

**Guidelines for
Implementing Total Management Planning**

Risk Management

IMPLEMENTATION GUIDE

TABLE OF CONTENTS

	Page No.
LIST OF ACRONYMS	4
1 INTRODUCTION	5
2 DEFINITIONS	5
3 TMP REQUIREMENTS	6
3.1 Scope and content of Risk Management sub-plan	6
3.2 Sub-plan development level	6
4 APPLYING THE RISK MANAGEMENT PROCESS	6
4.1 The process	6
4.2 PHASE 1: Establishing the context	7
4.3 PHASE 2: Identifying risks	8
4.4 PHASE 3: Analysing risks	9
4.5 PHASE 4: Evaluating risks	9
4.6 PHASE 5: Defining risk treatment strategies and controls	10
5 INTEGRATING RISK MANAGEMENT WITH TMP DEVELOPMENT	12
5.1 Process integration	12
5.2 Implementing risk treatment strategies	12
REFERENCES AND FURTHER READING	13
APPENDIX A: CONTENT AND DEVELOPMENT LEVEL OF SUB-PLANS	14
APPENDIX B: SUGGESTED CATEGORISATION OF SOURCES OF RISK	16
APPENDIX C: TYPICAL SUMMARY RISK TREATMENT SCHEDULE (PART ONLY)	17

LIST OF ACRONYMS

AWA	Australian Water Association
EMS	environmental management system
KPI	key performance indicator
SWOT	strengths, weaknesses, opportunities, threats
TMP	Total Management Plan
WSP	Water Service Provider

1 INTRODUCTION

The aim of this Implementation Guide is to help Queensland Water Service Provider (WSP) organisations integrate risk management into their total management planning. This will enable them to identify all significant risks in providing water supply and sewerage services, and address these risks cost-effectively.

The Guide is applicable to all WSPs as defined in the *Water Act 2000*, and as described in the Risk Management Overview.

In particular, the Guide addresses:

- incorporating risk management in the development of a Total Management Plan (TMP) for water supply and sewerage services; and
- developing and implementing a set of prioritised risk treatment strategies and associated risk reduction control measures.

The Guide relies substantially on the current Australian Standard on Risk Management AS/NZS 4360 — 1999 (Reference 1) and associated handbook HB 142 — 1999 (Reference 2); these provide an appropriate technical basis for implementing risk management within WSP organisations. Terminology used throughout the Guide has been chosen as far as practicable to be consistent with the relevant sections of References 1 and 2 and cross-referenced to facilitate application of the Guide.

Consequently, this Guide contains only minimal reference to the detailed process and techniques involved in risk management. Rather, it demonstrates how risk management carried out in accordance with the above reference texts can be integrated with total management planning.

2 DEFINITIONS

Definitions of relevant elements of risk, as included in AS/NZS 4360 — 1999, are included in the Risk Management Overview. Because of the importance of consistent terminology in risk management, these are reproduced and augmented below.

Risk:

The chance of something happening that will have an impact upon objectives. It is measured in terms of consequences and likelihood.

Event:

An incident or situation that occurs in a particular place during a particular interval of time.

Likelihood:

A qualitative description of probability or frequency.

Consequence:

The outcome of an event expressed qualitatively or quantitatively, being a loss, injury, disadvantage or gain. There may be a range of possible outcomes associated with an event.

Risk treatment:

Selection and implementation of appropriate options for dealing with risk.

Risk control:

That part of risk management which involves the implementation of policies, standards, procedures and physical changes to eliminate or minimise adverse risks. In practice it involves reducing the likelihood and/or consequences of an event in order to reduce the risk to an acceptable level.

Risk treatment therefore involves the selection of appropriate strategies for dealing with risk, many (but not necessarily all) of which will involve instituting one or more risk controls.

3 TMP REQUIREMENTS

As indicated in the Risk Management Overview, each WSP's TMP should include a risk management plan, formulated so as to ensure that either:

- existing risk treatment strategies and controls are reviewed and, as appropriate, implemented as part of the TMP; or
- a program of prioritised risk treatment strategies and controls is developed as part of the TMP development process and implemented with the TMP.

