110 - 112 MOUNT VERNON ROAD, MOUNT VERNON PROPOSED CHILDCARE CENTRE

STORMWATER CONCEPT PLAN



LOCALITY PLAN

DRAWING INDEX						
Drawing No. DESCRIPTION						
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NOT FOR CONSTRUCTION

COUNCIL COMMENTS COUNCIL COMMENTS HUV | EHZ | COUNCIL COMMENTS HUV EHZ JSF COUNCIL COMMENTS COUNCIL COMMENTS 26/03/2019 | HUV | EHZ | Drawn Design Checked M: 0412 637 875 V: pwdesign.com.au

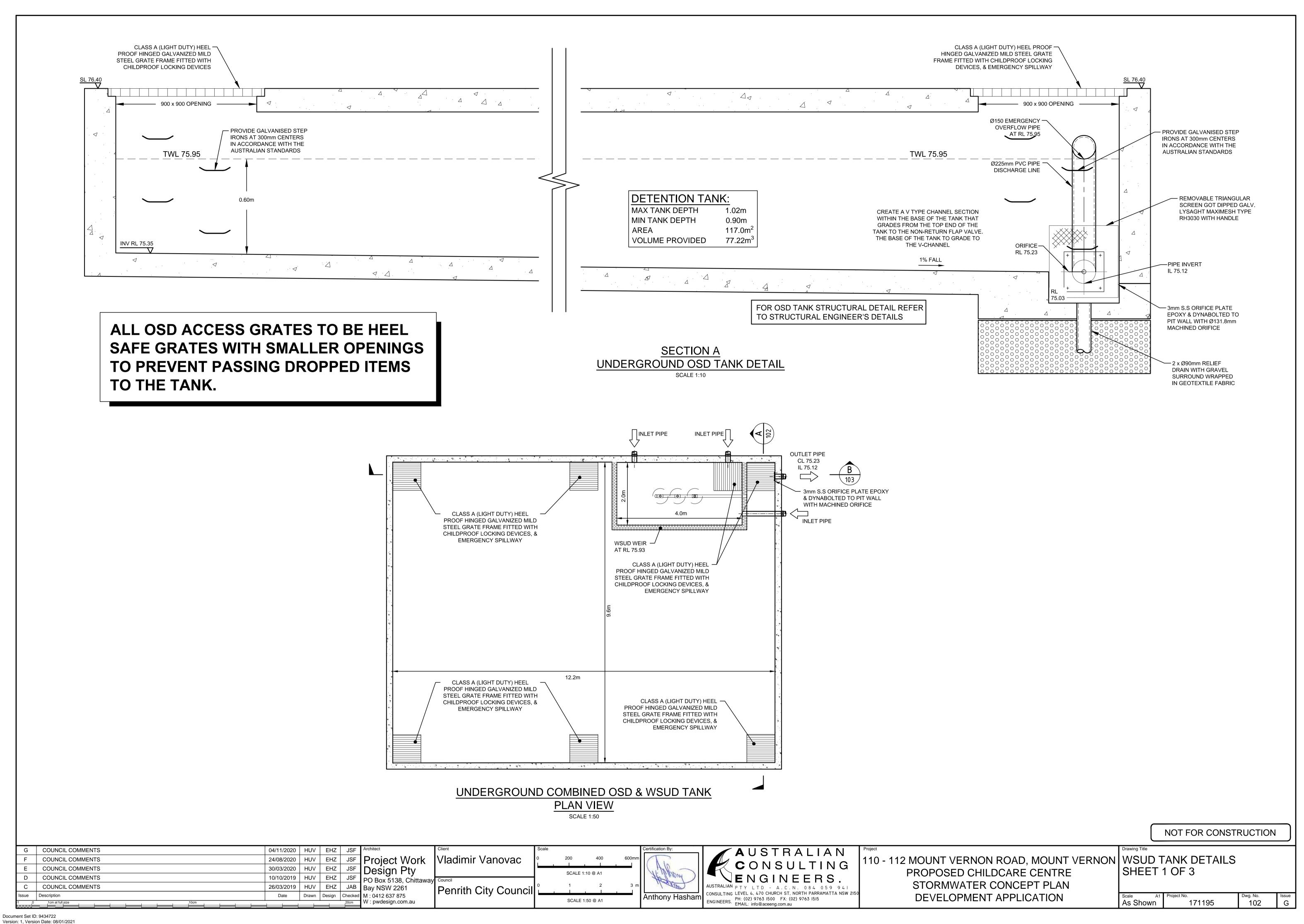
Vladimir Vanovac Project Work Design Pty Penrith City Council

