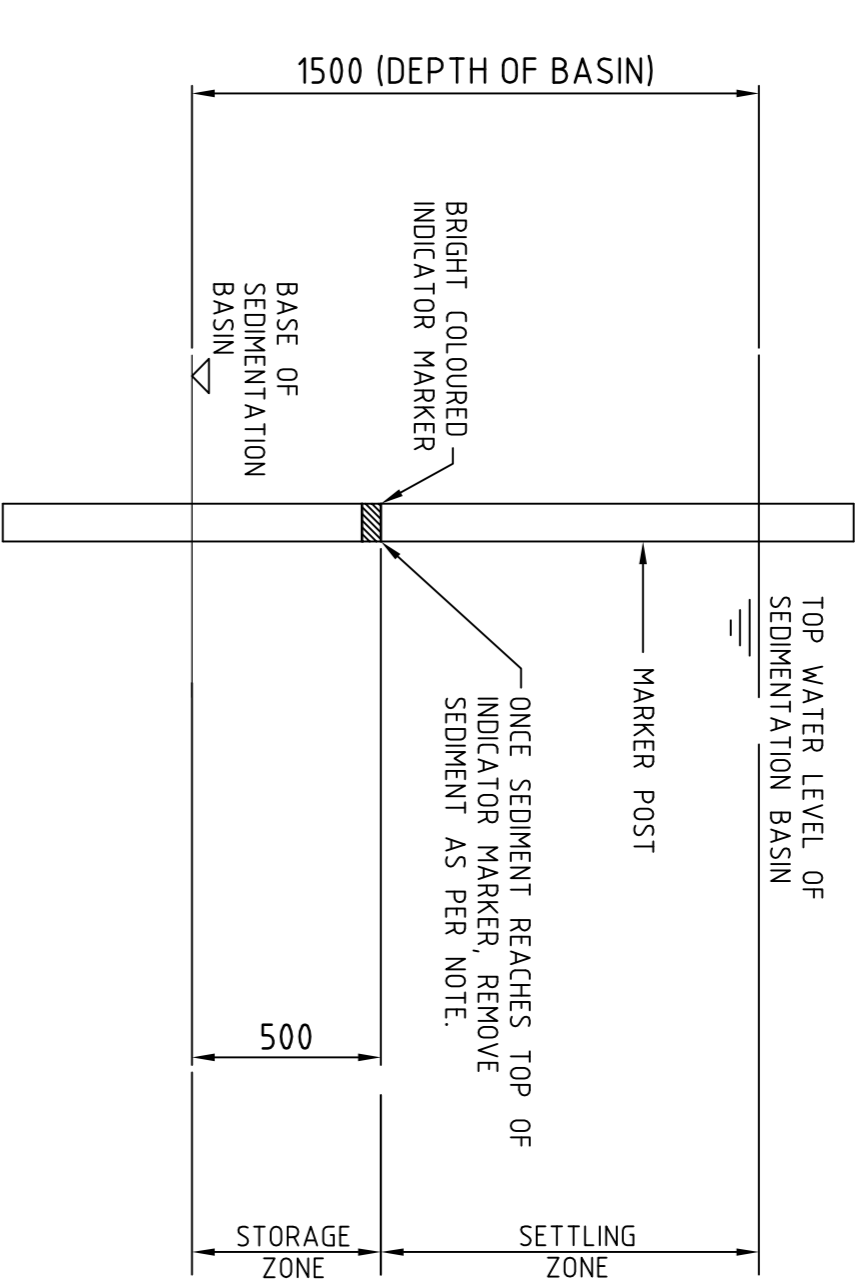
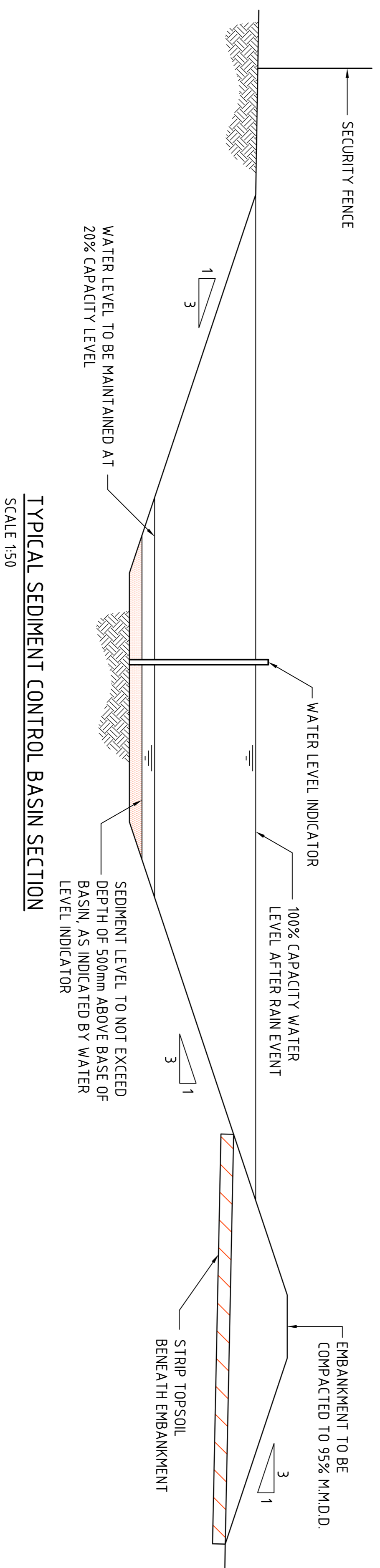
DRAWING NO: **C01004.7.03-DA20**

SCALE 1:500 AT A1 SIZE SHEET

5m 0 10 20 30 40 50m

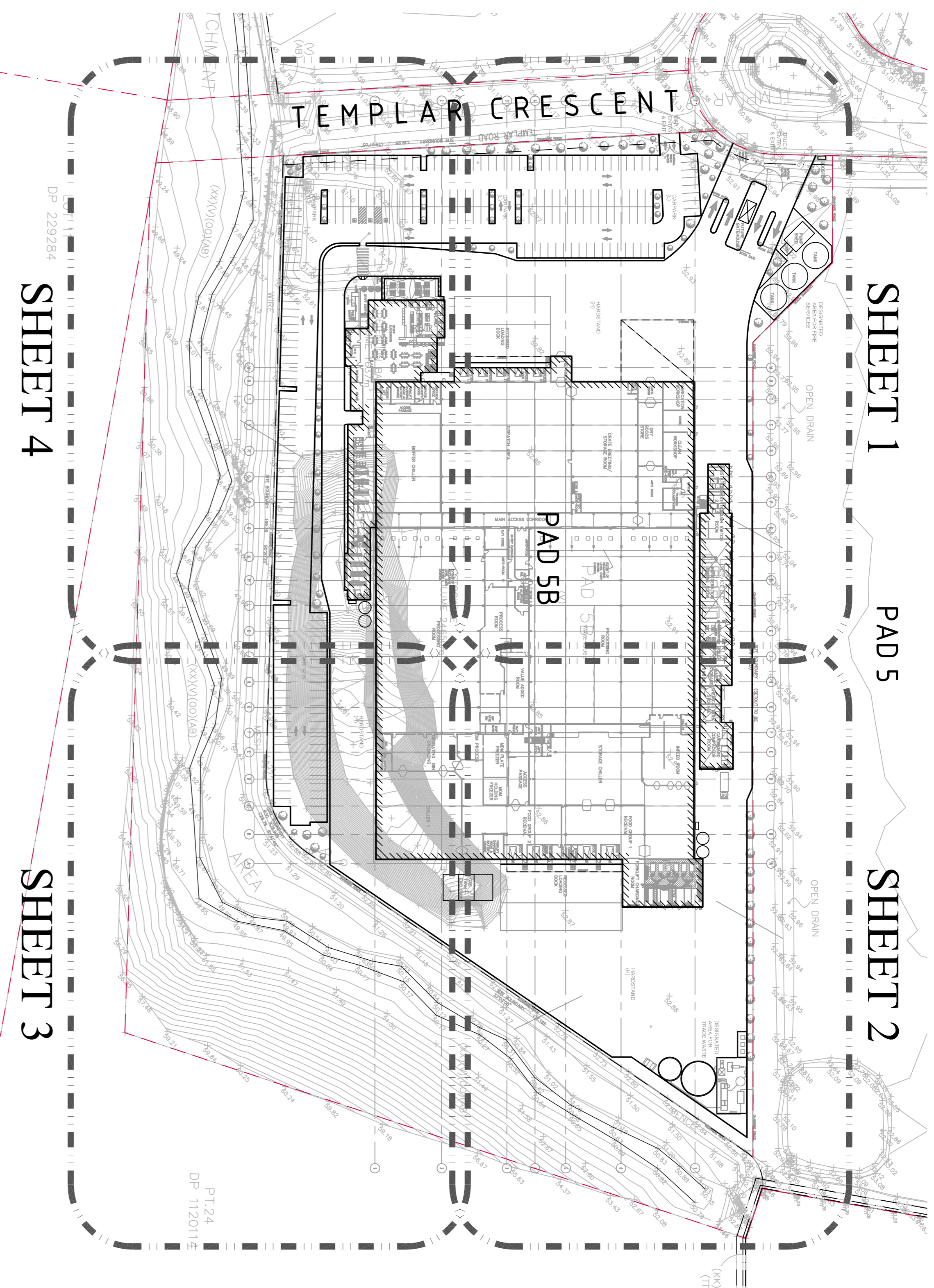


TYPICAL SEDIMENT CONTROL POND PLAN
SCALE 1:250



FOR DEVELOPMENT APPLICATION

ISSUED FOR DEVELOPMENT APPLICATION	30/07/13	C	CLIENT	<p>CIP Building Success</p> <p>Developing Relationships Building Success</p> <p>Sydney Melbourne Brisbane Adelaide Perth www.cipproperty.com.au National Enquiries: 1800 828 877</p>	
ISSUED FOR CLIENT REVIEW	22/07/13	B	PROJECT		
ISSUED FOR CLIENT REVIEW	17/07/13	A	<p>FOOD PROCESSING & PACKAGING FACILITY</p> <p>PART LOT 2304, TEMPLAR ROAD ERSKING PARK, NSW</p>		
AMENDMENTS	DATE	ISSUE	AMENDMENTS		DATE
DESIGNED (DRAWN)	DATE	CHECKED	SIZE	SCALE	CAD REF.
NW	X/C	06/2013	A1	A5 50MM	CONV47.03-DA26
<p>Costin Roe Consulting Pty Ltd. Consulting Engineers</p> <p>Level 1, 8 Miranda Street Tel: (02) 950 5200 Fax: (02) 9241-3781 email: mail@costinroe.com.au</p>			<p>CONDUCT AUSTRALIA</p>		
<p>CostinRoe Consulting</p> <p>Value in Engineering and Management</p>			<p>DRAWING TITLE</p> <p>EROSION & SEDIMENT CONTROL DETAILS</p> <p>SHEET 2</p>		
<p>DRAWING No</p> <p>CO1004.7.03-DA26</p>			<p>ISSUE</p> <p>C</p>		



STORMWATER MASTERPLAN
SCALE 1:1000

LEGEND:
LEVELS DATUM IS AHD.
EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY LAND PARTNERS TITLED 71718 REV. B DATED 11/08/11.

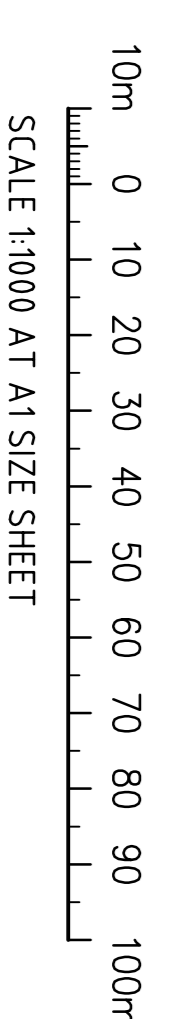
- S-GGP, SINGLE GRATED GULLY PIT
- S-JP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300 WIDE UNO)
- SW, PROPOSED DRAINAGE LINE
- EX, EXISTING DRAINAGE LINE
- SD, ROOFWATER LINE (SYPHONIC)
- RW, ROOFWATER LINE (IN-GROUND)
- DP, DOWNPIPE LOCATION
- SS, SUBSSOIL LINE
- MA, FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- MI, FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- DENOTES OVERLAND FLOWPATH DIRECTION
- OVERHEAD ELECTRICITY
- UNDERGROUND ELECTRICITY
- SEWER LINE - SEWER MANHOLE
- WATER
- TELECOMMUNICATION
- GAS
- CUT-OFF DRAIN, REFER TO DRG. CC20

NOTE:
1. REFER TO DRAWING C01004.7.03-DA10 FOR STORMWATER DRAINAGE NOTES.
2. PIT SIZES NOMINATED IN SCHEDULE REFER TO GRATE OR LINTEL SIZE. REFER TO DRAWING C01004.7.03-DA45 & DA46 FOR STORMWATER DETAILS AND PIT INTERNAL CHAMBER DIMENSIONS.

