

19 TODD ROW, SAINT CLAIR

PROPOSED CHILDCARE CENTRE

STORMWATER CONCEPT PLANS

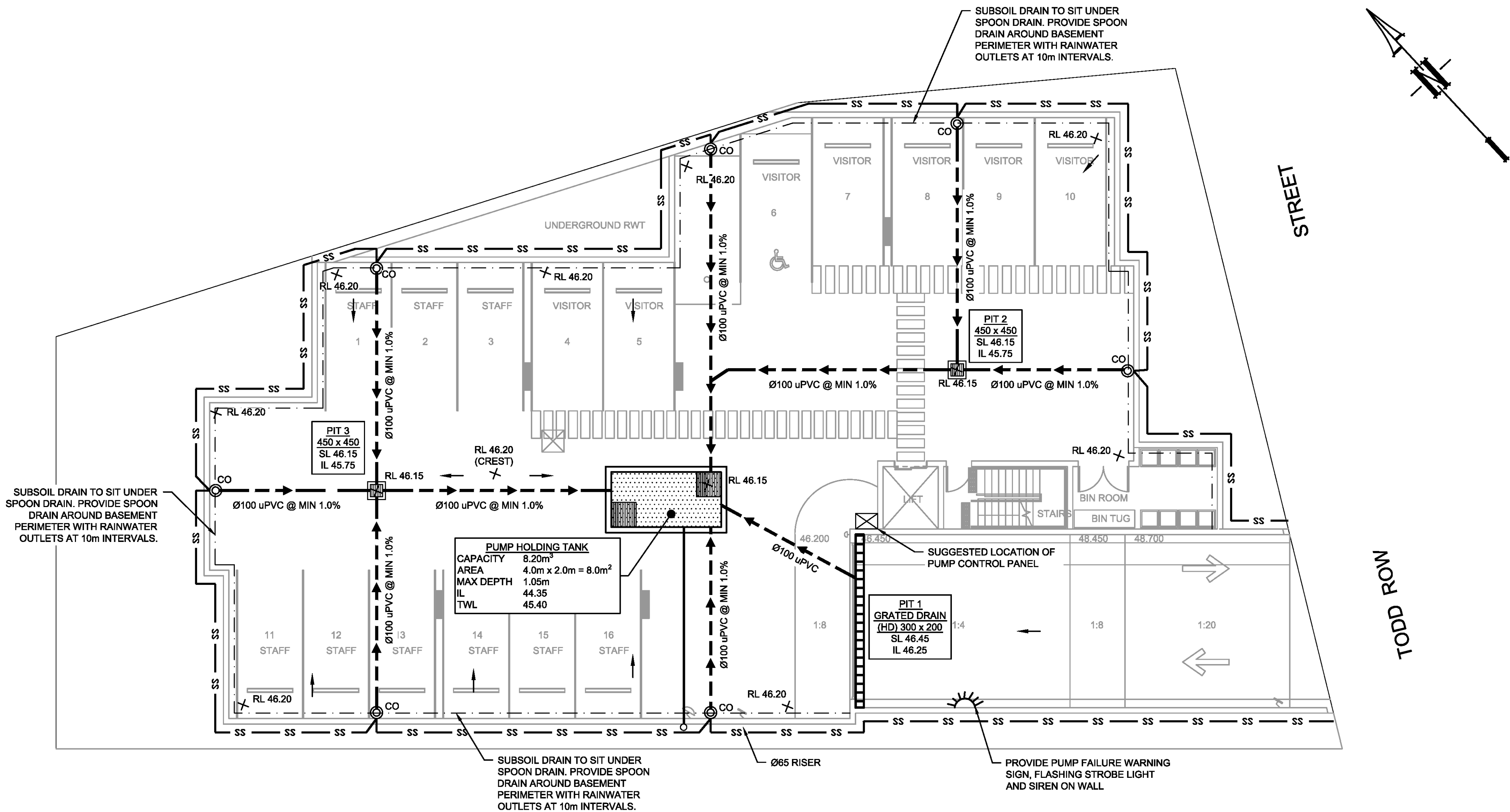


LOCALITY PLAN
N.T.S

DRAWING INDEX	
Drawing No.	DESCRIPTION
000	COVER SHEET PLAN
101	STORMWATER CONCEPT PLAN BASEMENT LEVEL SHEET 1 OF 2
102	STORMWATER CONCEPT PLAN BASEMENT LEVEL SHEET 2 OF 2
103	STORMWATER CONCEPT PLAN
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106	SEDIMENT & EROSION CONTROL PLAN
107	LEVEL 1 PLAN & MISCELLANEOUS DETAILS SHEET

NOT FOR CONSTRUCTION

				Certification by Dr. Michel Chassay in affiliation with Joe Bacha (formerly Australian Consulting Engineers):		Architect Baini Design 18 Villiers street Parramatta NSW 2150 Sydney, Australia EMAIL : info@bainidesign.com.au PHONE : + 61 2 9188 8250	Council City of Penrith Council	Scale	TELFORD CIVIL DESIGN & CONSTRUCTION EXCELLENCE Level 4, 470 Church Street, Parramatta NSW 2150 PO BOX 3579 Parramatta 2124 Email : info@telfordcivil.com.au Phone : 02 7809 4931 Company : Telford Consulting Pty Ltd	Project 19 TODD ROW, SAINT CLAIR PROPOSED CHILD CARE CENTRE STORMWATER MANAGEMENT PLANS SECTION 4.55	Drawing Title COVER SHEET PLAN			
A	ISSUE FOR \$4.55	25/01/2022	AGN	JSF	Scale N.T.S.						A1	Project No. 2021380	Dwg. No. 000	Issue A



BASEMENT PLAN
SCALE 1:100

LEGEND

- PROPOSED STORMWATER
- SURFACE FLOW ARROWS
- SUBSOIL DRAINAGE
- CLEANING EYE (OR INSPECTION EYE)
- PROPOSED STORAGE AREA
- FINISHED SURFACE LEVEL
- GRATED DRAIN
- FLOOR GRATE

STANDARD PUMP OUT DESIGN NOTES

- THE PUMP OUT SYSTEM SHALL BE DESIGN TO BE OPERATED IN THE FOLLOWING MANNER:
- 1 - THE PUMP SHALL BE PROGRAMMED TO WORK ALTERNATELY TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.
 - 2 - A FLOAT SHALL BE PROVIDED TO ENSURE OF THE MINIMUM REQUIRED WATER LEVEL IS MAINTAINED WITHIN THE SUMP AREA OF THE BELOW GROUND TANK. IN THIS REGARD THIS FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS AT THE MINIMUM WATER LEVEL. THE SAME FLOAT SHALL BE SET TO TURN ONE OF THE PUMPS ON UPON THE WATER LEVEL IN THE TANK RISING TO APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL. THE PUMP SHALL OPERATE UNTIL THE TANK IS DRAINED TO THE MINIMUM WATER LEVEL.
 - 3 - A SECOND FLOAT SHALL BE PROVIDE AT A HIGH LEVEL, WHICH IS APPROXIMATELY THE ROOF LEVEL OF THE BELOW GROUND TANK. THIS FLOAT SHALL START THE OTHER PUMP THAT IS NOT OPERATING AND ACTIVATE THE ALARM.
 - 4 - AN ALARM SYSTEM SHALL BE PROVIDE WITH A FLASHING STROBE LIGHT AND A PUMP FAILURE WARNING SIGN WHICH ARE TO BE LOCATED AT THE DRIVEWAY ENTRANCE TO THE BASEMENT LEVEL THE ALARM SYSTEM SHALL BE PROVIDED WITH A BATTERY BACK-UP IN CASE OF POWER FAILURE.
 - 5 - A CONFINED SPACE DANGER SIGN SHALL BE PROVIDED AT ALL ACCESS POINT TO THE PUMP-OUT STORAGE TANK IN ACCORDANCE WITH THE UPPER PARRAMATA RIVER CATCHMENT TRUST OSD HANDBOOK.



BASEMENT PUMP OUT FAILURE WARNING SIGN

SIGN SHALL BE PLACED IN A CLEAR AND VISIBLE LOCATION WHERE VEHICLES ENTER THE BASEMENT

COLOURS:
"WARNING" = RED
BORDER AND OTHER LETTERING = BLACK



CONFINED SPACE DANGER SIGN

A) A CONFINED SPACE DANGER SIGN SHALL BE POSITIONED IN A LOCATION AT ALL ACCESS POINTS, SUCH THAT IT IS CLEARLY VISIBLE TO PERSONS PROPOSING TO ENTER THE BELOW GROUND TANK/S CONFINED SPACE.

