

STORMWATER MANAGEMENT PLAN

26-077 – CHARPROGRESS PTY LTD
LOT 7 INDUSTRIAL SUBDIVISION





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Job Number	26-077
Date	11/09/2026
Document Name	26-077-FCS-LOT7-SWMP.docx
Version	A

Document Revision History

Version	Revision History	Date
A	Issued to client	09/09/2026

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1 Introduction

1.1 Background

i3 consulting was commissioned by Charprogress Pty Ltd to prepare a Stormwater Management Report for the proposed reconfiguration of one lot into 11 industrial lots at 10775 Warrego Highway. This report documents the proposed stormwater conveyance, quantity and quality management measures to support the relevant development approvals. The proposed subdivision layout is shown on Drawing 26-077-DWG-0001, included in Appendix A.

1.2 Objectives

The objectives of this report are to establish a stormwater management strategy that:

- Provides for the safe and effective conveyance of stormwater through and from the subdivision.
- Manages changes in runoff associated with the subdivision and future development of the industrial lots to avoid adverse impacts on surrounding properties and downstream drainage systems.
- Identifies appropriate treatment measures to achieve the applicable stormwater quality objectives and protect receiving waters.

The assessment considers the applicable requirements of the local planning scheme, the *State Planning Policy (July 2017)*, the *Environmental Protection Act 1994* and the *Environmental Protection (Water and Wetland Biodiversity) Policy 2019*, with reference to relevant guidance, including the *Water Sensitive Urban Design Technical Design Guidelines for South East Queensland*.

1.3 Scope

This report primarily addresses stormwater management during the operational phase of the subdivision, allowing for the anticipated future development of the industrial lots. It includes the assessment of runoff, drainage conveyance and proposed stormwater quantity and quality controls. Construction-phase stormwater management is addressed at a preliminary level, including general erosion and sediment control principles.

2 Location

The site is located at 10775 Warrego Highway and is formally described as Lot 7 on AG3687. It is bounded by the Warrego Highway to the north, Lot 8 and Moorebank Road to the south, and existing industrial developments to the east and west.



Figure 1: Charprogress Pty Ltd Lot 7 – Satellite View

Source: NearMap, April 2026



Figure 2: Charprogress Pty Ltd Lot 7 - Terrain View

Source: Google Maps, 2026



3 Site Hydrology

3.1 Method and Approach

Peak stormwater discharges have been estimated using the Rational Method, following the procedures outlined in the *Queensland Urban Drainage Manual* (QUDM). The method relates peak discharge to rainfall intensity, catchment area and a runoff coefficient representing the catchment characteristics:

$$Q_y = \frac{(C_y * {}^tI_y * A)}{360}$$

Where:

- Q_y = Peak Flow Rate ($\frac{m^3}{s}$) for the average recurrence interval (ARI) of y years
- C_y = Coefficient of Runoff for ARI of y years
- A = Area of Catchment (ha)
- tI_y = Average Rainfall Intensity ($\frac{mm}{hr}$) for duration of t minutes and an ARI of y years

The adopted design event for the minor stormwater drainage system is the 20-year ARI event.

For the purposes of the stormwater quality and quantity assessments, the proposed development has been divided into 12 catchments. The same catchment boundaries and areas have been adopted for both assessments to provide a consistent basis for the hydrological and water quality modelling.

The catchment identifiers and areas are summarised in Table 1. Catchment boundaries are shown on Drawing 26-077-DWG-0001 in Appendix A, with the supporting catchment calculations provided in Appendix B.

Table 1: Stormwater Assessment Catchments

Catchment	Catchment Area
Lot 71	5441 sq.m
Lot 72	6005 sq.m
Lot 73	5496 sq.m
Lot 74	5496 sq.m
Lot 75	5460 sq.m
Lot 76	4860 sq.m
Lot 77	4973 sq.m
Lot 78	4939 sq.m
Lot 79	4693 sq.m
Lot 80	8165 sq.m
Lot 81	5611 sq.m
Access Road	4859 sq.m



4 Water Quantity

4.1 Hydrological Assessment

Stormwater runoff will be assessed using the Horton–ILSAX hydrological model within Watercom DRAINS. The model generates runoff hydrographs from the contributing catchments, accounting for impervious and pervious surfaces, depression storage, infiltration losses and runoff travel times.

The assessment will adopt Bureau of Meteorology design rainfall data and Australian Rainfall and Runoff (ARR) temporal-pattern ensembles. A range of storm durations will be assessed to identify the critical conditions for peak discharge and detention storage.

The model will represent the existing site and the proposed subdivision, including the anticipated future development of the industrial lots. Predevelopment, unmitigated post-development and mitigated post-development scenarios will be assessed at the same discharge location(s), using a consistent modelling basis.

Table 2: Proposed Design Events

Event frequency
1 EY
50% AEP
20% AEP
10% AEP
5% AEP
2% AEP
1% AEP

The adopted events will be confirmed against the applicable Toowoomba Regional Council requirements. The storm-duration range and method used to select representative results from each temporal-pattern ensemble will be documented with the model outputs.



4.2 Predevelopment Flows and Catchment Parameters

Predevelopment runoff was assessed at the southern site outlet based on the existing catchment boundaries, surface conditions and drainage paths. The resulting peak discharges establish the reference conditions against which the post-development discharges are assessed.

The catchments were modelled in Watercom DRAINS using the Horton–ILSAX hydrological model. Depression storages of 1 mm, 1 mm and 5 mm were adopted for paved, supplementary and grassed areas, respectively. Normal Soil Type 4 was adopted for pervious areas to represent the very slow infiltration characteristics of the black clay soils present at the site. Kinematic-wave routing was applied using the defined catchment flow-path lengths, slopes and surface characteristics.

The adopted ILSAX parameters are summarised in Table 3.

Table 3: Storm Events used for Hydrographs

	Parameter
Soil type / Horton infiltration parameters	4
Paved-area depression storage (mm)	1
Supplementary-area depression storage (mm)	1
Grassed-area depression storage (mm)	5

The predevelopment and post-development catchment characteristics are summarised in Table 4. The post-development scenario separately represents the future industrial lots and the internal access road due to their differing imperviousness and runoff response times.

Table 4: Predevelopment and Post-Development Catchment Characteristics

Parameter	Predevelopment	Post-development Lots	Post-development Access Road
Total impervious area (%)	0	90	80
Pervious area (%)	100	10	20
Time of Concentration (minutes)	21	7	10



4.3 Detention Storage

The proposed detention systems were modelled in Watercom DRAINS using the adopted storage–elevation relationships and outlet characteristics. The modelling accounted for controlled outlet flows, spillway flows and any runoff bypassing the detention systems.

The detention systems were designed to limit the combined post-development peak discharge at the southern site outlet to the corresponding predevelopment discharge for each modelled event. The individual hydrographs were routed to the site outlet to account for differences in the timing of runoff from the industrial lots and access road.

The adopted detention storage volumes are summarised in Table 5. A total detention storage volume of 1,550 m³ is provided across Lots 71–81. No separate detention storage is provided for the access road. Its unmitigated runoff was included in the combined post-development assessment at the southern site outlet.

Table 5: Detention Storage Volume

Catchment	Detention Volume
Lot 71	130 cu.m
Lot 72	130 cu.m
Lot 73	130 cu.m
Lot 74	130 cu.m
Lot 75	130 cu.m
Lot 76	130 cu.m
Lot 77	130 cu.m
Lot 78	130 cu.m
Lot 79	130 cu.m
Lot 80	250 cu.m
Lot 81	130 cu.m
Access Road	-

A range of storm durations and temporal patterns was assessed for each design event. Critical storm durations were identified separately for peak discharge and maximum detention storage. Supporting inflow and outflow hydrographs, storage results and detention system details are provided in Appendix C.

The predevelopment, unmitigated post-development and mitigated post-development peak discharges at the southern site outlet are compared in Table 6.

Table 6: Storm Events used for Hydrographs

Event frequency	Predevelopment (m ³ /s)	Post-development without detention (m ³ /s)	Post-development with detention (m ³ /s)
1 EY	0.670	1.344	0.663
50% AEP	0.802	1.545	0.736
20% AEP	1.240	2.147	0.944
10% AEP	1.560	2.564	1.090
5% AEP	1.820	2.964	1.220
2% AEP	2.170	3.505	1.640
1% AEP	2.440	3.902	2.190

The results demonstrate that the adopted detention systems reduce the combined post-development peak discharge to below the corresponding predevelopment discharge for all modelled events. The detention systems therefore satisfy the adopted peak-flow mitigation objective at the southern site outlet.



5 Water Quality

5.1 Construction Phases

Construction activities may mobilise sediment from exposed soils and stockpiles. Stormwater may also become contaminated by fuels, oils, chemicals, concrete washout, construction materials and waste.

Construction-phase stormwater quality must be managed through a site-specific Erosion and Sediment Control Plan (ESCP) prepared by a suitably qualified professional before earthworks commence. The ESCP should address the applicable approval conditions, the construction-phase objectives of the State Planning Policy 2017 and the current IECA Best Practice Erosion and Sediment Control guidance.

The ESCP should include:

- staging and progressive stabilisation to minimise disturbed areas;
- diversion of clean runoff around disturbed areas;
- collection and treatment of sediment-laden runoff;
- sediment controls, including temporary sediment basins where required;
- stabilised access points and appropriately contained stockpiles;
- bunded storage, spill response and designated washout areas; and
- regular inspection and maintenance, including following runoff-producing rainfall.

The ESCP should be updated as construction staging and site conditions change. Future development of the individual industrial lots will require separate erosion and sediment controls implemented by the respective lot developers.

5.2 Operational Phase

Development of the industrial lots and internal access road will increase the extent of impervious surfaces and may increase the quantity and concentration of pollutants transported by stormwater. The principal operational-phase pollutants are expected to include:

- Gross pollutants: Litter, vegetation and other coarse material may enter the drainage system from roads, car parks, loading areas and industrial lots. These materials can obstruct drainage infrastructure, reduce visual amenity and adversely affect downstream waterways.
- Sediment and suspended solids: Sediment may be generated from landscaped areas, unsealed surfaces and material deposited on roads and hardstands by vehicles. Suspended solids can increase turbidity, smother aquatic habitat, obstruct drainage infrastructure and transport attached nutrients and metals.
- Nutrients: Nitrogen and phosphorus may be generated from landscaped areas, organic matter, atmospheric deposition and vehicle-related sources. Elevated nutrient concentrations can contribute to algal growth and deterioration of downstream water quality.
- Hydrocarbons and metals: Oils, fuels, tyre and brake wear, and vehicle residues may accumulate on roads, parking areas and hardstands and subsequently be washed into the stormwater system.

The operational stormwater treatment strategy will incorporate appropriate stormwater quality improvement devices (SQIDs) to achieve the applicable water quality objectives. The proposed treatment measures and their predicted performance are described in the following sections.

The stormwater treatment strategy addresses pollutants typically associated with urban and industrial stormwater runoff. Process water, trade waste, washdown water and runoff contaminated by industrial activities must not be discharged to the stormwater system. These contaminants must be separately contained and managed by the future occupants of each industrial lot in accordance with the applicable environmental and trade-waste requirements.



