



Asset Management

Phase 3 – Asset Management Planning Process Improvement Initiatives for Landslide Susceptibility and Risk Assessment

Date

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Table 1

Version	Issued	Prepared by	Reviewed by	Approved by
1.0 – Draft in progress	Date	Network Performance Integrated Planning Manager	Role	Role

Document Review and Amendment

xxx is responsible for maintenance of this document.



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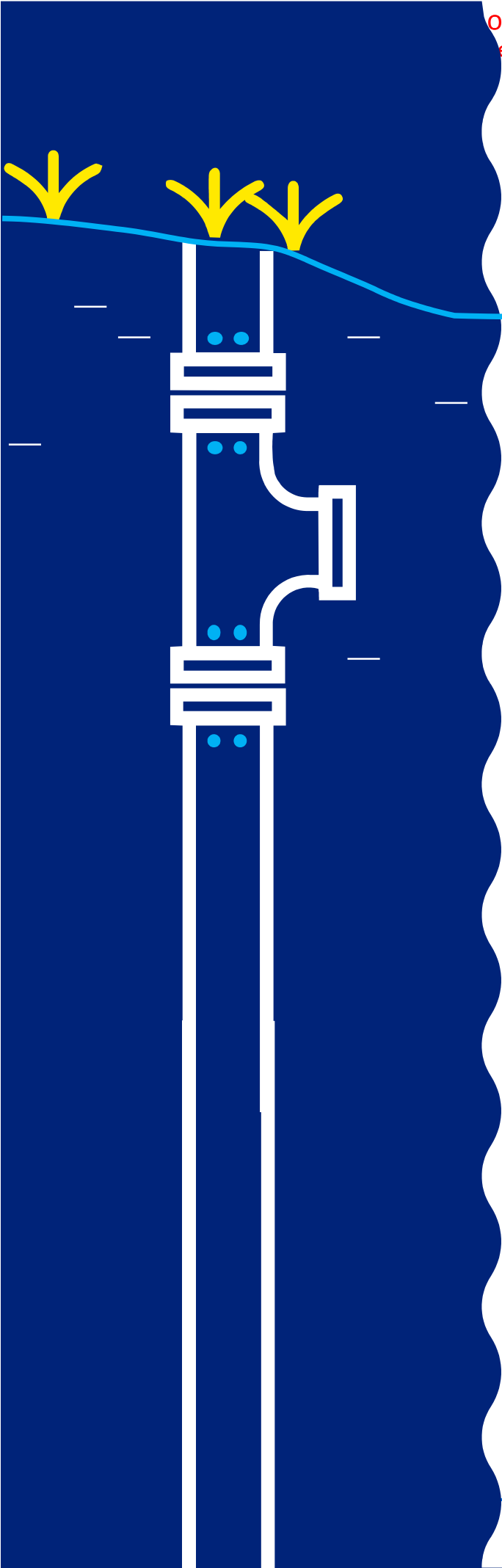


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1. Executive Summary

This document has been prepared to outline asset management planning process improvement initiatives for landslide susceptibility for consideration in SEW risk assessments and consideration of vulnerability. This includes setting out actions, responsibilities, and target dates. The scope of this document includes South East Water's water, recycled water and sewer networks.

This document is to be read in conjunction with other South East Water documents including but not an exhaustive list:

- Corporate Asset Management Plan.
- Strategic Assessment Management Plan (AM2787).
- Corporate Risk Framework (BS1026).
- Asset Risk Management Model – Holistic Risk Planning (Version 3, August 2023).
- Preliminary Environmental Checklists (Integrated Planning and Reliability) developed by Environment & Approvals Team.

The scope of the document excludes the following:

- Operation and maintenance process, works orders (i.e. Montage), planned and preventative maintenance, field work and investigations including but not an exhaustive list:
 - Leak Detection including customer notification and management.
 - Metering including Digital meters.

