

WaterWise

Queensland

WaterWise Queensland

Manual for recycled water agreements in Queensland

December 2005



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1. Introduction

1.1. Purpose of this manual

The Environmental Protection Agency (EPA) has developed this *Manual for recycled water agreements in Queensland* (the 'Manual') in response to requests for information and guidance on how to develop a contract for the supply and use of recycled water. The purpose of this document is to provide information and guidance on the various issues that need to be considered when stakeholders are considering entering into an agreement to supply and/or use recycled water as part of a recycled water scheme. This Manual is not a legal document. It seeks to assist suppliers and individual commercial customers of recycled water who are negotiating agreements for the supply and use of recycled water in Queensland. The success of a recycled water scheme may partly depend on how these negotiations are carried out. The Manual discusses key issues involved in planning and operating water recycling projects and provides a number of suggested options to address these issues in a recycled water agreement.

The *Queensland Water Recycling Strategy* (QWRS 2001) identified the need of suppliers and customers of recycled water for a model agreement to provide guidance for negotiating a contract. A *Model recycled water agreement* (see Appendix) has been prepared that identifies the common issues relating to water recycling that should be addressed through an agreement or contract for the supply and use of recycled water. The *Model recycled water agreement* provides a starting point from which stakeholders can edit and customise the document to suit the specific characteristics of their recycled water scheme or project. The *Model recycled water agreement* is designed for an individual commercial customer of recycled water (e.g. agricultural irrigation or irrigation of a golf course) and is particularly relevant where the source of the recycled water is from a sewage treatment plant (STP). This Manual provides explanatory information to support the *Model recycled water agreement*. It is recommended that legal advice be obtained before preparing and entering into an agreement, as this document does not purport to give legal advice.

This Manual adopts a 'partnership approach' to developing a *Model recycled water agreement*. It should be noted that these documents and the suggested partnership approach are advisory only and should not be construed as an EPA regulatory requirement for licensing or other purposes.

The EPA will develop a *Model terms of use for recycled water in a dual reticulation system*, to provide a standardised starting point for situations where individual agreements are not practical. Schemes comprising a large number of residential customers supplied with high quality recycled water for non-potable uses would be such an example. It will deal specifically with issues associated with

preparing a 'Terms of use' document and explain its role in the overall management of a dual reticulation scheme.

1.2. Background to water recycling in Queensland

In 2004, around 13 percent of wastewater from STPs in Queensland was recycled primarily for irrigation of golf courses, sugar cane or pasture. Approximately half of the 125 local governments in Queensland operate water recycling schemes, involving 40 percent of the sewerage systems. Most of these water recycling schemes have been possible due to the close proximity between the source of recycled water (mostly STPs) and customers of recycled water (for example golf course or agriculture). Currently, there is insufficient data to determine the volume and rate of water recycling from other sources such as industrial wastewater and stormwater.

In the short-term, the main growth sector for recycled water from an STP is likely to be agricultural uses. Industrial use of recycled water either as internal recycling of wastewater streams generated on-site, or water recycling in industrial sourced from an STP in industrial processes is also increasing. Examples of large industrial water recycling projects include the reverse osmosis treatment plant at Luggage Point Wastewater Treatment Plant in Brisbane, which supplies process water to the BP Oil Refinery, and use of recycled water from Gladstone City Council STPs as process water for aluminium smelting and power generation. Dual reticulation of recycled water for non-potable residential use is also projected to increase.

Most existing water recycling schemes in Queensland are based on beneficial use of part of the effluent stream, with a residual discharge to waterways. The Eli Creek-Pulgul scheme in Hervey Bay (sugar cane and other agricultural irrigation) and an industrial recycling scheme in Gladstone achieve close to full water recycling from the source STPs. Currently, the Western Corridor pipeline project in Brisbane is being investigated and is based on a 100 percent reuse model. It proposes to supply recycled water from STPs in western Brisbane and Ipswich to industrial customers.

1.3. Queensland Water Recycling Guidelines

Queensland Water Recycling Guidelines (EPA 2005)

The *Manual for recycled water agreements in Queensland* and the *Model recycled water agreement* should be read in conjunction with the *Queensland Water Recycling Guidelines*. The *Queensland Water Recycling Guidelines* provide guidance on water recycling that is appropriate to Queensland conditions. It includes a road map to additional resources that can support water recycling. For additional information and resources to support the development of a recycled water Agreement, refer to the reference list at the end of this document.

2. Agreements for the supply and use of recycled water

2.1. What is a recycled water agreement?

A recycled water agreement is a formal agreement that regulates the relationship between a supplier of recycled water and a customer (person or organisation) of recycled water. Other parties, such as an individual or company that owns part of the delivery infrastructure or land where the use of recycled water occurs, may also be signatories to the recycled water agreement. In Queensland, a recycled water agreement is sometimes referred to as a ‘third party agreement’, to indicate that it involves a party (or customer) who is not bound by the existing development approval for the activity that produces the recycled water. The recycled water agreement is the product of negotiations between the supplier of recycled water and the customers. It sets out the terms under which the project will operate. Under the recycled water agreement, the parties agree to a set of obligations and responsibilities under which the water recycling scheme will operate.

The recycled water agreement establishes:

- the rights and obligations of the parties and supports these with legal sanctions;
- who should perform certain tasks and when and who bears the costs;
- who bears the risks associated with supply and use of the product;
- who should insure or be indemnified against claims in relation to these risks; and
- the commercial terms under which recycled water is supplied.

2.2. Why have written agreements?

Recycled water agreements will potentially minimise disputes between signatories to the agreement and, together with appropriate management plans, assist in preventing and minimising risks associated with recycled water schemes. In addition, most customers will want to secure their rights to recycled water supply through a contract to establish some certainty of supply.

Under EPA licences (referred to as Development Approvals) for STPs and other wastewater facilities that are associated with water recycling schemes, written agreements are a requirement. In these cases, licence conditions require the plant operator to enter into a ‘third party agreement’ (recycled water agreement) with each person not subject to the licence to whom the operator supplies water for recycling. Typical licence conditions require that the recycled water agreement include details of how the customer of recycled water will meet their ‘general environmental duty’ under the *Environmental*

Protection Act 1994. Some licences specify issues to be addressed in agreements such as the requirement for customers to prepare an irrigation management plan or a recycled water management plan (refer to *Queensland Water Recycling Guidelines*) if the recycled water is to be used for irrigation purposes. The STP operator is required to keep a register of all recycled water schemes supplied by the STP and, if requested, to report on the status of the schemes to the EPA.

2.3. Terms of the agreement

The terms of an individual recycled water agreement will depend on the characteristics of the water recycling scheme to which it will relate, for example the scale of the recycled water scheme, the quality of the recycled water, the environmental and health risks, and the respective resources of the parties. Key issues that recycled water agreements should cover include:

- price, quantity and quality of recycled water;
- security of the recycled water supply;
- ownership and responsibilities for operating and maintaining infrastructure;
- measures to identify, allocate and manage risks and ensure safe use of recycled water;
- liabilities and insurance for potential damages caused by supply and use;
- monitoring and reporting arrangements;
- resolution of disputes; and
- duration of the agreement including options to renew.

2.4. A partnership approach

It is suggested that a partnership approach to developing water recycling agreements as part of water recycling schemes based on the following principles is pursued:

- sharing of risks, responsibilities and information by the parties;
- striking a balance between the interests of suppliers and customers;
- minimising ‘regulation’ of customers by suppliers and vice versa; and
- complying with legislative and common law requirements.

By working together suppliers and customers will achieve more equitable and practical legal arrangements for the water recycling scheme. It is likely to be mutually beneficial to:

- start negotiating the recycled water agreement early in the scheme development;

- take a joint approach to solving problems;
- share relevant information about each other's operations and activities;
- share risks and responsibilities; and
- have a good understanding of the range of issues that can arise in planning and operating a recycled water scheme.