3.1 Scope and content of Risk Management sub-plan

General guidance on the scope of sub-plans is contained in the TMP Development Guide.

Appendix A summarises the recommended content of a risk management plan that forms part of a TMP.

3.2 Sub-plan development level

The necessary level of comprehensiveness of the TMP, reflected in the management mechanisms it requires, depends on the size of the WSP, in terms of replacement cost of its assets.

Appendix A provides the indicative sub-plan development level for a risk management plan.

4 APPLYING THE RISK MANAGEMENT PROCESS

(AS/NZS 4360 — 1999, Chapters 3 and 4; HB 142 — 1999, p. 13)

This section presents a summary version of the risk management process, based on References 1 and 2 but with the following departures:

- The process illustrated in this Guide terminates with the definition of risk treatment strategies and associated risk controls. References 1 and 2 extend the process to the implementation of comprehensive risk treatment plans, whereas this Guide assumes that the latter will be done as part of implementing the TMP.
- The term 'treatment options' as used in References 1 and 2 has been avoided in favour of 'treatment strategies', for consistency with TMP terminology.

For purposes of providing guidance on carrying out risk assessment and defining risk treatment strategies, the risk management process is considered in isolation in this section. Integration of the risk management process with the TMP development process is discussed separately in Section 5.

4.1 The process

A simplified representation of the risk management process is shown in Figure 1, which is based on Figure 3.1 of Reference 1.

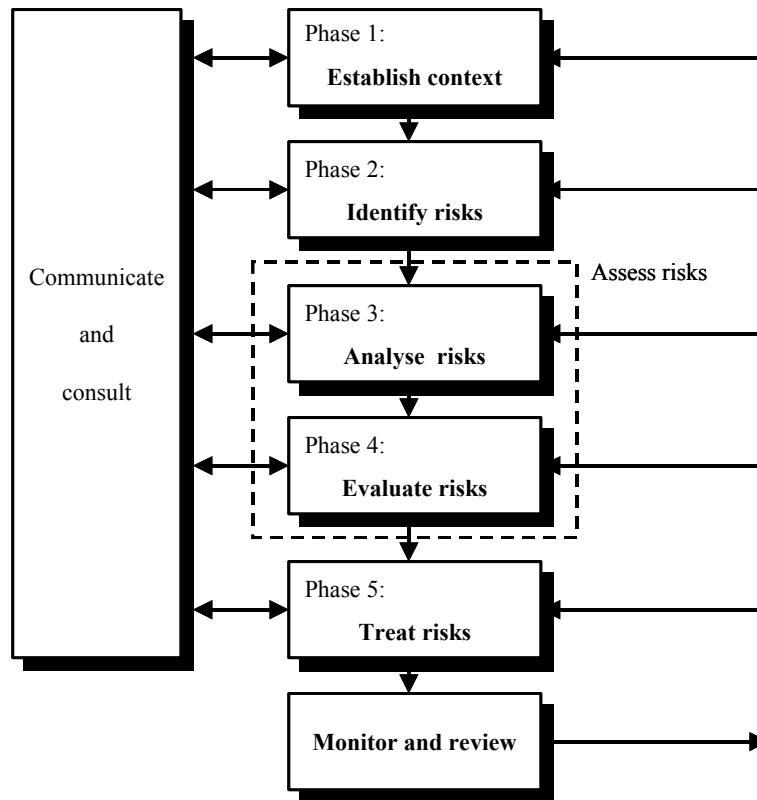


FIGURE 1: The risk management process

Each phase in the process is described briefly in the sub-sections that follow.

In principle all elements of the process will apply to all organisations, including all WSPs. The depth of data analysis and level of sophistication in risk evaluation and documentation will, however, vary according to the size and functions of each WSP.

4.2 PHASE 1: Establishing the context

(AS/NZS 4360 — 1999: 3.2(a), Section 4.1)

Establishing strategic, organisational and risk management context

This should define:

- the ‘big picture’ context within which the WSP operates;
- the WSP’s boundaries and relevant stakeholders;
- the parts of the organisation, subject of the process and scope of activities to be included. For most TMPs this will involve the whole organisation and all activities.