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2. Abbreviations

Table 2: Abbreviations

Abbreviation	
ARMM	Asset Risk Management Model
CCTV	Closed Circuit TV
CEMP	Construction Environmental Management Plan
DTM	Digital Terrain Model
DU	Digital Utility
ECP	Environmental Control Plan
EMO	Erosion Management Overlay
GIS	Geographic Information System
MPSC	Mornington Peninsula Shire Council
MRWA	Melbourne Retail Water Agencies
SEW	South East Water
WSAA	Water Services Association of Australia

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3. Current Approach

The following briefly summarises key current process (i.e. excludes project specific investigations) with respect of landslide susceptibility and potential risk and Erosion Management Overlays:

Asset Management Planning

- The GIS (QGIS) release of the Asset Risk Management Model (ARMM) developed for the Price Submission 5 period 2023 – 28 for water and sewer (AARM_Water_Release_20230616.zip and AARM_Sewer_Release_20230706.zip) includes the Erosion Management Overlay (EMO) planning overlay as a supporting information layer.
- Separate Climate Adapt project has also considered erosion.

Capital Project Planning

- Preliminary Environmental Checklists (Integrated Planning Preliminary Environmental Checklist and Reliability Preliminary Environmental Checklist) are used for capital project planning within the Liveable Water Solutions workgroup. These checklist templates have been developed and are managed by the Environment and Approvals team and includes a link to VicPlan mapping and requests that the relevant overlays be identified.
- For capital projects that are not reliability watermain renewals, sewer rehabilitation, or pressure sewer connections via the Integrated Planning Team: The Preliminary Environmental Checklist asks for an initial statutory planning assessment. Environmental practitioners complete this assessment with engagement of statutory planners if required. If an EMO is identified, this would be highlighted as a project risk that needs to be managed along with any specific statutory approval requirements (e.g. permits triggered under the EMO).
- For reliability watermain renewal capital projects: The Preliminary Environmental Checklist identifies overlays including EMOs. If an EMO is identified, it is highlighted as a project risk that needs to be managed and the following automatically generated information is provided: “EMOs protect areas prone to erosion, landslip, other land degradation or coastal processes by minimising land disturbance and inappropriate development. Please liaise with the appropriate Authority/Council representative and contact the Environment and Approvals team if you need further advice”.
- Both the checklists above also have an onsite inspection section, which provide a prompt to identify any additional environmental risks onsite and to attach photographs.
- For pressure sewer connections projects: a site inspection is conducted by South East Water works supervisor to specify technical requirements following the customer enquiry to connect. If the site inspection identifies risks associated with erosion or landslip, then a specialist geotechnical and structural engineer would be engaged to design a solution before installation. Customers are engaged and informed during the process.
- Sewer rehabilitation projects: the preliminary environmental checklist is not identified as being required to be completed.

Minor Capital Works:

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- *Minor Capital Projects* undertake a Preliminary Environmental check via the Environment & Approvals Team followed by an in-person site inspection by the Project Engineer with key stakeholders. A desktop review of available SEW asset information informs the rest of the scoping phase about information blind spots requiring further investigation to support the design development phase (e.g. geotechnical, flow, concentration testing).

Minor Sewer and Water Alterations works are subject to a customer document collection by the Property Development team before handover. Once handed over for tendering and delivery customer – the provided documentation is cross reviewed (typically; geotechnical reports, building designs, planning layouts). Further investigation is undertaken to understand delivery impacts including the likelihood of encountering groundwater, a check of nearby EPA and aboriginal cultural heritage site information and nearby historical SEW works records are reviewed for anecdotal and photographic real-world insight (typically; moisture, soil conditions, other services and customer particulars).

- **Developer Gifted Water and Sewer Assets:** Responsibility to identify and manage geotechnical and environmental related risks sits with developers, their accredited consultants and contractors. South East Water has a current design audit process and checklist (for details see separate documentation). Key requirements of the design audit checklist include geotechnical assessment and reporting depending on the water and sewer pipe size, depth and conditions as outlined by the WSAA MRWA codes. Safety and environmental risks are also to be identified and addressed and concerns documented and escalated where necessary. This process includes design, preconstruction and construction audits. The WSAA MRWA codes outlines requirements for the design of pipelines to be constructed in slip and potentially unstable areas. The current process relies on accredited consultants and contractors voluntary submissions, audit triggers for geotechnical and environment assessments and geotechnical reporting.