By taking a partnership approach to recycled water agreements and scheme management, the supplier is likely to benefit from easier recruitment of customers, longer-term supply arrangements and greater certainty of wastewater management arrangements.

2.5. The process for water recycling projects

In addition to the recycled water agreement, there are several important processes involved in water recycling schemes that require detailed consideration to ensure the safe and sustainable use of recycled water and community acceptance of water recycling. It is possible to put too much emphasis on the legal agreement between the supplier and the customer. Although the recycled water agreement is a central element, it is only one of several important processes in a water recycling project that the supplier and customer need to engage in to ensure safe and sustainable use of recycled water and community acceptance. These processes are described in detail in the *Queensland Water Recycling Guidelines*.

2.5.1. Community engagement

Community education and consultation has been an important factor for councils and water authorities in gaining local support for large water recycling schemes in Australia. Concerns of the local community can be incorporated into the design and operating procedures for the water recycling scheme, including the preparation of management plans and environmental monitoring programs. For example, a landholder who could be affected by spray drift or runoff from irrigation of recycled water on an adjoining site could be consulted on the preventative measures and monitoring included in the customer's recycled water management plan.

Engagement of the community should be ongoing. During the operational phase, this may include providing reports on environmental monitoring and performance of the scheme, the results of audits of recycled water use, or other economic aspects of the scheme to the community on a regular basis.

2.5.2. Customer support

Interaction between the supplier and customer should not be limited to negotiations toward and undertakings in the recycled water agreement but should be an ongoing part of the partnership approach. Suppliers of recycled water could provide ongoing support to customers by:

- having a dedicated contact person or team of employees to provide ongoing technical support and to disseminate information about the scheme in newsletters or bulletins;
- providing an ongoing training program in the safe use of recycled water for employees at their customer's sites who are involved in handling or management of recycled water; and
- establishing a forum of recycled water customers where operational and management issues can be raised and addressed in an informal setting. This can be effective in larger schemes with multiple customers who share the recycled water supply.

Various types of customer committees have been set up for irrigation schemes in Queensland and other states. Some of these committees are limited to the supplier and representatives of scheme participants. Others are broader and include stakeholders such as environmental or technical experts and representatives of the local community. Roles that customer committees have played in water recycling schemes in Australia include:

- negotiating block recycled water prices for groups of customers;
- determining rules to share available recycled water between scheme participants;
- considering proposals for new customers to join the scheme;
- discussing and resolving ongoing operational issues;
- presenting scheme recycled water use and environmental data;
- disseminating information on best practice measures and risks in recycled water use;
- providing occupational health and safety training; and
- advising on the allocation of capital works expenditure when there are multiple funding sources.

3. Parties to the agreement

Usually the supplier and the customer of recycled water are the two parties who are signatories to a recycled water agreement. However, in certain situations, it may be necessary to include other parties to the recycled water agreement, such as a guarantor. The following paragraphs provide greater detail on the parties to the recycled water agreement.

3.1. Supplier of recycled water

Chapter 2 of the *Queensland Water Recycling Guidelines* provides information on the requirement to be registered and the obligations of service providers under the *Water Act 2000*.

Recycled water suppliers in Queensland include local councils, Aboriginal Councils, Island Councils and government owned corporations for example, Wide Bay Water, SEQ Water Corporation and Sunwater. Currently, local councils are the main group of recycled water suppliers in Queensland. Water boards, drainage boards and other 'water authorities' under the *Water Act 2000* and government owned institutions such as correctional and educational centres also operate STPs and could potentially become suppliers of recycled water in the future.

Other potential suppliers of recycled water include privately operated STPs (for example at tourist resorts or mining towns), agricultural or industrial enterprises that generate wastewater (for example, sugar mills and meat works) and a body corporate for a community titles scheme. In this instance, the body corporate would own and operate a wastewater treatment facility and provide recycled water to the owners or occupiers of residential and commercial lots within the water recycling scheme. Currently, there are only a few community titles water recycling schemes in Queensland. Sunrise at 1770 Community Titles Scheme 32536 is one example.

Community titles schemes are being considered for a number of coastal residential developments. In situations like these, the 'terms of use' of the recycled water may be included in the Community Management Statement for the scheme. The powers of a body corporate do not extend to entering into agreements for the supply of recycled water with customers outside the community titles scheme.

The entity that owns and/or operates the wastewater facility and/or delivery infrastructure should enter into the agreement as the supplier. This is consistent with the regulatory obligations of service providers under the *Water Act 2000*, which apply to the infrastructure owner, rather than the operator (see Chapter 2 of the *Queensland Water Recycling Guidelines*).

Care should be taken to identify and enter into a recycled water agreement with the correct legal entity. For example, the relationship between a parent and subsidiary company (a separate legal entity) may not always be clear as to which one actually owns and operates the infrastructure and which one holds the planning and/or environmental approvals (for example, Development Approval) to treat and produce the recycled water.

3.2. Recycled water customer

The customer may be the owner of the land where the recycled water is to be used or a person entitled to occupy the land such as a lessee. Customers can be individuals, companies or unincorporated associations (such as a sporting or community group).

Care should be taken when entering a recycled water agreement, to ensure that the correct customer name is specified on the agreement. It may need to be considered whether the customer (operator of the business) is an individual, company, family trust (for example, a family farm) or unincorporated association.

In Queensland, recycled water is commonly used at council owned sites or facilities separate to the treatment plant, for example to irrigate municipal parks and gardens. In this situation, the supplier and customer are separate business units within the same council but are still part of the same legal entity and hence cannot enter into a legally binding contract with each other. However, the council may wish the two business units to have an agreement governing the supply and use of recycled water that reflects the provisions and issues covered in the *Model recycled water agreement* and this Manual. In this case, an appropriate agreement may be an internal document such as a service level agreement or memorandum of understanding. These forms of agreement are essentially statements of intent that have administrative, rather than legal force. This approach is only likely to be good practice if the administration of the business units is fairly separate or if the business units are going to become separate entities.

3.2.1. Identifying the customer's site

It is important legally to accurately identify the site where the recycled water is to be used. For example, the use of recycled water for irrigation may only apply to a small portion of a land holding, or a customer may lease a small plot from another landowner to undertake the recycling.

A title search of the land making up the customer's business or farm holding should be undertaken to confirm ownership, easements and other potential impacts on the

land. The title details should be recorded in the recycled water agreement. A site plan that shows the relevant parts of the land where recycled water is to be used, including storage areas, delivery infrastructure for recycled water and potential areas for expansion, should be attached to the agreement (annexure A of the *Model recycled water agreement*). Generally the 'site' identified in the recycled water agreement will be the subject of the customer's recycled water use management plan (see section 11).

3.3. Guarantors

A supplier of recycled water may demand security for the performance of the customer's obligations under the recycled water agreement. For example, if the customer is a company, the supplier may require the company directors to personally guarantee the performance of the agreement by the company, or may require an affiliated company with greater financial resources to provide this guarantee. Alternatively, a supplier could require another form of security such as a bank guarantee or cash deposit. The need for a guarantor or financial security can be more pressing in schemes where the supplier has made a significant investment in infrastructure to provide recycled water to the customer and could suffer significant loss if the customer suddenly withdraws from the scheme.

The *Model recycled water agreement* (clause 21 (Guarantee)) provides that the guarantor guarantees the payment of monies owed by the customer, including any legal and enforcement fees incurred by the supplier in attempting to recover these monies.

3.4. Landowner

In some cases, the customer may not own the land where the recycled water is to be used. Instead, they may occupy the land under a lease, licence or other right to occupy. In this case, the supplier and customer should, at the very least, ensure that the landowner is made aware of the proposal to use recycled water and confirm the consent of the landowner to the terms of the agreement (see clause 23 (Owner's Consent) in the *Model recycled water agreement*). Clause 23 includes an acknowledgement by the landowner that there are potential risks involved in the use of recycled water at the site. The nature of these risks will vary with each recycling situation, so none are specified in the *Model recycled water agreement*. Risks that may be of concern to an owner include salinisation of the soil or an increase in nutrient levels in ground and surface waters that may result from long-term irrigation with recycled water. Damage to assets associated with the land is another potential risk.