Defining risk acceptability criteria

Risk acceptability criteria should be decided at the same time as determining levels of risk; e.g. all risk levels defined as low could be regarded as acceptable. (Application of criteria is discussed under Phase 4.)

Any relevant provisions of the WSP’s risk management policy should also be taken into account.

Defining structure of risk analysis

The WSP's activities need to be subdivided so as to provide a systematic basis for identifying all potential risk events. The structure chosen has to minimise the chance of overlooking significant risks.

AS/NZS 4360 — 1999 is quite flexible on this question, and there are several alternative approaches that a WSP might adopt. For total management planning purposes it is suggested that activities be subdivided by sub-plan and source category. Apart from any other consideration, this will facilitate the inclusion of priority risk treatment strategies in the relevant sub-plan, as mentioned in Section 6.2 of the Risk Management Overview.

4.3 PHASE 2: Identifying risks

(AS/NZS 4360 — 1999: 3.2(b); 4.2)

Defining source categories

Each WSP should select whatever basis of source categorisation best suits its needs. The main requirement is that:

- no significant risk is overlooked; and
- each risk can be readily analysed and evaluated.

The source categories listed in Section 4.3 of the Risk Management Overview are reproduced in Appendix B, with typical examples of the sorts of risk events associated with each category.

Defining risk events

This is a crucial step in applying the risk management process. Like many aspects of risk management, the identification of significant risks is often subjective and reliant on personal experience and judgement. For this reason, several heads will be found to be better than one during this phase of the process. It is therefore important that relevant operational staff be closely involved in identifying and/or confirming significant risks under each source category.

If, as suggested, TMP sub-plans are used as the initial subdivision of activities, the selection of appropriate key staff can be based on the respective sub-plan or associated management area (e.g. Operations Management, Water Source Management etc.).

Some potential risk events will be considered so unlikely that they can be safely excluded. Again, particular source categories and types of risk event will be more relevant for some WSPs than others. Clearly the number of risks needing evaluation and treatment will normally be much smaller for a small WSP, with only a few service functions and points of external interaction, than for a large one with multiple functions and many such points of interaction.

Appendix C illustrates one way of compiling risk events by sub-plan/ management area and source category. Working through each management area in turn will produce a comprehensive set of potential risk events across all the WSP's activities, as the basis for completing a summary risk treatment schedule, as indicated in Appendix C. In addition, there will be a number of risks in implementing the TMP which are not associated with any particular sub-plan. Identifying these could be addressed as part of the Business Management Plan.

4.4 PHASE 3: Analysing risks

(AS/NZS 4360 — 1999: 3.2(c); 4.3)

Identifying and assessing existing controls

For each significant risk identified the adequacy of existing risk controls should be assessed before the likelihood and consequences of the event is estimated. Failure to take this information into account is likely to distort the evaluation of risks.

Assessing likelihood and consequences by risk event

This involves use of qualitative or quantitative scales of likelihood and consequences of risk events, as discussed in detail in the Standard. The use of qualitative scales for this purpose is recommended, and is illustrated in Appendix C.

Note that likelihood and consequences should be assessed in the context of the existing controls; i.e. allowing for the effectiveness of existing controls in reducing likelihood and/or consequences.

4.5 PHASE 4: Evaluating risks

(AS/NZS 4360 — 1999, Sections 3.2(d), 4.4)

Determining level of risk

Combining the likelihood and consequences of each risk event produces a level of risk, defined qualitatively or quantitatively, as discussed in the Standard.

For the sorts of risks faced by WSPs, it is recommended that a qualitative scale of risk level be adopted similar to that illustrated in Appendix E of the Standard, as shown in Table 1. Application of these principles is also illustrated in Appendix C.

TABLE 1: Levels of risk

Likelihood	Consequences				
	Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
A (almost certain)	H	H	E	E	E
B (likely)	M	H	H	E	E
C (moderate)	L	M	H	E	E
D (unlikely)	L	L	M	H	E
E (rare)	L	L	M	H	H

Note: E: extreme risk
H: high risk
M: moderate risk
L: low risk
(Source: Reference 1)

Evaluating risk level against acceptability criteria

By applying the risk acceptability criteria determined in Phase 1, the risk events to be the subject of treatment strategies can be limited to a practicable number. The remainder, considered acceptable, would be subject to ongoing monitoring and scrutiny by management as applicable.