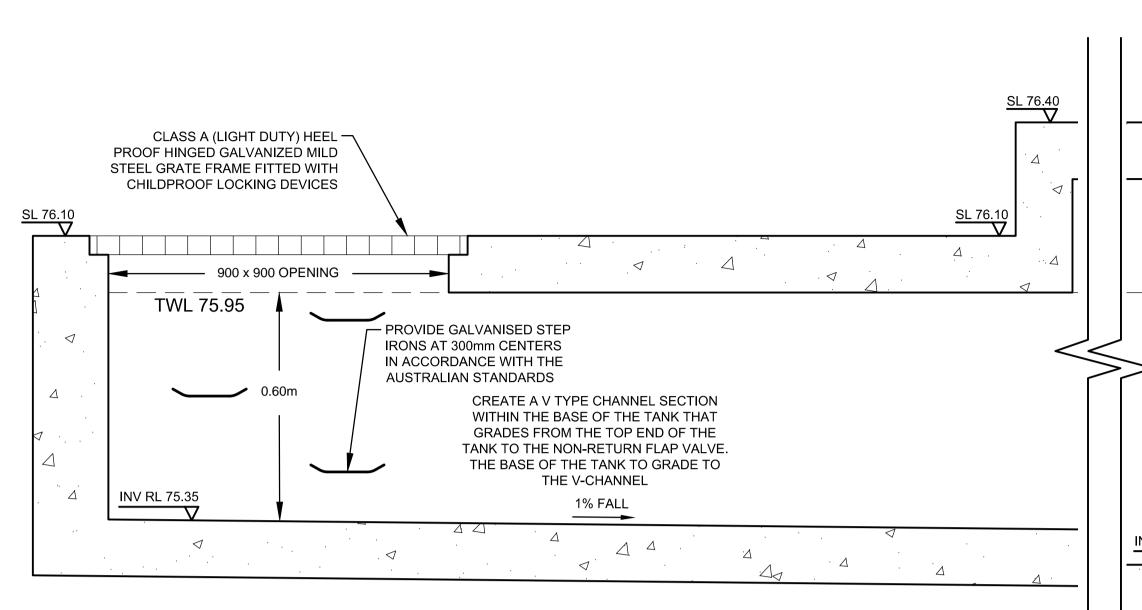
USTRALIAN ENGINEERS. PH: (02) 9763 I500 FX: (02) 9763 I515 EMAIL: info@aceeng.com.au

110 - 112 MOUNT VERNON ROAD, MOUNT VERNON COVER SHEET PLAN PROPOSED CHILDCARE CENTRE STORMWATER CONCEPT PLAN **DEVELOPMENT APPLICATION**

000 171195

GENERAL NOTES 1. ALL LINES ARE TO BE Ø90 uPVC 1.0% GRADE UNLESS NOTED OTHERWISE. CHARGED LINES TO BE SEWERGRADE & SEALED. 2. 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. SINGLE STOREY BRICK COTTAGE TILE ROOF 3. ALL PIPES TO HAVE MIN 150mm COVER IF LOCATED DP865818 WITHIN PROPERTY. No.108 4. ALL PITS IN DRIVEWAYS TO BE 450x450 CONCRETE AND ALL PITS IN LANDSCAPED AREAS TO BE 450x450 PLASTIC. 5. PITS LESS THAN 600mm DEEP MAY BE BRICK, PRECAST OR CONCRETE. 6. ALL BALCONIES AND ROOFS TO BE DRAINED AND TO <u>PIT 1</u> Enviro Pod HAVE SAFETY OVERFLOWS IN ACCORDANCE WITH NS 74.78 RELEVANT AUSTRALIAN STANDARDS. 600 x 600 Landscape Screening NS 75.50 NS 75.20 SL 75.95 7. ALL EXTERNAL SLABS TO BE WATERPROOFED. ヤ NS 74.89 IL 75.50 TOK 76.84 × 8. ALL GRATES TO HAVE CHILD PROOF LOCKS. RL 75.95 Ø225 PVC @ 0.5% 9. ALL DRAINAGE WORKS TO AVOID TREE ROOTS. 10. ALL DPs TO HAVE LEAF GUARDS. PROPOSED DRIVEWAY~ - 3 CARTRIDGE (460mm) MANHOLE CROSSOVER SIZE AND 11. ALL EXISTING LEVELS TO BE CONFIRMED BY BUILDER STORMFILTER SYSTEM. REFER TO LAYOUT TO COMPLY PRIOR TO CONSTRUCTION. SHEET 102 & 103 FOR MORE DETAILS. WITH COUNCIL VEHICULAR CROSSING 12. ALL WORK WITHIN COUNCIL RESERVE TO BE INSPECTED POLICY BY COUNCIL PRIOR TO CONSTRUCTION. PROPOSED 4m **UNDERGROUND** FLOW SPREADER Z DP OSD TANK 13. COUNCIL'S ISSUED FOOTWAY DESIGN LEVELS TO BE CAPACITY 77.22m³ INCORPORATED INTO THE FINISHED LEVELS ONCE TANK AREA 117.00m² ISSUED BY COUNCIL. IL 75.60 DEPTH TO ORIFICE NS 76.26 0.72m ORIFICE CL 75.23 14. ALL WORK SHALL BE IN ACCORDANCE WITH B.C.A. AND 75.95 A.S.3500.3. 