5.3 Selection of Stormwater Management Options

The operational-phase stormwater quality objectives are specified in Appendix 2, Table B of the State Planning Policy 2017. As the site is located within the Western Queensland climatic region, the applicable mean annual pollutant load-reduction objectives are presented in Table 7.

The objectives are assessed by comparing the unmitigated post-development pollutant loads against the loads discharged following treatment.

Table 7: Operational Stormwater Quality Objectives

Pollutant	Mean Annual Load-Reduction Objective (%)
Total Suspended Solids (TSS)	85
Total Phosphorus (TP)	60
Total Nitrogen (TN)	45
Total Gross Pollutants (> 5 mm)	90

5.4 MUSIC Modelling

Mean annual pollutant loads and the performance of the proposed treatment train were assessed using the Model for Urban Stormwater Improvement Conceptualisation (MUSIC).

The model represents the 12 post-development catchments, comprising Lots 71–81 and the internal access road. Industrial source-node parameters and catchment-specific impervious and pervious areas were adopted. The principal MUSIC model parameters are summarised in Table 8, with detailed model inputs provided in Appendix D.

Table 8: MUSIC Model Parameters

Parameter	Adopted Value
Rainfall station	Station 41467 – Toowoomba
Simulation period	1 January 1961 to 31 December 1970
Simulation duration	10 years
Source Node	Industrial
Effective Impervious Area	Varies
Effective Pervious Area	Varies
Modelling Time Steps	6 Minute
Drainage Link	No Routing
Pollutant Concentration	Industrial

The proposed treatment arrangements incorporated into the MUSIC model are summarised in Table 9.

Table 9: Proposed Stormwater Treatment Arrangements

Catchment	Treatment Arrangement
Lots 71-79, 81 (per Lot)	4 x 600 SQ AtlanTraps 2 x AtlanFilter in a Tank
Lot 80	4 x 600 SQ AtlanTraps 3 x AtlanFilter in a Tank
Access Road	4 x 600 SQ AtlanTraps

The unmitigated post-development mean annual pollutant loads generated by the 12 catchments are summarised in Table 10. These loads form the baseline against which the performance of the proposed treatment train is assessed.



Table 10: Unmitigated Post-Development Mean Annual Pollutant Loads

Pollutant	Annual Load (kg/yr)
Total Suspended Solids (TSS)	13300
Total Phosphorus (TP)	23.8
Total Nitrogen (TN)	121
Total Gross Pollutants (> 5 mm)	1450

5.5 Selection of Stormwater Treatment Options

Based on the applicable Toowoomba Regional Council requirements and the MUSIC modelling results, the following stormwater quality improvement devices (SQIDs) have been selected for the proposed treatment train.

5.5.1 *AtlanTrap*

The AtlanTrap, formerly known as the SPEL StormSack, is an inlet-pit filtration device that provides primary treatment of stormwater runoff. It is installed within a stormwater inlet pit and captures litter, organic debris and coarse sediment before these pollutants enter the downstream drainage system.

The captured material is retained within a removable filter insert, allowing the device to be inspected and cleaned as part of routine stormwater-system maintenance.

5.5.2 *AtlanFilter*

The AtlanFilter, formerly known as the SPELFilter, is a passive, cartridge-based tertiary stormwater filtration system. The system comprises replaceable media-filled cartridges installed within a treatment vault or manhole.

Stormwater is directed through the filter cartridges to reduce fine suspended solids and associated pollutants, including nitrogen, phosphorus, heavy metals and hydrocarbons. Following treatment, runoff is conveyed to the downstream drainage system.

The number, type and configuration of AtlanFilter cartridges will be consistent with the MUSIC model and confirmed during detailed design in consultation with the manufacturer.



5.6 Treatment Train Effectiveness in Pollution Reduction

The MUSIC model was used to assess the performance of the proposed treatment train, comprising AtlanTraps and AtlanFilters. Table 11 compares the modelled mean annual pollutant loads before and after treatment against the adopted water quality objectives.

Table 11: Treatment Train Pollutant Reduction Performance

Pollutant	Pre Treatment Load (kg/yr)	Post Treatment Load (kg/yr)	Water Quality Objective (%)	Reduction in Pollutant (%)
Total Suspended Solids (TSS)	13300	1920	85	85.6
Total Phosphorus (TP)	23.8	8.09	60	66.4
Total Nitrogen (TN)	121	65.8	45	45.8
Total Gross Pollutants (> 5 mm)	1450	1.12	90	99.9

The modelled treatment train satisfies the adopted load-reduction objectives for all assessed pollutants. Refer to Appendix D for the detailed MUSIC treatment train results.

The treatment measures adopted within the MUSIC model are summarised below.

Lots 71-79, 81 (per Lot)

- 4 x 600 SQ AtlanTraps
- 2 x AtlanFilter in a Tank

Lot 80

- 4 x 600 SQ AtlanTraps
- 3 x AtlanFilter in a Tank

Access Road

- 4 x 600 SQ AtlanTraps



6 Maintenance

The following maintenance requirements have been adapted from the manufacturer's guidance for the proposed stormwater quality improvement devices. The requirements should be confirmed against the current manufacturer's operation and maintenance manuals following final product selection and installation.

Maintenance activities should be undertaken by appropriately trained personnel using suitable personal protective equipment and traffic controls. Inspection and maintenance records should be retained by the site operator.

6.1 AtlanTrap

The AtlanTraps should be inspected monthly and following significant storm events. Cleaning should be undertaken when the captured material reaches approximately 30% of the unit's capacity, or earlier where flow restriction, damage or excessive accumulation is observed.

Accumulated material may be removed using a vacuum hose connected to a vacuum tanker or street sweeper, or by removing and cleaning the filter insert in accordance with the manufacturer's instructions. The units are generally maintainable from surface level without confined-space entry.

The filter insert, supporting frame, pit structure and associated components should be inspected during each maintenance event. Damaged or deteriorated components should be replaced using manufacturer-approved parts. Removed material should be disposed of in accordance with applicable environmental and waste-management requirements.

6.1 AtlanFilter

The AtlanFilter cartridges, treatment vault, inlet and outlet structures, and bypass arrangement should be inspected and maintained in accordance with the manufacturer's current operation and maintenance manual. Maintenance should include the removal of accumulated sediment and debris and replacement of the filter cartridges at the manufacturer's nominated service interval, or earlier where inspection identifies excessive accumulation, damage, reduced hydraulic performance or unacceptable head loss.

Where entry into the treatment vault is required, the work should be undertaken by appropriately trained personnel in accordance with applicable confined-space requirements. Refer to Appendix E for the relevant manufacturer's maintenance documentation.



7 Conclusion

The DRAINS modelling presented in Section 4 demonstrates that the proposed lot-based detention storage, together with the unmitigated runoff from the access road, limits the combined post-development peak discharge at the southern site outlet to no greater than the corresponding predevelopment discharge for all modelled events from 1 EY to 1% AEP.

The adopted detention storage requirements are summarised below.

Lots 71-79, 81 (per Lot)

- Detention basin: 130m³

Lot 80

- Detention basin: 250m³

Accordingly, the proposed stormwater quantity management strategy is considered to satisfy the applicable no-worsening requirements, subject to the final drainage infrastructure being designed and constructed consistently with the DRAINS model.

The MUSIC modelling presented in Section 5.6 demonstrates that the proposed treatment train achieves the adopted mean annual load-reduction objectives for total suspended solids, total phosphorus, total nitrogen and gross pollutants.

The required stormwater quality treatment measures are summarised below.

Lots 71-79, 81 (per Lot)

- 4 x 600 SQ AtlanTraps
2 x AtlanFilter in a Tank

Lot 80

- 4 x 600 SQ AtlanTraps
- 3 x AtlanFilter in a Tank

Access Road

- 4 x 600 SQ AtlanTraps

Provided the treatment devices are installed in accordance with the modelled configuration and maintained in accordance with Section 6, the proposed treatment train is considered to satisfy the applicable operational-phase stormwater quality objectives for the development.



8 Reference List

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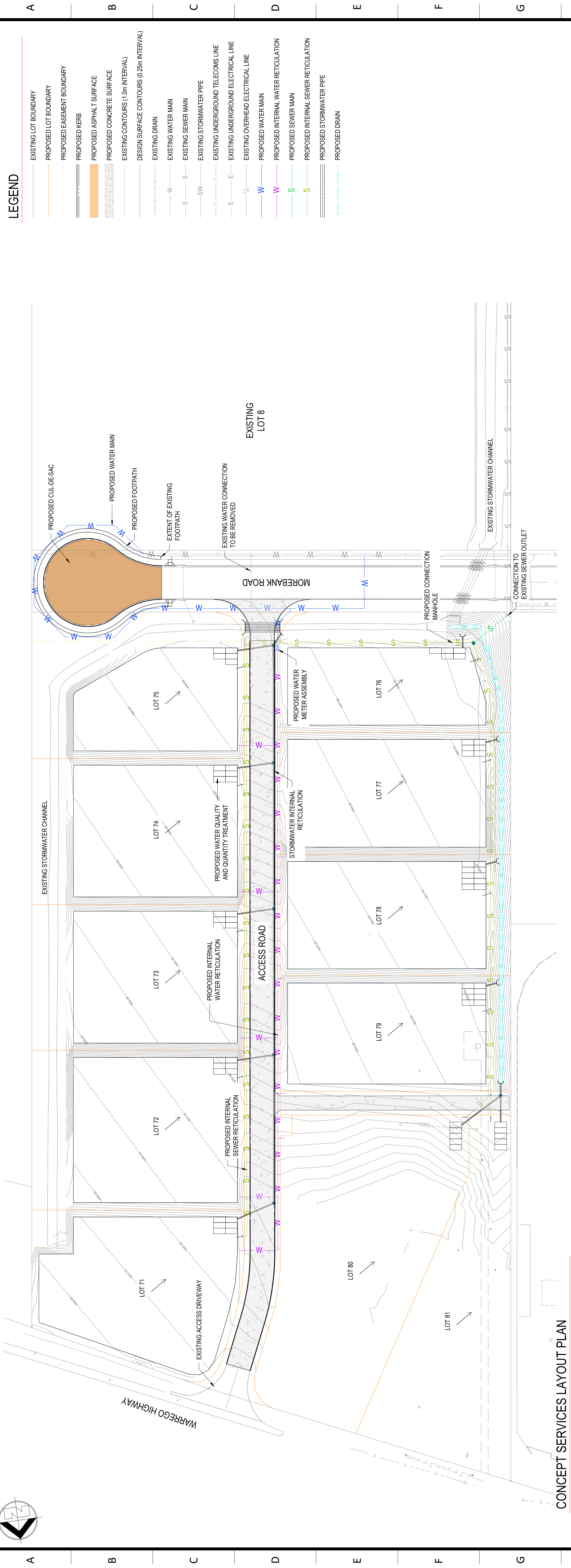
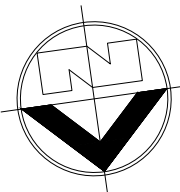