PIT SCHEDULE

PIT No.	GRATE RL	DEPTH	TYPE	SIZE	COMMENT
P01	52.40	1000	SGGP	900x900	
P02	52.40	1130	SGGP	900x900	
P03	52.40	1260	SGGP	900x900	
P04	51.60	850	SGGP	900x900	+ GD01
P05	52.80	2240	SGGP	900x900	
P06	52.15	1710	SGGP	900x900	
P07	52.45	2130	SGGP	900x900	
P08	52.60	2450	SGGP	900x900	
P09	52.60	2670	SGGP	900x900	
P10	52.60	2840	SGGP	900x900	
P11	52.75	3080	SJP	900x900	
P12	52.40	1000	SGGP	900x900	
P13	52.40	1180	SGGP	900x900	
P14	52.40	1380	SGGP	900x900	
P15	52.60	3060	SGGP	900x900	
P16	52.60	3280	SGGP	900x900	
P17	52.40	1000	SGGP	900x900	
P18	52.10	1030	SGGP	900x900	
P19	51.90	2800	SGGP	900x900	
P20	52.80	1200	SGGP	900x900	
P21	52.80	1430	SGGP	900x900	
P22	52.80	1630	SGGP	900x900	
P23	52.80	1830	SGGP	900x900	
P24	52.80	2050	SJP	900x900	
P25	51.70	1000	SGGP	900x900	+ GD02
P26	52.15	1610	SJP	900x900	
P27	52.60	2200	SGGP	900x900	
P28	52.20	2040	SGGP	900x900	
P29	52.20	2170	SGGP	900x900	
P30	52.20	2290	SGGP	900x900	
P31	51.60	1000	SGGP	900x900	+ GD03
P32	52.20	2380	SGGP	900x900	
P33	51.65	2010	SGGP	900x900	
P34	51.00	1000	SGGP	900x900	+ GD04
P35	51.00	1080	SGGP	900x900	
P36	51.00	1210	SGGP	900x900	
P37	51.00	1370	SGGP	900x900	
P38	51.50	3350	SJP	900x900	
R01	53.05	TBC	SGGP	1200x1200	DIV PIT
R02	52.90	TBC	SGGP	1200x1200	
E01	51.71	3000	SJP	1200x1200	
E02	51.50	2930	SJP	1200x1200	
E03	51.00	2830	SJP	1200x1200	
E04	50.65	2880	SJP	1200x1200	

➔ DENOTES PIT TO BE FITTED WITH ENVIROPOD SERIES 200 PIT INSERT
 DIV PIT - DENOTES LOW FLOW DIVERSION PIT
 LOW FLOW TO DIVERT TO FILTRATION UNIT
 + GD - DENOTES GRATED DRAIN/STORMWATER PIT WITH ENVIROPOD. REFER TO DETAIL ON DRG. DA46.



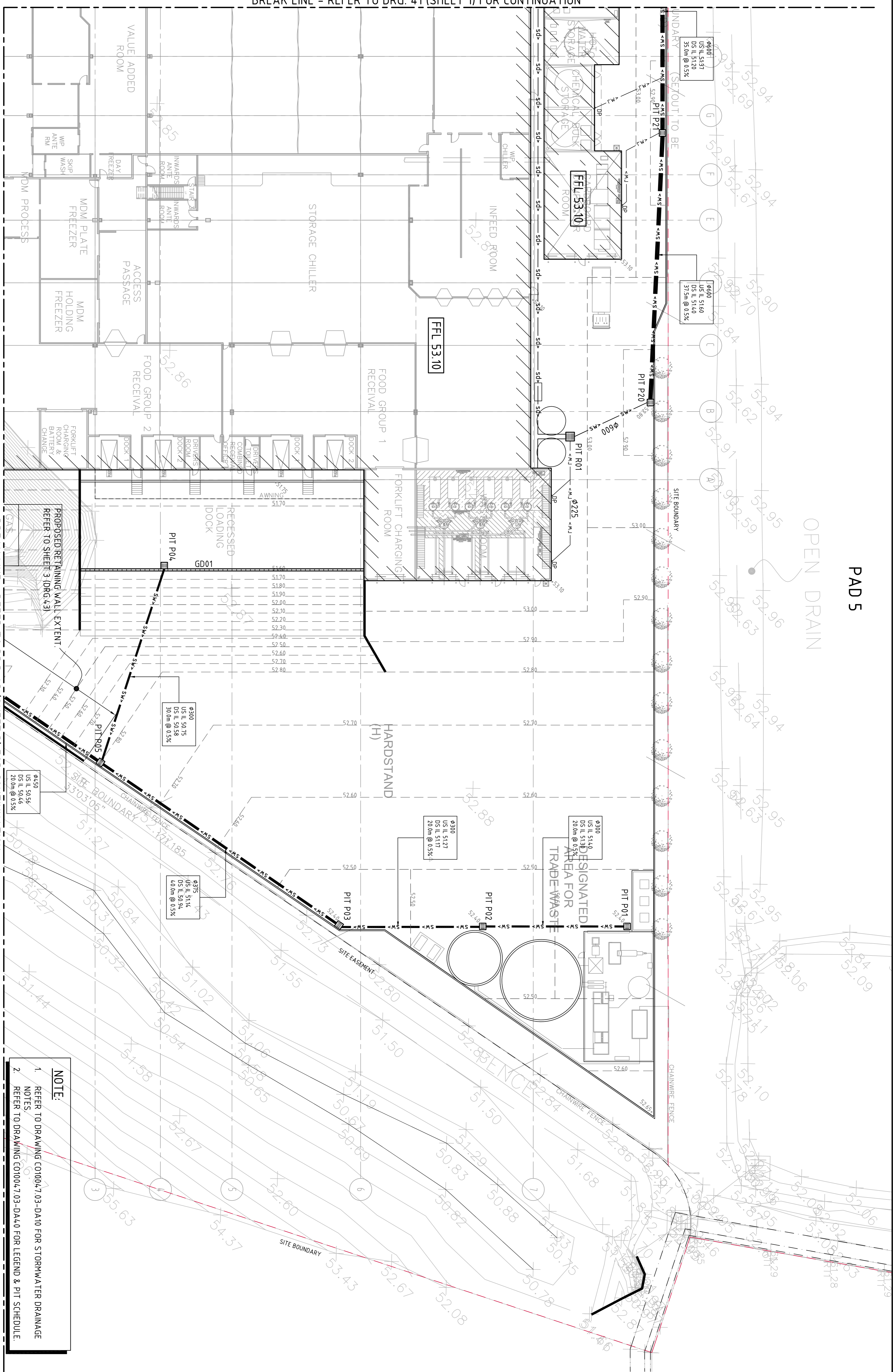
FOR DEVELOPMENT APPLICATION

ISSUED FOR DEVELOPMENT APPLICATION	30.07.13	C	CLIENT		PROJECT FOOD PROCESSING & PACKAGING FACILITY PART LOT 2304, TEMPLAR ROAD ERSKING PARK, NSW		CONSULTING ENGINEERS Costin Roe Consulting Pty Ltd. Level 1, 8 Windmill Street Ersking Park NSW 1500 Tel: (02) 950 3700 Fax: (02) 950 3701 email: mail@costinroe.com.au					
ISSUED FOR CLIENT REVIEW	22.07.13	B	DESIGNED DRAWN					DATE	CHECKED	SIZE	SCALE	CAD REF.
ISSUED FOR CLIENT REVIEW	17.07.13	A	NW					XC	06/2013	AT	A5 S10M	C01004.7.03-DA40
AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE			DRAWING TITLE STORMWATER MASTERPLAN				
ISSUED FOR DEVELOPMENT APPLICATION 30.07.13 C			CLIENT 		PROJECT FOOD PROCESSING & PACKAGING FACILITY PART LOT 2304, TEMPLAR ROAD ERSKING PARK, NSW		CONSULT AUSTRALIA		COSTIN ROE CONSULTING ENGINEERS Costin Roe Consulting Pty Ltd. Level 1, 8 Windmill Street Ersking Park NSW 1500 Tel: (02) 950 3700 Fax: (02) 950 3701 email: mail@costinroe.com.au			
ISSUED FOR CLIENT REVIEW 22.07.13 B			AMENDMENTS		DESIGNED DRAWN NW XC		DATE 06/2013		CHECKED AT			
ISSUED FOR CLIENT REVIEW 17.07.13 A			AMENDMENTS		SIZE A1		SCALE A5 S10M		CAD REF. C01004.7.03-DA40			
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AMENDMENTS			DATE ISSUE		DATE ISSUE							

PAD 5

OPEN DRAIN

BREAK LINE - REFER TO DRG. 41 (SHEET 1) FOR CONTINUATION



BREAK LINE - REFER TO DRG. 43 (SHEET 3) FOR CONTINUATION

STORMWATER DRAINAGE PLAN - SHEET 2
SCALE 1:250

FOR DEVELOPMENT APPLICATION

ISSUED FOR DEVELOPMENT APPLICATION	30/07/13	C
ISSUED FOR CLIENT REVIEW	22/07/13	B
ISSUED FOR CLIENT REVIEW	17/07/13	A
AMENDMENTS	DATE	ISSUE

CLIENT

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PROJECT	FOOD PROCESSING & PACKAGING FACILITY PART LOT 2304, TEMPLAR ROAD ERSKING PARK, NSW
DESIGNED (DRAWN)	NW
CHECKED	XC
DATE	06/2013
SCALE	AS SHOWN
CONTRACT REF.	CON004/03-DA42

CONSULTANT

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Miranda Street
Tel: (02) 952 2900 Fax: (02) 924 3781
email: mail@costinroe.com.au