A provision to the recycled water agreement could also be included in which the landowner acknowledges that they are satisfied, on the basis of the information provided to them and their own investigations, that the risks involved in using the recycled water are reasonable. In some cases, the landowner may agree to release (that is, indemnify) the supplier from any claims for damages or losses arising from the use of recycled water at the site. Indemnity clauses are discussed further in section 12. Alternatively, the landowner could give written consent in a separate document or may have consented under the lease terms or other terms of the customer's occupation of the land.

The best approach is for the supplier and customer to involve the landowner from an early stage in planning and implementing the scheme and in particular ensure that the landowner is aware of, and involved in, any risk assessment or management initiatives such as development of the recycled water management plan.

Clause 24.1 (No right in land or allocation) of the *Model recycled water agreement* also makes it clear that the right to a supply of recycled water is personal to the customer and not to the landowner, if they are separate parties.

3.5. The supplier as landowner

There may be occasions where the supplier of recycled water not only supplies recycled water to a customer but also leases land where the recycled water is to be used by the customer. For example, a council may lease fields to a sporting club and supply recycled water to that club for irrigation purposes. Councils looking to secure options for wastewater disposal may lease land adjoining the STP to a farm or other enterprise that uses the recycled water from the STP.

In situations such as these, the lease may include terms regarding the supply and use of recycled water on the site. Alternatively, the agreement to supply recycled water may be separate to the lease document. If there are separate documents, it may be prudent to include mutual default provisions under which a breach of the recycled water agreement is a breach of the lease and vice versa.

3.6. Correctly identifying the parties

Suppliers and customers should ensure that the correct entities enter into the recycled water agreement and that the parties correctly execute the agreement. If relevant, additional parties such as the landowner and guarantors should be identified and sign the agreement.

It is important to get this right because different legislation governs how different entities can conduct business activities, including entering into contracts.

The business dealings of local governments are governed by the *Local Government Act 1993*, while those of water service providers are guided by the *Water Act 2000*. For example, provisions of the *Local Government Act 1993* dealing with the disposal of goods may require councils to sell recycled water through an auction or tender process, so that councils initiating a water recycling scheme have to advertise for tenders in a transparent fashion before entering into a contract with a customer to supply them with recycled water from an STP.

Private individuals are not governed by specific legislation but are required to comply with laws relating to the environment, planning, the use of water and fair trading. Corporations are subject to the *Corporations Act 2001* (Cwlth) and the *Trade Practices Act 1974* (Cwlth) in their dealings with other parties (see section 9.1).

Where relevant, ACN and ABN numbers should be included within the recycled water agreement.



4. Non-exclusivity

Most agreements provide that the customer's right to receive recycled water is not exclusive. That is, subject to being able to meet their obligations to existing contracted customers, suppliers are free to enter into recycled water agreements with other customers (Clause 24.2 (No exclusivity) of the *Model agreement*). Suppliers should ensure they are able to meet their obligations to existing customers before entering into agreements with new customers.

However, alternative arrangements may include an agreement that:

- one customer is to take the entire output from a recycled water facility; and
- the supplier may only supply to new customers after consulting with existing customers or other relevant scheme stakeholders, to ensure that the entitlements of existing customers will not be adversely affected by the entry of the new customer or this will not have a detrimental environmental or financial impact. Various consultative and advisory committees that include existing customers have been established for agricultural irrigation schemes in Australia where the reliability of supply and/or standards of service (such as instantaneous flow rates) are important concerns.



5. Transferability of the agreement

5.1. Transfer by the customer

The right to receive a supply of recycled water is usually personal and confined to the customer who enters into the agreement. Most agreements also provide that the recycled water may only be used on the particular property identified in the agreement or, more specifically, the part of this property where recycled water is used, stored or conveyed.

Under the *Model recycled water agreement* (clause 14.1 (Assignment by customer prohibited without consent)), the customer may not transfer to another individual or business its rights to receive recycled water without the supplier's written consent. As a measure to encourage continuity of the supply arrangement, clause 14.3 (Withholding consent) provides that the supplier must consent to an assignment to a new landowner or occupier, as long as certain conditions are met. This may allow the customer to pass on the full benefit of the agreement (for the time remaining in the term) to a purchaser of their business or land. This is likely to be an attractive provision for customers who join a water recycling scheme early in its development and in schemes where there is strong competition for a limited supply of recycled water. It may improve the resale value of the customer's business or land if they can show prospective customers that recycled water may continue to be available on the terms of their agreement.

The supplier must consent to an assignment unless the customer is in default of the agreement (which would include failing to provide information about the assignee), the assignee proposes to change the use of the site or the proposed assignee has inferior experience or financial standing. The supplier may impose conditions on its consent, including the requirements set out in clause 14.4 (Conditions on consent). These include a requirement for the customer and the proposed assignee to execute a (new) deed in a form provided by the supplier under which the proposed assignee agrees to comply with the customer's obligations under the existing agreement arising on and after the date of assignment.

An alternative to a clause providing for assignment is a clause which provides that in the event of the sale of the customer's business or land, the subsequent customer and supplier will enter into a new agreement for the supply and use of recycled water that is consistent with the terms of the agreement with the original customer.

Under clause 10.1 (Use) of the *Model recycled water agreement*, the customer may only use the recycled water at the site identified in the agreement unless the supplier agrees in writing. Therefore, the customer may not transfer their rights to a supply of recycled water to a

different site that they or another party own or occupy. The customer may not resell any of its allocated volume of recycled water to another party without the supplier's written consent (clause 10.4 (Resale)). Sometimes the supplier may not be concerned if a customer on-sells recycled water to another party or transfers it to a different site for use there. However, such arrangements are not optimal for managing environmental, health and safety risks. Recycled water customers should have a risk management plan that relates to their particular site or process. To ensure this occurs, the supplier may require the recycled water use management plan to be revised or that a new plan or plans be prepared as a condition of its consent to resale of the recycled water or use of the water at a different site.

5.2. Transfer by the supplier

The *Model recycled water agreement* includes a provision that protects the customer's rights to receive recycled water should the supplier sell its wastewater treatment facility and/or the delivery infrastructure to another party, or decide to decommission the treatment facility. While this has not been common in Queensland, it may become more common with increasing interest in public-private partnerships and corporatisation of council-operated water services, and consolidation of small, outdated sewerage systems into new facilities.

Under clause 14.5 (Assignment by supplier), the supplier may assign its rights and obligations under the agreement if the assignee (that is, the party that is buying the treatment and/or delivery infrastructure) agrees to continue to supply the customer under the terms of the original agreement. It should be noted that if the assignee does not agree to this and does not formalise the assignment through signing a deed with the supplier, the supplier remains bound under the original agreement to continue to supply the customer with recycled water. Failure to honour this obligation would give the customer the right to seek compensation.

Either the supplier or customer could arrange for a third party to assist them to comply with their obligations under the agreement (for example, to carry out certain construction, maintenance or monitoring tasks) but this would not relieve them from their contractual obligations to the other party.

6. Duration of the agreement

In Queensland, recycled water agreements have ranged from one to 20 years' duration. A long-term recycled water agreement may provide certainty to both the supplier and customer, whereas a short-term agreement may provide flexibility. Provisions relating to pricing, renewal and termination of the agreement will impact on certainty and flexibility for the supplier and the customer. For example, if a low recycled water fee applies over a long term, it can prevent the supplier from obtaining an appropriate economic return from the scheme. Conversely, customers in a long-term agreement may be financially disadvantaged by a 'take or pay' pricing system if their initial recycled water entitlement is overestimated.

The following questions should be considered when negotiating the duration of the agreement:

- is recycled water likely to become a more valuable resource in the future? (A short agreement term can provide greater flexibility in pricing and the ability to respond to changes in the market value of recycled water);
- is the quality or reliability of the supply of recycled water likely to improve in the future? (This may alter the range of suitable end uses and potential customers for recycled water); and
- what is the time and cost involved in renewing and renegotiating agreements?