Appendix A - Drawing

Table 12: Drawing List

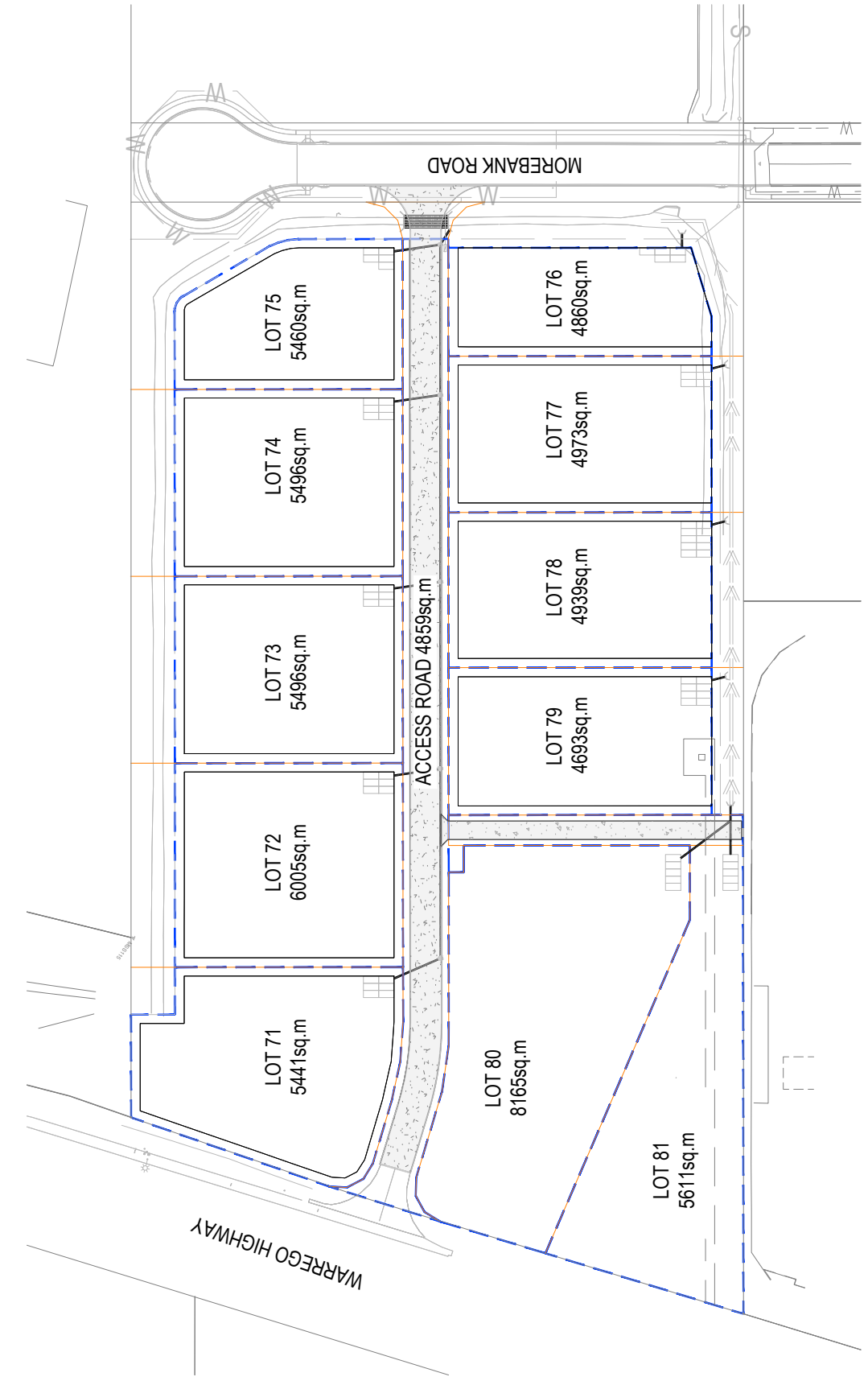
Drawing Number	Drawing Description
26-077-DWG-0001	Concept Services Layout

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16



CONCEPT SERVICES LAYOUT PLAN

SCALE 1:800



CATCHMENT PLAN

SCALE 1:2,000

STORMWATER QUALITY AND QUANTITY SUMMARY

LOT	QUANTITY TREATMENT		QUALITY TREATMENT	
	DETENTION VOLUME (m³)	OUTLET SIZE (mm)	ATLANTRAP (no.)	ATLANFILTER (no.)
71	130	200	4	2
72	130	200	4	2
73	130	200	4	2
74	130	200	4	2
75	130	200	4	2
76	130	200	4	2
77	130	200	4	2
78	130	200	4	2
79	130	200	4	2
80	250	200	4	3
81	130	200	4	2
ACCESS ROAD			4	

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		DES	DRN	CHK	APP	DATE	
REVISION HISTORY							
No	DESCRIPTION						
A	DEVELOPMENT APPLICATION						

STATUS		DA PACKAGE
NOT FOR CONSTRUCTION		NOT FOR CONSTRUCTION
SIZE	HEIGHT DATUM	
A1	AHD	
COORDINATE REFERENCE SYSTEM		AS SHOWN
PRINT IN COLOUR		

PROJECT		CHARPROGRESS PTY LTD SUBDIVISION
TITLE		CONCEPT SERVICE LAYOUT
DRAWING No.	26-077-DWG-0001	
REV	A	

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Appendix B - Calculations

Table 13: Discharge Calculation Table (Lot 71 Example)

Catchment	Area (ha)	Treatable Storm Event 4EY		Minor Storm Event 5% AEP		Major Storm Event 1% AEP	
		Intensity (mm/h)	Discharge (m³/s)	Intensity (mm/h)	Discharge (m³/s)	Intensity (mm/h)	Discharge (m³/s)
Roof Catchment	0.272	46.8	0.035	180	0.136	236	0.178
Ground Catchment	0.272	46.8	0.035	180	0.136	236	0.178
Total	0.544	—	0.070	—	0.272	—	0.356

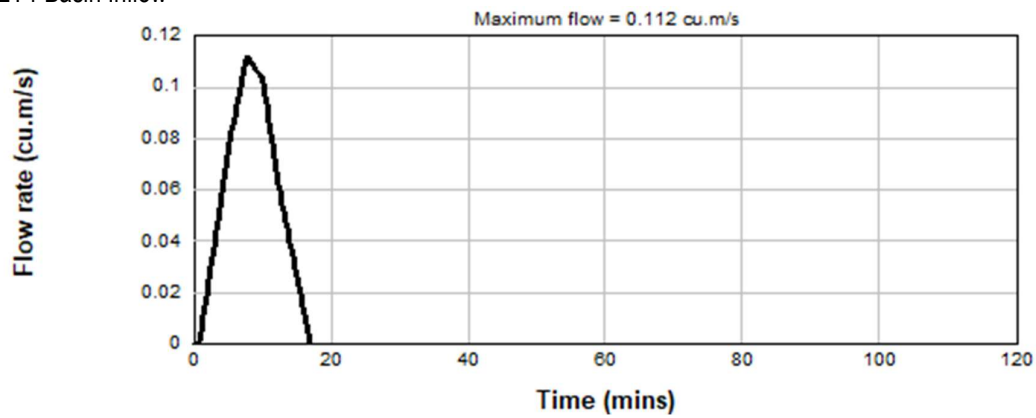
Table 14: Rational Calibration (Predevelopment)

Event frequency	Predevelopment DRAINS (m³/s)	Predevelopment Rational (m³/s)	Percentage Difference
1 EY	0.670	0.545	22.9%
50% AEP	0.802	0.659	21.7%
20% AEP	1.240	1.012	22.5%
10% AEP	1.560	1.263	23.5%
5% AEP	1.820	1.523	19.5%
2% AEP	2.170	1.963	10.6%
1% AEP	2.440	2.295	6.3%