The risk level scale from Table 1 is used in Table 2 alongside suggested acceptability criteria and associated actions by management.

TABLE 2 Suggested risk acceptability criteria and management actions

Risk level	Acceptability	Management action
Low (L)	Acceptable with existing controls	<ul style="list-style-type: none">▪ Ongoing monitoring and review with TMP
Moderate (M)	Acceptable with existing controls	<ul style="list-style-type: none">▪ Ongoing monitoring and review with TMP▪ Assign management responsibility for monitoring
High (H)	Unacceptable with existing controls	<ul style="list-style-type: none">▪ Select and implement treatment option▪ Assign management responsibility for treatment▪ Oversight of treatment by senior management
Extreme (E)	Unacceptable with existing controls	<ul style="list-style-type: none">▪ Select and implement treatment option immediately▪ Assign management responsibility for treatment▪ Supervision of treatment by senior management

Prioritising risks for treatment

Risk events classified as Extreme in Table 2 should be assigned a higher priority than High-risk events for purposes of defining and implementing risk treatment strategies and risk controls.

Risk events within the Extreme and High risk categories should also be prioritised, for example taking account of the potential consequences, adequacy of existing controls and cost of implementing the selected treatment strategy in each case. Appendix C illustrates how risk levels may be assigned and risk events prioritised.

4.6 PHASE 5: Defining risk treatment strategies and controls

(AS/NZS 4360 — 1999, Sections 3.2(e), 4.5)

Assessing alternative strategies

The Standard outlines a generic range of alternative treatment strategies for consideration in respect of each risk event:

- accept risk;
- reduce likelihood of event;
- reduce consequences of event;
- transfer risk of event;
- avoid risk of event; and
- combinations of above.

The Standard also discusses approaches for assessing alternative strategies, including benefit/cost analysis.

Obviously, the degree of sophistication justified in assessing alternatives for a given risk event will depend on a number of factors including:

- level of risk;
- nature of consequences (e.g. loss of property only; loss of life; environmental harm);
- scale of consequences (e.g. localised, widespread, catastrophic); and
- resources available for assessment.

For most typical WSPs, it should be sufficient to confine the assessment to subjective comparison based on informed expertise and operational experience, without the need to resort to quantitative techniques such as benefit/cost analysis. Also, for most risk events a typical WSP will not have the option of transferring or avoiding the risk, in which case the only feasible alternative risk treatment strategies will be:

- accept the risk; or
- reduce the level of risk (i.e. reduce likelihood and/or consequences of risk).

Selecting risk controls

The subjective assessment discussed above will yield one or more preferred strategies for dealing with each significant risk event. Where risk reduction is called for to reduce the risk to an acceptable level, it may prove sufficient to upgrade existing nominal or partial controls. Where no controls exist, new controls will usually need to be implemented.

For any risk event where more than one risk control has been selected, a relative priority should be assigned to each control, based on subjective assessment of its effectiveness and cost in reducing the level of risk.

Appendix C indicates how risk treatment strategies and risk controls may be documented in a summary risk treatment schedule. New or upgraded controls are shown as required only for events with risk level E or H, consistent with Table 2. However, there may be advantages, for particular applications, in also documenting satisfactory existing risk controls in the schedule, including where the risk is assessed as acceptable. In this case the existing controls could be recognised in the relevant sub-plan as ongoing, but only those controls that are inadequate or non-existent would be prioritised for initiation.

The complete risk treatment schedule effectively constitutes the WSP's risk management program in summary form.

5 INTEGRATING RISK MANAGEMENT WITH TMP DEVELOPMENT

5.1 Process integration

Section 6.3 of the Risk Management Overview discusses in general terms how the risk management process should be integrated with the development of a TMP.

The practical implications of achieving this integration are incorporated into the process description set out in Section 5.4 of Total Management Plan Development Guide, in respect of Phase 2: collating and analysing information.