6.1. Long-term agreements

Recycled water agreements of 10 to 20 years are common in Queensland. Long-term agreements tend to be desirable if one or both parties have made a significant capital investment in the water recycling scheme.

A supplier of recycled water may seek, or be prepared to offer, a long-term agreement:

- to attract initial customers and allow a new scheme to go ahead;
- to ensure a predictable revenue stream from recycled water fees to offset capital investment in a scheme;
- to provide certainty of wastewater disposal arrangements (for example a council may need to sell a certain amount of recycled water from its STP in order to reduce or eliminate a discharge to a waterway and comply with environmental requirements);
- if they rely on only one or a few customers to take all of the recycled water produced at the wastewater facility; or
- if the cost of alternatives to the water recycling scheme, such as a treatment upgrade at the wastewater facility, or building an extended outfall, is high.

To date, long agreement terms have tended to favour customers of recycled water by providing a secure and reliable water supply, often at a relatively low price.

A recycled water customer may seek a long-term agreement with a supplier where:

- they have made a significant capital investment in infrastructure to use the recycled water and therefore require long-term security of supply and certainty about pricing;
- it is a scheme with multiple customers who compete for a limited recycled water supply; or
- it is a high value use of recycled water (for example, industrial process water) and there are no economically or technically feasible alternative water sources.

Great care is needed in establishing long-term agreements to ensure that changes to environmental standards, policies or guidelines relating to water recycling are incorporated into the recycled water management plans for the customer's site and the supplier's system, and that details of the customer's water recycling activities are kept up to date. Clause 12.2 (Review of usage of recycled water and management plans) of the *Model recycled water agreement* provides for reviews of the recycled water management plan at least once every two years.

Occasionally agreements with an indefinite term have been entered into, either as an oversight or intentionally. While they may provide an immediate solution for a generator of recycled water, indefinite term agreements are not advisable. In a few cases, such agreements have given the customer exclusive access to the recycled water from an STP or other wastewater facility. This situation can greatly limit alternative future beneficial uses of the recycled water.

6.2. Short-term agreements

Recycled water agreements of up to two years duration have been used in a range of situations in Queensland, including:

- trials of the suitability of recycled water for a particular use by a potential customer;
- experimental or demonstration purposes;
- supply to short-term occupiers of a property;
- when a supplier is still determining customer demand characteristics across a scheme; and
- as an interim measure while a supplier seeks other customers with a larger and/or higher value end use, or if an upgrade to the wastewater facility is imminent that will improve recycled water quality and increase

the range of suitable end uses and customer's willingness to pay for the recycled water supply.

Short-term agreements give suppliers greater flexibility in the price charged for recycled water, allowing them to take advantage of increases in its market value. However, short-term agreements may disadvantage customers due to the uncertainty about continued access to recycled water, price and other conditions of supply. An acceptable alternative may be to set out a 'price path' for the recycled water over a longer agreement term (see section 7.4).

A customer is unlikely to want a short-term agreement if they have made a significant investment in scheme or on-site infrastructure. The time and cost of renewing and renegotiating agreements also increases with short-term agreements.

6.3. Synchronising duration of agreements

For large water recycling schemes with multiple customers, the supplier may achieve efficiencies in administration, operational and financial planning, if agreements for all customers run for the same period and expire on the same date. The renewal and renegotiation process for all customers would coincide, which can also make it easier for the supplier to estimate current usage and future demand for recycled water.

6.4. Early termination

If the supplier has significantly invested in the delivery infrastructure for the recycled water, significant financial losses can potentially be suffered if a customer withdraws early from the scheme or a situation such as financial failure of the business prevents the customer from continuing with the supply agreement. For example, if a customer becomes bankrupt it could leave the supplier with hundreds of thousands of dollars in redundant pipes, pumps or storage lagoons and other assets without the ongoing revenue from the sale of recycled water.

Early termination payments have been used in some large irrigation schemes in Victoria and New South Wales to provide a deterrent for early termination and a mechanism for the supplier to recover infrastructure costs if this does occur. Provision for such payments may be particularly important in the early stages of water recycling schemes, where the route and extent of delivery infrastructure is largely determined by the requirements of initial customers. Early termination payments generally diminish over time, eventually to zero as the date of the customer's termination or withdrawal approaches the original term of the agreement.

Clause 4.2 (Contribution to the cost of supplier infrastructure) of the *Model recycled water agreement* is an example of a clause providing for early termination payments. This is one way of providing for payments in the case of early termination. There are many other methods and formulas which may be used to fit with the particular financial arrangements for a scheme. A supplier would need to ensure that the early termination payment is a genuine pre-estimate of the loss to the supplier, otherwise it may not be legally enforceable.

A supplier may consider an early termination payment as unnecessary because there are plenty of existing and potential recycled water customers and/or there are no appreciable capital costs to recover in relation to the individual customer.

If the customer has invested heavily in infrastructure to enable use of the recycled water supply, they may seek a similar clause providing for a payment by the supplier to the customer if the supplier withdraws early from the scheme or the customer terminates the agreement because the supplier has been unable to supply recycled water for a prolonged period. For example, supply agreements for some large industrial customers who have installed major pipeline systems to use the recycled water may include a clause requiring the supplier to pay the depreciated costs of the pipeline as at the time the supplier withdraws.

6.5. Renewing the agreement

Issues to be considered in providing for renewal of a recycled water agreement include:

- **The party given the option to renew:** Generally an option to renew is a 'call option' in favour of the customer. That is, the customer may decide whether to renew the agreement for a further term. Alternatively, there may be a 'put option' in favour of the supplier, under which the supplier decides whether to renew.
- **Terms of the agreement during the option period:** The price and other terms of the supply of recycled water must be specified with sufficient certainty. An agreement which gives the supplier discretion to set the price during the option term is unlikely to be accepted by a customer and may not be enforceable. Terms of the agreement that are only applicable during the initial term should not be included in the renewed term. For example, the agreement for the initial term may include clauses requiring the customer to install or pay for infrastructure and these clauses may not apply to a renewed term. Additionally, the clause providing for the option to renew should be amended or deleted to make it clear that the option has been exercised and the same option cannot be exercised again.

- **Time for exercise of the option:** If it is a long-term agreement or the scheme is being expanded in stages, the supplier may require several years' notice of the exercise of the option to assist operational and financial planning. If it is a short-term agreement, for example up to two years, a typical requirement is for the customer to exercise the option three to six months before the expiry date.
- **Price during the option term:** The price payable during future terms of the agreement should be specified in the agreement. Refer to section 7.4 for information about setting long-term price paths for recycled water. Suppliers may be reluctant to set a price that will apply in future terms of the agreement, which may be 10 to 20 years away. The agreement could specify that the price payable during a future term is to be a reasonable price. While the agreement would not fail for incompleteness, stating that the price payable during a future term is to be a reasonable price may lead to disagreement between the parties about what is a reasonable price. An alternative could be to specify an upper limit or boundary for the price in the future term or in relation to the price of an alternative water source or service, for example 'a reasonable fee of no more than 70 percent of the council's usage fee for potable water at the time'.



7. Recycled water price

Clause 3 (Renewed Term) of the *Model recycled water agreement* is an example of a ‘call option’ in favour of the customer to renew the agreement. The recycled water fee for the renewed term is specified in the Particulars of the *Model recycled water agreement*.

In Queensland, recycled water has often been provided free of charge or at a nominal fee, particularly in water recycling schemes involving agricultural and open space irrigation. This approach has been used to attract and secure initial customers so that a scheme can go ahead, or to reward early subscribers. It reflects that suppliers (mostly local councils) have been driven primarily by the need to secure a means of applying recycled water for beneficial use rather than to achieve an economic return from water recycling schemes. Low/zero prices have been feasible in several large schemes in which capital costs were substantially subsidised by the State and Commonwealth governments and by industry funds.