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DRAWING TITLE
**STORMWATER DRAINAGE PLAN
SHEET 2**

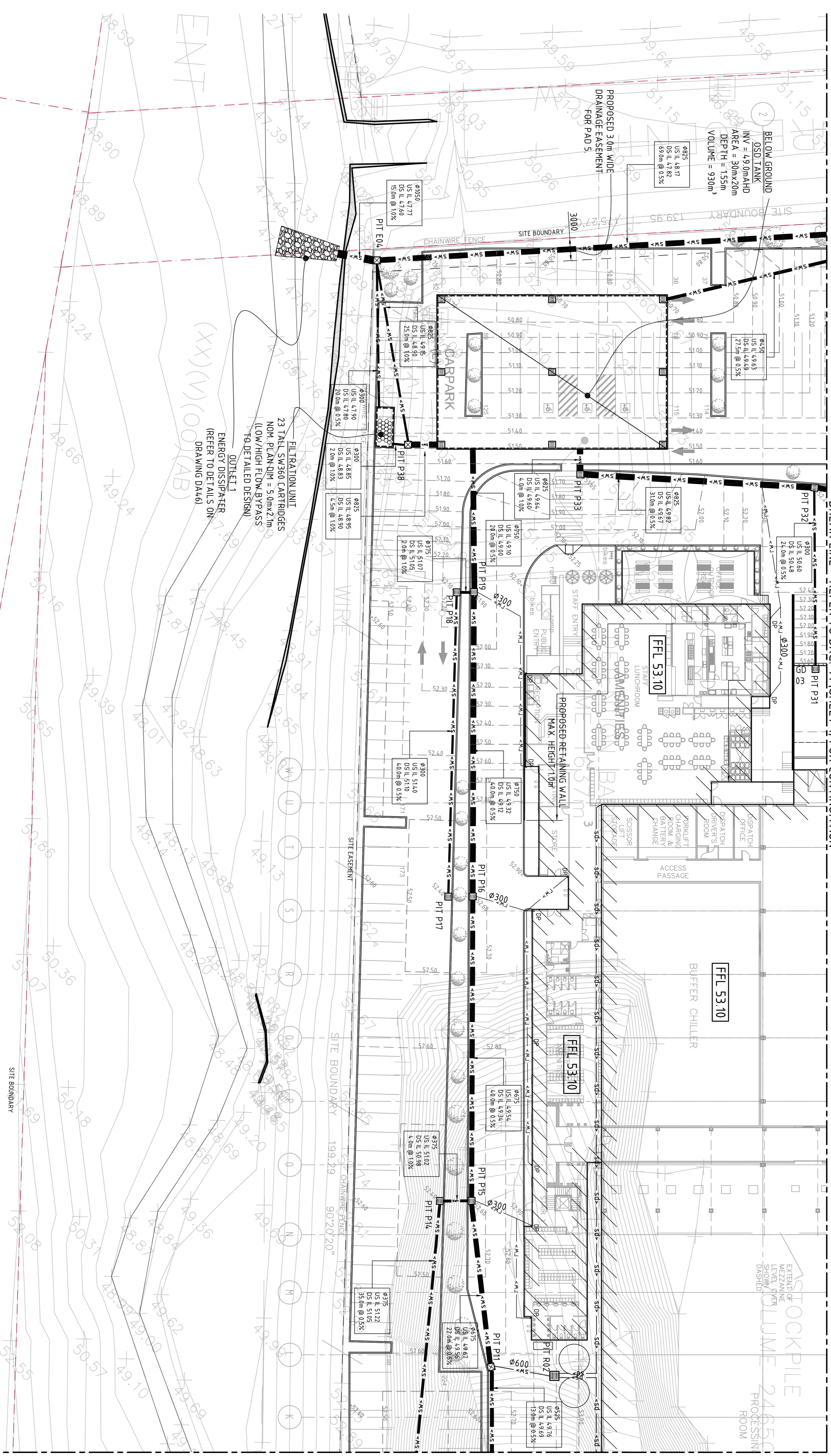
DRAWING No. **CO1004.7.03-DA42**

NOTE:

- REFER TO DRAWING CO1004.7.03-DA10 FOR STORMWATER DRAINAGE NOTES.
- REFER TO DRAWING CO1004.7.03-DA40 FOR LEGEND & PIT SCHEDULE.



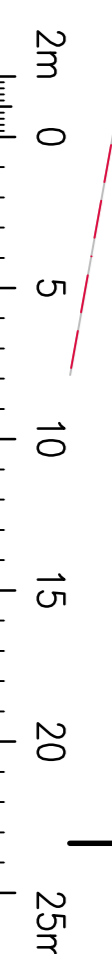
BREAK LINE - REFER TO DRG. 41 (SHEET 1) FOR CONTINUATION



BREAK LINE - REFER TO DRG. 43 (SHEET 3) FOR CONTINUATION

NOTE:

1. REFER TO DRAWING C01004.7.03-DA10 FOR STORMWATER DRAINAGE NOTES.
2. REFER TO DRAWING C01004.7.03-DA4.0 FOR LEGEND & PIT SCHEDULE.



FOR DEVELOPMENT APPLICATION

STORMWATER DRAINAGE PLAN - SHEET 4
SCALE 1:250

ISSUED FOR DEVELOPMENT APPLICATION	30.07.13	C
ISSUED FOR CLIENT REVIEW	22.07.13	B
ISSUED FOR CLIENT REVIEW	17.07.13	A
AMENDMENTS	DATE	ISSUE

CLIENT

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PROJECT

FOOD PROCESSING & PACKAGING FACILITY
PART LOT 2304, TEMPLAR ROAD
ESKING PARK, NSW

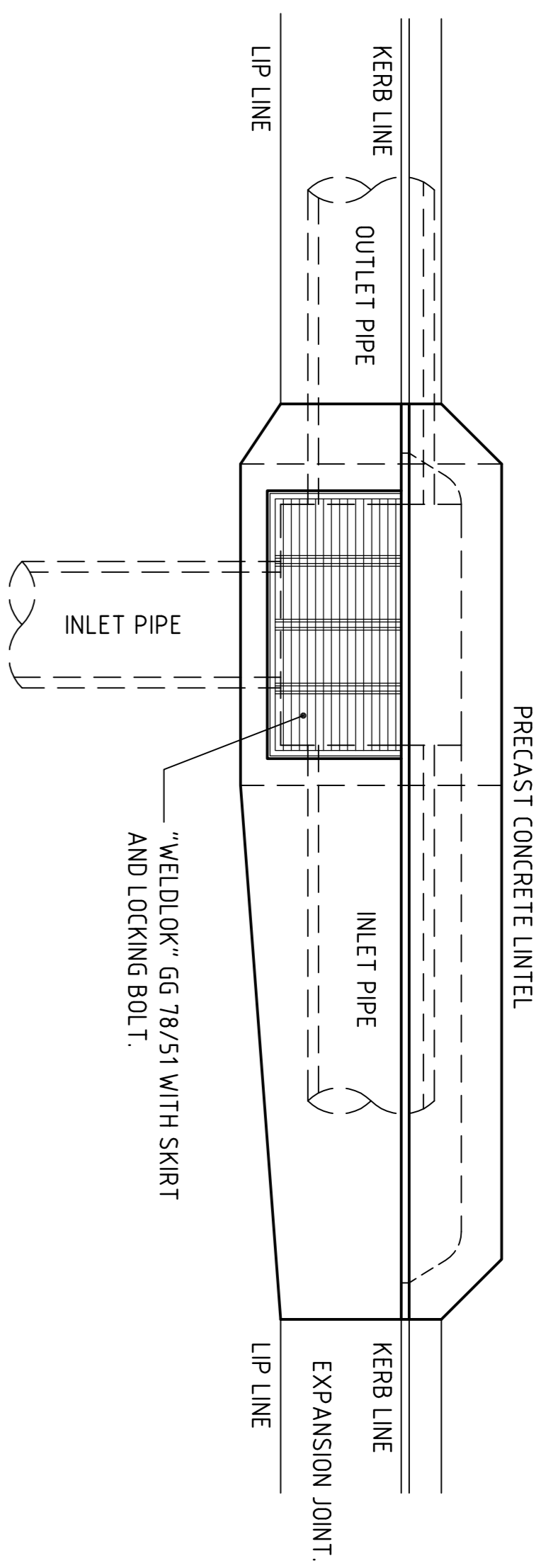
DESIGNED (P/AM) DATE CHECKED SIZE SCALE
MW XC 06/2013 AT AS 590MM C01004.7.03-DA4

Costin Roe Consulting Pty Ltd
Consulting Engineers
Level 1, 8 Windmill Street
Melbourne VIC 3000 Australia
Tel: (61) 3 9593 7900 Fax: (61) 3 9241 3781
email: mail@costinroe.com.au

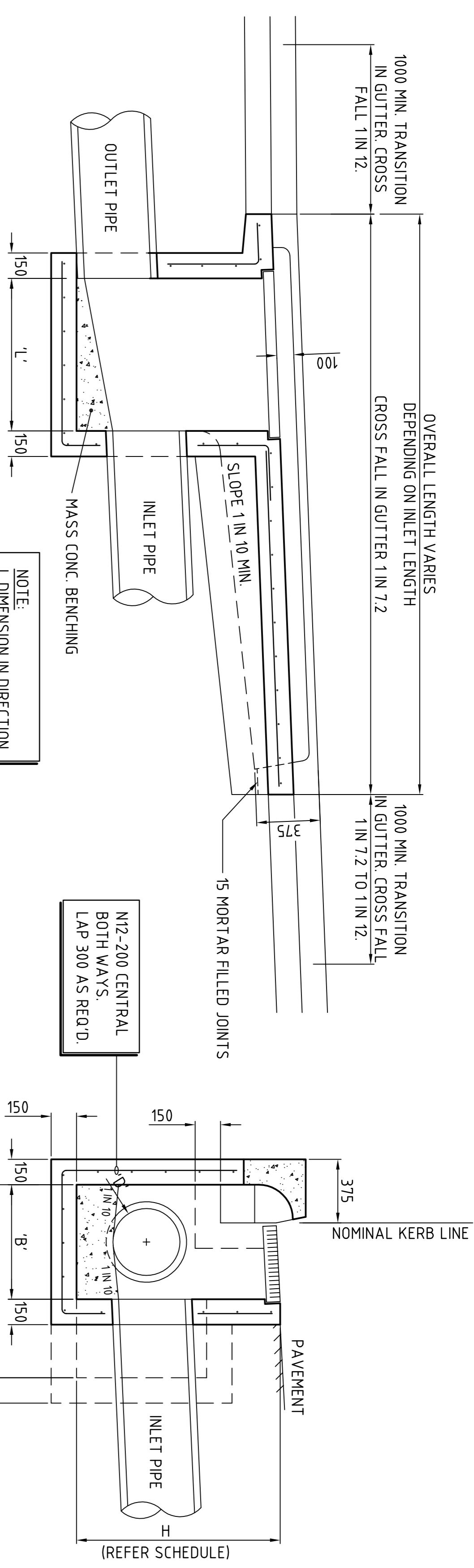
DRAWING TITLE
STORMWATER DRAINAGE PLAN
SHEET 4

DRAWING No. **C01004.7.03-DA4.4**

ISSUE	C
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PLAN
SCALE 1:20



LONG SECTION
SCALE 1:20

CROSS SECTION
SCALE 1:20

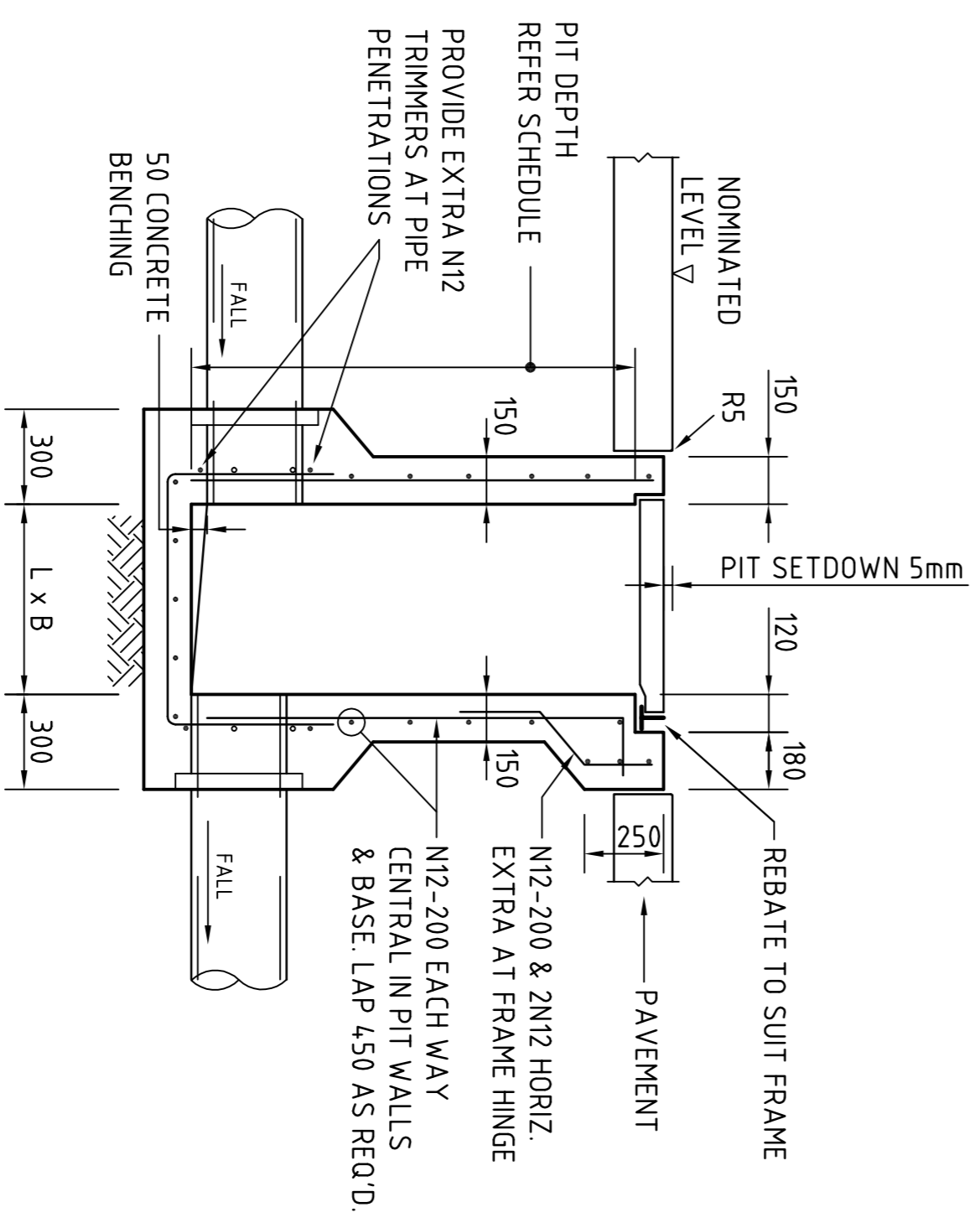
CONCRETE QUALITY				
ELEMENT	SUMP	AGGREGATE	CEMENT	ADMIXTURE
PIT	80	20	GP	Nil
				Fc (MPa)
				32