15. REFER TO LANDSCAPE ARCHITECT'S DRAWINGS FOR LANDSCAPING. + NS 75.90 1.8m SAFETY FENCE 16. CARE TO BE TAKEN AROUND EXISTING SEWER. STRUCTURAL ADVIICE IS REQUIRED FOR SEWER PROTECTION AGAINST ADDITIONAL LOADING FROM NEW PITS, PIPES, RETAINING 600 x 600 WALLS AND OSD BASIN WATER LEVELS. NS 76.39 SL 76.20 IL 75.75 17. THE OSD BASIN / TANK IS TO BE BUILT TO THE CORRECT LEVELS & SIZE AS PER THIS DESIGN. ANY VARIATIONS ARE TO BE DONE UNDER CONSULTATION FROM OUR OFFICE ONLY. ANY AMENDMENTS WITHOUT OUR APPROVAL WOULD RESULT IN ADDITIONAL FEES FOR REDESIGN AT OC STAGE OR IF A SOLUTION CANNOT BE FOUND, RECONSTRUCTION IS REQUIRED UNDER THE CONTRACTOR'S EXPENSES. FFL 76.50 NS 76.63 LEGEND PROPOSED STORMWATER IL 75.95 **-**d_DP_\ ALL OSD ACCESS GRATES TO BE **EXISTING OPTIC FIBER MAIN** ERNON (FROM RECORDS) HEEL SAFE GRATES WITH SMALLER **EXISTING WATER OPENINGS TO PREVENT PASSING** (FROM RECORDS) **EXISTING POWER** DROPPED ITEMS TO THE TANK. (FROM RECORDS) **EXISTING TELSTRA** (FROM RECORDS) IL 76.15 **GUTTER DOWNPIPE** ROOF SLOPE Ø300 CLEANING EYE SURFACE FLOW ARROWS PIT 6 600 x 600 SL 76.80 DESIGN SURFACE LEVEL PROPOSED DRIVEWAY NS 77.16 IL 76.35 CROSSOVER SIZE AND LAYOUT TO COMPLY WITH EXISTING SURFACE LEVEL COUNCIL VEHICULAR **CROSSING POLICY** Landscape Screening PROPOSED OSD STORAGE NS 77.34 ... Landscape Screening PROPOSED WSUD / BIO-RETENTION AREA / POND PROPOSED PERVIOUS PAVING PARKING ALL OSD ACCESS GRATES TO BE HEEL SAFE GRATES WITH SMALLER OPENINGS PIPES NOTE: Ø65 PVC @ MIN 1.0% TO PREVENT PASSING DROPPED ITEMS Ø90 PVC @ MIN 1.0% TREE NOTE: TO THE TANK. Ø100 PVC @ MIN 1.0% ALL TREES TO BE TREATED AS PER THE **GROUND FLOOR PLAN** Ø150 PVC @ MIN 1.0% ARBORIST REPORT (WHERE AVAILABLE) SCALE 1:200 Ø225 PVC @ MIN 0.5% Ø300 PVC @ MIN 0.4% **UNLESS NOTED OTHERWISE** NOT FOR CONSTRUCTION COUNCIL COMMENTS AUSTRALIAN 110 - 112 MOUNT VERNON ROAD, MOUNT VERNON STORMWATER CONCEPT PLAN Vladimir Vanovac Project Work COUNCIL COMMENTS 24/08/2020 | HUV | EHZ | JSF CONSULTING Design Pty 30/03/2020 | HUV | EHZ | JSF COUNCIL COMMENTS PROPOSED CHILDCARE CENTRE COUNCIL COMMENTS JSF EHZ PO Box 5138, Chittaway Council STORMWATER CONCEPT PLAN SCALE 1:200 @ A1 COUNCIL COMMENTS 26/03/2019 | HUV | EHZ | JAB Penrith City Council Drawn Design Checked M: 0412 637 875 DEVELOPMENT APPLICATION ssue Description Dwg. No. 101 ENGINEERS. PH: (02) 9763 I500 FX: (02) 9763 I5I5 EMAIL: info@aceeng.com.au 1:200 171195 N: pwdesign.com.au