Figure 2 presents a combined simplified flow chart demonstrating how the two processes may be coordinated to achieve integration.

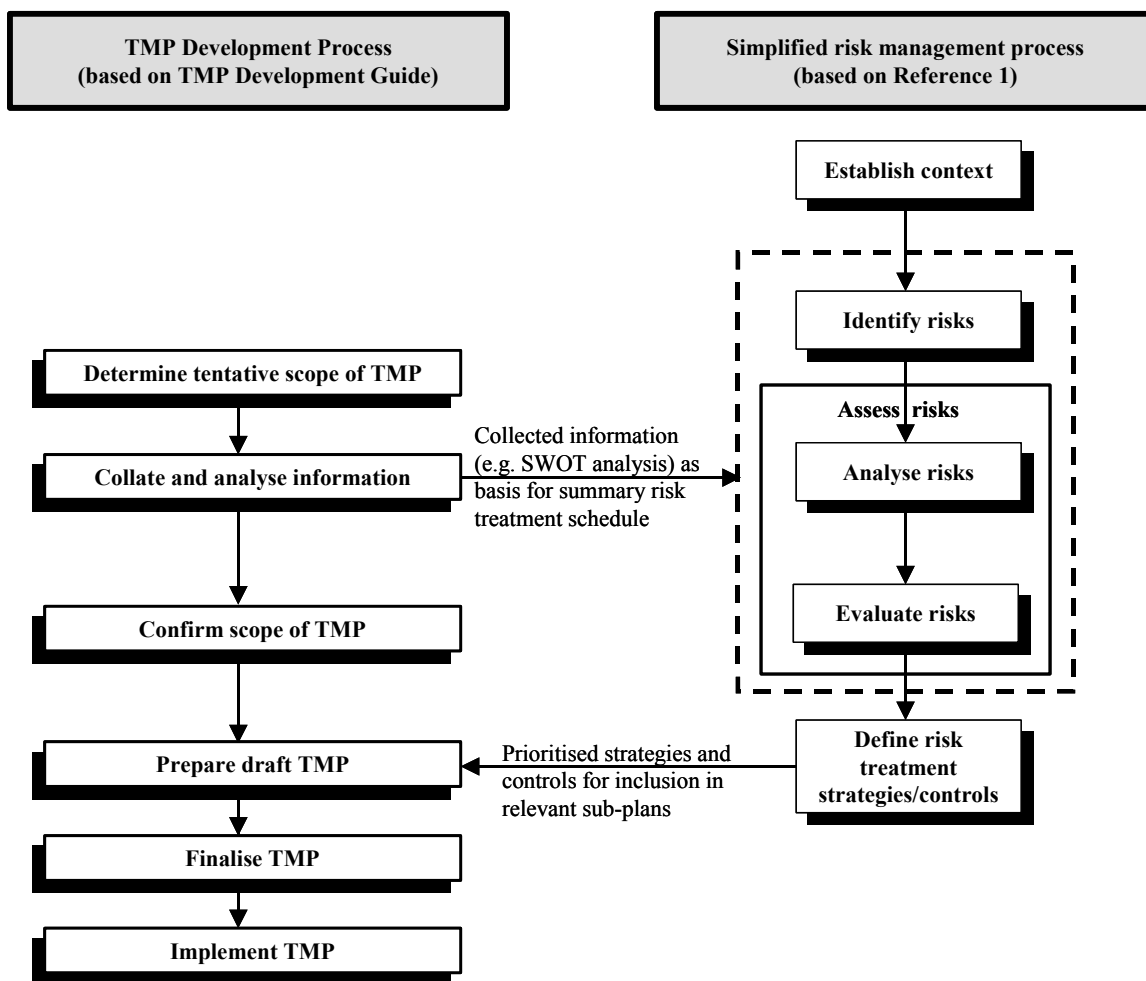


FIGURE 2: Integration of risk management and TMP development processes

5.2 Implementing risk treatment strategies

Integrating the risk management and TMP development processes, as illustrated in Section 5.1, gives rise to a significant departure from the risk management process considered in isolation, and consequently from the recommendations of AS/NZS 4360 – 1999. Risk treatment strategies and risk controls defined in Phase 5 of the risk management process become part of the TMP.