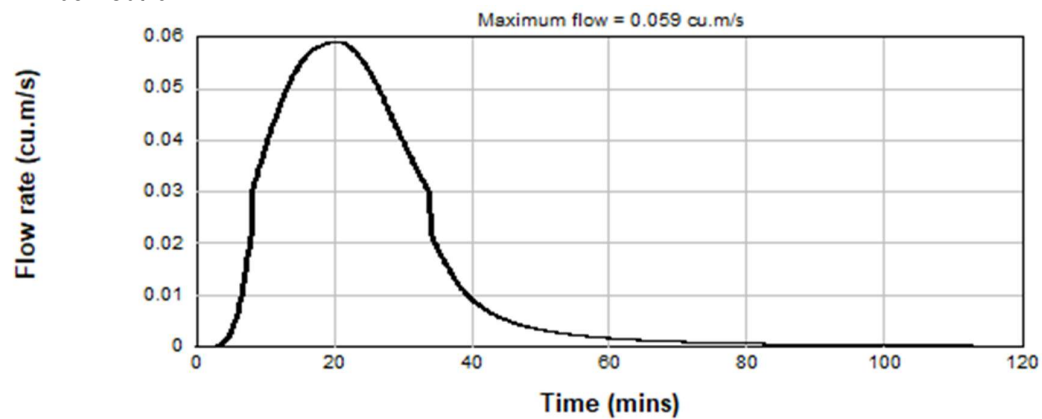
Appendix C – Drains Output

Detention Basin Inflow/ Outflow Hydrograph and Storage Graph – Example Lot 71

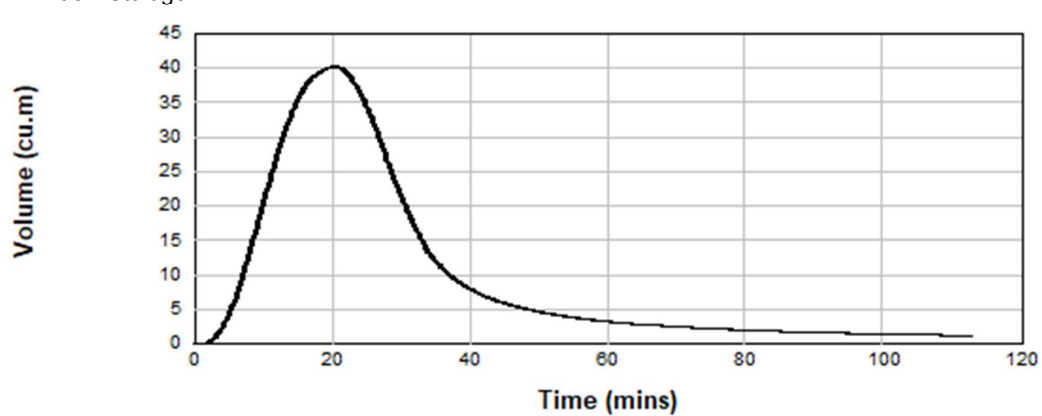
EY1 Basin Inflow



EY1 Basin Outflow

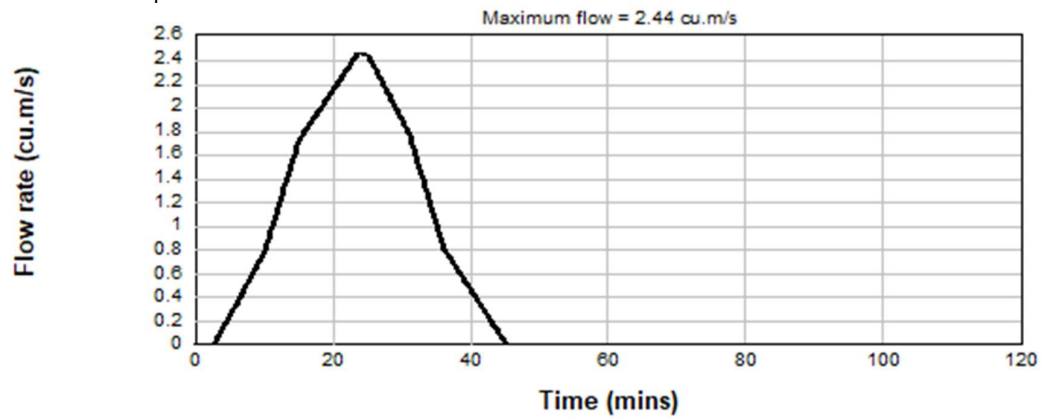


EY1 Basin Storage

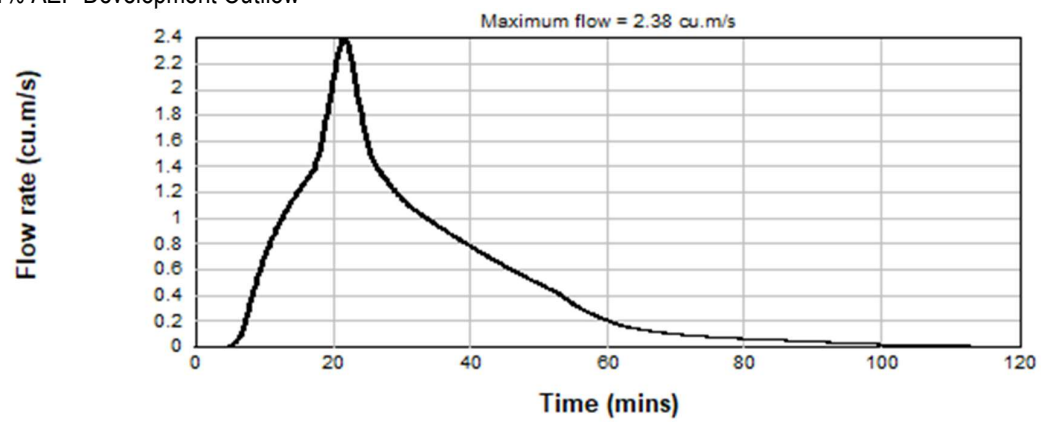


Development Inflow/ Outflow Hydrograph – Example 1% AEP

1% AEP Development Inflow



1% AEP Development Outflow



Appendix D – MUSIC Output

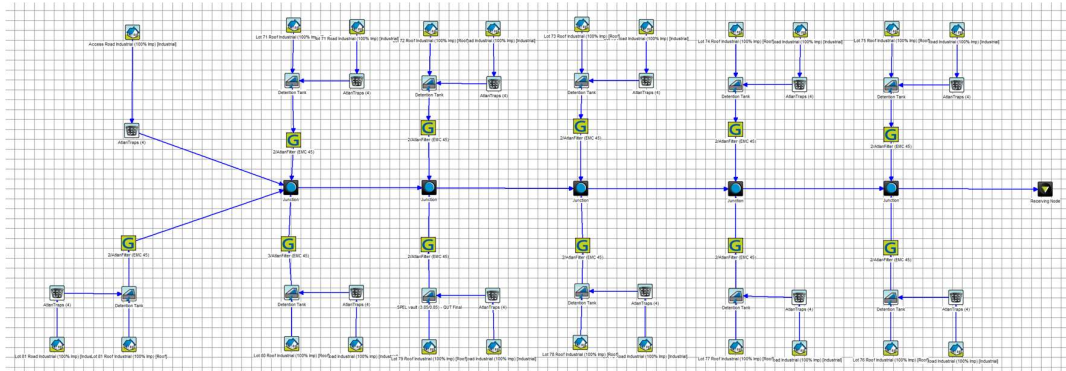


Figure 3: MUSIC Model

	Sources	Residual Load	% Reduction
Flow (ML/yr)	52.1	52.1	0
Total Suspended Solids (kg/yr)	13300	1920	85.6
Total Phosphorus (kg/yr)	23.8	8	66.4
Total Nitrogen (kg/yr)	121	65.8	45.8
Gross Pollutants (kg/yr)	1450	1.12	99.9

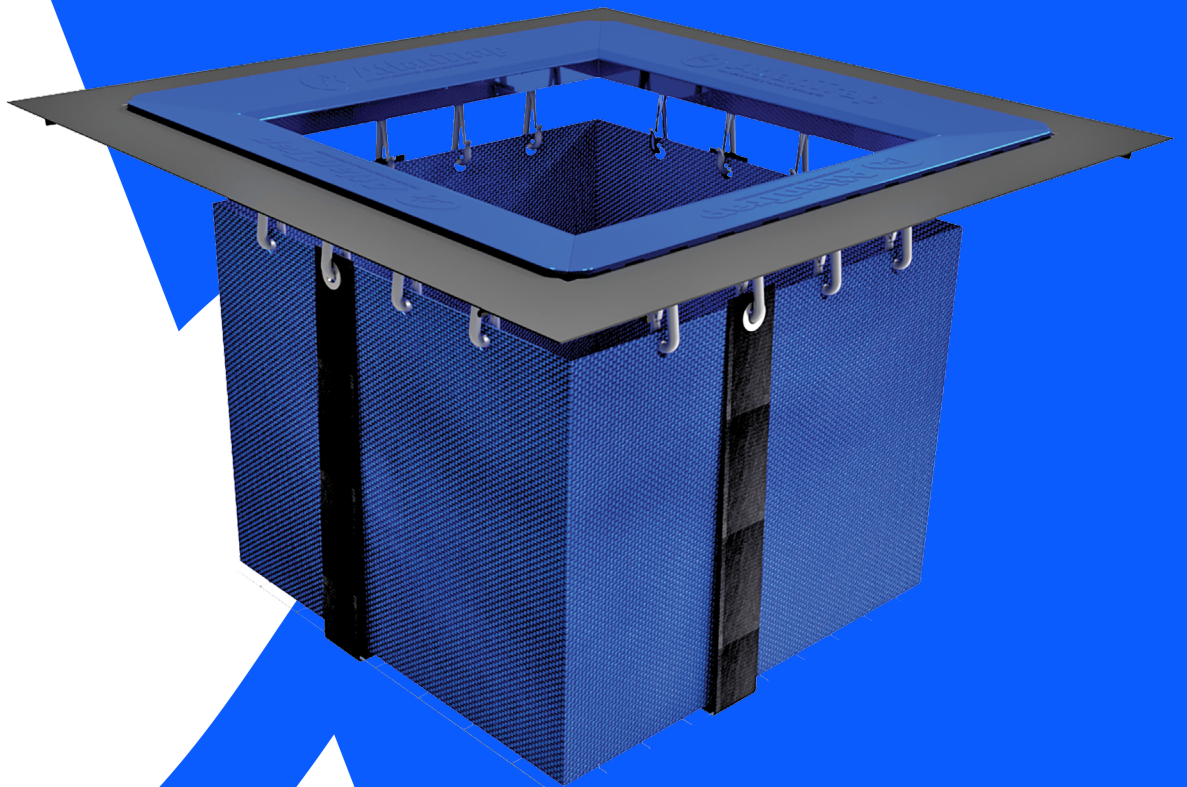
Figure 4: MUSIC Treatment Train Effectiveness



Appendix E – Maintenance Manuals

OPERATION & MAINTENANCE MANUAL

AtlanTrap (Formerly StormSack)



INTRODUCTION

Maintenance of the AtlanTrap is essential to preservation of its condition to ensure lifetime operational effectiveness.

The AtlanTrap is a highly engineered water quality device that is deployed directly in the stormwater system as primary treatment to capture contaminants close to the surface for ease of maintenance.

To ensure full operational capacity, it is vital to ensure that the pollutants it captures are periodically removed, and filtration components are thoroughly cleaned.

This manual should be used in conjunction with the relevant site traffic management and safety plans, as well as any other provided documentation from Atlan.

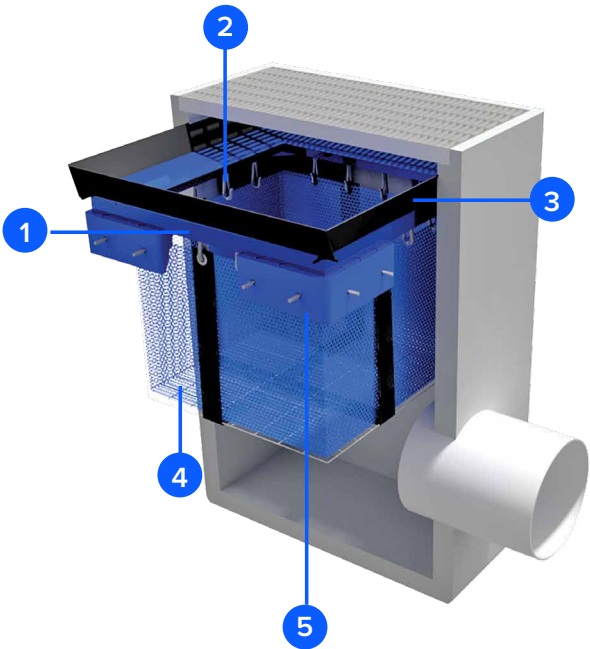
The AtlanTrap provides effective filtration of solid pollutants and debris typical of urban runoff, while utilising the existing or new storm drain infrastructure. The AtlanTrap is designed to rest on the flanges of conventional catch basin frames and is engineered for most hydraulic and cold climate conditions.



Typically the AtlanTrap is serviceable from the street level, and therefore maintenance does not usually require confined space entry into the catch basin structure. The unit is designed to be maintained in place with a vacuum hose attached to a sweeper or sucker truck.

Application	Regulatory Issue	Target Pollutants
Council Storm Drain Retrofits	At-source litter capture	Sediment, Litter, O&G
Commercial/Retail/Residential	Stormwater Compliance	Sediment, Litter, O&G
Litter Prone Urban Areas	Cost effective litter control	Litter ≥ 5 mm
Scrap Metal/Solid Waste/Oil Storage/Etc	Industrial Multi-Sector General Permit	Gross Pollutants, O&G
Part of Treatment Train	Council Stormwater Quality Improvement Targets	Sediment, Litter, O&G
Construction Sediment/Erosion	Sediment Control Plan	Sediment/Erosion Control

Features	
1.	Injection moulded plastic frame.
2.	Special type hooks and clips attached to frame for easy bag service and replacement.
3.	Black rubber surround secured to frame to suit standard pit sizing.
4.	Reinforced AtlanTrap bag.
5.	TrapCatch corner frame support.



Standard AtlanTrap to suit Pit Sizes
450x450mm
450x600mm
600x600mm
900x600mm
900x900mm

Custom Combinations of the standard sizing can be accommodated with specific framing and support systems - POA.

HEALTH & SAFETY

IMPORTANT: A full site based risk assessment should be completed prior to commencing work on your AtlanTrap.