It is unlikely that low/zero prices for recycled water will continue in the future. It is now widely recognised that water should be priced to provide incentives to use water conservatively and carefully and, where possible, to use water of a quality that matches the purpose for which it is to be used (DSE 2004).

7.1. The value of recycled water

Charging a reasonable price for recycled water helps to establish community understanding about the value of recycled water. Customers will be more likely to use recycled water efficiently and in an environmentally sound way if they can appreciate its true value. The aim for suppliers of recycled water will be to set a price that reflects the true value of the resource, attracts customers, and values and promotes future opportunities for its most beneficial use.

Determining a mutually acceptable price for recycled water can be complicated and entail lengthy negotiations. The main decisions are the type of pricing system and the ‘price path’ to use, and how to factor in the financial contribution each party has made in establishing the scheme as well as the financial benefits they will derive from it.

For suppliers of recycled water, it is legally and strategically important that customers of recycled water pay something for the recycled water they receive. Once a payment arrangement has been entered into, provisions may be triggered that include certain obligations under the *Water Act 2000*. In addition, a contract for the supply of ‘goods’ that is recycled water, may include conditions implied by the *Trade Practices Act 1974*, which is

discussed further in section 9.1. A simple ‘supply’ arrangement may not be sufficient to demonstrate that ‘consideration’ has been provided or ownership of recycled water has been transferred (Sherman 1998).

7.2. Pricing recycled water

The pricing system and the price path for recycled water is the key commercial aspect of a recycled water scheme. Pricing based on recovering the full cost of providing water services, including delivery, planning and environmental impacts (‘externalities’) and, in some cases, a rate of return on investment, is the target for urban and rural bulk water supplies adopted by Australian Governments under the national water reform process (NCC 1998, COAG 2003). In the immediate future this target may be unrealistic for recycled water due to the high costs involved in operating new treatment and delivery systems, the small scale of many projects and the lack of an established market for recycled water.

In practice, the price of recycled water will be what customers are willing to pay. Recycled water has to compete with other sources of water, including bulk surface water and groundwater supplies in rural areas and potable water in urban areas. The price that customers are willing to pay will be constrained by the local price of these sources, which is low in many areas. For example, many of Queensland’s irrigation schemes are yet to attain pricing based on recovering delivery costs (DNRM 2003). Prices for traditional water sources do not account for the environmental externalities associated with the water supply, such as reduction in groundwater quality and quantity or modification to river flows. Therefore, the environmental benefits often associated with recycled water use are not reflected in its price.

In some Australian and overseas markets, recycled water has been priced at about 30 percent of the potable water price. With the exception of a few STPs providing highly treated recycled water for high value end uses, prices have not reached this level in Queensland. In some irrigation schemes where recycled water substitutes a surface water source, prices are similar to local Sunwater charges but in other cases are lower than these.

Some of the factors that influence customers’ ‘willingness to pay’ for recycled water include:

- price of alternative water sources (for example potable, surface water and groundwater supplies);
- perception of the scarcity of alternative sources;
- competition for the recycled water supply;
- capital and operating costs of switching to recycled water supply;

- type of enterprise (for example, the economic return per unit of recycled water use is higher for horticultural irrigation than for dairy and most other crops, with grazing lower again);
- recycled water quality;
- quantity and levels of service of the recycled water supply;
- reliability of supply of recycled water;
- long-term security of recycled water supply;
- equity with existing customers and nearby recycling schemes; and
- financial position of the customer sector (for example industrial water customers are accustomed to full cost recovery pricing for water supplies).

The capital costs of establishing the water recycling scheme and how the costs have been shared between the supplier and customers are also a significant consideration in pricing decisions. If the supplier has paid for pipelines and other delivery infrastructure, this could be reflected in higher ongoing fees for recycled water or upfront infrastructure charges. Conversely, if the customer has contributed to the cost of the delivery infrastructure and established on-site irrigation systems to use the recycled water, a smaller ongoing fee may be appropriate. In several schemes, suppliers have reduced or waived fees for an introductory period in recognition of significant upfront expenditure by customers.

There can also be additional economic benefits aside from the income obtained from selling or using the recycled water and these may also need to be factored into price determinations.

For suppliers, economic benefits can include:

- being able to transfer the responsibility and risk (to some extent at least) in relation to the disposal or recycling of wastewater;
- avoided costs in treatment and disposal of wastewater (for example it may not be necessary to install nutrient removal at the wastewater facility or to purchase more land on which to dispose wastewater); and
- savings from deferring augmentation of potable water supply infrastructure.

For the customer, a secure supply of recycled water can improve land values or the resale value of their business, as seen in the Virginia scheme in South Australia (Kelly *et al.* 2003).

7.3. Pricing systems

A range of pricing systems for recycled water are available. The following pricing systems for recycled water in Queensland used alone or in combination include:

- a two-part tariff, comprising a fixed (usually annual) access component and a usage component (typically \$ per kilolitre or megalitre);
- usage fee alone;
- once-off infrastructure charge to offset the capital costs of delivery infrastructure paid by the supplier;
- a flat fee regardless of use ('take or pay' arrangement); and
- seasonal pricing, where a higher usage fee (\$ per kilolitre) applies in periods of high scheme demand (such as the peak irrigation season) and a lower usage fee applies in low demand periods.

Regardless of the pricing system that is adopted, it is essential to include a clear, detailed description of the pricing system and the price path (see section 7.4 below) for recycled water in the agreement. This information is included in the Particulars section of the *Model recycled water agreement*.

A **two-part tariff** is the pricing system that some council service providers may be required to adopt under the *Local Government Act 1993* as part of the National Competition Policy Agreement. The fixed component may be the same for all customers in the scheme or be based on the customer's annual allocated volume of recycled water (\$ per megalitre). This is the method used in many Sunwater irrigation schemes.

A **usage fee** is common in schemes where the customers or some other party financed the delivery infrastructure. The usage charge then offsets the ongoing costs of supplying the recycled water. If the supplier also provides a potable water service, the recycled water usage charge can be linked to the potable water usage charge (for example as a percentage) to provide a transparent price path for recycled water.

An **infrastructure charge** or connection fee is a once-off contribution toward the cost of infrastructure needed to deliver recycled water to the customer's delivery point, such as pipes, pumping stations and storages. Depending on the financial arrangements for the scheme, this fee may fully or partially cover the actual works carried out by the supplier. In some Queensland schemes, connection fees have been applied. In several Victorian and South Australian irrigation-based schemes, the delivery infrastructure has been fully funded by the customers. Customers may be required to pay this charge upfront

before they receive any recycled water, or could pay in instalments over the first year or two of the agreement. Either way, a description of the actual works that were constructed and the sum the customer is contributing to these should be documented in the agreement. This information is contained in clause 4.2 (Contribution to the cost of supplier infrastructure) and the Particulars of the *Model recycled water agreement*.

‘Take or pay’ pricing provides the supplier with a guaranteed income from recycled water fees, which can be important to the financial viability of the scheme. However, this pricing system may encourage overuse of recycled water by the customer and improper discharges to the environment. Take or pay fees can also disadvantage the customer financially if their recycled water use is overestimated in setting the initial amount of recycled water to be taken or there is a major problem at the site (such as a disease in a crop) that prevents the customer from using recycled water for some period.

Take or pay fees can apply to the total amount of recycled water allocated to the customer under the agreement, or some minimum percentage of this amount. For example, cane farmers in one Queensland scheme must pay for at least 75 percent of their annual recycled water amount and for all water they use above this level. In other schemes, customers are required to pay for 100 percent of the contracted recycled water volume regardless of actual use. Setting the minimum payment at less than 100 percent of the allocated volume recognises that demand for recycled water for irrigation (and some other) purposes is variable, depending on rainfall and other factors.