Capital Project Delivery

- The preliminary environmental checklists form the basis of the environmental input for the Request for Quote documentation that is provided to the delivery partners for tendering purposes.
- A Construction Environmental Management Plan (CEMP) is required for all medium and high environmental risk projects by the awarded partner and are reviewed and approved by the SEW Environmental & Approvals team prior to construction. The CEMP includes a risk rating and outlines erosion and sediment controls required for the project as well as a section on site restoration/reinstatement.
- For projects with low environmental risk, the partner may still develop a CEMP or alternatively rely on the partner's programme wide Environmental Management Plan (including sub-plans) that identify measures to manage key environmental risks (including erosion and sediment control) for the program of works. In addition, the partner may also develop an Environmental Control Plan (ECP) that identifies the key environmental risks (higher risks onsite) and outlines the mitigation measures (i.e. if erosion was a particularly high risk, a site-specific erosion ECP may be developed for the project).

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4. Asset Management Planning Process Improvement Initiatives

A description of the asset management planning process improvement initiatives, responsibilities and timelines are summarised in Table 3. This includes ongoing and continuous improvements. This was also developed in consultation with stakeholders across South East Water.

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Table 3: Asset Management Planning Process Improvement Initiatives

Initiative ID (#)	Category	Key links to other initiatives (precursor)	Description (External Stakeholder)	Action by (Role)	Group Manager Responsible for (Role)	Target Date
Short Term						
1	GIS		Incorporation of current published EMO layers in SEW GIS.	Manager Asset Information System	Group Manager Engineering Technology Solutions	- SEW Webmap update complete. - GT Viewer update 30 June 2025
2	GIS		Incorporation of GIS data on landslide susceptibility (<i>GIS Assessment of Regional Landslide, Susceptibility, Mornington Peninsula Shire, ANZ 2012 Conference Proceedings</i>) received from Mornington Peninsula Shire Council (MPSC) in SEW GIS.	Manager Asset Information System	Group Manager Engineering Technology Services	- Data received 27 May 2025 - SEW Webmap update 30 June 2025 - GT Viewer update 30 June 2025
3	GIS	1, 2	Based on a review including suitability and quality of items 1 and 2 and the SMEC report publish updated Priority Areas for Mornington Peninsula Shire Council including any update to the existing Priority Area in SEW GIS.	Manager Asset Information System Water Maintenance Manager Sewer Maintenance Manager	Group Manager Engineering Technology Services Group Manager Maintenance Group Manager Network Operations	Outcome of Item 1, 2
4	O&M	3	Updated Priority Areas notification to: - Operation & Maintenance activities (including planned and preventative maintenance). - Digital meter dashboard (e.g. identification and classification an investigation of potential leaks, notifications, tracking & reporting).	Water Maintenance Manager Sewer Maintenance Manager	Group Manager Maintenance Group Manager Network Operations Group Manager Analytics and Performance	Outcome of Item 3
5	AMP	1, 2, 3	Scope a water main renewal package within McCrae based on information available. Noting planning and delivery maybe impacted by any exclusion zone.	Reliability Planning Manager	Group Manager Distribution Solutions	60 days from Item 3
			Obtain Business Case approval in accordance with SEW's Delegation of Authority.	Reliability Planning Manager	Group Manager Distribution Solutions	Subject to SEW's Delegation of Authority
	Delivery		Procure and deliver (design and construction) the water main renewal package.	Reliability Delivery Manager	Group Manager Asset & Program Delivery	Procurement 120 days Delivery xxx days (depending on scope)

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6	AMP		Review and engage with planning authorities/Councils' seeking potential information on landslide susceptibility (e.g. geospatial, geotechnical, hydrogeological and drainage) and review Vic Plan data changes and layers (e.g. EMO and landslides) and item 18 to:	Local Government Manager & Reliability Planning Manager	Group Manager Marketing, Communications & Engagement Group Manager Distribution Solutions	xxx
	GIS		<ul style="list-style-type: none"> - Inform and update risk assessments and SEW's ARMM. - Update in SEW GIS 	Manager Asset Information System	Group Manager Engineering Technology Services	