B) MINIMUM DIMENSIONS OF THE SIGN - 300mm x 450mm (LARGE ENTRIES, SUCH AS DOORS) - 250mm x 180mm (SMALL ENTRIES SUCH AS GRATES & MANHOLES)

C) THE SIGN SHALL BE MANUFACTURED FROM COLOUR BONDED ALUMINUM OR POLYPROPYLENE

D) SIGN SHALL BE AFFIXED USING SCREWS AT EACH CORNER OF THE SIGN

COLOURS:
"DANGER" & BACKGROUND = WHITE
ELLIPTICAL AREA = RED
RECTANGLE CONTAINING ELLIPSE = BLACK
BORDER AND OTHER LETTERING = BLACK

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City of Penrith Council

Scale
0 2 4 6 m
SCALE 1:100 @ A1

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Project
**19 TODD ROW, SAINT CLAIR
PROPOSED CHILD CARE CENTRE
STORMWATER MANAGEMENT PLANS
SECTION 4.55**

Drawing Title	Scale	A1	Project No.	Dwg. No.	Issue
STORMWATER CONCEPT PLAN BASEMENT LEVEL SHEET 1 OF 2	1:100		2021380	101	A

LEGEND

- >--- PROPOSED STORMWATER
- SS SS SUBSOIL DRAINAGE
- ExG EXISTING GAS (FROM RECORDS)
- ExT EXISTING TELSTRA (FROM RECORDS)
- DP GUTTER DOWNSPIPE
- ROOF SLOPE
- RWO RAINWATER OUTLET
- SURFACE FLOW ARROWS
- X RL 47.00 DESIGN SURFACE LEVEL
- + NS 26.45 EXISTING SURFACE LEVEL
- MASONRY RETAINING WALL TO STRUCTURAL ENGINEER'S DETAILS
- PROPOSED BIORETENTION STORAGE
- PROPOSED RAINWATER TANK STORAGE
- TREES TO BE RETAINED
- 1.2m HIGH SAFETY FENCE

GENERAL NOTES

- ALL LINES ARE TO BE Ø90 uPVC 1.0% GRADE UNLESS NOTED OTHERWISE. CHARGED LINES TO BE SEWERGRADE & SEALED.
- EXISTING SERVICES LOCATIONS SHOWN INDICATIVE ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE & LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS.
- ALL PIPES TO HAVE MIN 150mm COVER IF LOCATED WITHIN PROPERTY.
- ALL PITS IN DRIVEWAYS TO BE 450x450 CONCRETE AND ALL PITS IN LANDSCAPED AREAS TO BE 450x450 PLASTIC.
- PITS LESS THAN 600mm DEEP MAY BE BRICK, PRECAST OR CONCRETE.
- ALL BALCONIES AND ROOFS TO BE DRAINED AND TO HAVE SAFETY OVERFLOWS IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.
- ALL EXTERNAL SLABS TO BE WATERPROOFED.
- ALL GRATES TO HAVE CHILD PROOF LOCKS.
- ALL DRAINAGE WORKS TO AVOID TREE ROOTS.
- ALL DPs TO HAVE LEAF GUARDS.
- ALL EXISTING LEVELS TO BE CONFIRMED BY BUILDER PRIOR TO CONSTRUCTION.
- ALL WORK WITHIN COUNCIL RESERVE TO BE INSPECTED BY COUNCIL PRIOR TO CONSTRUCTION.
- COUNCIL'S ISSUED FOOTWAY DESIGN LEVELS TO BE INCORPORATED INTO THE FINISHED LEVELS ONCE ISSUED BY COUNCIL.
- ALL WORK SHALL BE IN ACCORDANCE WITH B.C.A. AND A.S.3500.3.
- REFER TO LANDSCAPE ARCHITECT'S DRAWINGS FOR LANDSCAPING.
- CARE TO BE TAKEN AROUND EXISTING SEWER. STRUCTURAL ADVICE IS REQUIRED FOR SEWER PROTECTION AGAINST ADDITIONAL LOADING FROM NEW PITS, PIPES, RETAINING WALLS AND OSD BASIN WATER LEVELS.
- ALL PIPES IN BALCONIES TO BE Ø65 uPVC CAST IN CONCRETE SLAB. CONTRACTOR TO PROVIDE A BREAK / OPEN VOID IN RAIL / BALLUSTRADE FOR STORMWATER EMERGENCY OVERFLOW. ALL ENCLOSED AREAS/PLANTER BOXES TO BE FITTED WITH FLOOR WASTES & DRAINED TO OSD DOWNPIPES TO BE CHECKED BY ARCHITECT & PLUMBER PRIOR TO CONSTRUCTION.

NOTE:

IT IS CONTRACTOR RESPONSIBILITY TO CONFIRM DETAILS OF EX. SERVICES (ALIGNMENT, SIZE, TYPE, DEPTH) PRIOR TO CONSTRUCTION.

EX. SERVICES DETAILS SHOWN ON THIS SET OF DRAWINGS ARE INDICATIVE ONLY. AUSTRALIAN CONSULTING ENGINEERS PTY LTD NEED TO BE NOTIFIED IMMEDIATELY IN CASE ANY DISCREPANCIES ARE IDENTIFIED ON SITE.

SERVICES PROVIDERS TO BE NOTIFIED FOR WORKS CONDUCTED IN PROXIMITY TO THEIR EXISTING ASSETS; NECESSARY APPROVALS TO BE OBTAINED PRIOR TO CONSTRUCTION IF REQUIRED.

PIPES NOTE:

Ø65 PVC @ MIN 1.0%

Ø90 PVC @ MIN 1.0%

Ø100 PVC @ MIN 1.0%

Ø150 PVC @ MIN 1.0%

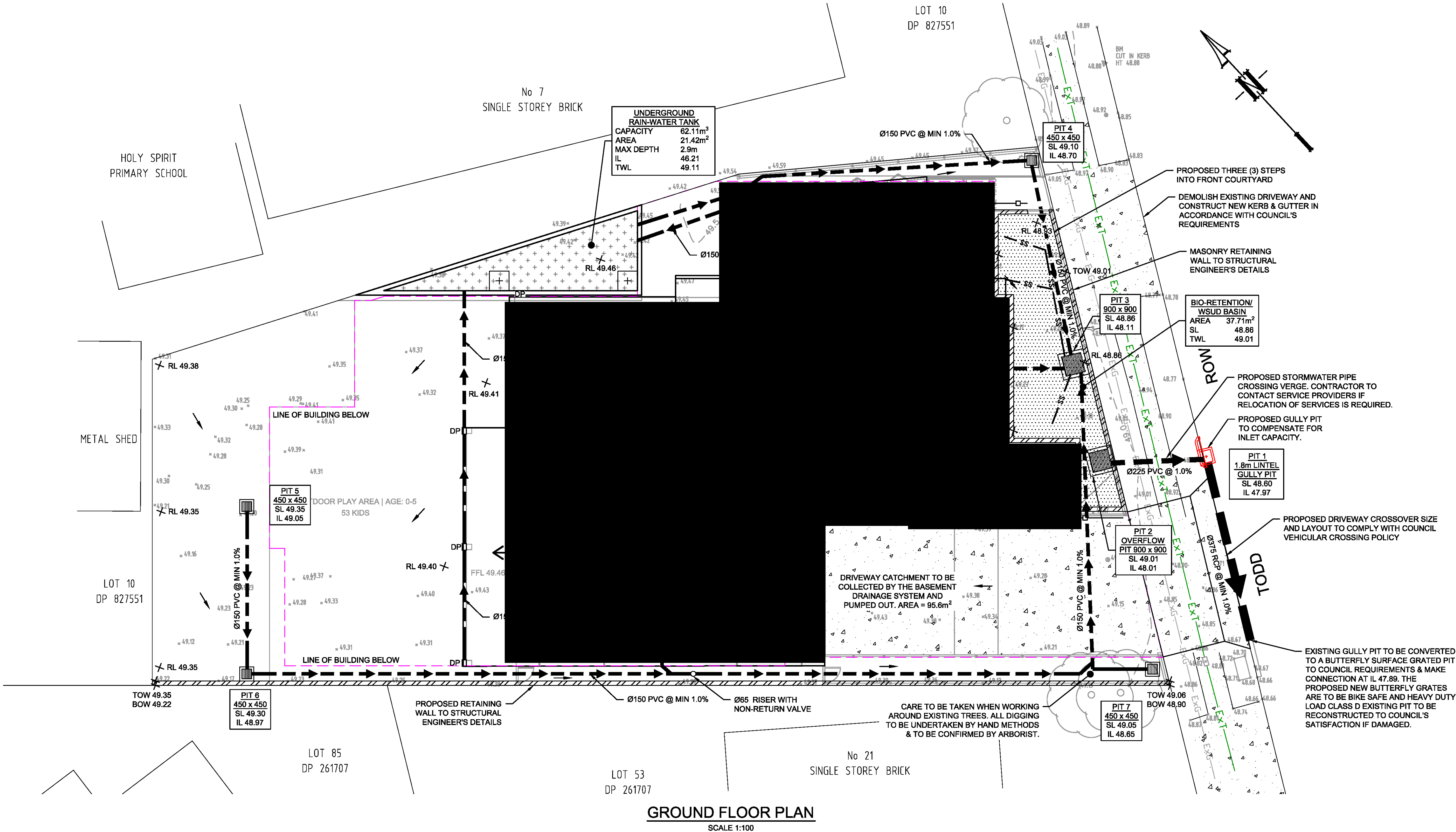
Ø225 PVC @ MIN 0.5%

Ø300 PVC @ MIN 0.4%

UNLESS NOTED OTHERWISE

ROOF NOTE:

IT IS CONTRACTOR'S RESPONSABILITY TO ENSURE MINIMUM 30 TO 40mm OF PONDING IS ACHIEVED OVER THE FLOOR WASTES BY GRADING CATCHMENT'S SURFACES AT MINIMUM 1% FALL.