NOTES:

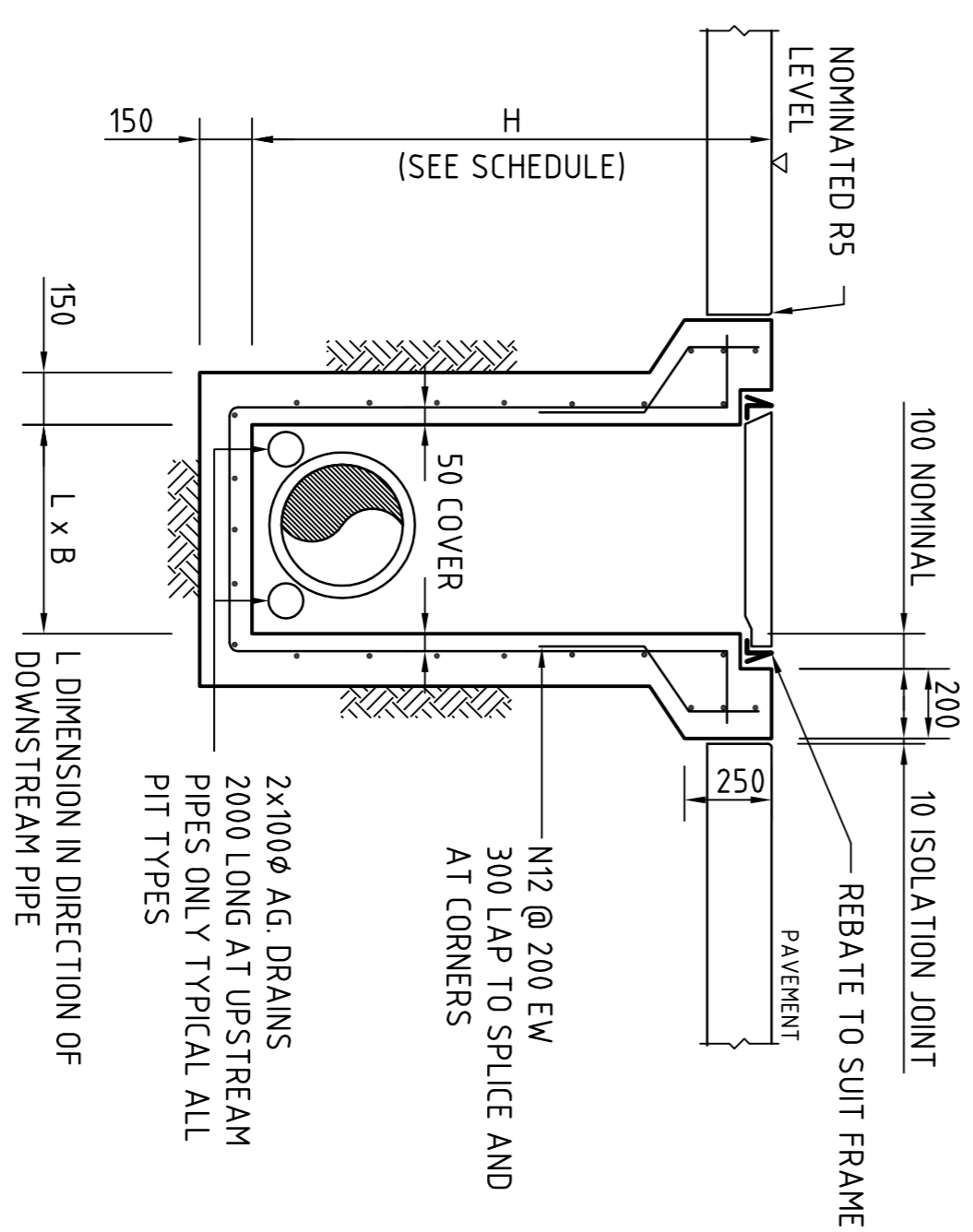
- WHERE GULLY PIT IS LOCATED ON KERB RETURNS OR BULB OF CUR-DE-SACS PROVIDE CURVED PRECAST CONCRETE LINTELS.
- SAG PITS SHALL HAVE LINTEL PLACED CENTRALLY ABOUT THE GRATE.
- ALL REINFORCING TO HAVE 30 MIN. CLEAR CONCRETE COVER.
- FOR PITS DEEPER THAN 1200mm CLIMB RAILS SHALL BE PROVIDED.

PLAN
SCALE 1:20

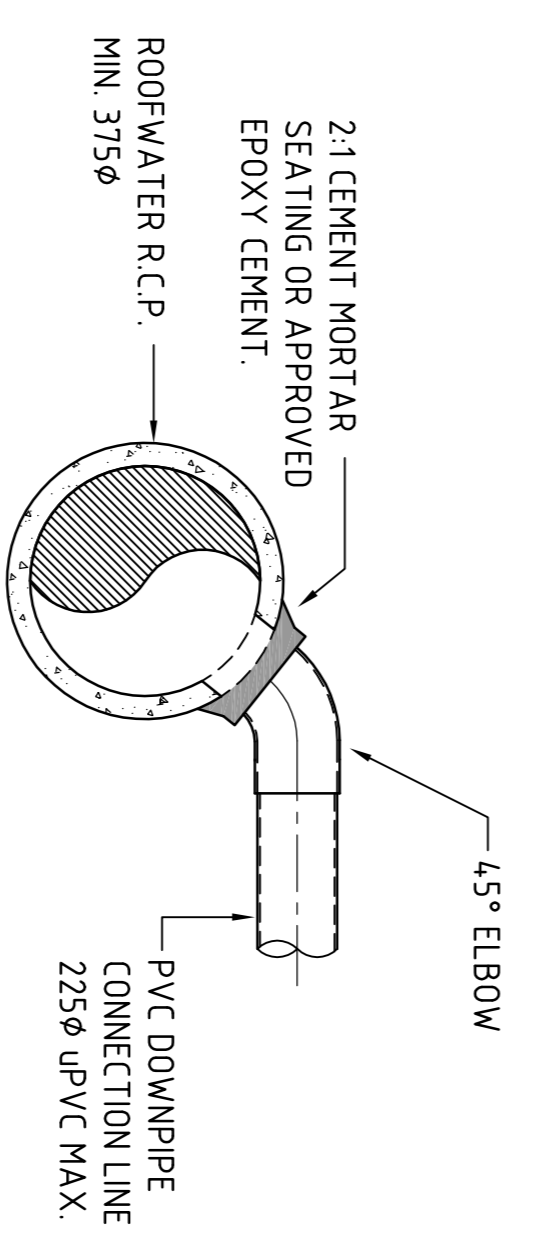
PLAN
SCALE 1:20



SECTION
SCALE 1:20

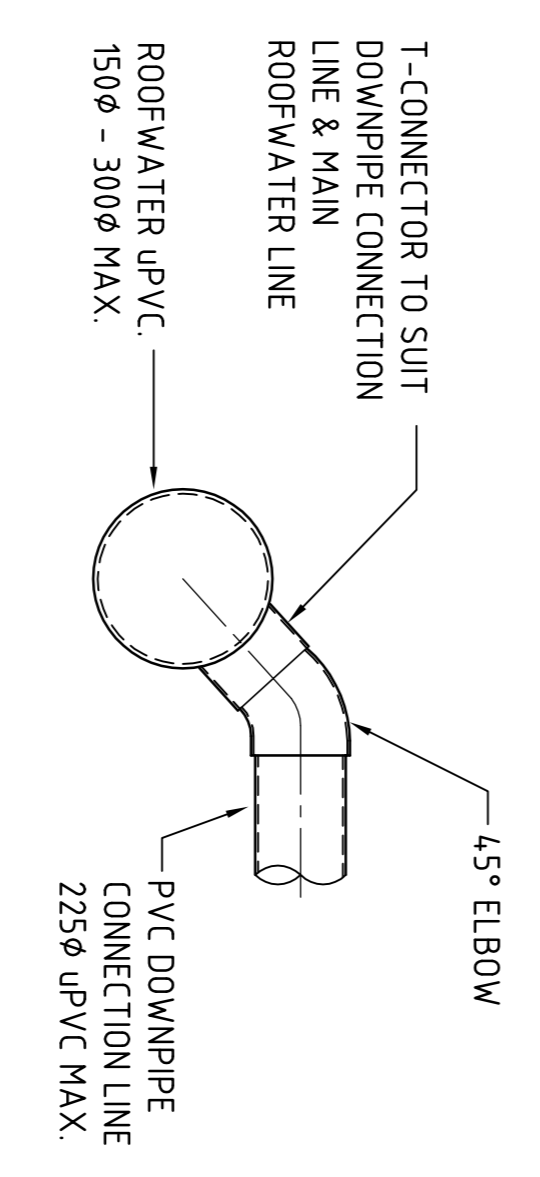


SECTION
SCALE 1:20



DOWN PIPE CONNECTION TO R.C.P. PIPE

- THE R.C. STORMWATER PIPE SHALL BE PIERCED BY A NEAT OPENING TO ALLOW THE CONNECTION OF A PVC PIPE.
- THE EXPOSED R.C. PIPE REINFORCEMENT IS TO BE BENT OUTWARDS TO RETAIN THE MORTAR/JUNT.
- THE PVC PIPE SHALL NOT PROTRUDE BEYOND THE INNER SURFACE OF THE R.C. STORMWATER PIPE.
- THE INTERNAL JUNCTION SHALL BE SMOOTHLY FINISHED SO AS TO PRESENT NO OBSTRUCTION WITHIN THE INTERNAL CHANNEL OF THE R.C. STORMWATER PIPE.
- PROPRIETARY SADDLES MAY BE USED FOR THE CONNECTION SEATING. THE CONTRACTOR IS TO PROVIDE DETAILS OF THE PROPOSED CONNECTION TO THE ENGINEER FOR APPROVAL.



DOWN PIPE CONNECTION TO uPVC PIPE

- PROPRIETARY T-PIECE CONNECTORS SHALL BE USED TO WHERE DIRECT CONNECTIONS ARE REQUIRED TO uPVC PIPES.
- ALL JOINTS TO BE SEALED WITH SOLVENT WELDED JOINTS.
- THE PVC PIPE SHALL NOT PROTRUDE BEYOND THE INNER SURFACE OF THE STORMWATER PIPE.