Some schemes operate on a ‘take and pay’ basis, where customers are obliged to both pay for and physically take the full contracted volume of recycled water (except when doing so could cause environmental harm or other serious damage). This is a typical arrangement when there is very limited storage capacity in the system and the supplier has no alternative wastewater disposal option.

Seasonal pricing signals to customers that the size and cost of infrastructure will usually need to be much larger if the system has to be designed to meet unrestricted peak demand across the scheme or to store treated wastewater for extended periods when there is no demand. Larger storages, pipes and pumps will be required to provide all customers with the desired volume and instantaneous flow rates of recycled water at peak times (such as the height of the irrigation season) than if peak demand can be restricted and water usage spread more evenly over

the year. Running costs are also higher in peak demand periods than at other times. Flat per kilolitre usage fees send basic signals about consumption but do not reflect the additional costs and environmental impacts of providing water services at certain times of the year.

Seasonal pricing can encourage customers to construct on-site storage to take advantage of off-peak water rates to stock up on water for later use or to diversify their operations so that demand for recycled water is more evenly spread throughout the year. For example, in the Pulgul-Eli Creek scheme at Hervey Bay, a premium applies to the recycled water fee during the main irrigation season when demand from cane farmers is highest. Seasonal pricing systems require accurate and timely metering of recycled water use by the supplier.

An **‘entitlement’ fee**, payable by the landowner or lessee in return for being granted a ‘permanent’ recycled water supply, is an option used in several South Australian and Victorian schemes. An entitlement fee is based on the volume of recycled water allocated to the customer under the supply agreement and is analogous to the price they would have to pay to purchase a tradeable ground or surface water entitlement in a water market. The market value of a water entitlement varies in different areas depending on water scarcity and other factors. Recent estimates of the value of a water entitlement include \$400 to \$500 per ML in the irrigation areas of the Murray-Darling Basin (Rendell 2000), \$1000 per ML for customers in the Werribee River area near Melbourne and as high as the \$6000 per ML paid by vineyards participating in a water recycling scheme in the McLaren Vale district of South Australia (Small 2003). These values imply long-term security and the ability to transfer the water entitlement, which might not always be the case with a recycled water supply.

A **charge that reflects the mass load of nutrients** or some other desirable constituent in the recycled water could also be used as an adjunct to other pricing systems. In the Northern Shoalhaven Reclaimed Water Management Scheme (NSW), the council operator gives each participating farmer a quarterly estimate of the quantity of nutrients supplied in the recycled water based on their metered use and the average concentration of nutrients in the recycled water. This is expressed in terms of the equivalent quantity of commonly used fertiliser products, allowing the farmers to use this information in calculating nutrient budgets for their crop.

7.4. Price path

It is important that the price of recycled water can be increased over time so that suppliers can pass on increases in the cost of service delivery, respond to changes in the market value of recycled water, and recover the ongoing costs of maintenance of the relevant delivery infrastructure. This is a particularly important consideration in long-term agreements for industrial and other ‘high value’ end uses where the customers’ willingness to pay for recycled water may be highly sensitive to changes in the cost or standards of service of alternative water sources. Setting a ‘price path’ is a good idea for agreements of two to five years and longer. It is also a way for suppliers to gradually build up to an economic (cost reflective) price for the recycled water following an introductory period of low or zero prices.

Full details of the method and stages for adjusting the price over time, including any formulas used, should be documented in the agreement (refer to Particulars in the *Model recycled water agreement*). Methods commonly used to set long-term price paths for recycled water include:

- linking the price to the charges for a potable water service provided by the supplier or the local council. The recycled water price can be set as a percentage (typically 30 to 50 percent) of the potable water usage fee;
- matching the charge (or a significant percentage thereof) for alternative bulk water sources in the area, usually the local Sunwater irrigation scheme;
- specifying an introductory period (in years) where fees are waived or reduced to offset significant upfront capital expenditure by customers, before a usage fee is introduced;
- adjusting the price annually using the Consumer Price Index (CPI) or similar measure of inflation (can apply to both the fixed and usage components of the recycled water fee); or
- increasing the price by an agreed rate each year (typically 2 to 5 percent).

Flexibility in pricing can also be achieved by having a short-term agreement (one to five years) and renegotiating the price upon renewal.

Provisions that allow the supplier to alter the price within the term of the agreement (in cases where no price path has been specified) should be avoided as it creates uncertainty and favours the supplier.

7.5. Negotiations on price

Transparent and open consultation with customers is important in setting the price for recycled water. The financial details of the scheme should be explained to customers so they can understand the rationale behind the proposed fee structure. When discussing pricing, the supplier must provide enough information to allow the customer to assess the full cost of the recycled water supply, to avoid the risk of engaging in misleading and deceptive conduct under the *Trade Practices Act 1974* (see section 9.1 for further information).

An individual customer can feel daunted by what they perceive as the greater bargaining power of a large council or corporation. Collective bargaining on price by customers in a scheme or a group representative of the customers may, in certain circumstances, be useful in correcting this imbalance. However, there are risks associated with collective bargaining.

Collective bargaining arrangements may breach the competition provisions of the *Trade Practices Act 1974*. Legal advice should be obtained prior to engaging in any collective bargaining. Such arrangements may be ‘authorised’ by the Australian Competition and Consumer Commission (ACCC) if the net public benefit from the conduct outweighs any public detriment caused by the lessening of competition. The ACCC has granted authorisation for a number of collective bargaining arrangements recently, including those of sugar cane growers and dairy farmers. For further information, see *Authorising and notifying collective bargaining and collective boycott issues paper* (ACCC 2004). Industry association representation is also discussed in this document.

Committees that include recycled water customers and/or representatives from relevant industry organisations have been established for a number of water recycling schemes in Australia. Committees deal with ongoing operational issues and in some cases this has included discussions and negotiations on current and future pricing of recycled water.

7.6. Billing systems

The *Model recycled water agreement* adopts a quarterly billing period to fit with the billing system commonly used by councils for water and sewerage services and the standard Sunwater irrigation supply contracts. If a two-part tariff is used, typically the fixed access charge is paid in advance and the usage component in arrears, based on the customer’s metered use in the previous period.

Failure to pay bills within the specified period, with or without reminders, is usually a trigger for termination of supply and/or the agreement (see section 14 of this Manual).

If a usage fee is adopted, accurate metering of the customer's consumption of recycled water is required. Agreements usually outline procedures to settle customers concerns about the accuracy of the meter or to estimate the customer's usage should the meter fail (clause 7 (Meter) in the *Model recycled water agreement*). Under the *Model recycled water agreement*, the supplier is responsible for installing, maintaining and reading the meter.

7.7. Other fees and charges

The parties to the agreement may prefer to have a separate charge for particular costs associated with delivering the recycled water. Examples could include electricity used in pumping recycled water, environmental monitoring or testing of the recycled water undertaken by the supplier, or maintenance undertaken on customer infrastructure. Any additional fees and charges should be specified in the agreement.