GROUND FLOOR PLAN

SCALE 1:100

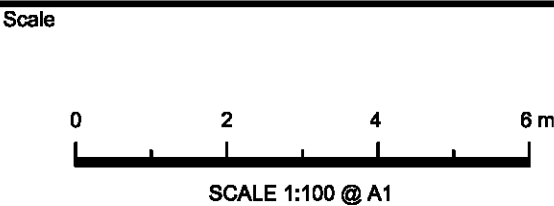
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From at full size 10mm 20mm					

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SECTION 4.55**

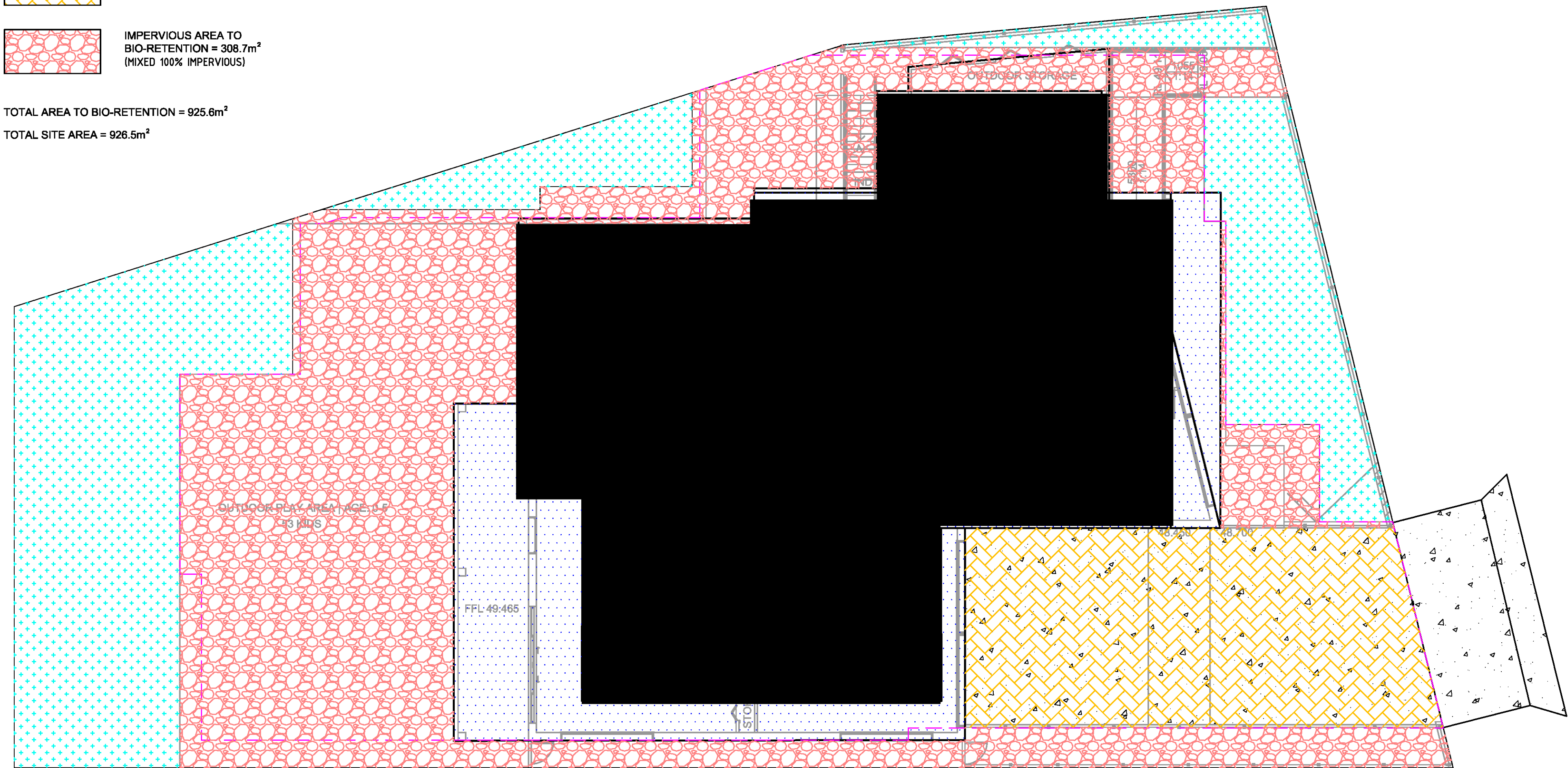
Drawing Title
STORMWATER CONCEPT PLAN

Scale	A1	Project No.	Dwg. No.	Issue
1:100		2021380	103	A

CATCHMENT LEGEND

- ROOF TO RAINWATER TANK
THEN TO BIO-RETENTION =
335m² (ROOF)
- PERVIOUS TO BIO-RETENTION =
175.5m² (MIXED 100% PERVIOUS)
- ROOF TO BIO-RETENTION
= 11.7m² (ROOF)
- DRIVEWAY TO BIO-RETENTION =
95.6m² (SEALED ROAD 100% IMPERVIOUS)
- IMPERVIOUS AREA TO
BIO-RETENTION = 308.7m²
(MIXED 100% IMPERVIOUS)

TOTAL AREA TO BIO-RETENTION = 925.6m²
TOTAL SITE AREA = 926.5m²



WSUD CATCHMENT PLAN
SCALE 1:100

NOT FOR CONSTRUCTION

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10m at full size				

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Council

**City of
Penrith Council**

Scale

0246

SCALE 1:100 @ A1

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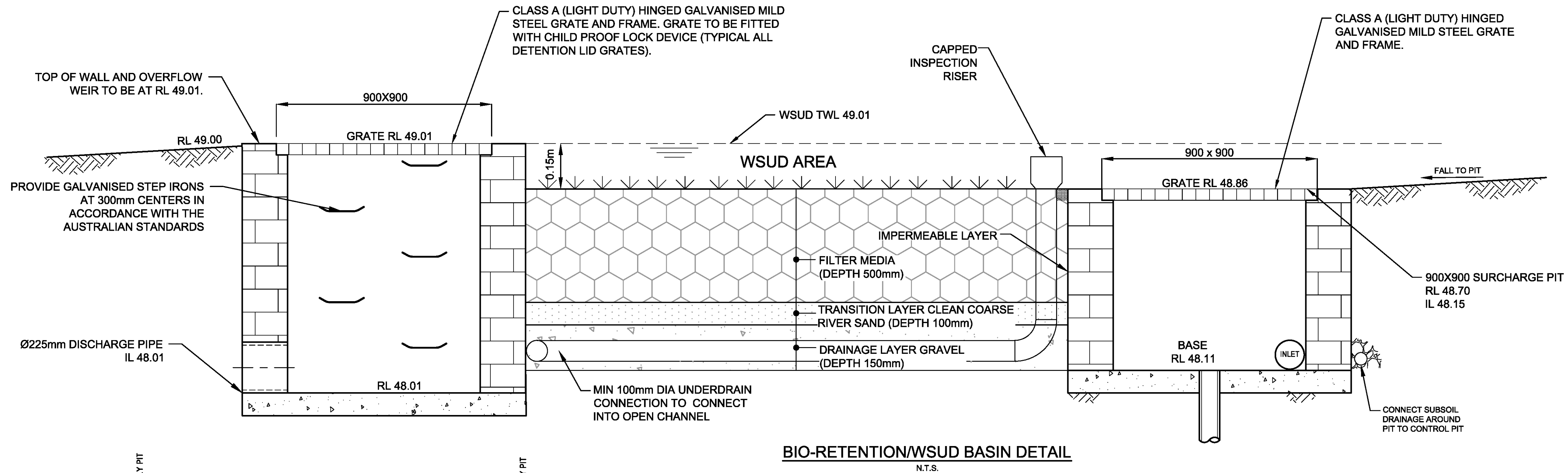
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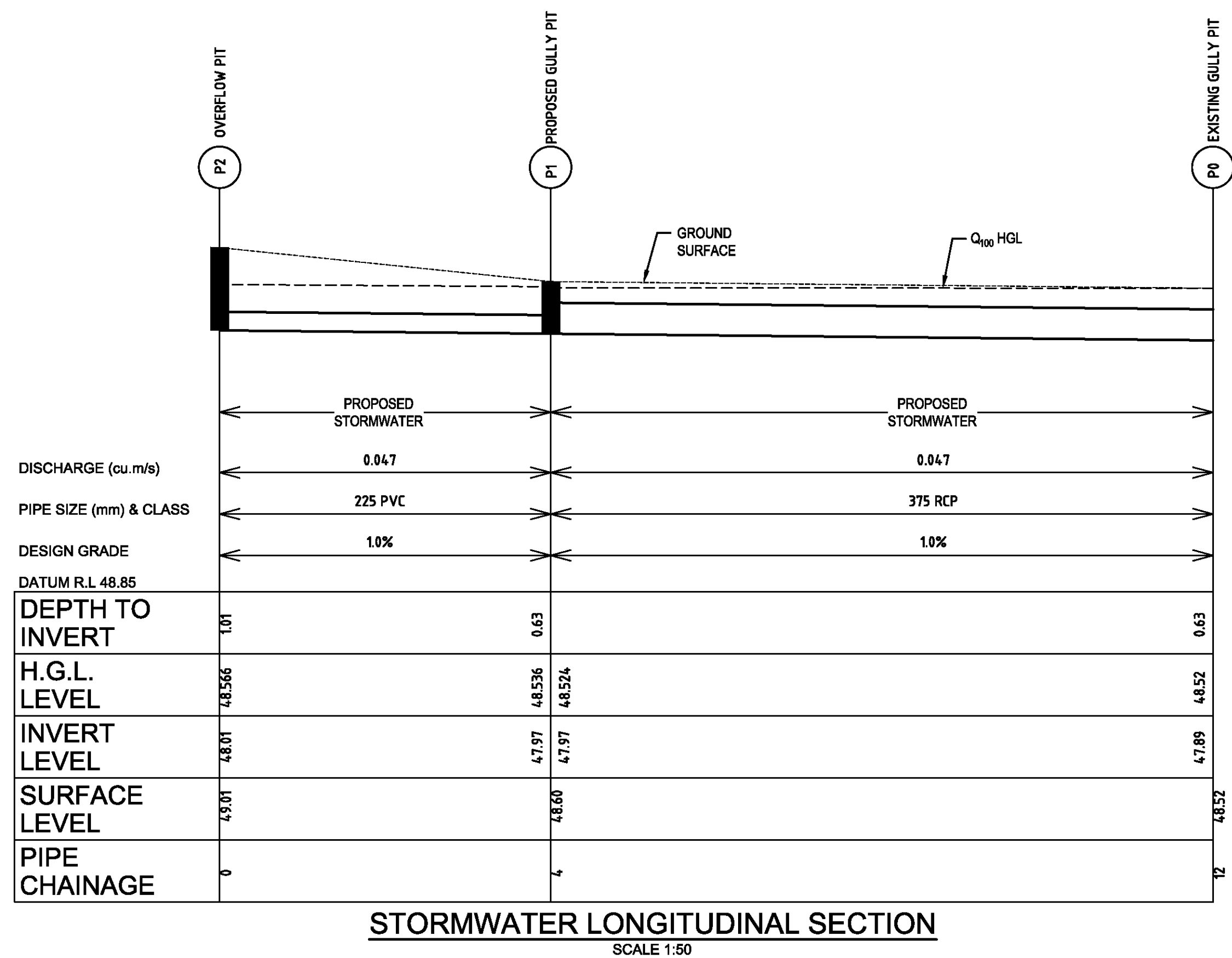
Project