Implementation, monitoring and review of risk treatment plans, as discussed in 3.2(e) and (f), 4.5.3 and 4.6 of the Standard, will then be achieved through implementation, monitoring and review of the TMP itself.

REFERENCES AND FURTHER READING

References

- 1 AS/NZS 4360 — 1999: Australian Standard on Risk Management, Chapters 3 and 4, Standards Australia, 1999.
- 2 *HB 142 — 1999: A Basic Introduction to Managing Risk Using the Australian and New Zealand Risk Management Standard AS/NZS 4360 - 1999*, p. 13, Standards Australia, 1999.

Further reading

AS/NZS 3931 (int.):1995 — Risk Analysis of Technical Systems, Applications Guide, Standards Australia, Sydney, 1999.

Bannister, R. et al., 'Managing water quality risks from catchment to tap', *Water Journal AWA*, March/April 2000, pp. 46–50.

Compliance Guidance and Model Risk Management Program for Water Treatment Plants, American Waterworks Association, 1998.

Total Asset Management Manual, Risk Management Guideline, NSW Government, 2001.

Risk Management Program Guidance for Wastewater Treatment Plants, Water Environment Federation, Alexandria, 1999.

APPENDIX A: Content and development level of sub-plans

TABLE A1: Indicative sub-plan content

Sub-plan features	Risk management plan content
Issues covered in sub-plan	<ul style="list-style-type: none"> ▪ Risk characterisation. ▪ Risk assessment. ▪ Minimising risk exposure. ▪ Risk management programs. ▪ Risk monitoring.
Purpose of sub-plan	<ul style="list-style-type: none"> ▪ To provide an overview of the risks currently faced by the WSP in delivering its services, the likelihood and expected consequences of these risk events, and the means by which the WSP manages the threat from them. ▪ To outline the WSP's future objectives and initiatives in risk management.
Policies that may be required	<ul style="list-style-type: none"> ▪ Risk management policy. ▪ Insurance policy. ▪ Knowledge management policy.
Other TMP sub-plans that are linked intimately to this sub-plan	<ul style="list-style-type: none"> ▪ All aspects of a WSP's service delivery involve some risk, so the risk management plan is intimately linked to all other TMP sub-plans, but particularly the Information and Human Resources Management Plans in respect of knowledge sharing.
External issues contributing to the current operating environment that need to be considered	<ul style="list-style-type: none"> ▪ Increased risk exposure due to reform-driven cost reductions. ▪ Increased community awareness and litigiousness. ▪ Increased community expectations concerning due diligence and accountability. ▪ Increased environmental penalties and opportunities for third-party actions. ▪ Increased potential liability under workplace health and safety legislation. ▪ The accelerating rate of technological change and increasing reliance on technology. ▪ Increased necessity to ensure staff training and development meets industry standards.
Issues that need to be considered in summarising the status of current operations	<ul style="list-style-type: none"> ▪ Details of any systematic risk-assessment surveys, including environmental and safety audits. ▪ Current status of risk management practices and programs, including documented contingency plans and other risk-reduction strategies. ▪ Status of regulatory compliance regarding <i>Water Act 2000</i> requirements, environmental authorities, workplace health and safety plans/strategies, etc. ▪ Types of insurance cover currently held. ▪ Level of staff awareness and training in risk identification and management. ▪ Broad SWOT analysis of current risk management practices.
Strategic basis of the plan	<p>The strategic elements forming the basis of the plan should include:</p> <ul style="list-style-type: none"> ▪ goal and objective(s) for risk management; ▪ adopted KPIs; and ▪ management strategies and performance targets. <p>The management strategies developed will be based on the identified key strategic issues and SWOT findings in respect of risk management, a systematic risk assessment and the required TMP development level. The plan should incorporate a summary risk treatment schedule based on an appropriate evaluation of identified risks.</p> <p>WSPs will require strategies for reviewing/updating an existing risk management program, or for periodically updating the summary risk treatment schedule developed for the plan. Most will require strategies for implementing risk controls to reduce the likelihood of higher-priority risk events; for developing documented contingency plans for the treatment of higher-priority risk events; and/or rectifying deficiencies in regulatory compliance. Most of the strategies will be incorporated in and implemented under the relevant TMP sub-plan.</p> <p>The strategies should be supported by detailed action plans covering a period of up to 3 years.</p>
Suggested performance measures	<p>Outcome: WSP's risk exposure minimised.</p> <p>Output: Appropriate risk management program.</p>