PERSONAL HEALTH & SAFETY

When carrying out maintenance operations of the AtlanTrap all contractors and staff personnel must comply with all current workplace health and safety legislation. The below measures should be adhered to as practically as possible:

- Comply with all applicable laws, regulations and standards.
- All those involved are informed and understand their obligations in respect of the workplace health and safety legislation.
- Ensure responsibility is accepted by all employees to practice and promote a safe and healthy work environment.

PERSONAL PROTECTIVE EQUIPMENT

When carrying out maintenance operations of the AtlanTrap, wearing the appropriate personal protective equipment is vital to reducing potential hazards. Personal protective equipment in this application includes:

- Eye protection
- Safety apron
- Fluorescent safety vest
- Form of skin protection
- Puncture resistant gloves
- Steel capped safety boots

CAPTURED POLLUTANTS

The material captured by the AtlanTrap can be harmful and needs to be handled correctly. The nature and amount of the captured pollutants depends on the characteristics of the site.

Pollutants can include from organic material such as leaves and sticks through to debris such as plastics, glass and other foreign objects such as syringes.

EQUIPMENT HANDLING

Handling activities such as removing the drain grate as well as managing pedestrians and other

non-worker personnel at the site should be exercised in accordance with specified safety procedures and guidelines.

CONFINED SPACES

Confined space entry procedures are not covered in this manual. It is requested that all personnel carrying out maintenance of the AtlanTrap must evaluate their own needs for confined space entry and compliance with occupational health and safety regulations. Non trained staff are not permitted to participate in any confined space entries.

When maintenance operations cannot be carried out from the surface and there is a need to enter confined space, only personnel that currently hold a Confined Space Entry Permit are allowed to enter the confined space.

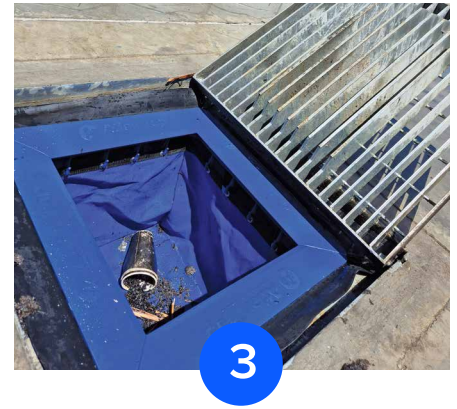
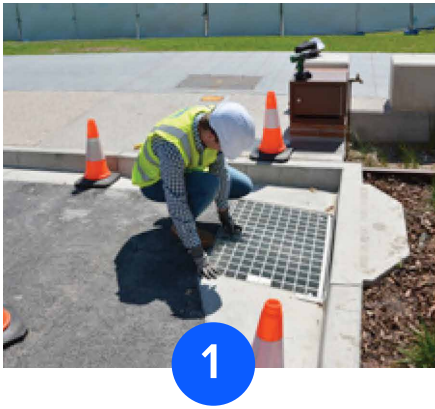
TRAFFIC MANAGEMENT

Typically stormwater gully pits are situated on roads and carparks, or adjacent to roads in a footpath or swale. As traffic requirements vary depending on the circumstance of the site, separate traffic control plans should be prepared for each site.

The specific road safety requirements for each site can be obtained from the relevant road authority to ensure all maintenance operations comply with the laws and regulations. State government publications can also be useful to find out the signage requirements, placement of safety cones and barricades that are required when working on public roads.

MAINTENANCE OF THE ATLANTRAP IS A SPECIALIST ACTIVITY

When carrying out maintenance operations of the AtlanTrap, factors such as equipment handling methods, pollutants and site circumstances can impose potential risks to the maintainer and nearby civilians.



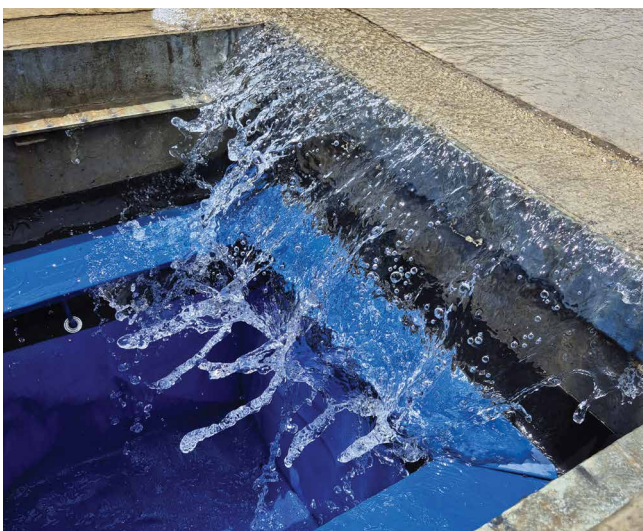
OPERATIONS

GENERAL MONITORING

The AtlanTrap must be checked on a regular basis to analyse whether it requires maintenance or cleaning. In accordance with WSUD requirements, AtlanTrap bags must be cleaned out and inspected 2-4 times a year. As gully pit grates are usually quite heavy, it is vital to exercise the correct lifting techniques and also ensure that the area surrounding the open pit is shielded from access of non-work personnel.

To ensure optimal performance of the AtlanTrap, the material collected by the filter bag should not exceed the level of approximately a half to two thirds of the total bag depth. When this material collected is showing signs of exceeding this level they should be scheduled to be emptied.

It is also recommended that additional monitoring is conducted following moderate to extreme rainfall events, especially when previous months have had little or no rainfall.



GULLY PIT COVER REMOVAL

Opening a hinged pit cover

1. Insert the lifting hooks beneath the grate.
2. Check hinge points are not damaged and debris is not caught in the hinge area.
3. Fully open pit grate, ensuring that the grate will stay in the open position without any external forces applied. Grates that do not remain open without being held, should be removed or secured during maintenance activities.

Opening a non-hinged pit cover

1. Place lifting hooks beneath grate, where possible in the four corners of the grate. Concrete lids may have Gatic lifting points, a key arrangement or holes in the lid, which may require special equipment such as Gatic lifters. Alternatively if safe to do so grip the grade with your hands.
2. Position each person on either side of the grate.
3. Lift the grate, ensuring that good heavy lifting posture is used at all times.
4. Place the grate on angle on the gutter, to allow for the lifting hooks to be removed.
5. For extremely heavy one-piece grates and concrete Gatic covers, insert the lifters in place and slide the lids back.



REPAIRS

Depending on the extent of the damage to the AtlanTrap unit, it can usually be repaired.

Filter Bag Tears

Small tears to the filter bag can be repaired by either sewing the tear back together with additional fabric to increase the strength of the stitching, or by sewing a patch of filter material onto the filter bag.

Spill Procedures

In the event of a spill discharging into a gully pit, all effected sediment must be removed from the filter bags and the filter bags are to be removed and replaced with new filter bags.

Replacement Parts

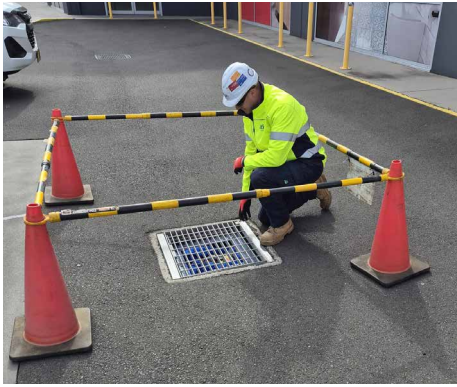
If large tears or irreparable damage to the frame and structure are present, it is advisable to replace the components.

All required spare parts can be sourced directly from Atlan Stormwater.

CLEANING METHODS

CLEANING USING AN VACUUM TRUCK

1. Open gully pit.
2. Place the vacuum hose, suck out all of the sediment, organic leaf material, litter and other materials that were collected in the filter bag.
3. Allow the filter bag to be sucked up in the vacuum hose for a few seconds to allow for the filter mesh pores to be cleaned.
4. Use the vacuum hose to remove any build-up of material around the overflows and in the bottom of the pit.
5. Remove filter back from pit.
6. Remove any sediment and litter caught in the gully pit grate.
7. Back opening channels are to be cleared of any debris to ensure flow is not hindered.
8. Thoroughly examine the structural integrity of the filter bag and frame.
9. Reinstall filter bag and gully pit covers.



CLEANING BY HAND

CAUTION: Correct PPE must be worn - refer to page three. Remain alert for dangerous objects and wildlife.

1. Open gully pit.
2. Using the correct lifting technique, lift the AtlanTrap out by the diagonal lifting corners fitted to the frame. For extremely heavy and overfilled bags either use a hydraulic lifting arm to lift the AtlanTrap, or remove excess material using a shovel or etc. Take care not to damage the bag when removing litter from the bag.
3. Lift the AtlanTrap clear of the stormwater pit and position over the collection bin or vehicle.
4. Lift and empty the bag by holding the bottom lifting loops only.
5. Brush the AtlanTrap with a stiff brush to remove the sediment from the filter pores.
6. Thoroughly examine the structural integrity of the filter bag and frame.
7. Reinstall AtlanTrap and gully pit covers.

MATERIAL DISPOSAL

Collected materials can be potentially harmful to humans and the environment. Once all captured material from the AtlanTrap has been removed, it must be taken off site and disposed of at a transfer station or a similar approved disposal site.

BLOCKAGE TROUBLESHOOTING

In the unlikely event of surface flooding around a gully pit which has an AtlanTrap fitted, the following steps should be carried out:

- Check the overflow bypass.
- If overflow is clear and surface flooding still exists remove the AtlanTrap and check the outlet pipe for blockages.
- Removal of the AtlanTrap can be difficult if clogged with sediment and holding water.
- If the filter is clogged brush the side walls to dislodge particles trapped at the interface allowing water to flow through the filter.
- If the outlet pipe is blocked a vacuum truck may be required to unblock it. Litter can be removed from the AtlanTrap using the vacuum truck before removal. If a vacuum truck is not available please follow the hand maintenance cleaning steps prior to unblocking the outlet pipe.

ATLANTRAP MAINTENANCE CHECKLIST

SITE DETAILS

Client	
Location of system on site	
Site address	
Site contact name and number	

CHECKLIST ITEMS	YES/NO	COMMENTS
Is the pit free from pollutants and debris?	SELECT	
Is there movement or damage to the cage?	NO	
Is there movement or damage to the plastic pit seals?	SELECT	
Is structural integrity in good condition including fixings, joints and connections?	SELECT	
Is the filter bag pores clean and not clogged?	SELECT	
Is the filter bag damaged in any way?	SELECT	
Are the inlet and outlet pipes free from debris and damage?	SELECT	
Is the cover grate free from debris and damage?	SELECT	
Does the AtlanTrap need repairs or replacement parts?	SELECT	
Has captured material been disposed of responsibly at an approved disposal site?	SELECT	

MAINTENANCE & REPAIR NOTES

SIGN OFF

Name of service technician	
Date	

INSTALLATION MANUAL

AtlanTrap



'We believe clean waterways are a right not a privilege
and we work to ensure a Joy in Water experience for
you, with your children and grandchildren.'