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PROPOSED CHILD CARE CENTRE
STORMWATER MANAGEMENT PLANS
SECTION 4.55**

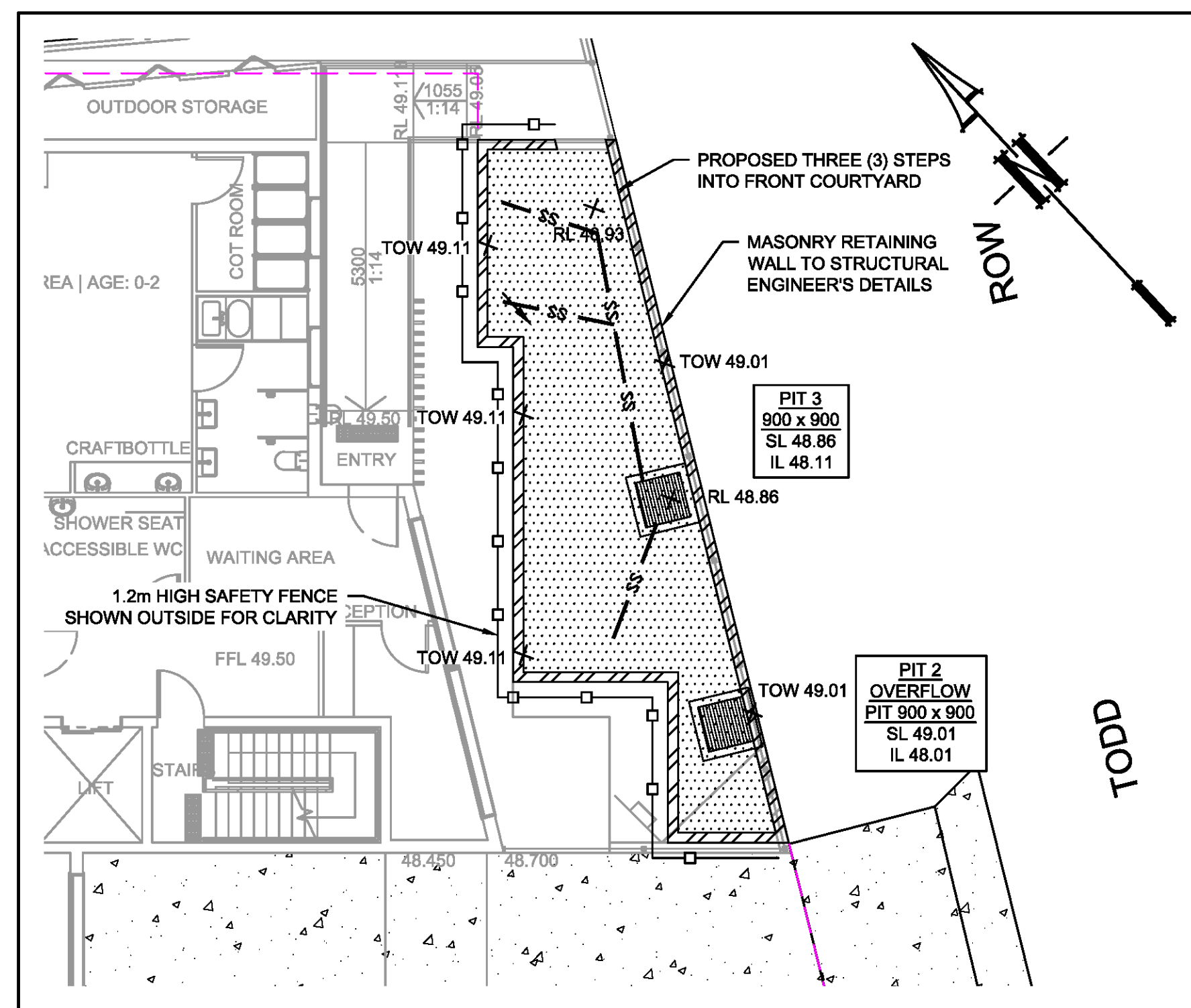
Drawing Title WSUD CATCHMENT PLAN				
Scale 1:100	A1	Project No. 2021380	Dwg. No. 104	Issue A



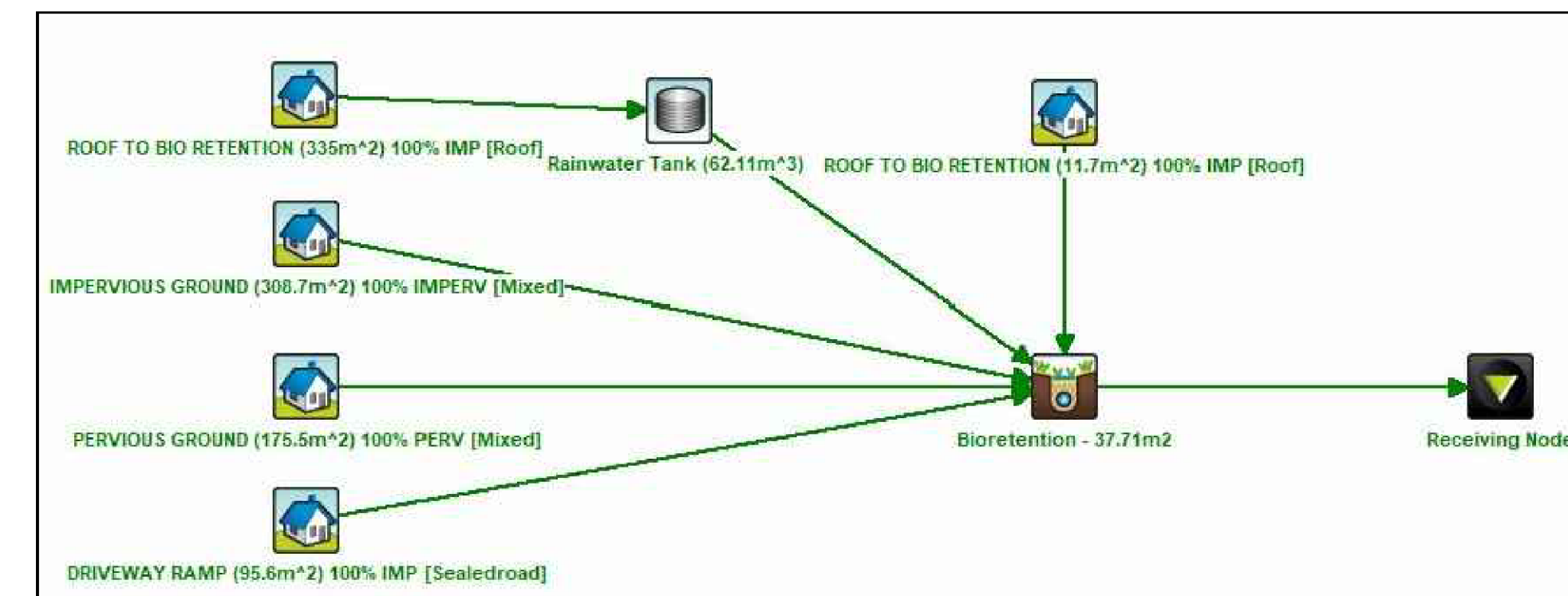
BIO-RETENTION/WSUD BASIN DETAIL
N.T.S.



STORMWATER LONGITUDINAL SECTION
SCALE 1:50



ON-SITE-DETENTION DETAILS
SCALE 1:100



WSUD MUSIC RESULTS
N.T.S.