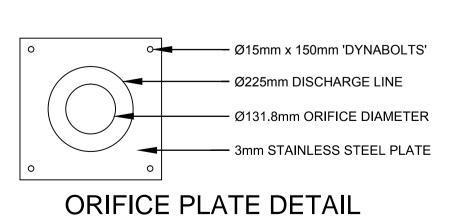


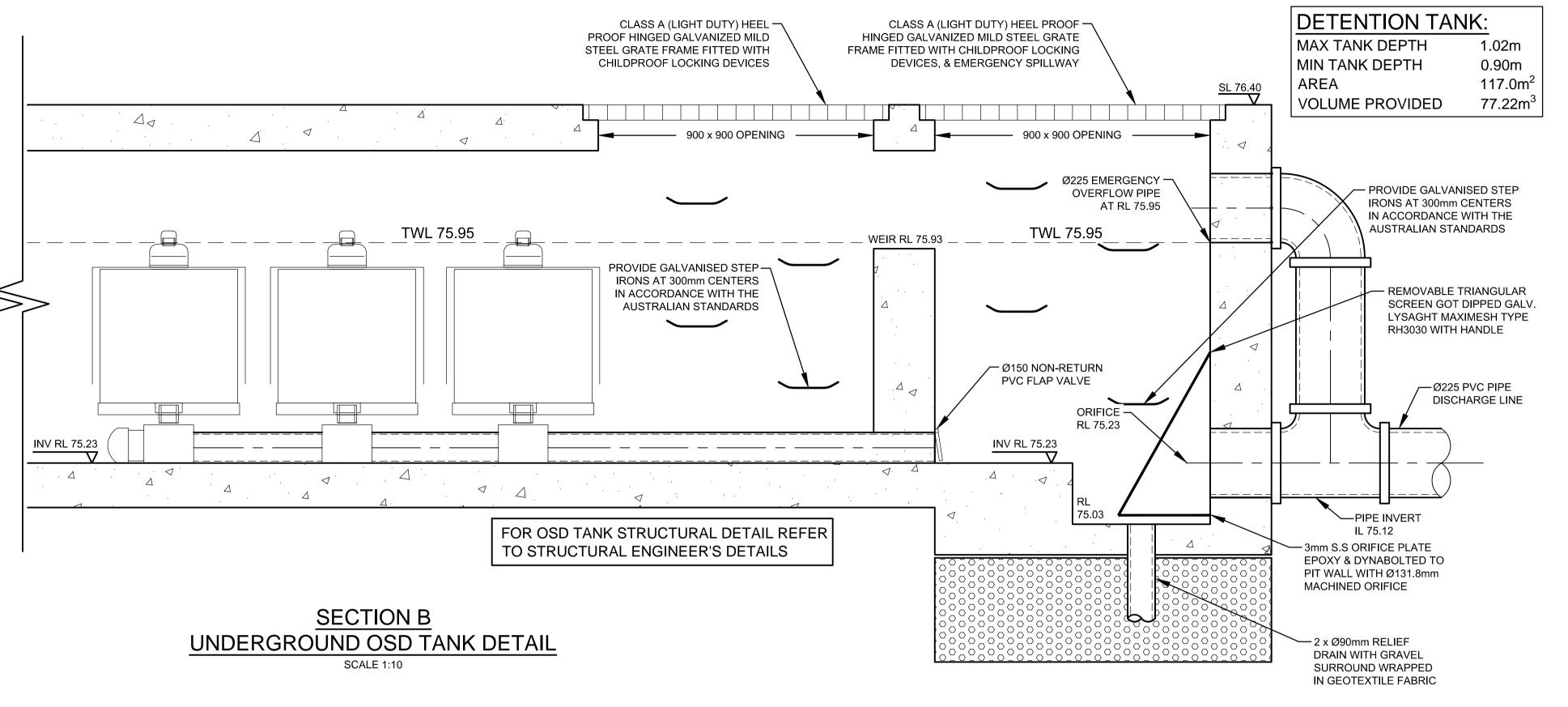


ALL OSD ACCESS GRATES TO BE HEEL SAFE GRATES WITH SMALLER OPENINGS TO PREVENT PASSING DROPPED ITEMS TO THE TANK.

UNDERGROUND OSD TANK STAGED STORAGE CALCULATIONS

DEPTH (mm)	AREA (m²)	CUMULATIVE VOLUME (m³)
0	117.00	0
120	117.00	7.02
200	117.00	16.38
300	117.00	28.08
400	117.00	39.78
500	117.00	51.48
600	117.00	63.18
700	117.00	74.88
720	117.00	77.22





OSD CALCULATIONS:

 $= 2607 \text{ m}^2$ SITE AREA = 0.2607 ha

PSD = 120 l/s/ha

= 280 m³/ha

THEREFORE:

 $PSD = 120 \times 0.2607$ = 31.28 l/s

 $= 280 \times 0.2607$ $= 73.00 \text{ m}^3$

ORIFICE CALCULATIONS:

 $Q = C x A x (2 x g x h)^{0.5}$

SO: $A = Q / (C \times sqrt(2 \times g \times h))$

 $= 0.03128 / (0.61 \times \text{sqrt}(2 \times 9.81 \times 0.72))$

 $= 0.0136 \text{ m}^2$

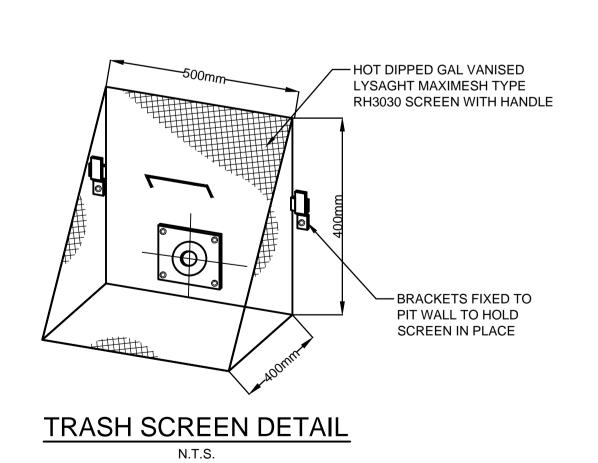
THEREFORE:

 $= sqrt(4 \times A / pi)$

 $= sqrt(4 \times 0.0106 / 3.14159)$

= 131.8 mm

ALL OSD ACCESS GRATES TO BE HEEL SAFE GRATES WITH SMALLER OPENINGS TO PREVENT PASSING DROPPED ITEMS TO THE TANK.



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COUNCIL COMMENTS Project Work
Design Pty
PO Box 5138, Chittaway
Council 24/08/2020 HUV EHZ JSF COUNCIL COMMENTS COUNCIL COMMENTS 30/03/2020 | HUV | EHZ | JSF HUV EHZ JSF COUNCIL COMMENTS COUNCIL COMMENTS 26/03/2019 | HUV | EHZ | JAB Issue Description Date Drawn Design Checked M: 0412 637 875 W: pwdesign.com.au