Sub-plan features	Risk management plan content
Supporting documentation	<p>This will depend on the WSP, but typically would include:</p> <ul style="list-style-type: none"> ▪ adopted service standards; ▪ risk-assessment survey reports; ▪ environmental and safety audit reports; ▪ workplace health and safety plan/strategy; ▪ safety procedures manuals; ▪ water allocation and management plan; ▪ dam safety reports; and ▪ contingency plans (including counter disaster plans).

TABLE A2: Suggested target management mechanisms

Development level ¹	Indicative target management mechanisms
3	<ul style="list-style-type: none"> ▪ Single risk management program for water and sewerage services generally. ▪ Separate individual risk management programs for major installations such as dams, treatment plants etc. ▪ Knowledge management programs. ▪ Qualitative and quantitative methods of assessing likelihood and consequence. ▪ Benefit/cost analyses for extreme and high risk events.
2	<ul style="list-style-type: none"> ▪ Single risk management program for water and sewerage services generally. ▪ Separate collective risk management program for major installations such as dams, treatment plants etc. ▪ Staff knowledge and experience documented. ▪ Qualitative and quantitative methods of assessing likelihood and consequence. ▪ Some benefit/cost analyses for extreme and high-risk events.
1	<ul style="list-style-type: none"> ▪ Single risk management program for water and sewerage services. ▪ Qualitative methods of assessing likelihood and consequence.

¹ Defined in Section 4.2 of TMP Development Guide

APPENDIX B: Suggested categorisation of sources of risk

Source category	Examples of risk events
Political	<ul style="list-style-type: none"> ▪ Community opposition ▪ State Government opposition ▪ Loss/reduction of subsidy
Regulatory	<ul style="list-style-type: none"> ▪ More stringent requirements ▪ Statutory non-compliance ▪ Water allocation restrictions
Customers	<ul style="list-style-type: none"> ▪ Excessive complaints ▪ Consistent breach of service standards ▪ Pressure group activity
Environmental	<ul style="list-style-type: none"> ▪ Habitat destruction ▪ Air/water/soil contamination by WSP activities ▪ Contamination of WSP water source
Economic	<ul style="list-style-type: none"> ▪ Discount rate changes ▪ Energy price increases ▪ Inflation rate increases
Commercial/strategic	<ul style="list-style-type: none"> ▪ Impact of new technologies ▪ Reduced market share ▪ Unrealised market demands
Financial	<ul style="list-style-type: none"> ▪ Rising interest rates ▪ Revenue shortfalls ▪ Significant unforeseen expenditure
Public health/safety	<ul style="list-style-type: none"> ▪ Pathogen contamination of potable supply ▪ Inadequate firefighting capacity ▪ Public injury
Infrastructure planning/ design	<ul style="list-style-type: none"> ▪ Unrealised population growth ▪ Water demand exceeds system yield ▪ Premature capital investment
Procurement/contractual	<ul style="list-style-type: none"> ▪ Loss of supply ▪ Product obsolescence ▪ Contractor business failure
Construction, operation and maintenance	<ul style="list-style-type: none"> ▪ Workplace injury ▪ Incorrect operational procedure ▪ Incorrect maintenance procedure
Asset failure	<ul style="list-style-type: none"> ▪ Catastrophic structural failure ▪ Functional failure ▪ Premature ageing of asset
Support service failure	<ul style="list-style-type: none"> ▪ Invalid/inadequate information base ▪ Information technology failure/inadequacy ▪ Inadequate human resources
Security of assets	<ul style="list-style-type: none"> ▪ Sabotage ▪ Vandalism ▪ Theft
Litigational	<ul style="list-style-type: none"> ▪ Public liability actions ▪ Employee actions ▪ Service provider actions
Organisational	<ul style="list-style-type: none"> ▪ Industrial action ▪ Loss of corporate knowledge/expertise ▪ Excessive downsizing
Natural events	<ul style="list-style-type: none"> ▪ Lightning strikes ▪ Floods ▪ Fire