Treatment Train Effectiveness - Receiving Node			
	Sources	Residual Load	% Reduction
Flow (ML/yr)	0.46	0.21	54.3
Total Suspended Solids (kg/yr)	60.3	0.952	98.4
Total Phosphorus (kg/yr)	0.123	0.015	87.8
Total Nitrogen (kg/yr)	1.02	0.159	84.4
Gross Pollutants (kg/yr)	12.4	0	100

WSUD MUSIC MODEL
N.T.S.

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NODE WATER BALANCE FOR RAINWATER TANK

Technical drawing of a drainage system, showing a plan view and a cross-section.

Plan View (Top):

- Shows a rectangular concrete lid (900x900) with a central manhole opening.
- The lid is labeled "900x900 CONCRETE LID".
- The overall width of the structure is dimensioned as 11.65m.
- A label "SL 46.21" is present near the top right corner.

Cross-Section (Bottom):

- Shows a sloped concrete structure.
- The vertical height of the structure is dimensioned as 12.22m.
- The horizontal base of the structure is dimensioned as 11.65m.
- The top width of the structure is dimensioned as 1.2m.

UNDERGROUND RAINWATER TANK

PLAN VIEW

SCALE 1:25

Drawing Title			
RAINWATER TANK DETAIL, REUSE AND NODE WATER BALANCE			
Scale	A1	Project No.	Dwg. No.
As Shown		2021380	105
			Issue
			A

LEGEND

- ExG

EXISTING GAS
(FROM RECORDS)

ExT

EXISTING TELSTRA
(FROM RECORDS)

26.45

EXISTING CONTOUR

NS 26.45

X EL 47.00

EXISTING SURFACE LEVEL

X RL 47.00

DESIGN SURFACE LEVEL

SILT FENCE

CUT AREA

STABILISED SITE ACCESS

1.8 HIGH CONSTRUCTION
BARRIER FENCING

TREES TO BE RETAINED

TREES TO BE REMOVED

INLET PROTECTION

SEDIMENT & EROSION CONTROL PLAN
SCALE 1:100

NOT FOR CONSTRUCTION

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Scale

SCALE 1:100 @ A1

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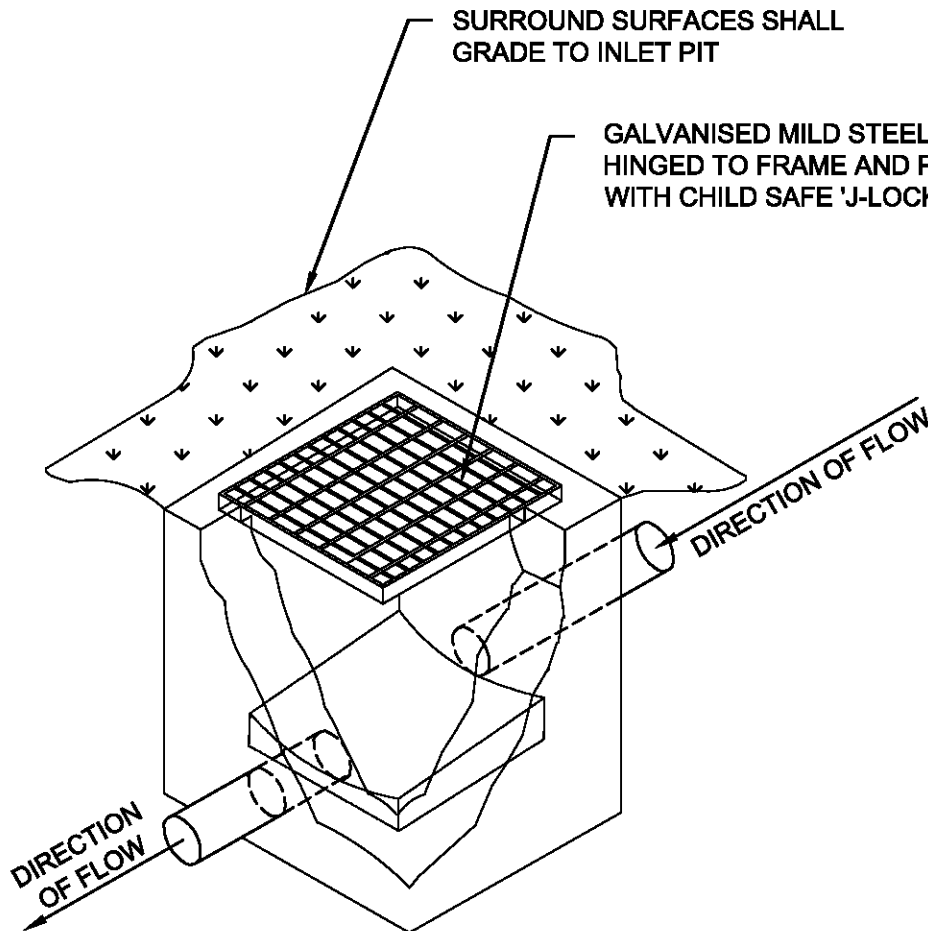
Project
**19 TODD ROW, SAINT CLAIR
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STORMWATER MANAGEMENT PLANS
SECTION 4.55**

Drawing Title SEDIMENT & EROSION CONTROL PLAN		Scale A1 As Shown	Project No. 2021380	Dwg. No. 106	Issue A
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Version: 1, Version Date: 01/02/2022