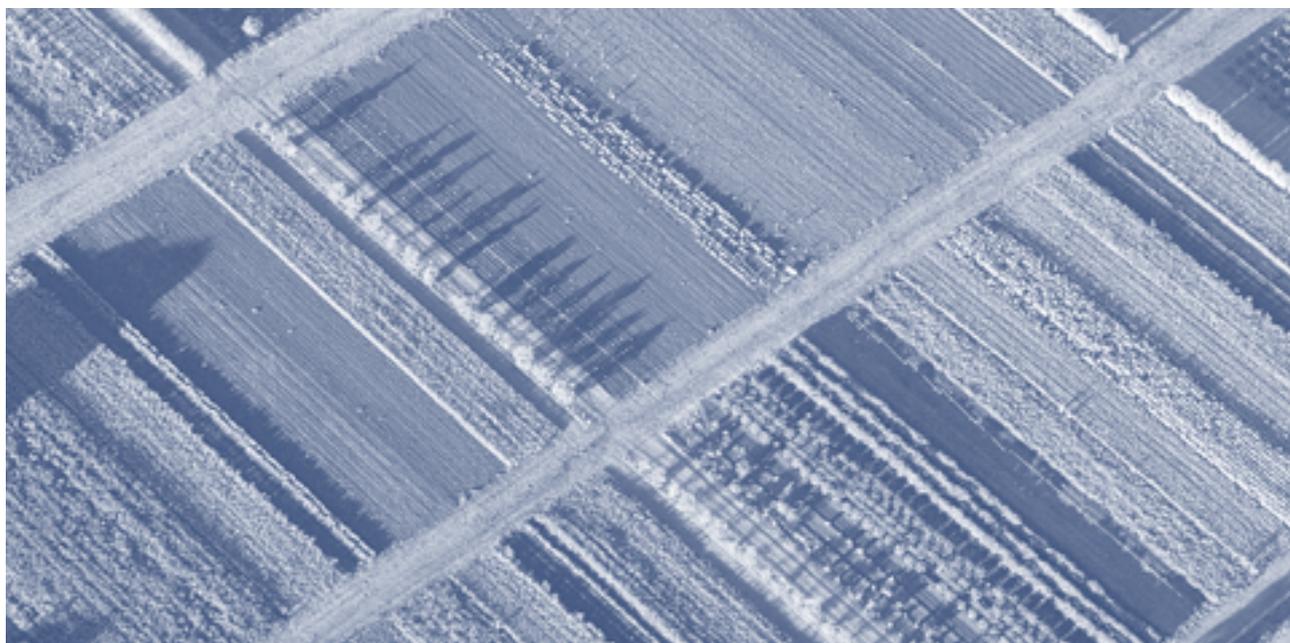
Rent could also be required in situations where the customer leases land owned by the supplier (usually adjacent to or close to the STP or other wastewater treatment facility) and is undertaking water recycling on this land. *The reclaimed water agreement manual* (Di Carlo & Sherman 2004) includes a standard recycled water agreement that addresses rental payments and other aspects specific to the lessee–supplier relationship.

7.8. Goods and Services Tax

A supply of recycled water is generally free of Goods and Services Tax (GST), which means that usage, access or other charges related to ongoing supply, will not be subject to GST. Certain infrastructure installed by recycled water suppliers, such as water meters, may also be GST-free. However, supplies of other types of infrastructure and (customer) contributions toward infrastructure in recycled water schemes may be subject to GST. Some activities of the supplier (for example inspection and monitoring) may be separate services from the supply of recycled water and hence may be subject to GST.

Relevant Goods and Service Tax Rulings are *GSTR 2000/25: GST-free supplies of water, sewerage and sewerage-like services, storm water draining services and emptying of a septic tank* and *GSTR 2001/08: Apportioning the consideration for a supply that includes taxable and non-taxable parts*.

The supplier should obtain accounting or legal advice regarding the application of GST in the specific circumstances of the recycled water scheme. The *Model recycled water agreement* allows for situations where charges and payments due under the agreement include taxable and non-taxable supplies. It provides that the Fee and Supplier Infrastructure Contribution Option specified in the Particulars section of the *Model recycled water agreement* are inclusive of GST and that if a supply is a taxable supply then the invoice for the supply must be a GST tax invoice.



8. Recycled water quantity

Factors that influence the quantity of recycled water that can be supplied to a customer may include:

- total scheme output, including output from the wastewater treatment facility plus storage;
- seasonal variation in the output from the water recycling facility; and
- the quantity of recycled water that has been committed to other existing and future customers.

The quantity of recycled water that customers wish to take may also be subject to seasonal variation. For example, the volume of recycled water used for irrigation would reduce during high rainfall periods.

Both parties may have obligations in relation to recycled water quantity. For the supplier this may include providing a certain quantity of recycled water at a pressure or flow rate appropriate to the customer's particular use and application method. The customer may be required to take a minimum amount of recycled water so that the overall scheme recycling targets are met, or to restrict the daily volume taken or usage rate so that an acceptable level of service can be maintained for all customers during peak demand periods.

Service availability and volumes of use for each customer may be governed by a roster system or irrigation schedule. Roster systems rely on a high degree of cooperation between customers, which may need to be formalised by including them in the agreement. In the *Model recycled water agreement*, details of recycled water quantity, flow rate or pressure and restrictions on service availability are included in the Levels of Service item in the Particulars section.

8.1. Specifying the quantity to be supplied

The quantity of recycled water to be supplied may be specified by:

- **Fixed amount:** A common approach is to specify a fixed amount of recycled water, usually an 'annual amount' that is to be supplied over a particular period.
- **Agreed application rate:** For irrigation uses, the quantity of supply can also be expressed in terms of an application rate over a specified area, typically megalitres per hectare per year (ML/ha/year). The size of the irrigation area is specified in the agreement, the recycled water use management plan or equivalent plan.
- **Variable amount:** In other schemes, suppliers agree to provide a variable amount of recycled water calculated according to a formula that takes into account the irrigation schedule, seasonal conditions, land use, crop type, irrigation area and site conditions.

- **Fixed proportion:** Variability in the production of recycled water from STPs and other recycling facilities can make it difficult for a supplier to commit to providing a fixed amount on a daily or seasonal basis. Instead, the quantity available to each customer can be expressed as a fixed proportion or a share of the total water available in the scheme over the year, or as a proportion of the average dry weather flow from the treatment plant.
- **Unrestricted amount:** Where there is a surplus of recycled water supply relative to demand, the quantity may be specified as 'unrestricted' or available 'as required'.

The customer should satisfy themselves that the levels of service proposed by the supplier will provide a sufficient amount of recycled water at the times it is needed and that the flow rate or pressure is adequate for their particular application method. For example, a minimum pressure may be required to operate a spray irrigator and/or a certain flow rate sustained over several hours may be required to complete an irrigation event. If levels of service are critical to the effective use of the recycled water, minimum pressure and flow rate on a daily or hourly basis or the equivalent application rate (for example L/ha/day) can be specified in the agreement.

Suppliers must be confident that they can provide any fixed amount or flow rate before these are included in the agreement. This should be based on an assessment of peak demand across the system from existing and potential customers and the hydraulic capacity of the delivery system. If such an assessment has not been done, the supplier may seek a qualification that the quantity of recycled water available to the customer will be subject to fluctuations in the number of customers drawing from the system and their level of use. However, this level of service may be unacceptable to the customer.

The supplier will not be in control of all factors governing the production, delivery and demand for recycled water and should avoid an absolute obligation regarding quantity of supply. In most cases the supplier undertakes to use 'best endeavours' or 'reasonable endeavours' to provide the quantity and levels of service specified in the agreement.

8.2. Specifying the quantity to be used

Where year-round use of a high proportion of the available recycled water is very important to the supplier, agreements also commonly require customers to use their 'best endeavours' to take all of the recycled water allocated under the contract. This could be necessary to

enable a council to meet nutrient load targets in a Development Approval for the wastewater discharge from an STP to a waterway.

Minimum use provisions were included in agreements for several schemes in rural Victoria where the water authority had no other option for disposing of treated wastewater other than irrigation by customers and there was no storage capacity. Minimum recycled water use requirements can also result in a more consistent drawdown from the delivery system, which in turn can help prevent stagnation, water quality and odour problems.

The customer may be excused from an obligation to take a specified amount or portion of their allocated volume under certain circumstances, such as:

- where exceptionally high rainfall or cool conditions significantly reduce (irrigation) demand;
- where taking and/or using the recycled water could have adverse environmental or health impacts or could contravene the customer's recycled water use management plan; or
- an event beyond the customer's control prevents them taking the water.

Clause 10.3 (Minimum usage) of the *Model recycled water agreement* is an example of a clause providing for minimum use. This clause requires the customer to use 'best endeavours' to take the quantity of recycled water specified in the Levels of Service. Clause 17 (Force majeure) is an example of a clause dealing with events beyond the control of the customer or supplier (for example a natural catastrophe) that prevents either party from meeting an obligation under the agreement.