Vladimir Vanovac SCALE 1:10 @ A1 Penrith City Council SCALE 1:50 @ A1

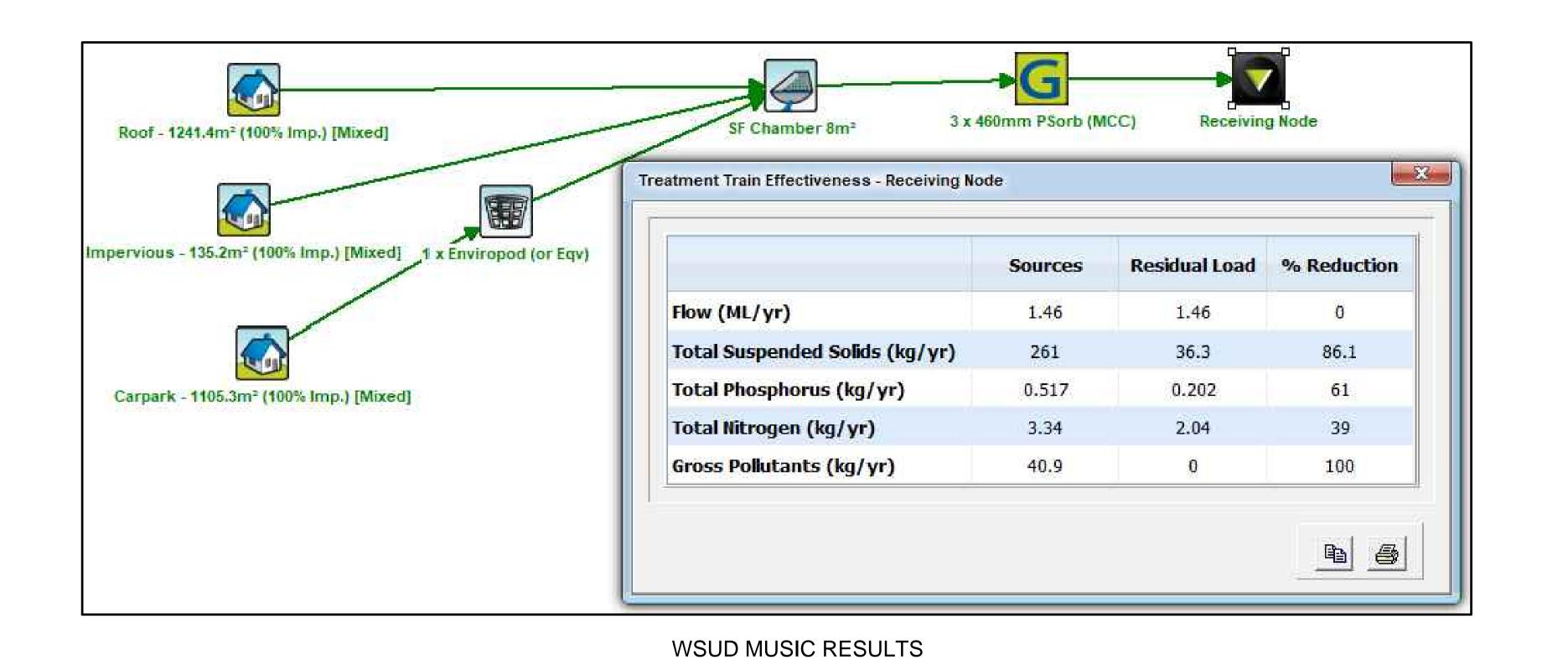


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110 - 112 MOUNT VERNON ROAD, MOUNT VERNON WSUD TANK DETAILS PROPOSED CHILDCARE CENTRE STORMWATER CONCEPT PLAN **DEVELOPMENT APPLICATION**

SHEET 2 OF 3

Dwg. No. 103 171195 As Shown



WSUD NOTE:

THE WSUD TANK IS TO BE BUILT TO THE CORRECT LEVELS & SIZE AS PER THIS DESIGN. ANY VARIATIONS ARE TO BE DONE UNDER CONSULTATION FROM OUR OFFICE ONLY. ANY AMENDMENTS WITHOUT OUR APPROVAL WOULD RESULT IN ADDITIONAL FEES FOR REDESIGN AT OC STAGE OR IF A SOLUTION CANNOT BE FOUND, RECONSTRUCTION IS REQUIRED UNDER THE CONTRACTOR'S EXPENSES.

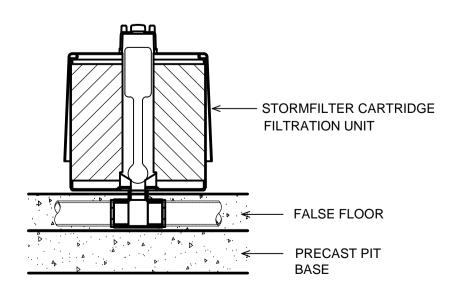
STORMFILTER DESIGN TABLE

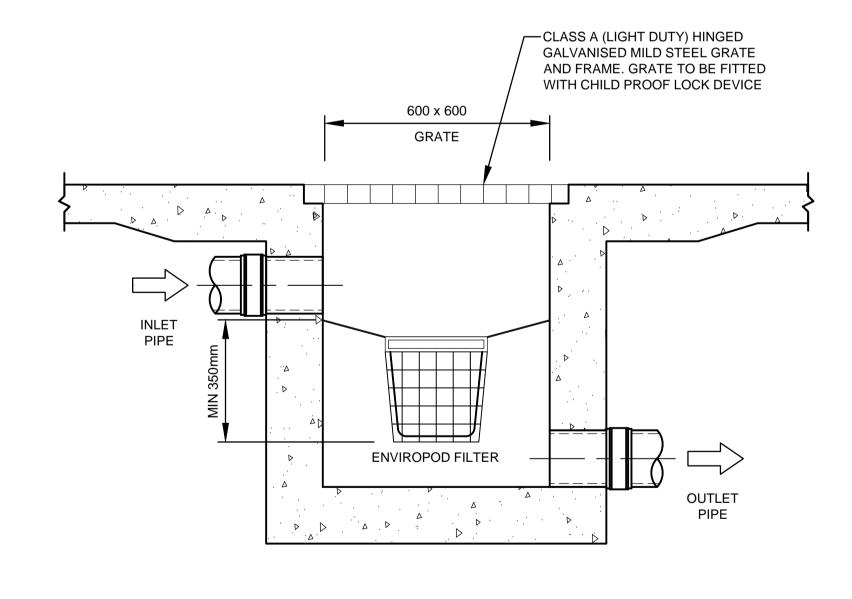
- STORMFILTER TREATMENT CAPACITY VARIES BY NUMBER OF FILTER CARTRIDGES INSTALLED AND BY REGION SPECIFIC
- INTERNAL FLOW CONTROLS. CONVEYANCE CAPACITY IS RATED AT 80L/S.