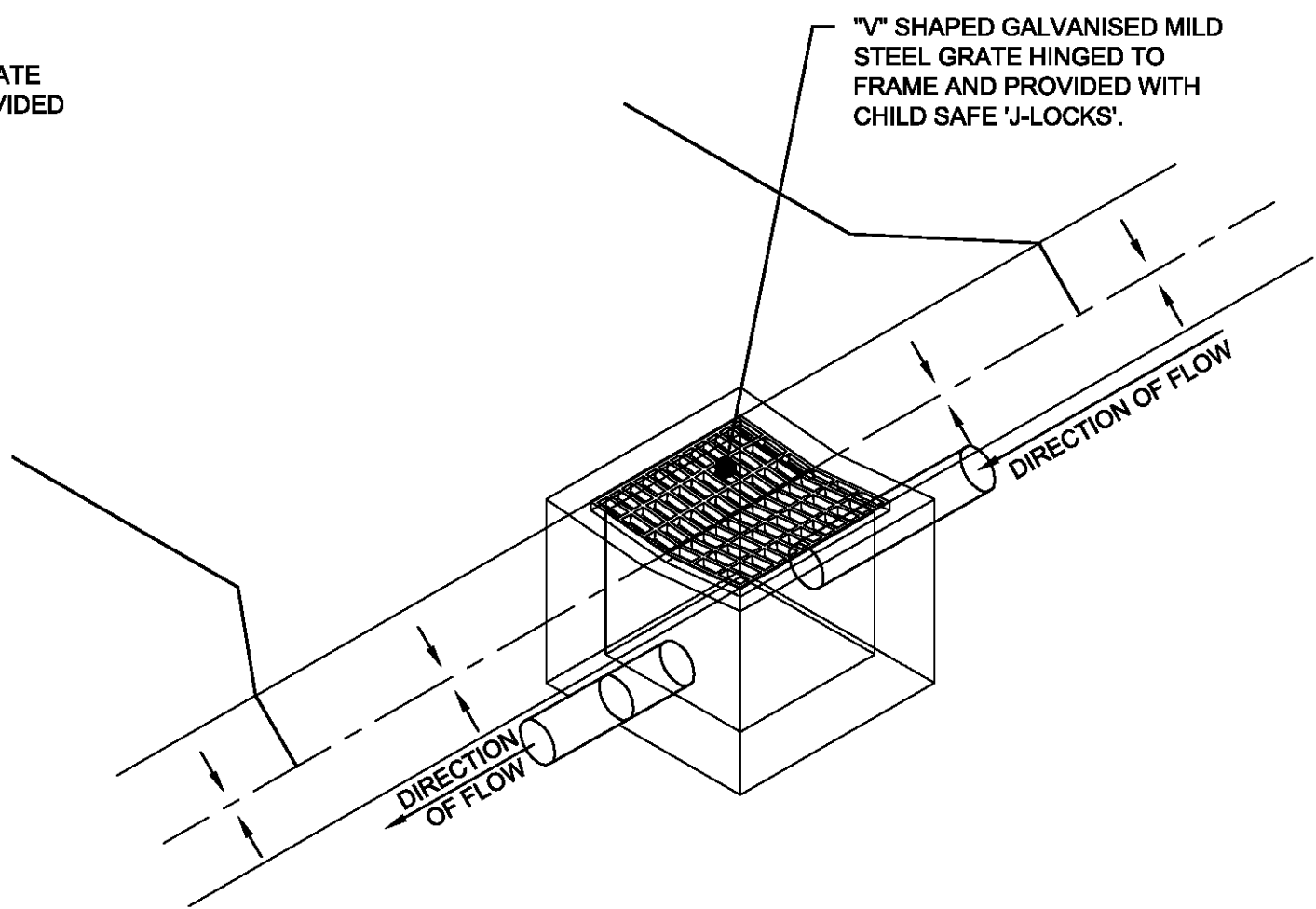
SEDIMENT & EROSION NOTES

1. IMMEDIATELY FOLLOWING SETTING OUT OF THE WORKS, BUT PRIOR TO COMMENCEMENT OF ANY CLEARING OR EARTHWORKS, THE CONTRACTOR AND SUPERINTENDENT SHALL WALK THE SITE TO NOMINATE THE LOCATIONS AND TYPES OF SEDIMENT AND EROSION CONTROL MEASURES TO BE ADOPTED. THESE MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY CLEARING OR EARTHWORKS AND MAINTAINED UNTIL THE WORKS ARE COMPLETED AND NO LONGER POSE AN EROSION HAZARD, UNLESS OTHERWISE APPROVED BY THE SUPERINTENDENT.
2. IMMEDIATELY FOLLOWING SETTING OUT OF THE WORKS, BUT PRIOR TO COMMENCEMENT OF ANY CLEARING OR EARTHWORKS, THE CONTRACTOR AND SUPERINTENDENT SHALL WALK THE SITE TO IDENTIFY AND MARK TREES WHICH ARE TO BE PRESERVED. NOTWITHSTANDING THE ABOVE, THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO MINIMISE DISTURBANCE TO EXISTING VEGETATION AND GROUND COVER OUTSIDE THE MINIMUM AREAS REQUIRED TO COMPLETE THE WORKS AND SHALL BE RESPONSIBLE FOR RECTIFICATION, AT ITS OWN COST, OF ANY DISTURBANCE BEYOND THOSE AREAS.
3. PROVIDE GULLY GRATE INLET SEDIMENT TRAPS AT ALL GULLY PITS.
4. PROVIDE SILT FENCING ALONG PROPERTY LINE AS DIRECTED BY SUPERINTENDENT.
5. ADDITIONAL CONTROL DEVICES TO BE PLACED WHERE DIRECTED BY THE PRINCIPLE.
6. ALTERNATIVE DESIGNS TO BE APPROVED BY SUPERINTENDENT PRIOR TO CONSTRUCTION.
7. WASH DOWN/RUMBLE AREA TO BE CONSTRUCTED WITH PROVISIONS RESTRICTING ALL SILT AND TRAFFICKED DEBRIS FROM ENTERING THE STORMWATER SYSTEM.
8. NO WORK OR STOCKPILING OF MATERIALS TO BE PLACED OUTSIDE OF SITE WORK BOUNDARY.
9. APPROPRIATE EROSION AND SEDIMENT CONTROLS TO BE USED TO PROTECT STOCKPILES AND MAINTAINED THROUGH OUT CONSTRUCTION.
10. IT IS THE CONTRACTORS RESPONSIBILITY TO TAKE DUE CARE OF NATURAL VEGETATION. NO CLEARING IS TO BE UNDERTAKEN WITHOUT PRIOR APPROVAL FROM THE SUPERINTENDENT.
11. TO AVOID DISTURBANCE TO EXISTING TREES, EARTHWORKS WILL BE MODIFIED AS DIRECTED ON-SITE BY THE SUPERINTENDENT.
12. THE LOCATION OF EROSION AND SEDIMENTATION CONTROLS WILL BE DETERMINED ON SITE BY THE SUPERINTENDENT.
13. ACCESS TRACKS THROUGH THE SITE WILL BE LIMITED TO THOSE DETERMINED BY THE SUPERINTENDENT AND THE CONTRACTOR PRIOR TO ANY WORK COMMENCING.
14. ALL SETTING OUT IS THE RESPONSIBILITY OF THE CONTRACTOR PRIOR TO WORKS COMMENCING ON SITE. THE SUPERINTENDENT'S SURVEYOR SHALL PEG ALL ALLOTMENT BOUNDARIES, PROVIDE COORDINATE INFORMATION TO THESE PEGS AND PLACE BENCH MARKS. THE CONTRACTOR SHALL SET OUT THE WORKS FROM AND MAINTAIN THESE PEGS.
15. PLANS ARE MINIMUM REQUIREMENTS AND ARE TO BE USED AS A GUIDE ONLY. EXACT MEASURES USED SHALL BE DETERMINED ON SITE IN CONJUNCTION WITH PROGRAM OF CONTRACTORS WORKS etc.



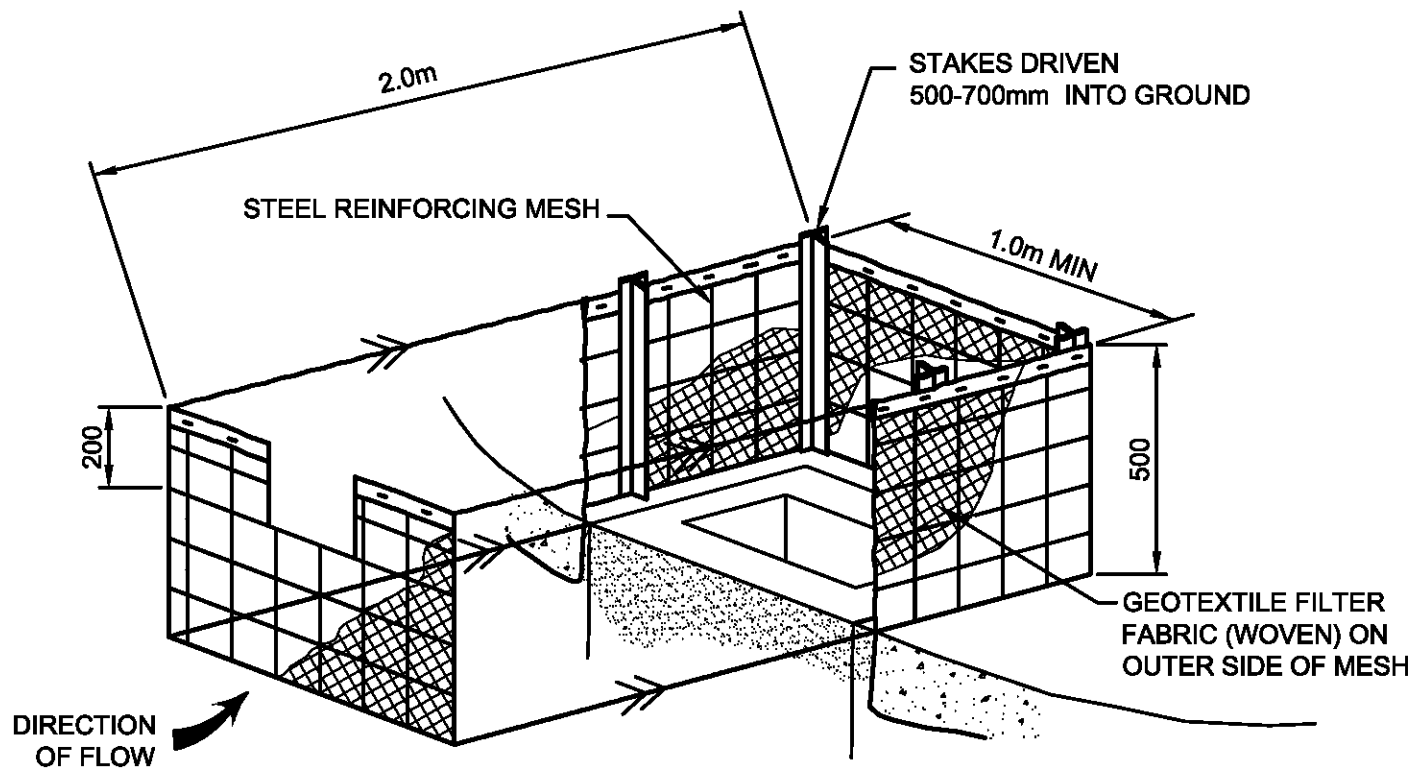
TYPICAL GRATED INLET PIT DETAIL

N.T.S.