Andy Hornbuckle

Atlan
STORMWATER

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NEW ZEALAND P 09 930 7417 | sales@atlan.co.nz | atlan.co.nz
INTERNATIONAL atlanstormwater.com

OPERATION & MAINTENANCE MANUAL

AtlanFilter



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INTRODUCTION

Understanding how to correctly and safely maintain the AtlanFilter is essential for the preservation of the filter's condition and its operational effectiveness. The AtlanFilter is a highly engineered stormwater filtration device designed to remove sediments, heavy metals, nitrogen and phosphorus from stormwater runoff.

The filters can be housed in either a concrete or fibreglass structure that evenly distributes the flow between cartridges.

Flow through the filter cartridges is gravity driven and self-regulating, which makes the AtlanFilter system a low maintenance, high performance stormwater treatment device.

This guide will provide the necessary steps that are to be taken to correctly and efficiently ensure the life of the AtlanFilter product.



Figure 1 - AtlanFilters in a concrete chamber / vault

FEATURES

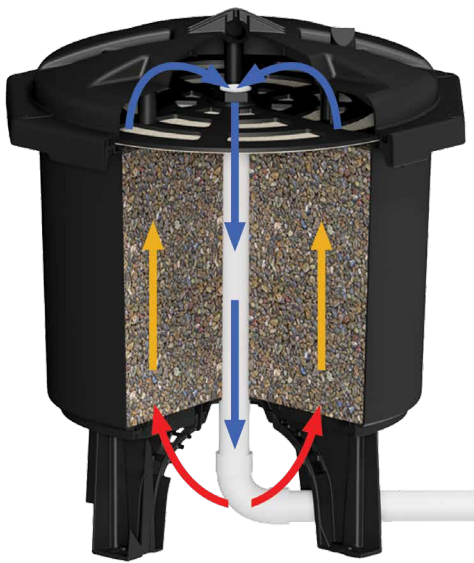


Figure 2 - Diagram of water flow through the AtlanFilter

The AtlanFilter has a patented design that facilitates influent flow over the entire surface area of the media, providing consistent pollutant removal within a small footprint.

The AtlanFilter provides highly effective media filtration using gravity flow conditions, without the need for moving parts or floating valves. This eliminates the risk of mechanical failure, such as stuck valves and seizing components during its service life. This provides highly robust treatment performance.

Hydraulic head provided by a suitably sized weir in the filter vault forces stormwater through the filter media via the inlet ports underneath the filter cartridge.

Refer to the table below for minimum head required for the AtlanFilter cartridges to assist in sizing the weir.

The water to be treated enters the AtlanFilter cartridge via an upwards direction as the water level builds up around the AtlanFilter. This 'up flow' reduces the amount of sediment that could enter the media cartridge, as the sediment is allowed to drop to the vault floor under gravity. Any remaining sediment in the water is introduced through the filter media under hydraulic pressure and is filtered.

Water is filtered through the media, where dissolved and particulate Total Nitrogen and Total Phosphorus are removed via reaction with the media, in addition to the removal of Total Suspended Solids / sediment.

AtlanFilter Media Self-Backwash feature

A one-way air release valve located at the top of the filter cartridge allows air to escape as the cartridge fills up with water. This creates a siphonic flow condition as the air is completely evacuated from inside the AtlanFilter cartridge. Siphonic flow conditions are maintained until such time the water level outside of the cartridge falls beneath the inlet ports underneath the filter. At this moment, the water level inside the AtlanFilter cartridge is higher than the surrounding water level.

The water inside the AtlanFilter cartridge is then expelled upon the break of the siphon, and the water flows down and out of the inlet ports under gravity, onto the vault floor.

This is a highly effective backwash of the media and allows the expulsion of a high proportion of sediment out from the AtlanFilter media. The expelled sediment can be removed either manually or with a vacuum from the vault floor.

This backwash effect allows the media to remain highly conductive and is the key to the industry leading longevity of the AtlanFilter cartridge system, which does not need replacement for at least 5 years, and typically will achieve up to 5-8 years of service (depending on catchment loading), subject to the AtlanFilter being regularly maintained in accordance with this guideline and in accordance with the specific needs of the catchment.



Figure 3 - Typical Outlet Weir Wall

FEATURES

Self Supporting Feet

Each AtlanFilter cartridge stands on 4 feet, which negates the need for the construction of a false floor in the vault. The feet are bolted to the vault floor with the supplied stainless steel angles and M10 bolts. The feet allow a clear height from the vault floor up to the inlet ports of 240mm. The absence of a false floor allows plenty of room for backwashed sediment to evacuate from underneath the cartridges and thereby avoid blocking the inlet ports to the AtlanFilter from sediment buildup. It is for this reason that Atlan recommended the sediment buildup not exceed 150mm above the vault floor, so as to avoid blocking the inlet ports of the AtlanFilter. Blockage of the inlet ports due to sediment accumulation in the vault floor will cause the AtlanFilter to go into bypass and be ineffective. Hence it is important to keep up to date with monitoring and maintaining the AtlanFilter vault.

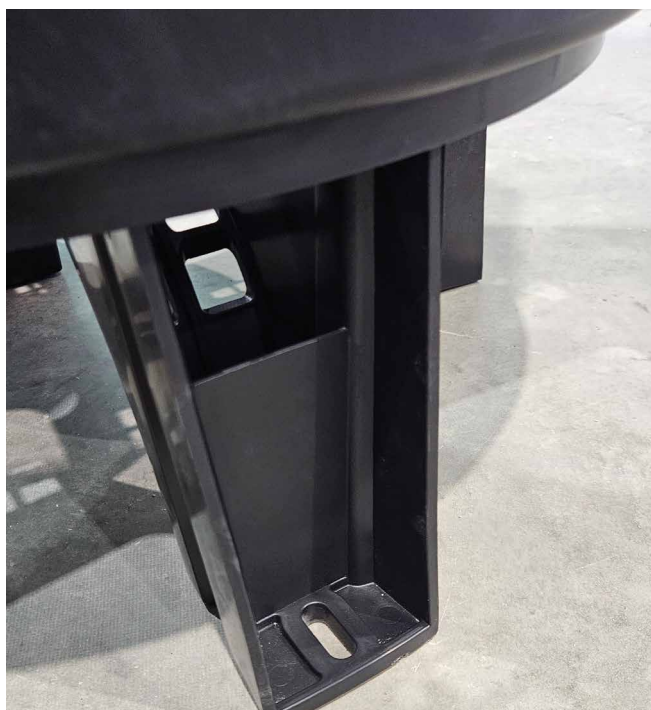


Figure 4 - AtlanFilter feet.



Figure 5 - Underside of the AtlanFilter showing the screened inlet ports and the connection for the outlet pipe in the middle.

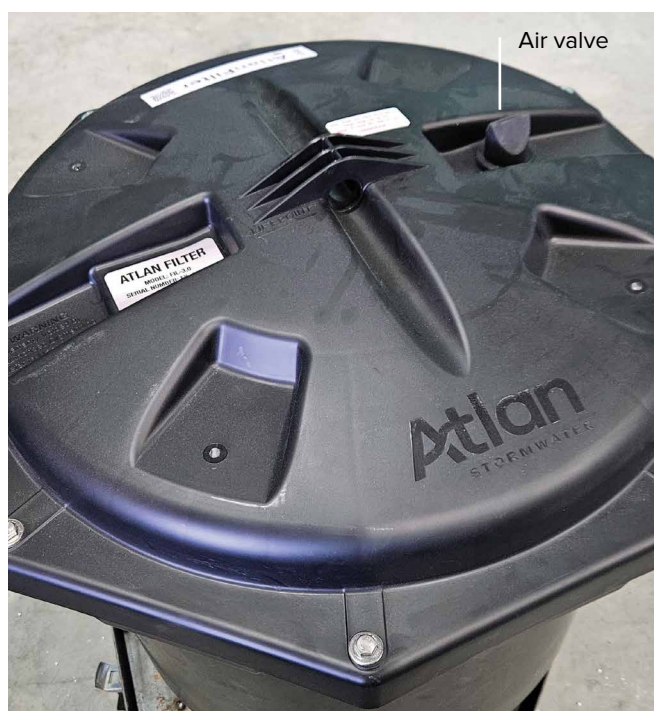


Figure 6 - the top of the AtlanFilter showing the location of the one way air valve.



SIZES

Atlan Stormwater manufactures two height cartridges for varying site constraints as shown below. Each cartridge is designed to treat stormwater at a flow rate of 1.5 litres per second and 3.0 litres per second for the half height cartridge (model no. FIL-1.5) and full-height cartridge (model no. FIL-3.0) respectively.



ATLANFILTER	STANDARD HEIGHT FIL-3.0	STANDARD HEIGHT - SHORT LEGS FIL-3.0.SF	HALF HEIGHT FIL-1.5	HALF HEIGHT - SHORT LEGS FIL-1.5.SF
Overall height	850mm	750mm	615mm	515mm
Diameter	726mm	726mm	726mm	726mm
Minimum head required	850mm	750mm	550mm	450mm
Treatment flow rate	3.0L/s	3.0L/s	1.5 L/s	1.5 L/s
Filter outlet diameter	50mm	50mm	50mm	50mm

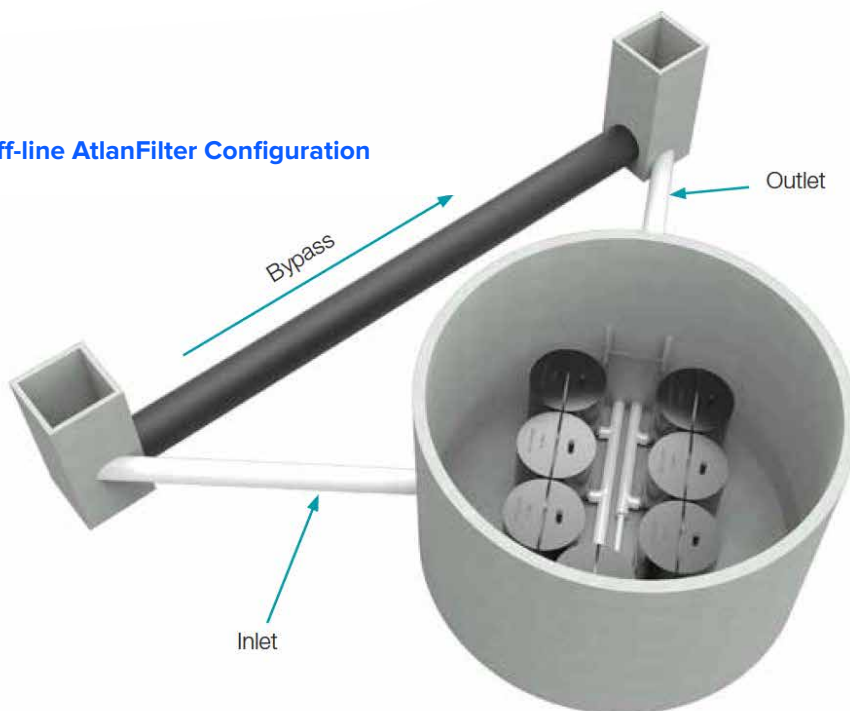
SYSTEM CONFIGURATION

AtlanFilter cartridges are installed in concrete or fibreglass tanks commonly referred to as 'vaults'. The vault selection and configuration are based on site characteristics and/or constraints; computational stormwater quality modelling; and selected AtlanFilter models. Typical AtlanFilter system configurations are shown below.