APPENDIX C: Typical summary risk treatment schedule (part only)

Example: City council TMP for water supply and sewerage risk management plan — summary risk treatment schedule

Source category	Risk event	Likelihood (1)	Consequences (2)	Level of risk (3)	Risk treatment strategy (4)	Risk controls required	Implementation priority		Management Responsibility	Sub-plan for implementation
							Event (5)	Control (6)		
Political	Opposition to reuse on parks	C	3	H	Reduce	▪ Institute education program	2/2	1	Manager Sewerage	Effluent Management Plan
						▪ Promote demonstration project		2	Manager Sewerage	Effluent Management Plan
Regulatory	Breach of licence conditions	D	3	M	Accept		NA	NA	Manager Sewerage	
Customers	Complaints about reuse operations	E	2	L	Accept		NA	NA		
Environmental	Habitat destruction/modification	A	3	E	Reduce	▪ Relevant provisions in EMS	1/2		Manager Sewerage	Environmental Management Plan
	Ground water contamination	D	4	H	Reduce	▪ Site management plan	2/1	2	Manager Sewerage	Environmental Management Plan
						▪ Ground water quality monitoring		1	Manager Sewerage	Environmental Management Plan
Economic	▪ Not relevant									
Commercial/strategic	Loss of reuse markets	C	3	H	Reduce	▪ Provide back-up effluent storage	2/1	1	Manager Sewerage	Effluent Management Plan

Source category	Risk event	Likelihood (1)	Consequences (2)	Level of risk (3)	Risk treatment strategy (4)	Risk controls required	Implementation priority		Management Responsibility	Sub-plan for implementation
							Event (5)	Control (6)		
						<ul style="list-style-type: none"> Actively market to new customers 		2	Manager Marketing	Effluent Management Plan
Financial	<ul style="list-style-type: none"> Not relevant 									
Public health/safety	Aerosol drift to residential areas	E	4	H	Reduce	<ul style="list-style-type: none"> Install wind sensor controls 	2/2	2	Manager Sewerage	Effluent Management Plan
						<ul style="list-style-type: none"> Investigate alternative spray nozzles 		1	Manager Sewerage	Effluent Management Plan
Infrastructure planning/design	<ul style="list-style-type: none"> Not relevant 									
Procurement/contractual	<ul style="list-style-type: none"> Not relevant 									
Construction operation and maintenance	<ul style="list-style-type: none"> Not relevant 									
Asset failure	<ul style="list-style-type: none"> Not relevant 									
Support service failure	<ul style="list-style-type: none"> Not relevant 									
Security of assets	<ul style="list-style-type: none"> Not relevant 									
Litigational	<ul style="list-style-type: none"> Not relevant 									
Organisational	<ul style="list-style-type: none"> Not relevant 									
Natural events	<ul style="list-style-type: none"> Not relevant 									

Notes on schedule

1. Likelihood scale
 - A Almost certain
 - B Likely
 - C Moderate
 - D Unlikely
 - E Rare

2. Consequences scale
 1. Insignificant
 2. Minor
 3. Moderate
 4. Major
 5. Catastrophic

3. Level of risk scale (Refer Table 1)
 - E Extreme risk
 - H High risk
 - M Moderate risk
 - L Low risk

4. Risk treatment strategies

Accept:	Accept risk: no action needed
Reduce:	Reduce level of risk
Transfer:	Transfer risk
Avoid:	Avoid risk

5. Relative priority for addressing risk events
e.g. 1/1 = higher priority Extreme risk event
2/2 = lower priority High risk event
NA = not applicable

6. Relative priority for implementing controls for a particular event.

NOTE: WSPs may prefer to include descriptors 1 to 3 in full when completing schedule, in lieu of codes indicated.