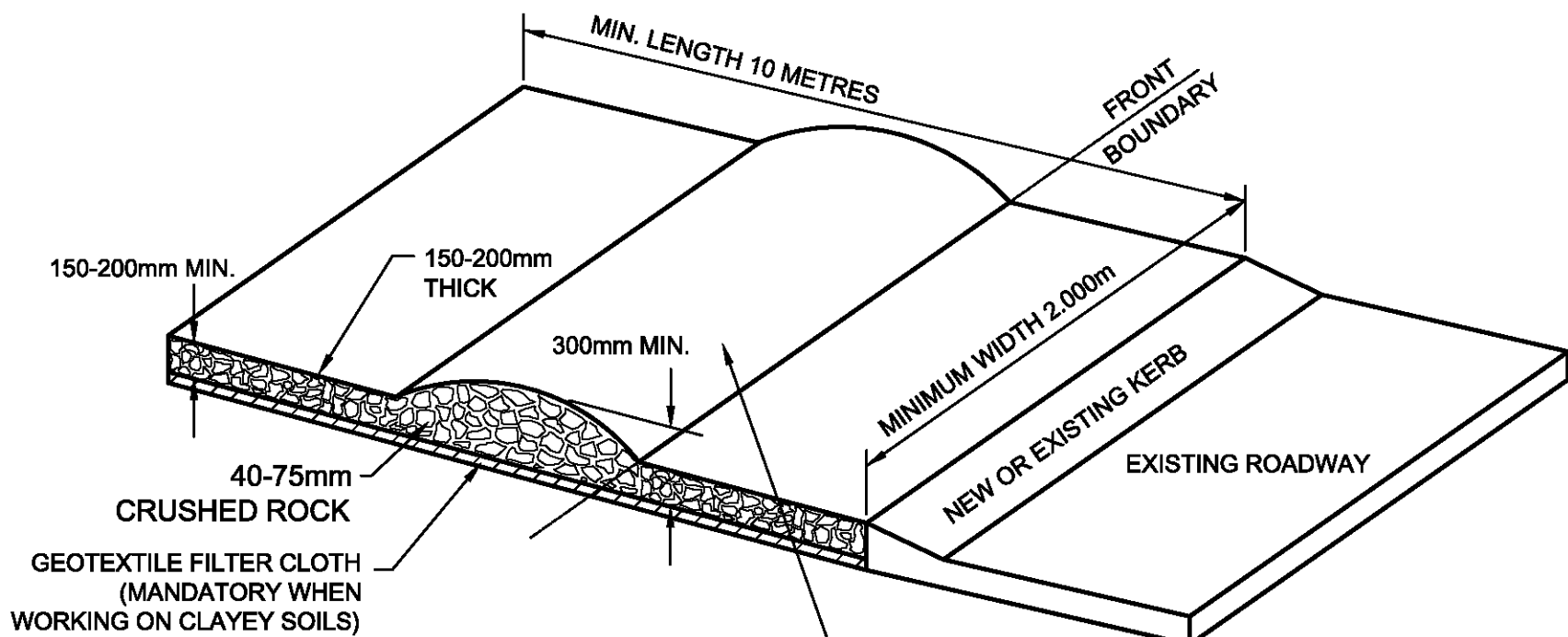
BUTTERFLY SURFACE INLET PIT

N.T.S



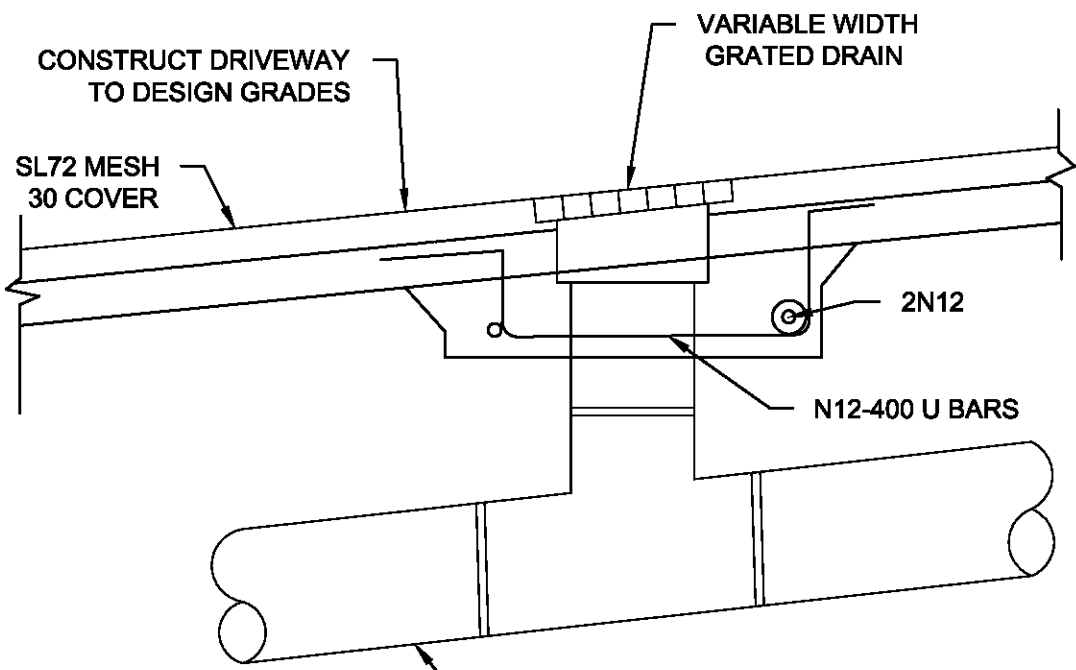
FIELD INLET SEDIMENT TRAP

N.T.S.



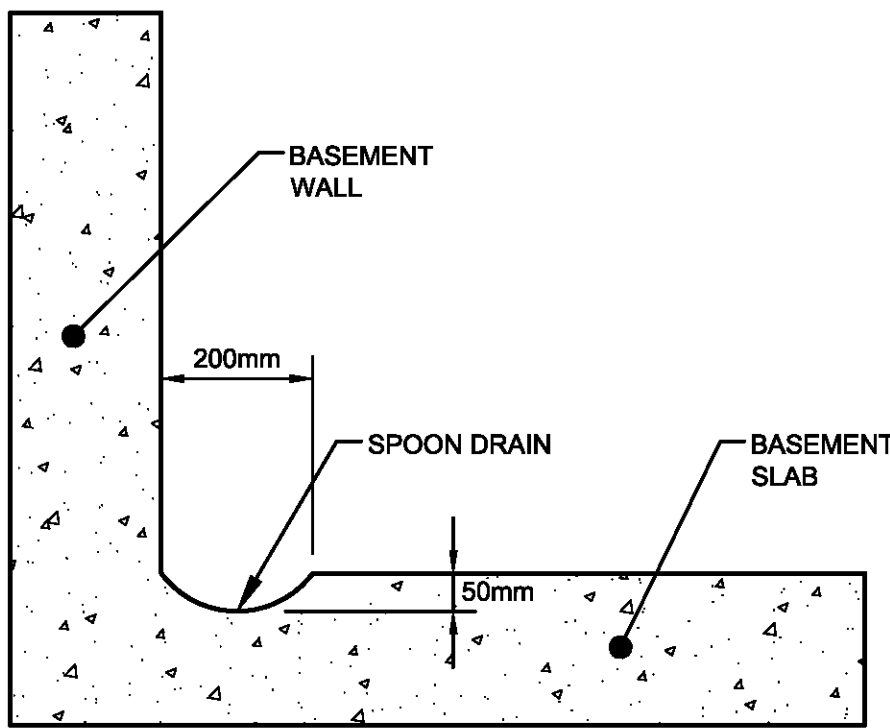
SHAKEDOWN DEVICE

N.T.S.



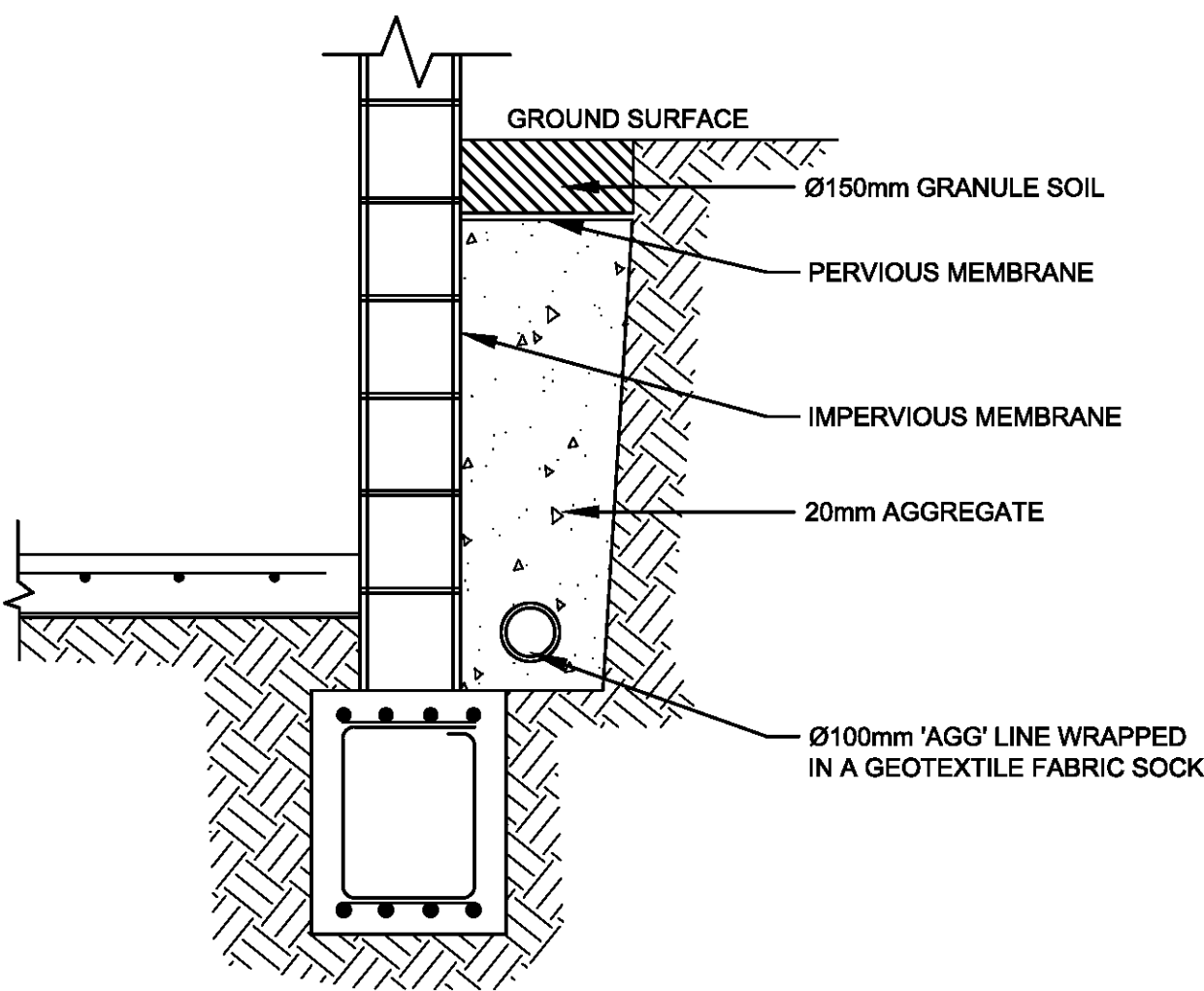
GRATED DRAIN DETAIL

N.T.S.