In-line AtlanFilter Configuration



Off-line AtlanFilter Configuration



HEALTH AND SAFETY

A. Personal health & safety

When carrying out the necessary installation operations of the AtlanFilter all contractors and staff personnel must comply with all current workplace health and safety legislation.

The below measures should be adhered to as practically as possible.

- Comply with all applicable laws, regulations and standards.
- All those involved are informed and understand their obligations in respect of the workplace health and safety legislation.
- Ensure responsibility is accepted by all employees to practice and promote a safe and healthy work environment.

B. Personal protective equipment/safety equipment

When carrying out the necessary installation operations of the AtlanFilter, wearing the appropriate personal protective equipment and utilising the adequate safety equipment is vital to reducing potential hazards.

Personal protective equipment / safety equipment in this application includes:

- Eye protection
- Safety apron
- Fluorescent safety vest
- Form of skin protection
- Puncture resistant gloves
- Steel capped safety boots
- Ear muffs
- Hard hat/s
- Sunscreen

C. Confined space

In the event access is required into the vault, confined space permits will be required which is not covered in this Guide. Typical equipment required for confined space entry include:

- Harness
- Gas detector
- Tripod
- Spotter

D. Traffic Control

It is not uncommon for Atlan Filter cartridges to be installed underneath trafficable areas. Minimum traffic control measures will need to be put in place in accordance with traffic control plans set out by respective local and state road authorities.



Vaults are to be treated as confined space.

Entry by permit only.



Monitor weather conditions prior to operation maintenance. Do not enter a vault during an episode of heavy rain as this can create a risk of drowning.



Hi-Vis Vest



Hard Hat



Boots



Gloves



Safety Glasses



Ear Protection



Harness



Respirator

MAINTENANCE FREQUENCY

The AtlanFilter's design allows for a greater life span when frequently maintenance. Maintenance is broken up into three categories which include:

- Standard inspection
- General cleaning
- Cartridge replacement.

Standard Inspection

Standard inspections are conducted at regular four month intervals. At this time, an approved trained maintenance officer or Atlan representative shall undertake all measures outlined in Maintenance Procedure, Standard Inspection.

General Cleaning

At the end of each standard inspection, trigger measures will identify if general cleaning is required.

General cleaning will need to be executed immediate during standard inspections if the follow triggers are satisfied:

- Build-up of debris/pollutants within the vault greater than 150mm;
- Accumulation of debris/pollutants on the outlet chamber of the AtlanFilter vault;
- After large storm events, tidal or flooding impacts at the request of the owner;

Cartridge Replacement

Stormwater treatment is dependent on the effectiveness of the AtlanFilter cartridge system. As the AtlanFilter ages, pollutants will inundate the cartridge and ultimately reduce the treatment flow rate. At this point, a AtlanFilter flow test apparatus will be utilities to determine if replacement cartridges are required.

Based on the [site] concept modelling (MUSIC) and previous industry experience, we estimate the life of the AtlanFilter to be between 5 - 8 years (depending on catchment loading). As a minimum requirement, each AtlanFilter cartridge should be replaced within 10 years.

The life cycle of the AtlanFilter can be impacted if standard inspections and general maintenance is not undertaken in accordance with this operation and maintenance Guide.

Other factors that will affect the above life cycle of the AtlanFilter include:

- Installation of cartridge system during construction phase and impacted by construction sediment loads;
- Neglecting to install pre-treatment using an industry approved GPT or a surface inlet pit trash bag such as the Atlan StormSack.
- Unforeseen environmental hazards affecting the AtlanFilter functionality.

MAINTENANCE PROCEDURES

Stormwater pollutants captured and retained by the AtlanFilter system need to be periodically removed to ensure environmental values are upheld. All associated maintenance works is heavily dependent on the site's operational activities and generated stormwater pollutants. To ensure the longevity of the installed AtlanFilter treatment system, it is imperative that the procedures detailed in this Guide are followed and all appropriate measures are actioned immediately.

Standard inspection

The standard inspection requires personal experience of Atlan products to visual inspection the vault and filter conditions.

Confined space requirements may not be required if a full inspection and assessment of each AtlanFilter can be achieved at surface level without being deemed a confined space entry.

The standard inspection requires personal experience of Atlan products to visual inspection the vault and filter conditions.

Confined space requirements may not be required if a full inspection and assessment of each AtlanFilter can be achieved at surface level without being deemed a confined space entry.

Site Inspection Procedures

1. Implement pre-start safety measures

Ensure that the area in which operational works are to be carried out is cordoned off, to prevent unauthorised access. Adequate safety barriers must be erected.

Area in which work is to be carried out must be clean, safe and hazard free. (Refer to figure 4.)

2. Set-up gantry tripod above manhole

Assemble and position the gantry above the manhole safely and as practically as possible. Attach the winch or chain block to the gantry for lifting the Atlan Filters.

Perform safety procedures ie. Attach harnesses etc. (if confined space).

3. Open manhole lid

Once you have set up the Gantry and ensured that the area is safe to operate in, you can proceed to open the manhole lid, using lid lifters.

4. Conduct gas tests

(If tank is classed confined space)

Once the lids have been removed to a safe distance to prevent tripping, you must then proceed to conduct gas tests. Perform necessary gas tests according to the confined space regulations.

5. Once confined space has been deemed safe to operate in, enter tank safely

Once you have carried out the required gas test and the work area is deemed safe, you may then enter the pit via a ladder or winch system to assess the work area you will be operating in. Ensure all confined space

6. AtlanFilter system assessment

Perform a review of the AtlanFilter system using the AtlanFilter assessment report/checklist. Sign off and forward a copy of the report to property manager and Atlan representative.

7. Reinstate AtlanFilter system and disposal

At the completion of the site inspection, ensure the site is reinstated back to its initial state and all pollutants are removed from the site in line with pollutant disposal procedures.

8. Sign off and forward a copy of the report to property manager and Atlan representative

GENERAL CLEANING



Vacuum out of Filter tank, removal, and disposal of pollutants at the completion of a standard inspection, general cleaning may be deemed necessary immediately or scheduled for a future date. Steps undertaken for general cleaning should be in general accordance with the procedure outlined below but not limited.

1. Implement pre-start safety measures

Ensure that the area in which operational works are to be carried out is cordoned off, to prevent unauthorised access. Adequate safety barriers must be erected.

Area in which work is to be carried out must be clean, safe and hazard free. (Refer to figure 4.)

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6. AtlanFilter system assessment

Perform a review of the AtlanFilter system using the AtlanFilter assessment report/checklist.

7. Pollutant removal from tank

Perform clean-up using a licenced vacuum truck contractor or wet/dry vacuum, depending on level of sediment built up and/or tank size.

8. Reinstate AtlanFilter system and disposal

At the completion of the site inspection, ensure the site is reinstated back to its initial state and all pollutants are removed from the site in line with pollutant disposal procedures.

9. Sign off and forward a copy of the report to property manager and Atlan representative

CARTRIDGE RECYCLING AND REPLACEMENT

AtlanFilter cartridges can be swapped out for new cartridges. The spent AtlanFilter cartridges can be collected from site and sent to Atlan Stormwater's facilities, where the spent media will be removed from the cartridge in factory conditions and disposed of in accordance with environmental regulations.

The AtlanFilter cartridge will be recharged with new media, thereby recycling and repurposing the cartridge.

AtlanFilter replacement procedures may vary depending on the configuration of the AtlanFilters, the type of vault and engineers' specs. Replacement instructions for manhole AtlanFilter systems and precast vault AtlanFilter systems are contained in this section.

At the completion of a standard inspection, AtlanFilter replacement may be deemed necessary immediately or scheduled for a future date. Steps undertaken for cartridge replacement should be in general accordance with the procedure outlined below but not limited.

1. Implement pre-start safety measures

Ensure that the area in which operational works are to be carried out is cordoned off, to prevent unauthorised access. Adequate safety barriers must be erected.

Area in which work is to be carried out must be clean, safe and hazard free.

2. Set-up gantry tripod above manhole

Assemble and position the gantry above the manhole safely and as practically as possible. Attach the winch or chain block to the gantry for lifting the AtlanFilters.

Perform safety procedures ie. attach harnesses etc. (if confined space).

3. Open manhole lid

Once you have set up the gantry and ensured that the area is safe to operate in, you can proceed to open the manhole lid, using lid lifters.

4. Conduct gas tests

(If tank is classed confined space)

Once the lids have been removed to a safe distance to prevent tripping, you must then proceed to conduct gas tests. Perform necessary gas tests according to the confined space regulations.

5. Once confined space has been deemed safe to operate in, enter tank safely

Once you have carried out the required gas test and the work area is deemed safe, you may then enter the pit via a ladder or winch system to assess the work area you will be operating in. Ensure all confined space procedures are followed.

6. Remove exhausted cartridges

Disconnect all internal pipe work from inside the vault. Unbolt anti-floatation measures and remove cartridges from the vault using Gantry Tripod method.

7. Pollutant removal

Using a wet/dry vacuum or sucker truck, suck out all the residual pollutant from the vault.

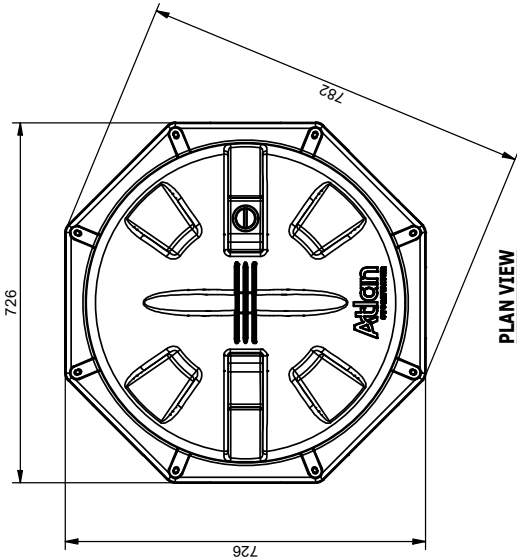
8. Install pipework and AtlanFilters

Please refer to the below standard install diagrams for the AtlanFilters. Then refer to your site specific drawings, as site requirements may require something different to the standard layout. Lower filters into tank, position into place, connect filter outlet pipework with the supplied fittings.

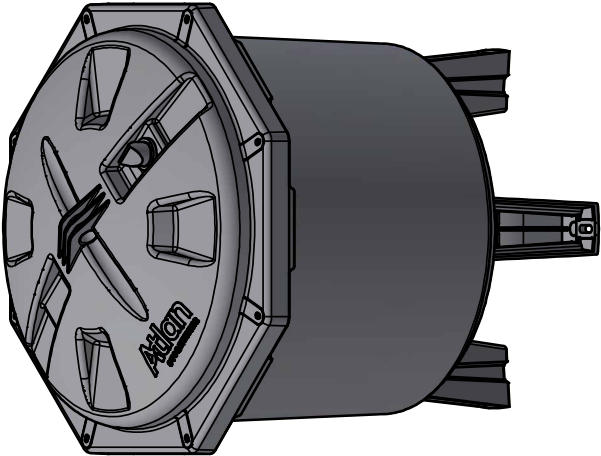
9. Install anti-floatation system

Please refer to the detailed drawings showing how the anti-floatation (anchor) bars are to be installed.