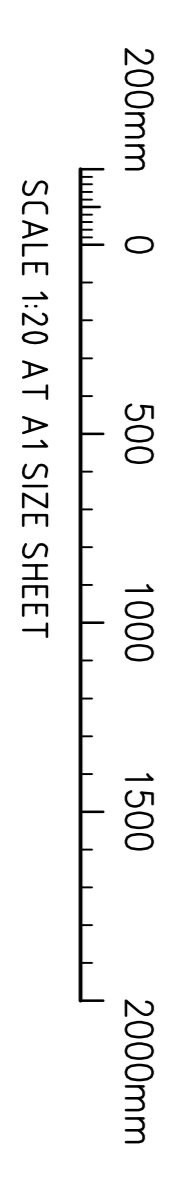
SINGLE GRATED GULLY PIT - SGGP

SEE SCHEDULE
L DIMENSION IN DIRECTION OF DOWNSTREAM PIPE

SEALED PIT - SJP

DOWNPIPE CONNECTION DETAILS

SCALE 1:20



FOR DEVELOPMENT APPLICATION

ISSUED FOR DEVELOPMENT APPLICATION	30/07/13	C
ISSUED FOR CLIENT REVIEW	22/07/13	B
ISSUED FOR CLIENT REVIEW	17/07/13	A
AMENDMENTS	DATE	ISSUE

CLIENT

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PROJECT
FOOD PROCESSING & PACKAGING FACILITY
PART LOT 2304, TEMPELAR ROAD
ERSKING PARK, NSW

DESIGNED (P/AMM) DATE 06/2013
CHECKED (AT) AS SHOWN
SCALE
CONTRACT REF. C010047.03-DA45

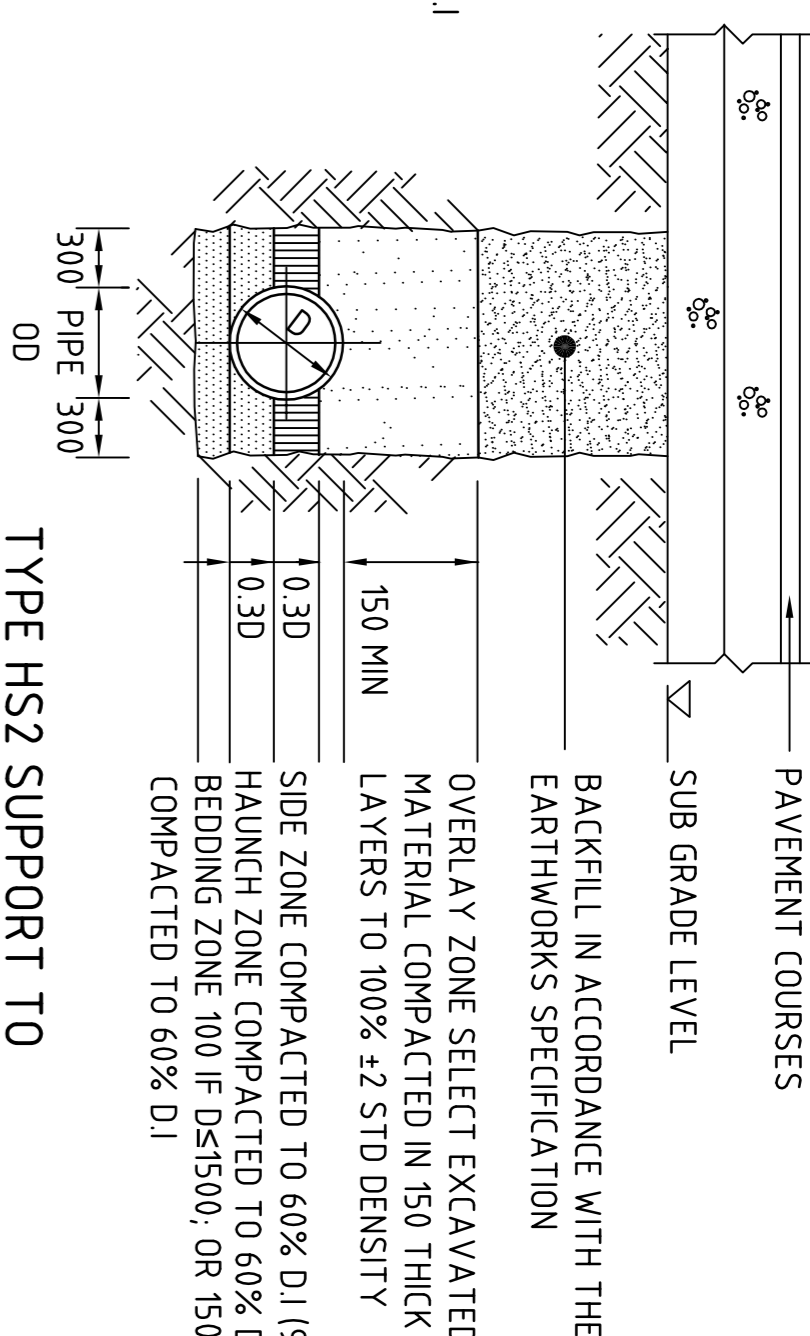
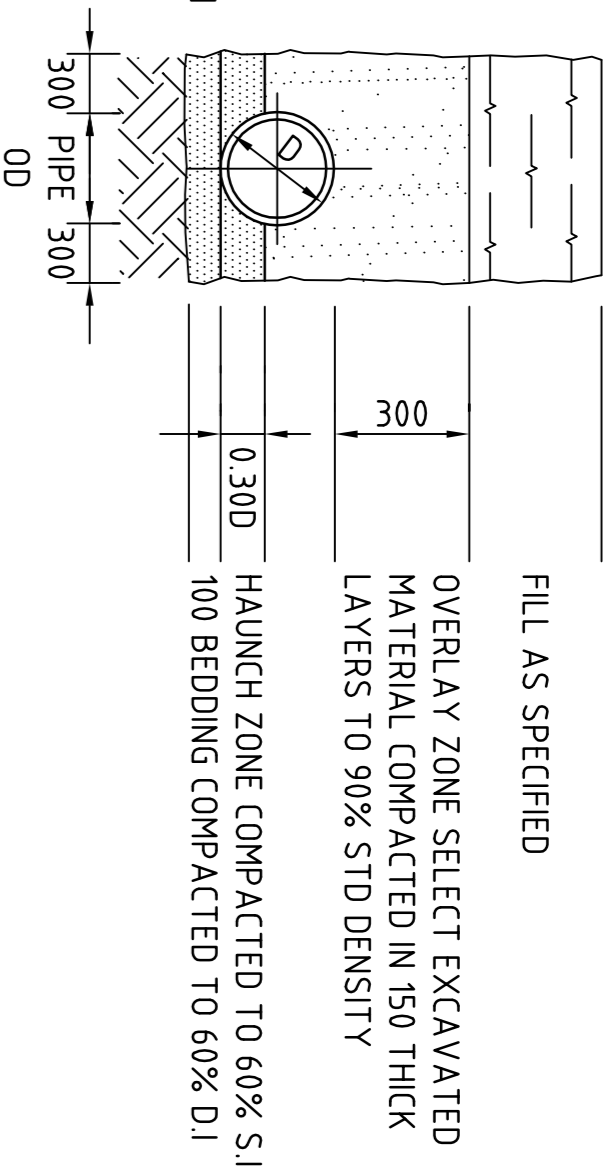
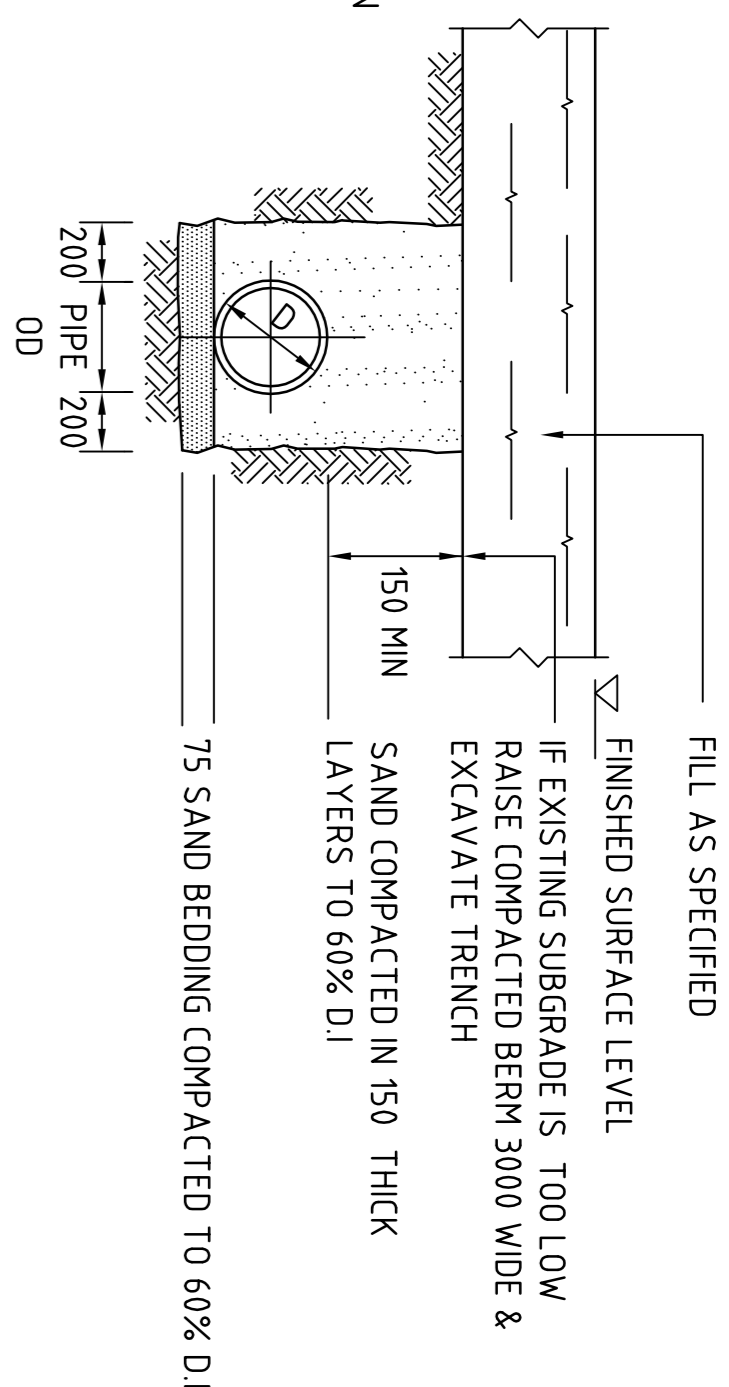
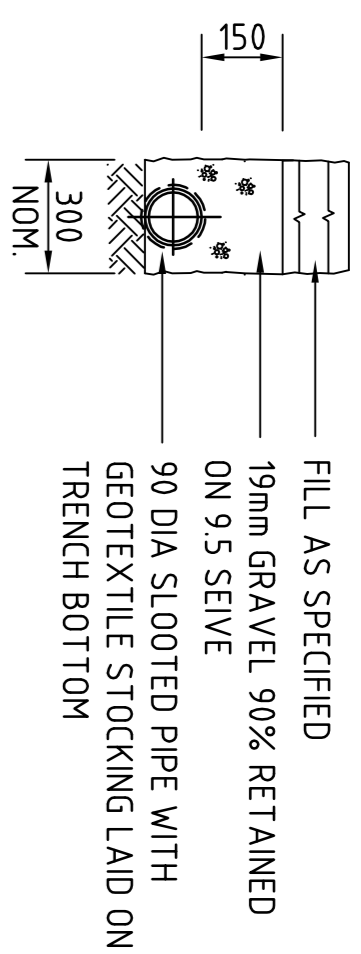
COSTIN ROE CONSULTING ENGINEERS
Level 1, 8 Hindle Street
North Sydney, NSW 1585
Tel: (02) 955 2900 Fax: (02) 9241-3781
email: mail@costinroe.com.au

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DRAWING TITLE
STORMWATER DRAINAGE DETAILS SHEET 1

DRAWING No. **C010047.03-DA45**



BEDDING & HAUNCH MATERIAL GRADING	WEIGHT PASSING(%)
19	100
2.36	100 TO 50
0.60	90 TO 20
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