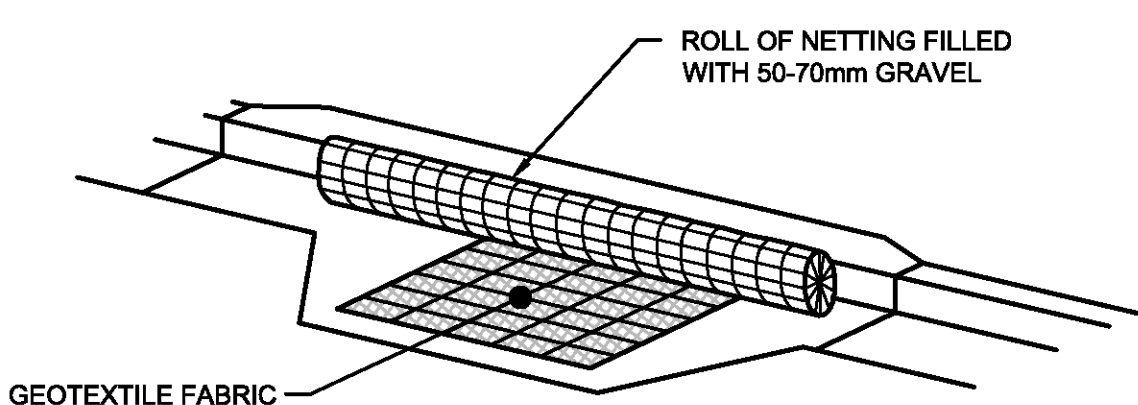
SPOON DRAIN SECTION DETAIL

SCALE 1:10



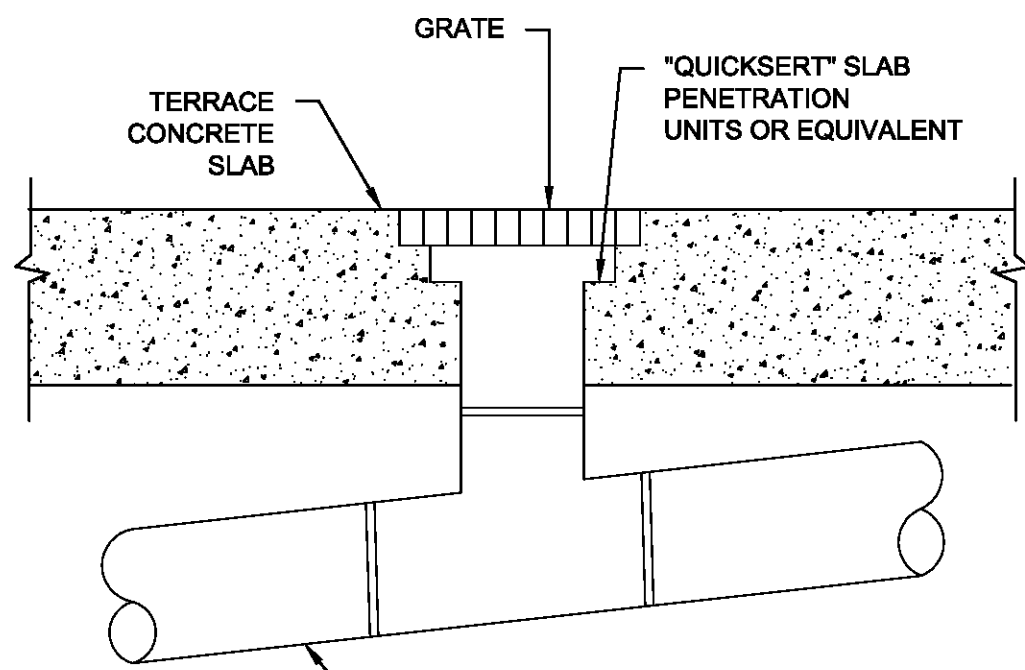
TYPICAL SUBSOIL DRAIN

N.T.S



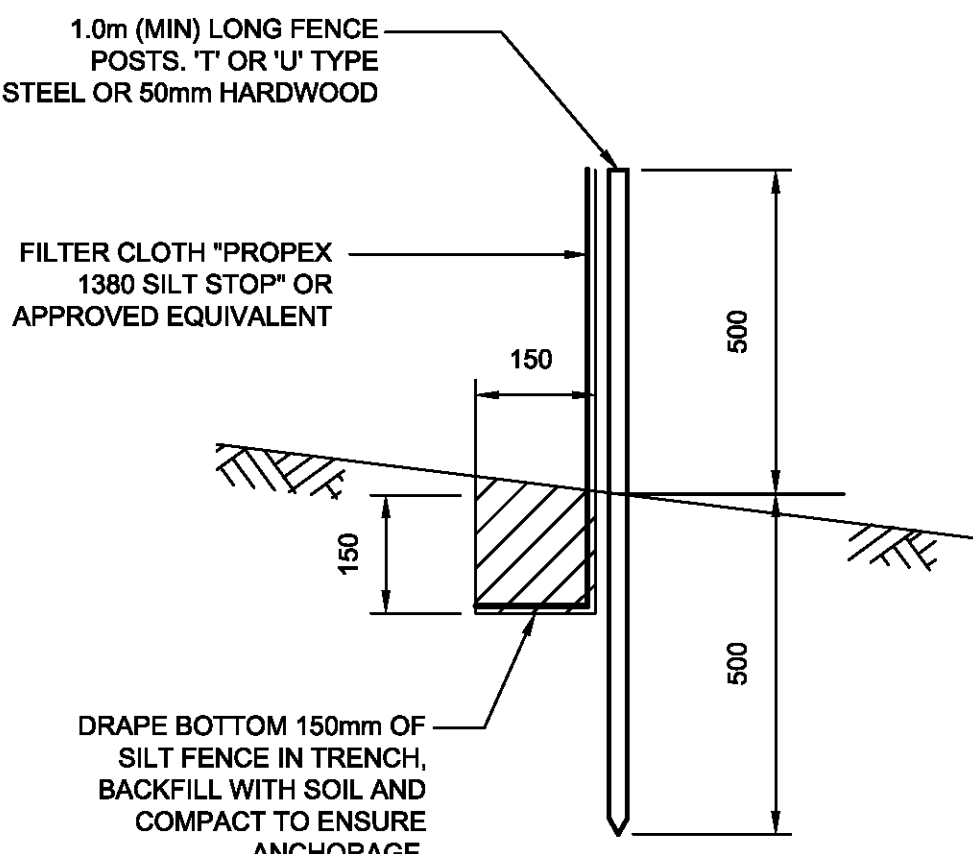
KERB INLET PROTECTION SAG GULLIES

N.T.S.



RAINWATER OUTLET DETAIL

N.T.S.



SILT FENCE DETAIL

N.T.S

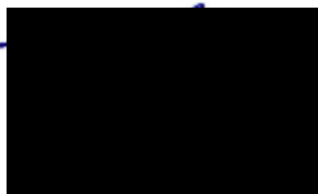
SILT FENCE NOTES:

1. FILTER CLOTH TO BE FASTENED SECURELY TO POSTS WITH GALVANISED WIRE TIES, STAPLES OR ATTACHMENT BELTS.
2. POSTS SHOULD NOT BE SPACED MORE THAN 3.0m APART.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 150mm AND FOLDED.
4. FOR EXTRA STRENGTH TO SILT FENCE, WOVEN WIRE (14mm GAUGE, 150mm MESH SPACING) TO BE FASTENED SECURELY BETWEEN FILTER CLOTH AND POSTS BY WIRE TIES OR STAPLES
5. INSPECTIONS SHALL BE PROVIDED ON A REGULAR BASIS, ESPECIALLY AFTER RAINFALL AND EXCESSIVE SILT DEPOSITS REMOVED WHEN 'BULGES' DEVELOP IN SILT FENCE
6. SEDIMENT FENCES SHALL BE CONSTRUCTED WITH SEDIMENT TRAPS AND EMERGENCY SPILLWAYS AT SPACINGS NO GREATER THAN 40m ON FLAT TERRAIN DECREASING TO 20m SPACINGS ON STEEP TERRAIN.

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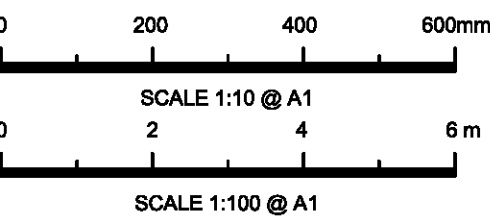
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Penrith Council

Scale



TELFORD CIVIL
DESIGN & CONSTRUCTION EXCELLENCE

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Project

19 TODD ROW, SAINT CLAIR
PROPOSED CHILD CARE CENTRE
STORMWATER MANAGEMENT PLANS
SECTION 4.55

Drawing Title

LEVEL 1 PLAN &
MISCELLANEOUS
DETAILS SHEET

Scale

As Shown

A1

Project No.

2021380

Dwg. No.

107

Issue

A