Medium Term

7	AMP	1, 2, 3, 6, 8, 10	<p>Review including suitability, type and quality of available information on landslide susceptibility (e.g. EMO, <i>GIS Assessment of Regional Landslide, Susceptibility, Mornington Peninsula Shire</i> and including classification (i.e. low, medium, high) within the data and other planning authority/Councils' information based on item 6).</p> <p>Based on this review, consider updated Priority & Risk (i.e. potential landslide susceptibility) Areas and updates to critical and non-critical assets in ARMM (including water, sewer and recycled water) and PowerBI reporting, and vulnerability in so far as is reasonably practicable.</p>	Reliability Planning Manager	Group Manager Distribution Solutions	240 days from the item 10
8	AMP	3, 6	Prepare register of past known landslide events and make available within SEW GIS for SEW stakeholders. Share with planning authorities.	Manager Asset Information System	Group Manager Engineering Technology Services	60 days from item 3, 6
9	AMP	3, 7	Review the notification process to Reliability and Service Delivery of all future water main (structural) failures, to include consideration of other failure types, and any main to meter renewal requirements within Priority & Risk (i.e. potential landslide susceptibility) Areas.		Group Manager Maintenance Group Manager Network Operations Group Manager Distribution Solutions	120 days from item 7
10	GIS	7	<p>Consider availability of existing Digital Terrain Model (DTM) data to provide slope details to inform landslide susceptibility particularly in Priority & Risk (i.e. potential landslide susceptibility) Areas. Publish on SEW GIS.</p> <p>Consider potential of obtaining additional DTM data as required.</p>	Manager Asset Information System Reliability Planning Manager	Group Manager Engineering Technology Services Group Manager Distribution Solutions	DTM availability 30 th September 2025 (provision of previously captured data)

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11	AMP	7	Scope future critical water main renewal package works and other risk controls within Priority & Risk (i.e. potential landslide susceptibility) as required based on updated available information and risk assessment.	Reliability Planning Manager	Group Manager Distribution Solutions	As required
	Delivery		Obtain Business Case approval in accordance with SEW's Delegation of Authority.	Reliability Planning Manager	Group Manager Distribution Solutions	Subject to SEW's Delegation of Authority
			Procure and deliver (design and construction) water main renewal package.	Reliability Delivery Manager	Group Manager Asset & Program Delivery	As required
12	AMP	7	Based on item 6, review available and completed CCTV against updated critical sewer assets in Priority & Risk (i.e. potential landslide susceptibility) Areas.	Reliability Planning Manager	Group Manager Distribution Solutions	120 days from item 7
			Prepare and award CCTV package(s) to confirm condition of critical sewers in these Priority & Risk (i.e. potential landslide susceptibility) Areas.	Sewer Maintenance Manager		
13	Metering	7	Based on item 6 review and consider digital meter rollout prioritisation to Priority & Risk (i.e. potential landslide susceptibility) Areas beyond McCrae.		Group Manager Digital Field Services	xxx
14	AMP		Review and consider installation of Variable Speed Drive (VSDs) on the pumps at Waller Place PS (WP208).	Reliability Planning Manager	Group Manager Distribution Solutions	30 December 2025
	Delivery		Procure and deliver	Minor Capital Works Manager	Group Manager Asset Performance & Resilience Group Manager Operations	xxx
15	AMP	7	Review of abandoned and decommissioned (but not removed) water, recycled water, sewer assets in Priority & Risk (i.e. potential landslide susceptibility) Areas to confirm method of abandonment e.g. if grouted.	Sewer Maintenance Manager	Group Manager Maintenance	180 days from item 7
16	AMP	7	Review and consider potential deployment of level lotics (or similar) in the gravity sewer network in McCrae and other Priority & Risk (i.e. potential landslide susceptibility) Areas.	Reliability Planning Manager	Group Manager Distribution Solutions	120 days from item 7
			Delivery and installation	Product Delivery Manager / IoT		xxx