SIDE ZONE MATERIAL GRADING	WEIGHT PASSING(%)
75	100
9.5	100 TO 50
2.36	100 TO 30
0.60	50 TO 15
0.075	25 TO 0

SELECT FILL MATERIAL IN ACCORDANCE WITH TABLE 1 AS 3725

TYPE HS2 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT

D_s 1350, MAX FILL = 4.0m
D_s 1350, MAX FILL = 3.0m

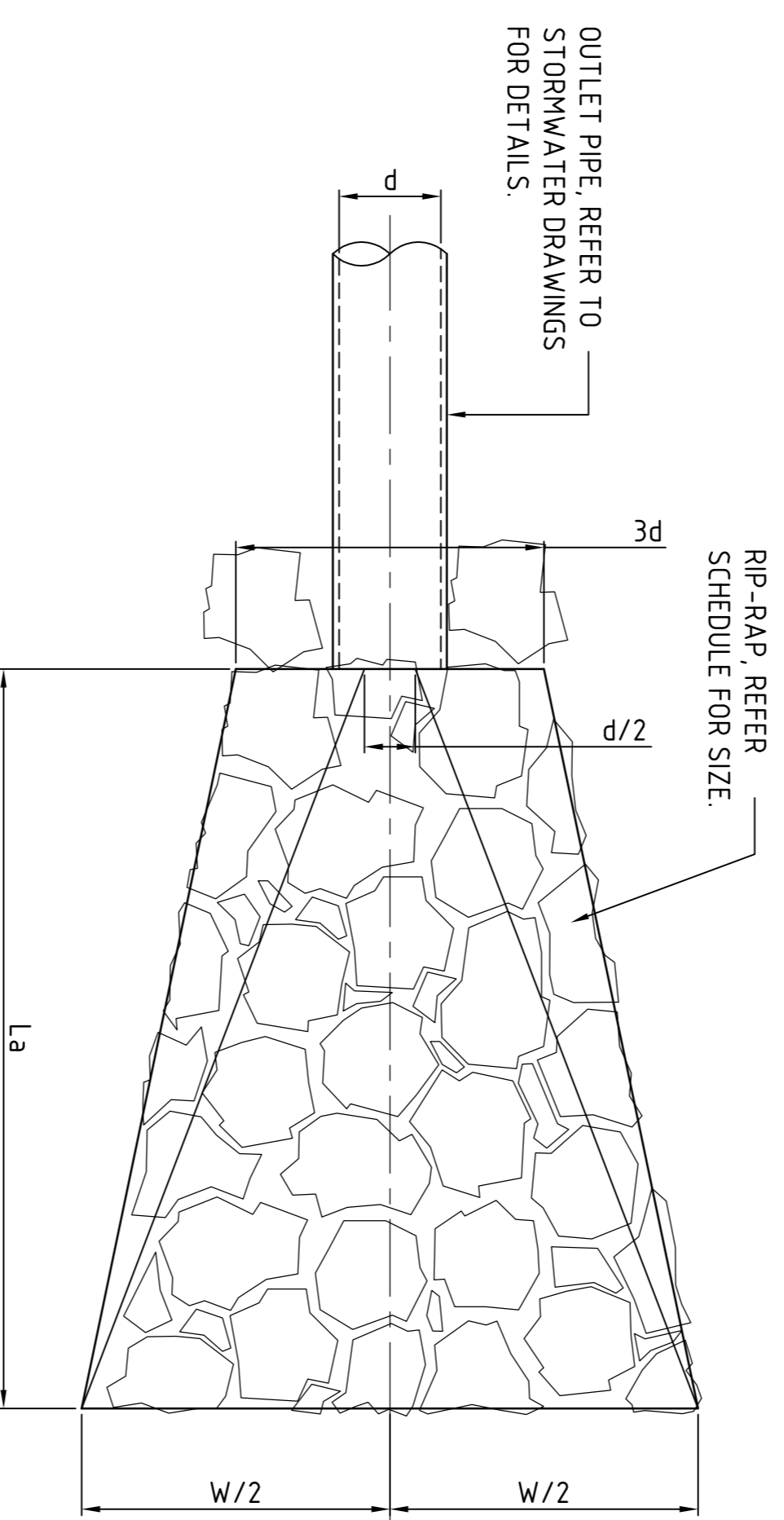
TYPE H1 SUPPORT TO CONCRETE PIPES AT LANDSCAPED AREAS

SUPPORT TO AG. DRAIN

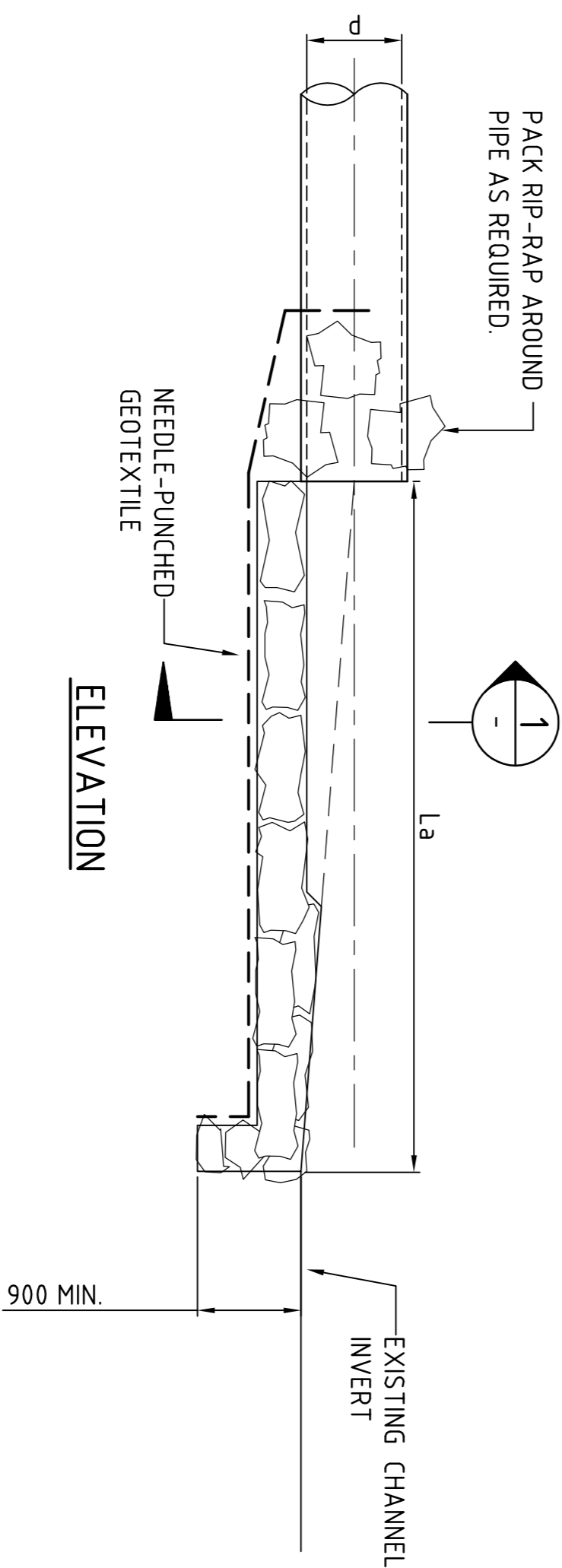
SUPPORT TO UPVC PIPES

PIPE LAYING DETAILS

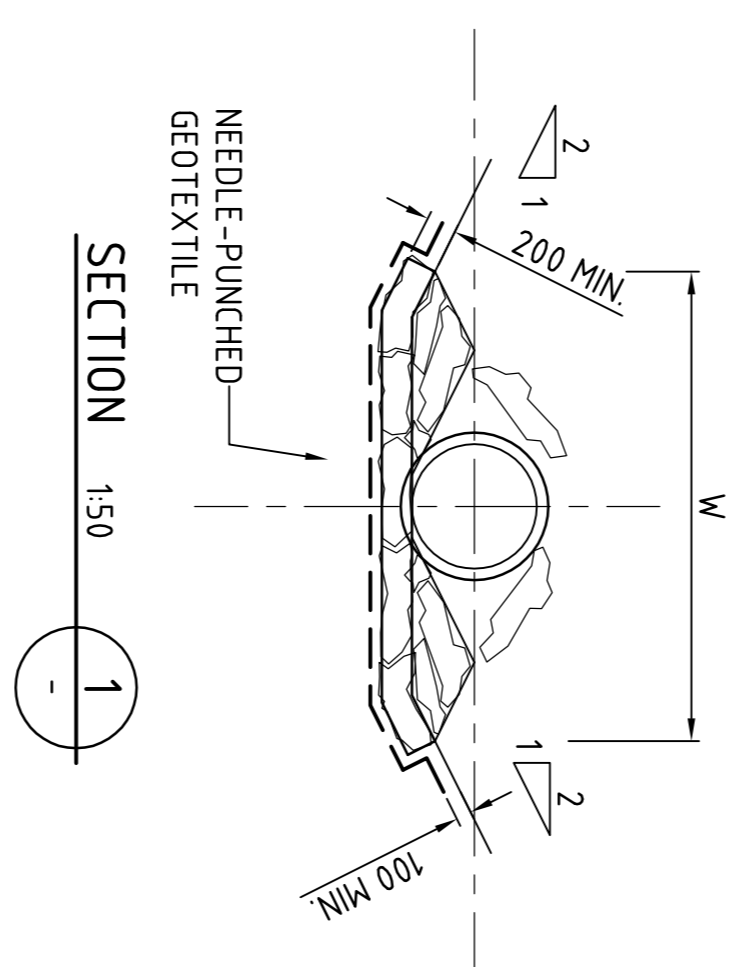
SCALE 1:20



PLAN VIEW



ELEVATION



SECTION 1:50

DISSIPATER NOTES:

- 1) ALIGN STRUCTURE EVENLY WITH BANK.
- 2) LOCATE STRUCTURE AT INVERT LEVEL OF STREAM AND POINT IN A DOWNSTREAM DIRECTION.
- 3) PIPE TO REST ON, AND BE PACKED IN, BY RIP-RAP (SIZE AS NOTED). DISCHARGE INTO STREAM WHERE BEDROCK IS PRESENT, OTHERWISE SCOUR PROTECT AS REQUIRED.
- 4) SCOUR PROTECT THE OPPOSITE BANK AS REQUIRED.
- 5) RIP-RAP TO CONSIST OF ANGULAR RUN-OF-QUARRY ROCK AS NOTED PLACED OVER A 200mm LAYER OF 140mm COBBLES OVER NEEDLE-PUNCHED GEOTEXTILE.
- 6) GAPS IN RIP-RAP TO BE PLANTED WITH NATIVE SEDGES & RUSHES.

DISSIPATER SCHEDULE

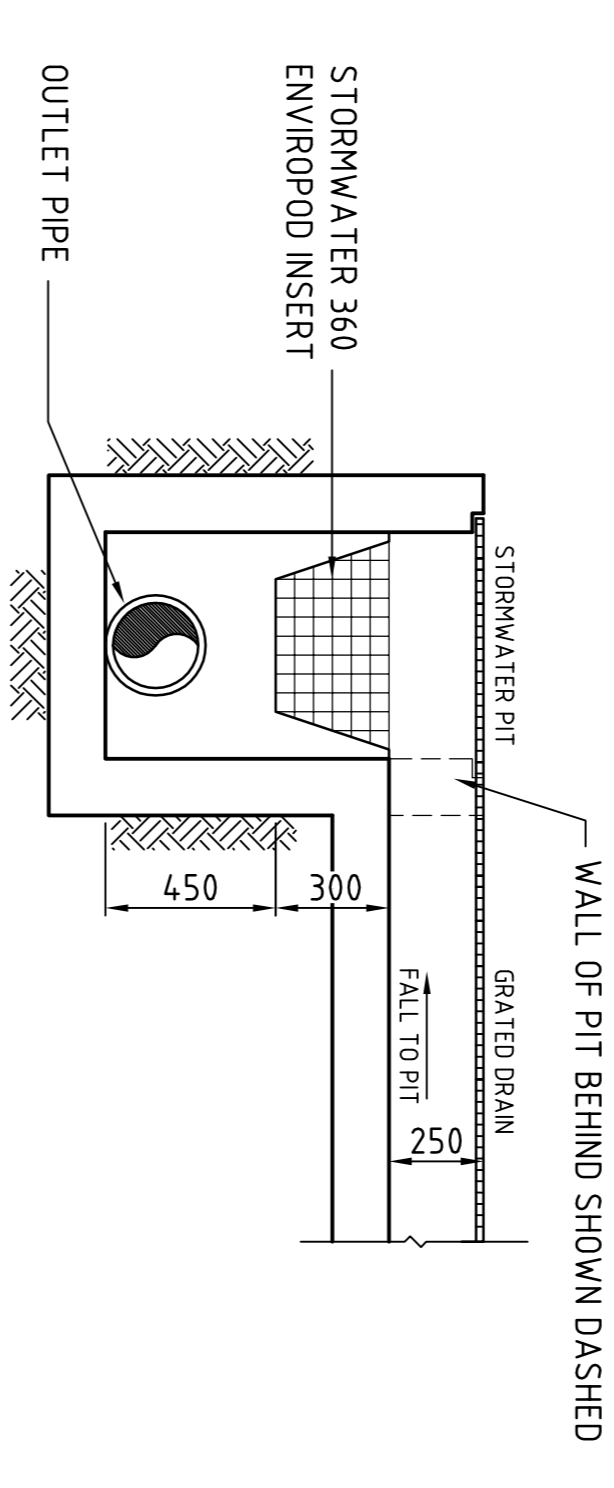
DISCHARGE POINT	d	La	W	RIP-RAP
OUTLET 1	1050	8000	4200	250