• ALL PARTS PROVIDED AND INTERNAL ASSEMBLY BY STORMWATER360 AUSTRALIA UNLESS OTHERWISE NOTED.

CARTRIDGE HEIGHT	690		460		310	
SYSTEM HYDRAULIC DROP (H - REQ'D. MIN.)	93	30	70	00	55	50
TREATMENT BY MEDIA SURFACE AREA L/S/m2	1.4	0.7	1.4	0.7	1.4	0.7
CARTRIDGE FLOW RATE (L/s)		0.71	0.95	0.47	0.63	0.32

SYSTEM HYDRAULIC DROP CARTRIDGE FLOW RATE





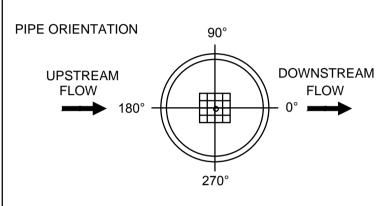
DROP PIPE ENVIROPOD **CONFIGURATION SECTION**

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	1
WATER QUALITY FLOW RATE (L/S)	-
PEAK FLOW RATE (L/S)	-
RETURN PERIOD OF PEAK FLOW (yrs)	-
# OF CARTRIDGES REQUIRED (8-22)	3
CARTRIDGE HEIGHT (310, 460 or 690mm)	690
MEDIA TYPE (PERLITE, PERLITE/ZEOLITE OR ZPG)	ZPG

PRECAST VAULT WEIGHT	
PRECAST LID WEIGHT	

PIPE DATA:	I.L.	MATERIAL	DIAMETER
INLET PIPE #1	74.58	PVC	225
INLET PIPE #2	74.58	PVC	225
OUTLET PIPE	74.35	PVC	225



LADDER		YES/NO
ANTI-FLOTATION BALLAST	N/A	N/A
	NI/A	N1/A

STORMFILTER TABLE

GENERAL NOTES

- 1. INLET AND OUTLET PIPING SHALL BE SPECIFIED BY SITE CIVIL ENGINEER (SEE PLANS) AND PROVIDED BY CONTRACTOR. STORMFILTER IS PROVIDED WITH OPENINGS AT INLET AND OUTLET LOCATIONS.
- 2. IF THE PEAK FLOW RATE, AS DETERMINED BY THE SITE CIVIL ENGINEER, EXCEEDS THE PEAK HYDRAULIC CAPACITY OF THE PRODUCT, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED. PLEASE CONTACT STORMWATER360 FOR OPTIONS.
- 3. THE FILTER CARTRIDGE(S) ARE SIPHON-ACTUATED AND SELF-CLEANING. THE STANDARD DETAIL DRAWING SHOWS THE MAXIMUM NUMBER OF CARTRIDGES. THE ACTUAL NUMBER SHALL BE SPECIFIED BY THE SITE CIVIL ENGINEER ON SITE PLANS OR IN DATA TABLE BELOW. PRECAST STRUCTURE TO BE CONSTRUCTED IN ACCORDANCE WITH AS3600.
- 4. FOR SHALLOW, LOW DROP OR SPECIAL DESIGN CONSTRAINTS, CONTACT STORMWATER360 FOR DESIGN OPTIONS.
- 5. ALL WATER QUALITY PRODUCTS REQUIRE PERIODIC MAINTENANCE AS OUTLINED IN THE O&M GUIDELINES. PROVIDE MINIMUM CLEARANCE FOR MAINTENANCE ACCESS.
- 6. STRUCTURE AND ACCESS COVERS DESIGNED TO MEET
- AUSTROADS T44 LOAD RATING WITH 0-2m FILL MAXIMUM.
- 7. THE STRUCTURE THICKNESSES SHOWN ARE FOR REPRESENTATIONAL PURPOSES AND VARY REGIONALLY.
- 8. ANY BACKFILL DEPTH, SUB-BASE, AND OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY SITE CIVIL ENGINEER.
- 9.. STORMFILTER BY STORMWATER360: SYDNEY (AU) PHONE: (02) 9525 5833, BRISBANE (AU) PHONE: (07) 3272 1872.