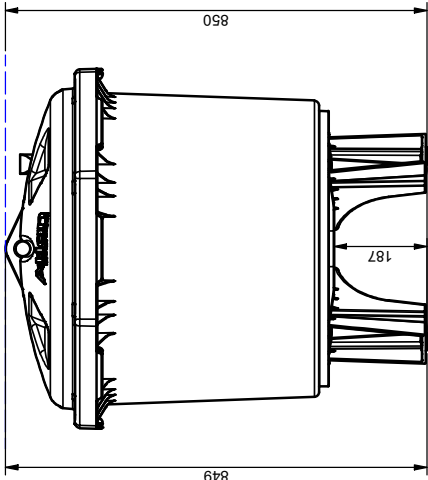
10. Sign off and forward a copy of the report to property manager and Atlan representative



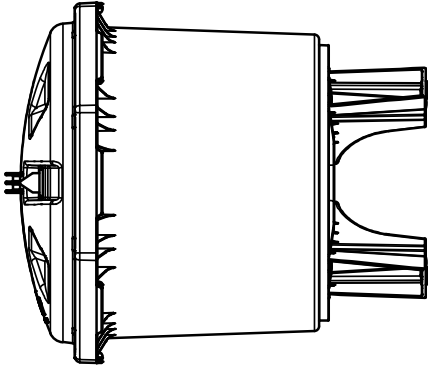
ATLAN FILTER - FIL-3.0
STANDARD HEIGHT



ISOMETRIC VIEW



ELEVATION VIEW



SIDE VIEW

TOLERANCE: All Dimensions to Closest : 10 mm & +/- 30 mm

ALL INTERCONNECTING PIPEWORK, PITS AND ASSOCIATED DRAINAGE BY OTHERS

CLIENT:

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Drawn P.Z.	Date 27/01/2025
Check	Date
Verified	Date
Approved	Date
Request No.	

REV	DATE	P.Z.	BY	INITIAL RELEASE	DESCRIPTION	CHK
	27/01/2025					

PROJECT :			
TITLE ATLAN FILTER FIL-3.0			
SCALE N.T.S.	SIZE A3	SHEET 1	REV
CUSTOMER CODE : DWG No. FIL-3.0			



ISSUED FOR CONSTRUCTION

PLAN VIEW

78.2

726

726

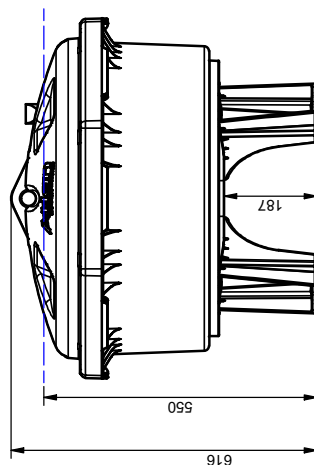
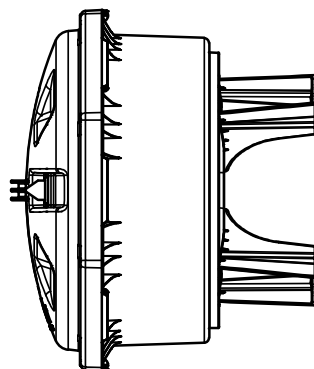


TOLERANCE: All Dimensions to Closest 10 mm & +/- 30 mm	ALL INTERCONNECTING PIPEWORK, PITS AND ASSOCIATED DRAINAGE BY OTHERS
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P.Z.			P.Z.			P.Z.		
DATE			DATE			DATE		
BY			BY			BY		
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DESCRIPTION			DESCRIPTION			DESCRIPTION		
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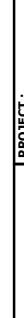
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		Approved		Date					
		Request No.							

PROJECT :			ATLAN FILTER - SHORT FIL-3.0			SCALE		N.T.S		SIZE		A3		SHEET		1		REV		
CUSTOMER CODE :			DWG No.			FIL-3.0.SF														



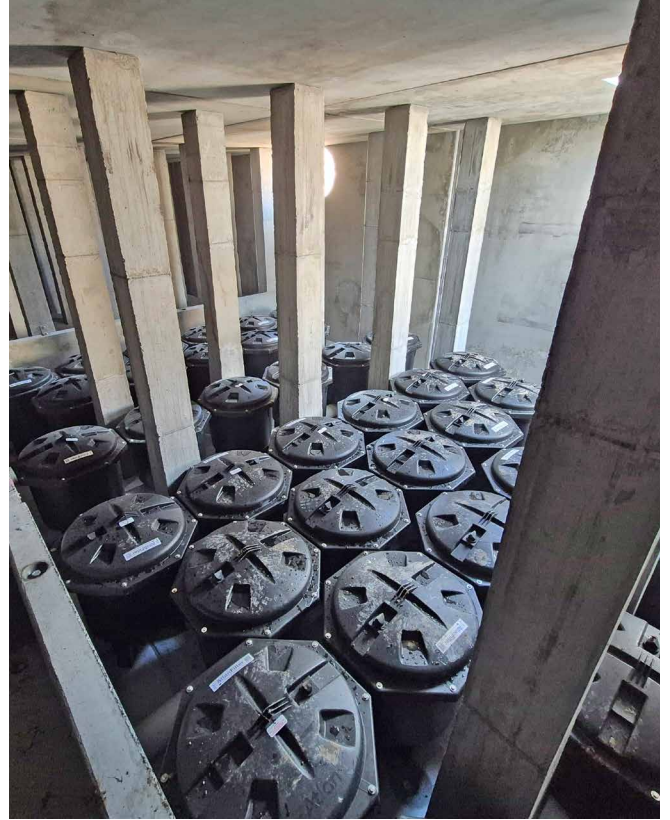
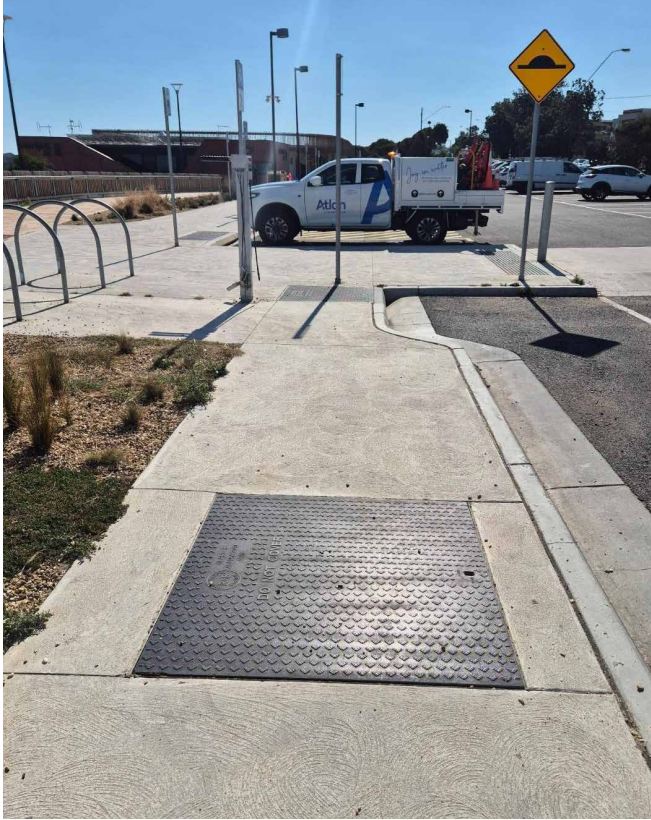
SIDE VIEW

ELEVATION VIEW

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INITIAL RELEASE		P. Z.		27/01/2025		Drawn P.Z.		Date 27/01/2025		Check		Date		Verified		Date		Approved		Date		Request No.	
C/CHECK		BY		DATE																		CUSTOMER CODE : DWG No. FIL - 3.0	



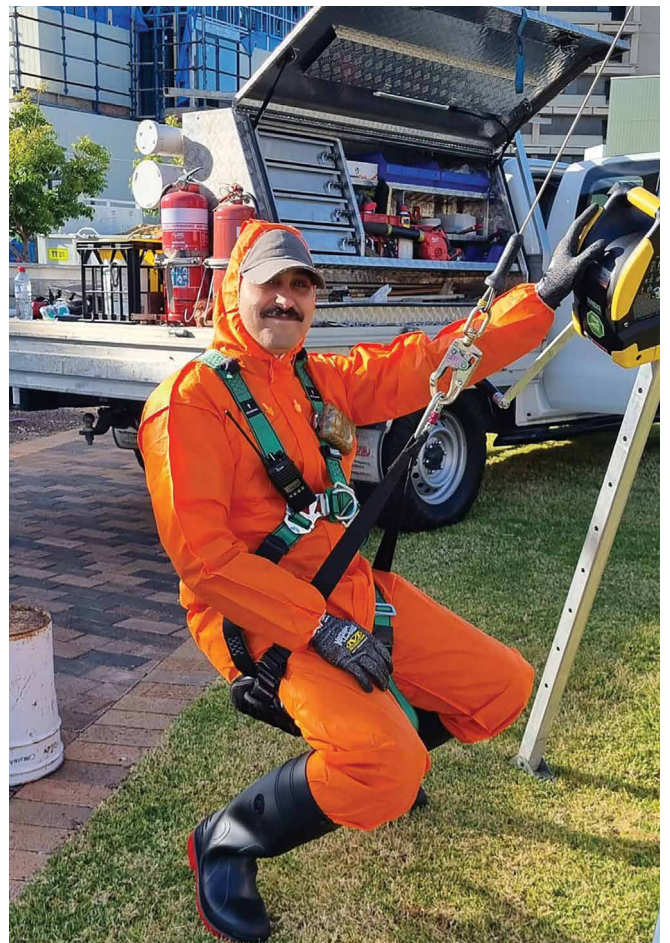
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		DATE		DESCRIPTION	
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Request No.					
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P.Z.					
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Date					
Verified					
Date					
Approved					
Date					
PROJECT :					
TITLE					
ATLAN FILTER - SHORT					
FIL-1.5					
SCALE					
N.T.S.					
SIZE					
A3					
SHEET					
1					
REV					
CUSTOMER CODE : DWG No.					
FIL-1.5.SF					



SITE EXIT & CLEAN UP

At the end of the scheduled maintenance, approved contractors or Atlan maintenance crew are required to reinstate the site to pre-existing conditions. Steps included but limited to are:

- Ensure all access covers are securely inserted back into their frames;
- Remove and dispose collected pollutants from the site in accordance with local regulator authorities;
- Retrieve all traffic control measures and maintenance tools; and
- Return all exhausted and/or damaged Atlan products to Atlan Stormwater to begin recycling program.



Joy in water

'We believe clean waterways are a right not a privilege and we work to ensure a Joy in Water experience for you, with your children and grandchildren.'

Andy Hornbuckle



Atlan
STORMWATER

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