STORMWATER OUTLET DISSIPATER

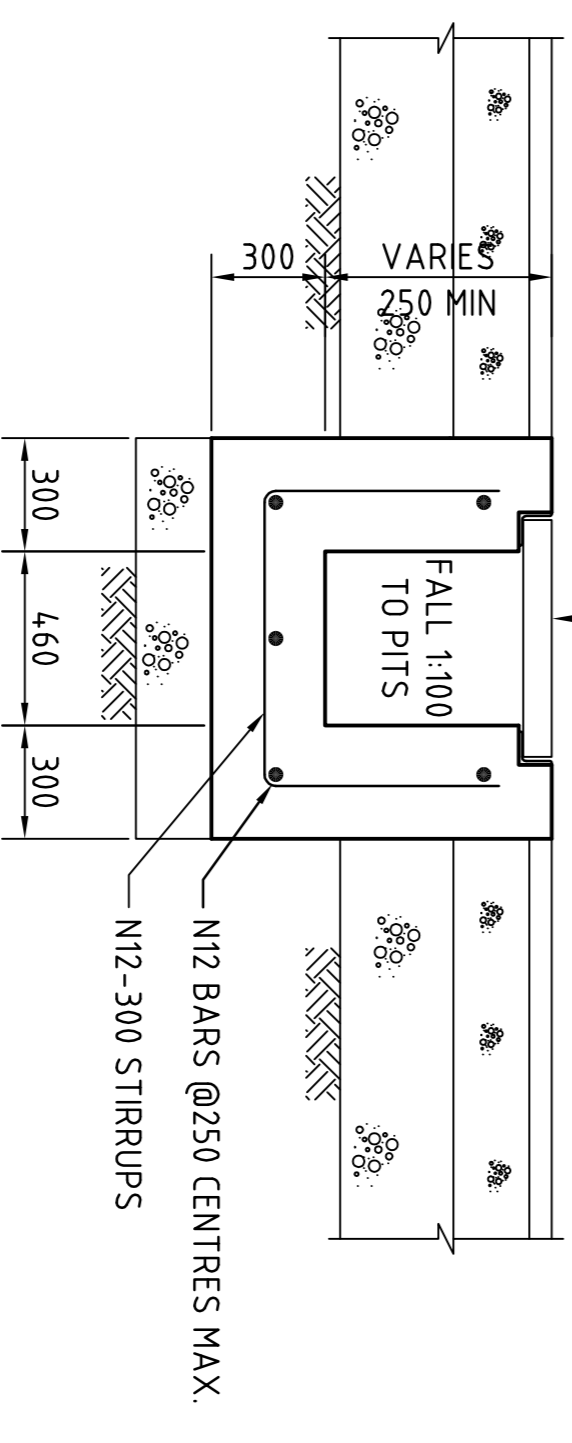
SCALE 1:50

GRADED DRAIN/STORMWATER PIT WITH ENVIROPOD CONFIGURATION

SCALE 1:20

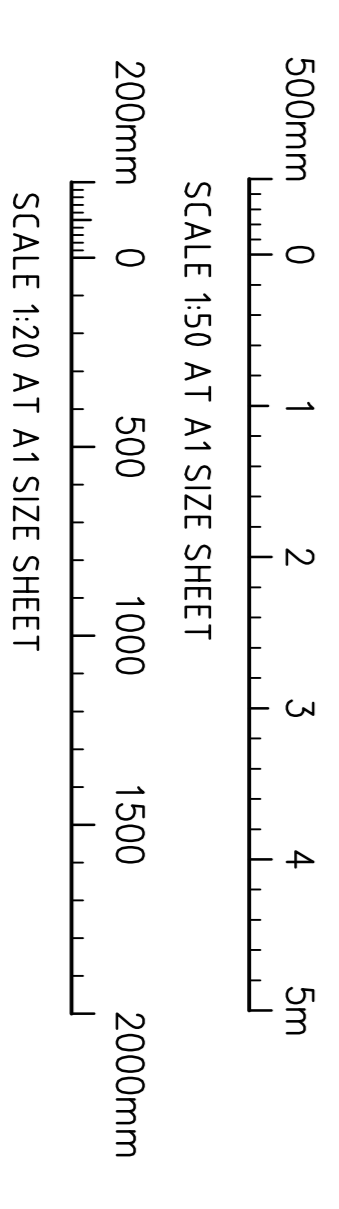


HD/CI GRATE (L&D OR EQUAL)
TYPE TG22H FOR 230 DRAIN TYPE
TG30H FOR 305 DRAIN TYPICAL



TYPICAL GRADED DRAIN DETAIL

SCALE 1:10



FOR DEVELOPMENT APPLICATION

ISSUED FOR DEVELOPMENT APPLICATION	30/07/13	C
ISSUED FOR CLIENT REVIEW	22/07/13	B
ISSUED FOR CLIENT REVIEW	17/07/13	A
AMENDMENTS	DATE	ISSUE

CLIENT

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PROJECT	FOOD PROCESSING & PACKAGING FACILITY
DESIGNED (DRAWN)	DATE
NW	06/2013
CHECKED	DATE
AT	06/2013
SIZE	SCALE
A1	AS SHOWN
CAD REF.	CONV/03-DA6

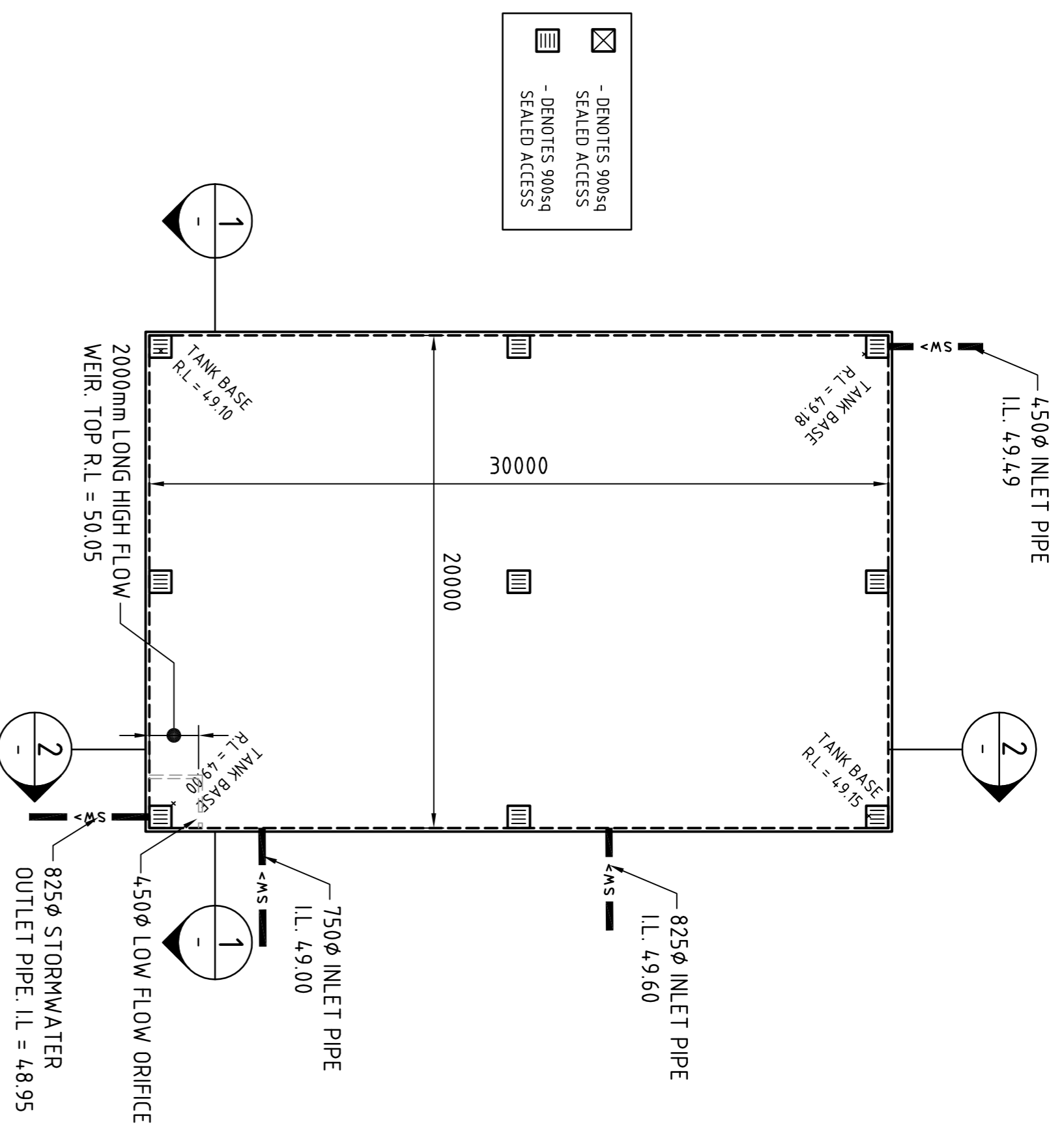
Costin Roe Consulting Pty Ltd.
Consulting Engineers and Surveyors

Level 1, 8 Mirramill Street
The Arcade, Sydney NSW (02) 9241-3781
email: mail@costinroe.com.au

CostinRoe Consulting

Value in Engineering and Management

DRAWING TITLE	STORMWATER DRAINAGE DETAILS
SHEET 2	
DRAWING No	CO1004.7.03-DA6
ISSUE	C



OSD TANK PLAN
12000

OSD TANK DETAILS

SITE AREA

TOTAL SITE AREA 43,364m²

TOTAL SITE AREA DRAINING TO STORAGE (90% IMPERVIOUS)

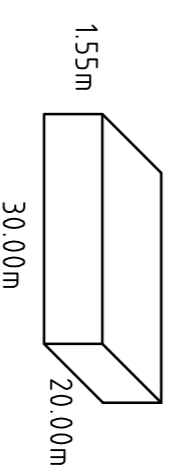
43,364m²

STORAGE

LOW FLOW ORIFICE ϕ 450mm

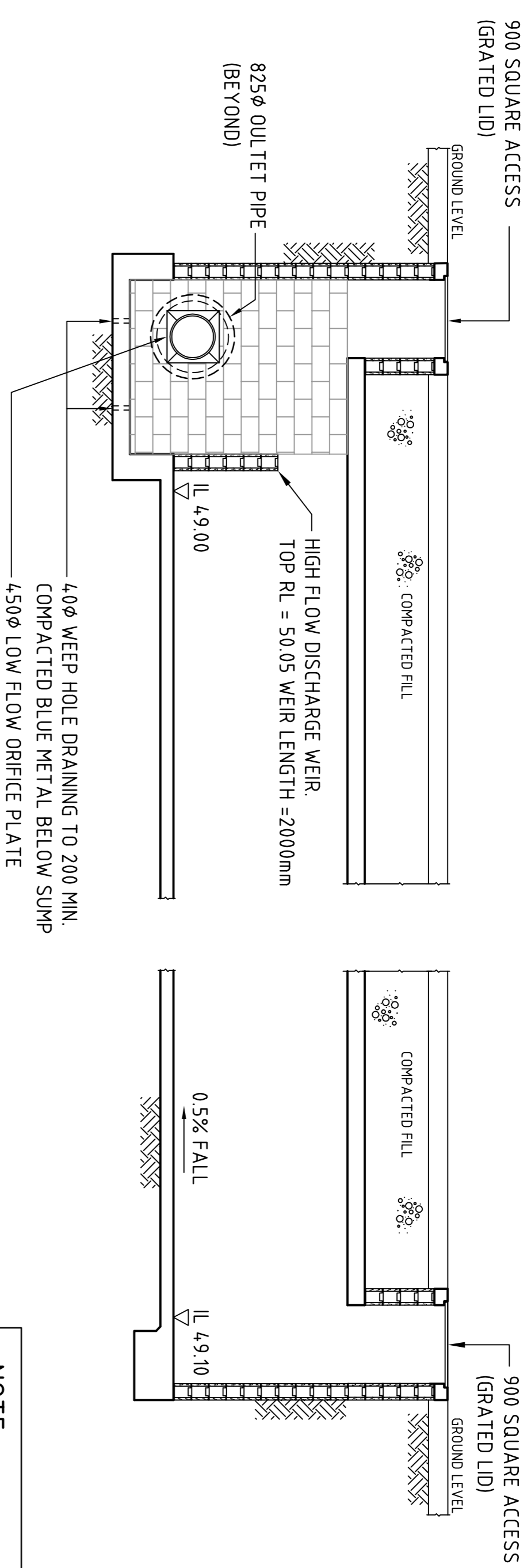
VOLUME PROVIDED 930m³

INTERNAL TANK DIMENSIONS (INC. HIGH FLOW CHAMBERS)