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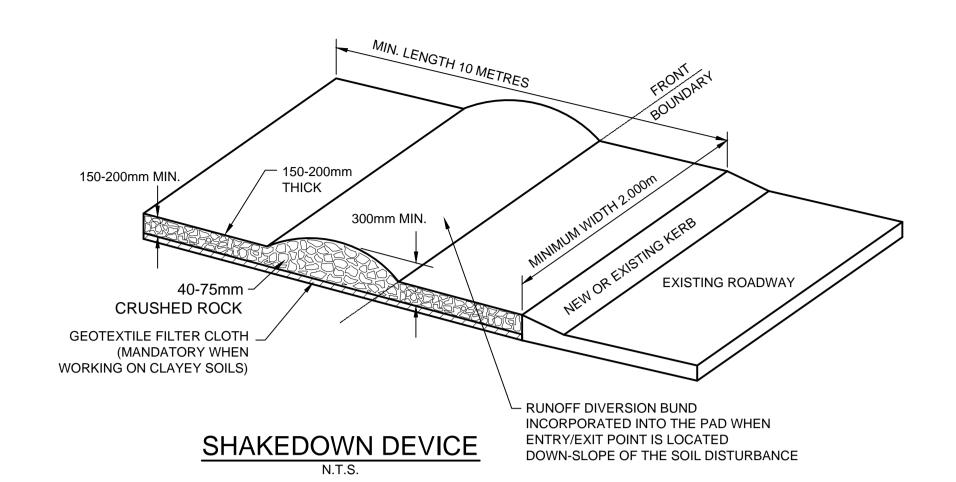
G	COUNCIL COMMENTS	04/11/2020	HUV	EHZ	JSF	Architect	Client	Scale	Certification By:
F	COUNCIL COMMENTS	24/08/2020	HU∨	EHZ	JSF	Project Work	Vladimir Vanovac		
E	COUNCIL COMMENTS	30/03/2020	HUV	EHZ		Design Pty		0 200 400 600mm	(Alle
D	COUNCIL COMMENTS	10/10/2019	HUV	EHZ	10-	PO Box 5138, Chittaway	Council	400 00011111	Hother)
С	COUNCIL COMMENTS	26/03/2019	HUV	EHZ			Penrith City Council	SCALE 1:10 @ A1	1/200
ue	Description	Date	Drawn	Design	Checked	M · 0412 637 875	I child Oity Council	1	Anthony Hacham

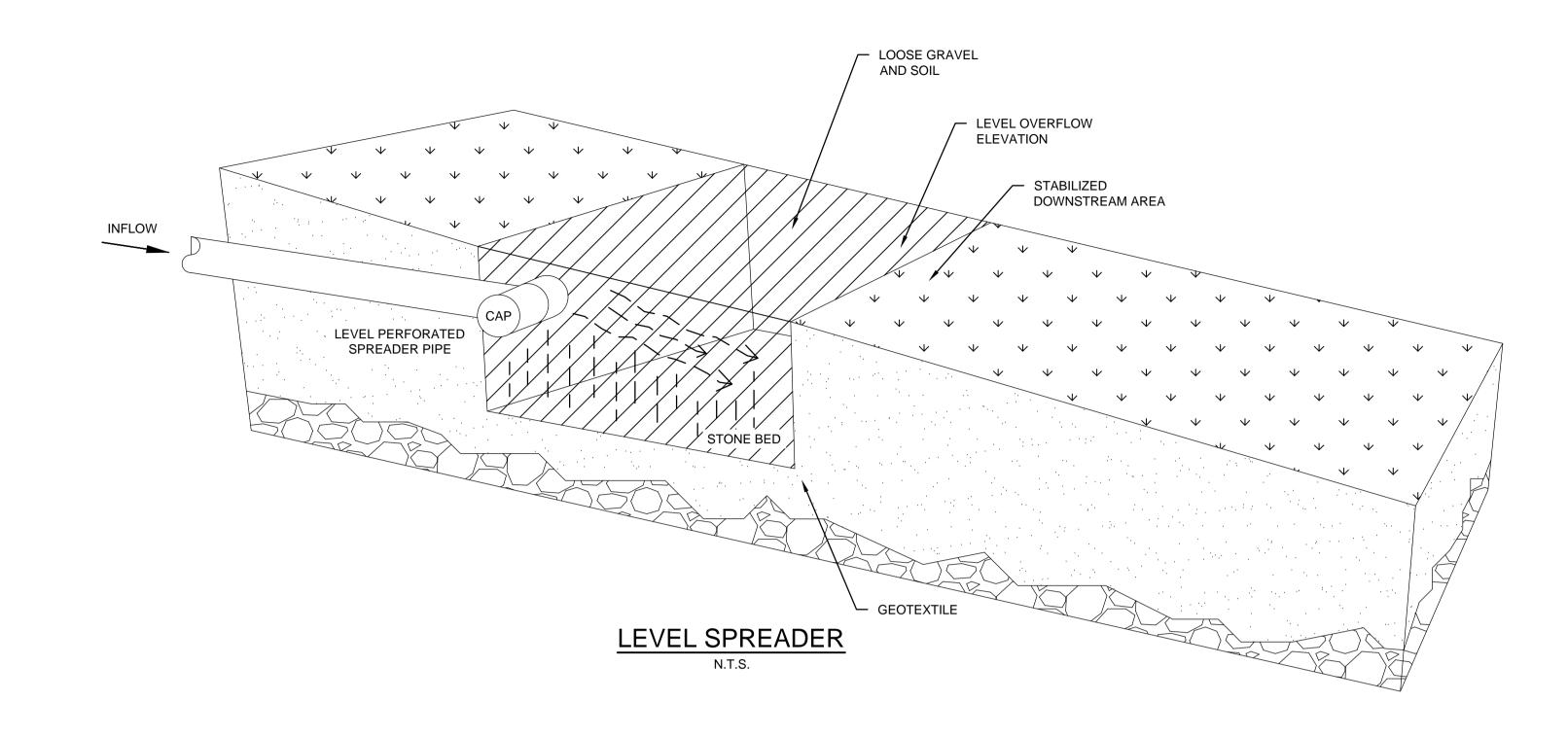
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110 - 112 MOUNT VERNON ROAD, MOUNT VERNON WSUD TANK DETAILS PROPOSED CHILDCARE CENTRE STORMWATER CONCEPT PLAN DEVELOPMENT APPLICATION