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17	AMP	3, 7	<p>Identify if any pressure sewer systems are in Priority & Risk (i.e. potential landslide susceptibility) Areas. Prepare a risk assessment framework specifically in relation to tanks associated with the pressure sewer system installed on private property.</p> <p>Review maintenance procedures to ensure adequately considers tank risk.</p> <p>Develop and implement a fit for purpose version of the Preliminary Environmental Checklist for an initial statutory planning assessment, including EMO, Priority & Risk (i.e. potential landslide susceptibility) Areas for future pressure sewer installation applications.</p> <p>Review and update the workflow for customer enquiries and applications within Priority & Risk (i.e. potential landslide susceptibility) Areas.</p>	<p>Commissioning and Community Sewerage Delivery Manager & Reliability Planning Manager</p> <p>Pressure Sewer Maintenance Manager</p> <p>Commissioning and Community Sewerage Delivery Manager & Environment and Approvals Manager</p> <p>Residential Connections & Technical Services Manager</p>	<p>Group Manager Asset & Program Delivery & Group Manager Distribution Solutions</p> <p>Group Manager Network Maintenance</p> <p>Group Manager Asset & Program Delivery</p> <p>Group Manager Connections</p>	<p>xxx</p> <p>xxx</p> <p>xxx</p> <p>xxx</p>
18	GIS		Review and identify ability and processes to incorporate new and existing historical non-structural failures by type from Montage (i.e. using action category, class, type and available details to georeference) of the water mains network and publish in SEW GIS in separate layer(s).	Manager Asset Information System	Group Manager Engineering Technology Services	12 months
19			Review and update the AM2759 Facility Resilience and Security Standards and AM2874 Asset Resilience Framework to incorporate landslide susceptibility. Also incorporate any ongoing updates to the Water Sector Resilience Plan by DEECA.	<p>Standards Manager</p> <p>Asset and Risk Manager</p>	<p>Group Manager Engineering Technology Services</p> <p>Group Manager Asset & Program Delivery</p> <p>Group Manager Asset Performance & Resilience</p>	xxx
20			Develop and implement a fit for purpose version of the Preliminary Environmental Checklist for an initial statutory planning assessment, including EMO, Priority & Risk (i.e. potential landslide susceptibility) Areas for other delivery streams as required.	Environment & Approvals Manager	Group Manager Resilient Communities	xxx
Ongoing / Continuous						

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21	AMP	6	Review and engage with planning authorities/Councils' seeking potential information on landslide susceptibility (e.g. geospatial, geotechnical, hydrogeological and drainage) and review Vic Plan data changes and layers (e.g. EMO and landslides) to: - Inform and update risk assessments and SEW's ARMM. - Update in SEW GIS	Local Government Manager & Reliability Planning Manager & Manager Asset Information System	Group Manager Marketing, Communications & Engagement Group Manager Distribution Solutions Group Manager Engineering Technology Services	As identified and released. Minimum annual engagement.
22	AMP		Review, engage and collaborate with other water authorities and utilities on risk assessment approach and asset management approach to address vulnerability to ensure our assets are resilient.	Reliability Planning Manager	Group Manager Distribution Solutions	Regular. Minimum annual engagement.
23	AMP		Peer review of process	Reliability Planning Manager	Group Manager Distribution Solutions	Scheduled process
24			Review of findings and recommendations of the Board of Inquiry into the McCrae landslide			
25			Review of Build Over Guidelines & Other Policy & Standards in Priority Areas & Risk (i.e. potential landslip susceptibility) Areas.	Standards Manager	Group Manager Engineering Technology Services	xxx
26			Review bringing existing assets up to the latest standards in Priority Areas & Risk (i.e. potential landslip susceptibility) Areas e.g. trenchstops.	Standards Manager & Reliability Planning Manager	Group Manager Engineering Technology Services & Group Manager Distribution Solutions	12-18 months from item 25
Existing	Corp.		Insight Reporting – updated reporting as required	Enterprise Data operations and Reporting Lead		Continuous
Existing	AMP		Update and maintenance of ARMM and associated programs - Include in risk assessment crossovers with stormwater assets	Reliability Planning Manager	Group Manager Distribution Solutions	Continuous & Scheduled
Existing			Update and maintenance of SEW's Strategic Assessment Management Plan (AM2787)	Asset and Risk Manager	Group Manager Asset & Program Delivery	Scheduled review process

Categories:

AMP – Asset Management Planning

Corp – Corporate System

O&M – Operation and Maintenance



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