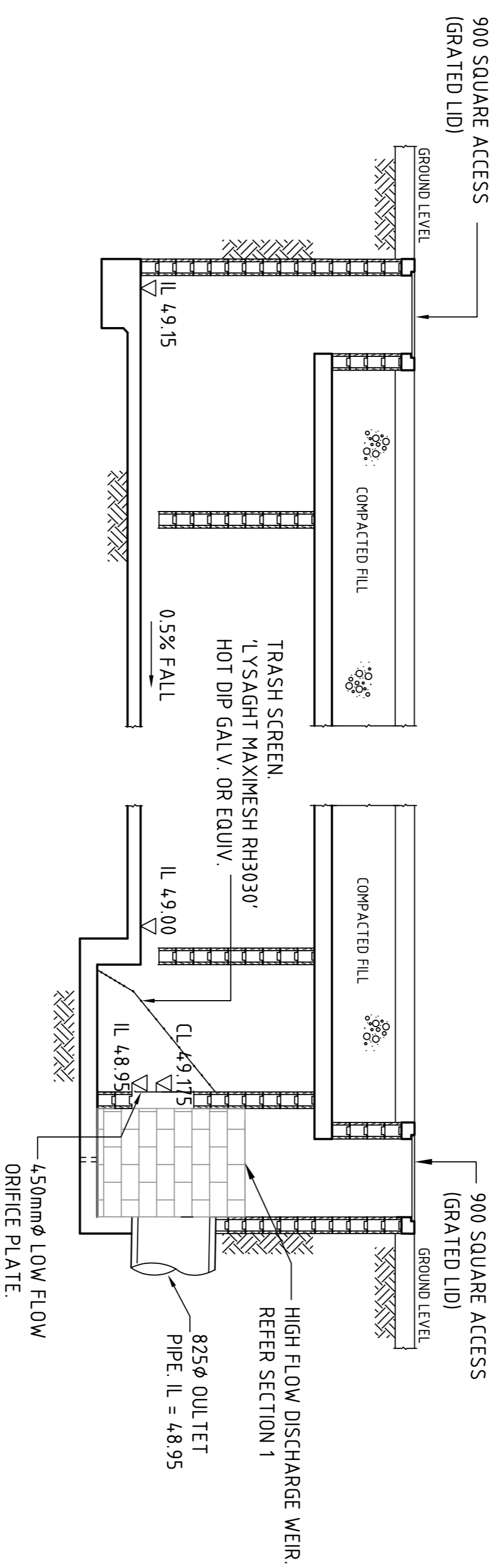
ON SITE DETENTION - HYDROLOGIC DETAILS

ARI (yrs)	Storm Duration (hrs)	Flow (m ³ /s)		Storage (m ³)
		Pre - Devel.	Post Devel. (with attenuation)	
2	2	0.514	0.344	950
20	2	1.330	1.130	1400
100	2	1.710	1.590	1550

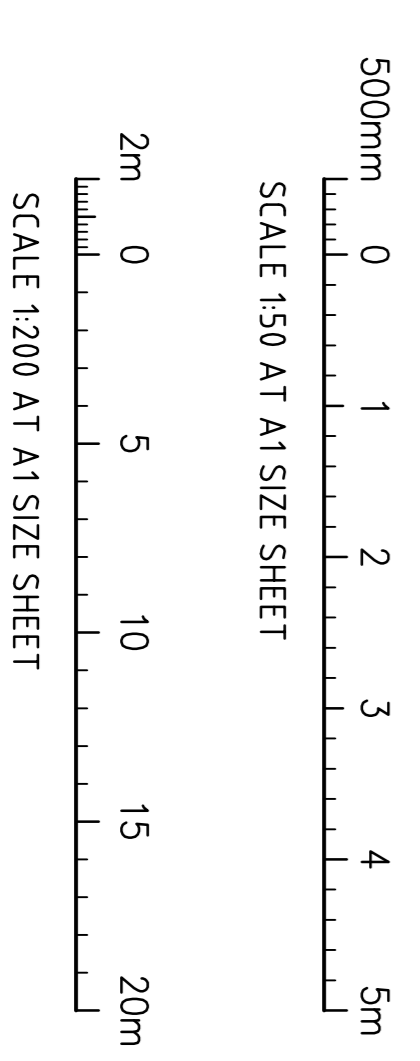


SECTION 150 - 1 : TYPICAL THRU' TANK

NOTE:
TANK TO BE DESIGNED BY STRUCTURAL ENGINEER



SECTION 150 - 2 : TYPICAL THRU' TANK



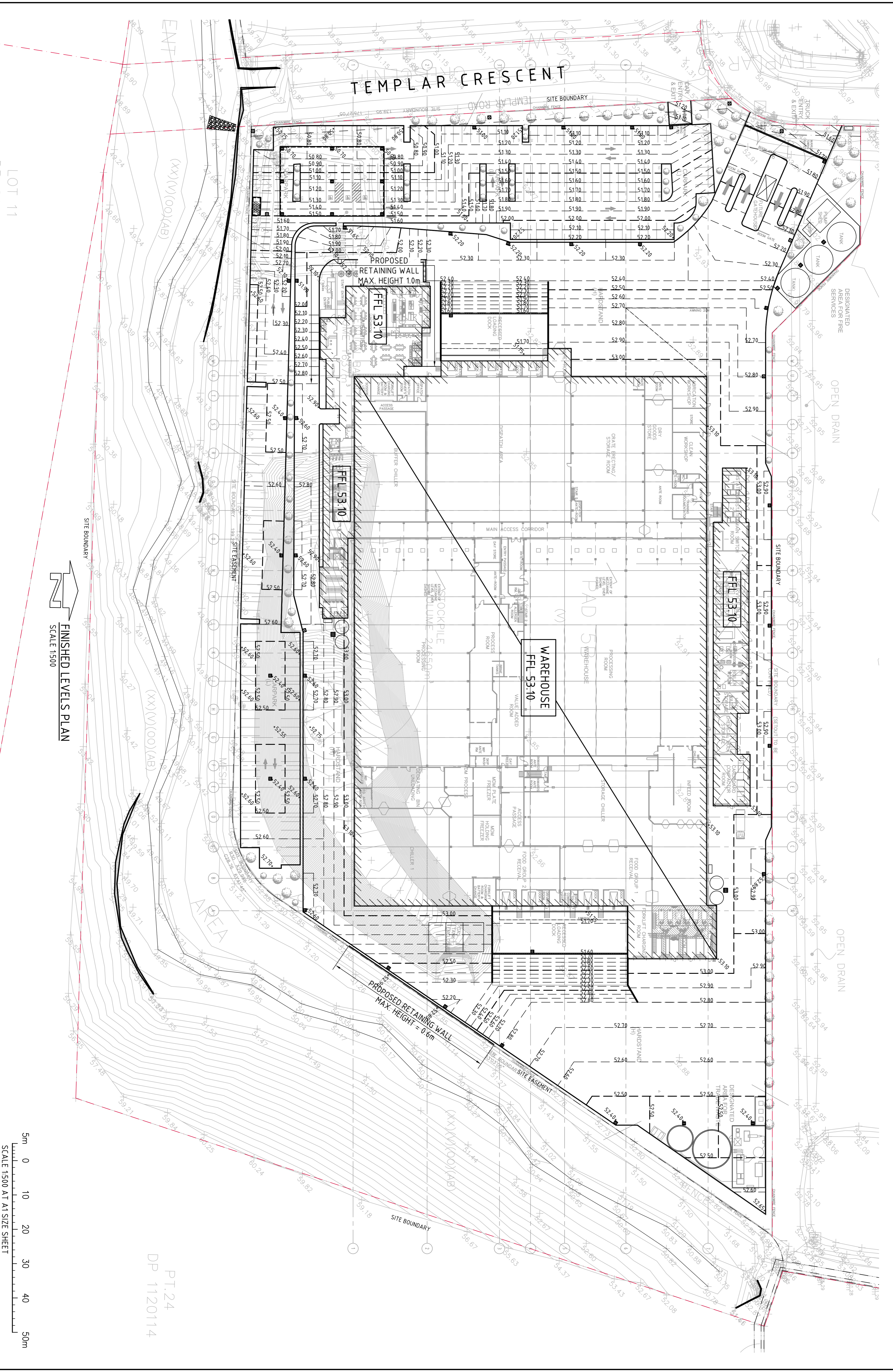
FOR DEVELOPMENT APPLICATION

ISSUED FOR DEVELOPMENT APPLICATION	30.07.13	C	CLIENT		PROJECT	FOOD PROCESSING & PACKAGING FACILITY PART LOT 2304, TEMPLAR ROAD ERSKING PARK, NSW		Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Miranda Street Miranda NSW 2227 Tel: (02) 852 2900 Fax: (02) 8241-3781 email: mail@costinroe.com.au			
ISSUED FOR CLIENT REVIEW	22.07.13	B	AMENDMENTS		DESIGNED (DRAWN)				DATE	CHECKED	DATE
ISSUED FOR CLIENT REVIEW	17.07.13	A	AMENDMENTS		NW				06/2013	AT	AS SHOWN

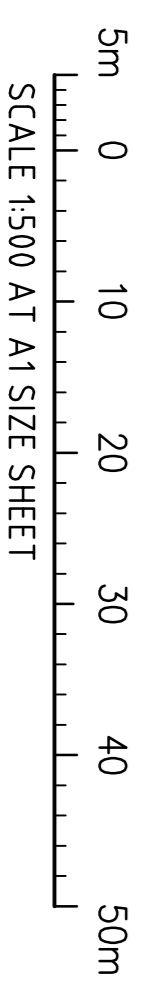
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DRAWING TITLE: **STORMWATER DRAINAGE DETAILS SHEET 3**
 DRAWING No: **CO10047.03-DA47**

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 CostinRoe Consulting



FINISHED LEVELS PLAN
SCALE 1:500



PT.24
DP 1120114

FOR DEVELOPMENT APPLICATION

ISSUED FOR DEVELOPMENT APPLICATION	30/07/13	C
ISSUED FOR CLIENT REVIEW	22/07/13	B
ISSUED FOR CLIENT REVIEW	17/07/13	A
AMENDMENTS	DATE	ISSUE

CLIENT

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PROJECT	FOOD PROCESSING & PACKAGING FACILITY PART LOT 2304, TEMPLAR ROAD ESKING PARK, NSW
DESIGNED (P/AM)	NW
CHECKED	KC
DATE	06/2013
SIZE	AT
SCALE	AS SHOWN
CDR REF.	CDR04/13-D60

Costin Roe Consulting Pty Ltd
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Level 1, 8 Windmill Street
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email: mail@costinroe.com.au

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DRAWING TITLE	FINISHED LEVELS PLAN
DRAWING No	C010047.03-DA50
ISSUE	C