SHEET 3 OF 3

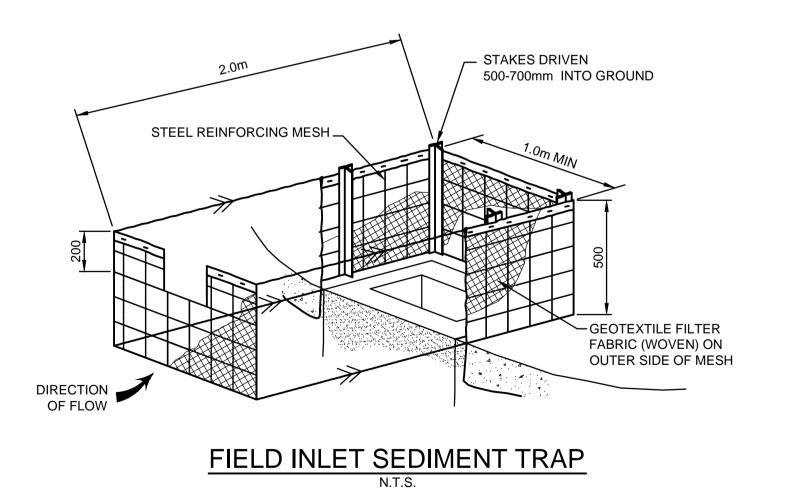
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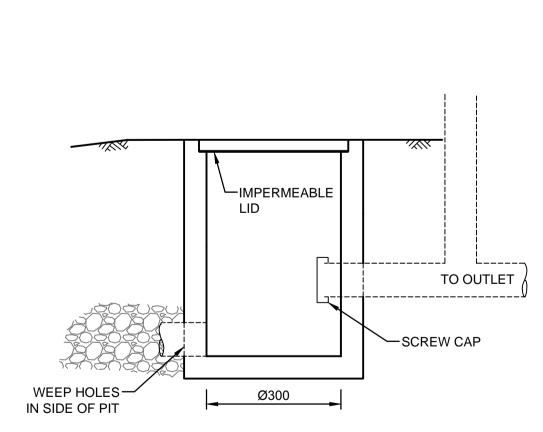




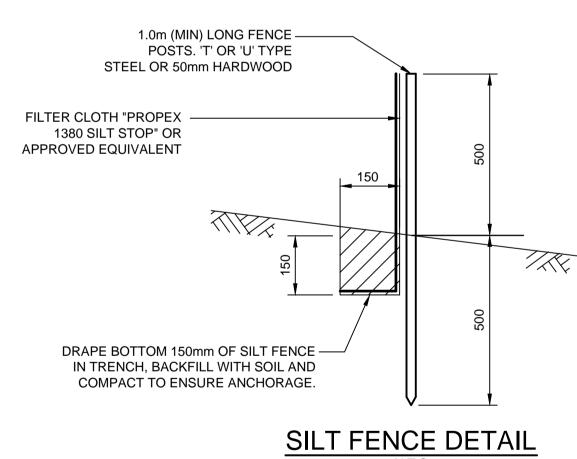
SEDIMENT & EROSION NOTES

- 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
- 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.





CLEANING EYE DETAIL



SILT FENCE NOTES:

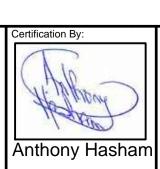
- 1. FILTER CLOTH TO BE FASTENED SECURELY TO POSTS WITH
- GALVANISED WIRE TIES, STAPLES OR ATTACHMENT BELTS. POSTS SHOULD NOT BE SPACED MORE THAN 3.0m APART.
- 3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 150mm AND FOLDED.
- 4. FOR EXTRA STRENGTH TO SILT FENCE, WOVEN 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
- 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.

NOT FOR CONSTRUCTION

G	COUNCIL COMMENTS	04/11/2020	HUV	EHZ	JSF	Arch
F	COUNCIL COMMENTS	24/08/2020	HUV	EHZ	JSF	lΡ
Е	COUNCIL COMMENTS	30/03/2020	HUV	EHZ	JSF	D
D	COUNCIL COMMENTS	10/10/2019	HUV	EHZ	JSF	PC
C	COUNCIL COMMENTS	26/03/2019	HUV	EHZ	JAB	Ва
Issue	Description	Date	Drawn	Design	Checked	M :

Project Work Design Pty PO Box 5138, Chittaway Council Bay NSW 2261 : 0412 637 875 W : pwdesign.com.au

Vladimir Vanovac Penrith City Council



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110 - 112 MOUNT VERNON ROAD, MOUNT VERNON MISCELLANEOUS PROPOSED CHILDCARE CENTRE STORMWATER CONCEPT PLAN DEVELOPMENT APPLICATION

DETAILS SHEET

0wg. No. 105 N.T.S. 171195