Another option is to include a requirement for the customer to notify the supplier as soon as possible if they anticipate they will not be able to use their allocated volume of recycled water.

8.3. Suspending or interrupting supply

Any agreement should include rights in favour of the supplier to suspend or cease the supply of recycled water as a result of circumstances beyond their control. These circumstances may include:

- a significant reduction in inflows to the wastewater treatment plant;
- a decline in water quality below the agreed specification;
- the imposition of a new environmental or health constraint, regulation or law that makes it unlawful to continue to supply or use recycled water for the particular purpose;

- the loss of the relevant permits or consents needed for the supplier or customer to operate;
- a natural catastrophe (for example storm, flood or fire), civil commotion, accident, strike or other incident beyond the control of the supplier; and
- power outages, damage to or breakdown in the treatment plant or delivery system.

Clause 9.1 (Reduction, interruption or discontinuance) of the *Model recycled water agreement* provides that in the above circumstances, the supplier is excused from their obligation to provide recycled water according to the Levels of Service, provided that the failure to supply did not occur because of a wilful or negligent act on the supplier's part.

The supplier should be able to temporarily suspend or disrupt supply to undertake essential repairs or maintenance on the treatment plant or delivery system.

Agreements often require that suppliers attempt to minimise the inconvenience of interruptions to customers. The agreement may require suppliers to consult with customers over the timing of planned service interruptions (for example for maintenance purposes) and to provide immediate notification of unplanned interruptions (see clause 9.2 (Notice) and 9.3 (Timing) of the *Model recycled water agreement*). Agreements may even specify arrangements for the supplier to provide an alternative water source such as a potable water service, if the problem is going to take a long time to fix.

Customers paying a price that is competitive with ground or surface water supplies or a potable water service, or who have made a significant capital investment in the recycled water scheme, may seek a service with comparable reliability to alternative sources. These customers may only agree to a clause permitting suspension or interruption of supply in more limited circumstances.

8.4. Delivery point

The delivery point is the point where the supplier's delivery system joins the customer's infrastructure. The delivery point is generally taken as the point where ownership of the recycled water and responsibility for any risks associated with its subsequent management or use transfer to the customer. Ownership is generally transferred at the delivery point regardless of whether the recycled water has been paid for or who actually owns the infrastructure or underlying land.

Agreements generally specify that recycled water is to be supplied to a delivery point. In many cases the delivery point will be the customer's property boundary. However, depending on the arrangement of delivery pipelines and storage facilities, the delivery point could also be somewhere else within the customer's site or on land owned by the supplier or a neighbour. Typically, a flowmeter is installed at or very close to the delivery point, to measure the customer's use of recycled water. This meter needs calibrating regularly as per the manufacturer's instructions and in accordance with *Australian Standards (AS 2001)* to achieve acceptable reliability and accuracy.

It is important to clearly specify the location of the delivery point. Generally, the supplier's obligations in relation to recycled water quantity, water quality and levels of service apply at this point, but no further downstream. A map or diagram of the scheme infrastructure that shows the delivery point is useful (annexure A in the *Model recycled water agreement*). The customer is usually responsible for the construction, operation and maintenance of infrastructure used to transfer, store, treat and apply the recycled water below the delivery point.



9. Recycled water quality

Recycled water quality is a key issue in negotiating recycled water agreements. The quality of the recycled water supplied to the customer has a significant bearing on the health and environmental risks involved in the scheme and management of these risks.

The quality of recycled water influences whether use for the customer's purpose at their particular site will be sustainable. For example:

- the quantities of salts or nutrients in recycled water used to irrigate a crop can affect soil structure and fertility in the long term;
- certain characteristics of recycled water affect infrastructure such as irrigation lines and pumps, or valves and storage vessels in industrial premises; and
- other characteristics may lead to deterioration of the recycled water if it is stored in outdoor lagoons or sits in transport pipelines for long periods.

Water quality characteristics may also influence the price that the supplier seeks to obtain for the recycled water or that the customer is willing to pay.

Suppliers have obligations under consumer protection and workplace health and safety legislation as well as common law that relate to the quality of the recycled water provided to customers. Suppliers who breach these laws may be subject to claims for damages or loss caused by the supply or use of the water.

The following sections outline key elements of the legislation relevant to recycled water quality and actions that suppliers can take to ensure compliance with these laws.

This section provides an overview of the consumer protection parts of trade practices law as it could relate to the supply of recycled water, in particular recycled water quality. It does not address all the elements of the various sections of the *Trade Practices Act 1974* (Cwlth) or the *Fair Trading Act 1989* (Qld). This is a complex area of law and the application of these Acts will vary depending on the entities involved and the nature of the particular transactions. For example, certain parts of the *Trade Practices Act 1974* may not apply to government entities, while the mirror provisions of the *Fair Trading Act 1989* may apply. The following is intended as background information only and should not be used as a substitute for legal advice.

Further information can be found in the following publications:

- *Summary of the Trade Practices Act 1974* (ACCC 2003a);
- *Consumer protection: conditions, warranties and refunds* (ACCC 2003b); and
- *Authorising and notifying collective bargaining and collective boycott issues* (ACCC 2004).

9.1. Trade practices laws

The *Trade Practices Act 1974* and *Fair Trading Act 1989* contain laws designed to protect consumers and promote fair trading of goods and services. The main areas that may be relevant to recycled water agreements include:

- misleading or deceptive conduct and false or misleading representations;
- implied conditions and warranties in contracts of sale; and
- product liability.

9.1.1. Misleading and deceptive conduct and false or misleading representations

The *Trade Practices Act 1974* and *Fair Trading Act 1989* prohibit conduct by business that is misleading or deceptive or is likely to mislead or deceive. Broadly speaking, conduct could be considered misleading if it is likely to mislead the target audience. Misleading conduct could include silence, for example failing to tell customers about something they would reasonably expect to be told.

False and misleading representations are also prohibited. They occur when a person makes statements that are wrong, untruthful or misleading about things such as:

- the standard, quality or value of goods or services, for example the quality of the recycled water;
- the price of goods or services;
- the sponsorship, approval or performance characteristics of goods or services supplied;
- the customer's need for any goods or services; and
- the existence, exclusion or effect of any condition, warranty, guarantee, right or remedy available to consumers.

Breach of the laws on misleading and deceptive conduct and false representations may result in investigation and legal action by the ACCC or the Office of Fair Trading, or private action from an aggrieved third party.

9.1.2. Implied conditions and warranties

The *Trade Practices Act 1974* implies various conditions and warranties into contracts for the sale of goods and services to consumers. A seller cannot exclude, restrict or modify these statutory rights. Therefore, only conditions that are consistent with the Act should be included in contracts where the implied conditions and warranties apply. Generally, a person, whether an individual or a company, acquires goods or services as a consumer if:

- the goods or services are of a type normally bought for personal or household use; or

- the goods or services cost \$40,000 or less, provided the goods are not acquired for commercial use to produce, repair or treat other goods.

While it is arguable, that councils and other local government bodies are not bound by the provisions of the *Trade Practices Act 1974* and that the provisions may not apply to certain transactions, it is best to ensure compliance. The *Sale of Goods Act 1896* also contains similar laws on implied conditions and warranties.

The relevant conditions that are implied into a contract for the supply of 'goods' (in this case recycled water) are that they should:

- be of **merchantable quality**: meet a basic level of quality and performance that would be reasonable to expect, having regard to their price and the manner in which they are described;
- be **fit for their purpose**: the goods are suitable for any particular purpose that the customer made known to the supplier when negotiating to buy them, or a purpose that is obvious from the circumstances in which the sale took place; and
- **meet their description**: where goods are supplied by description, they must correspond with the description provided.

If any one of the conditions is not satisfied, the customer has the right to cancel the contract, get a refund and seek compensation from the supplier for any loss or damage suffered.

The *Trade Practices Act 1974* implies warranties into contracts for the supply of services to consumers. These may apply to suppliers providing recycled water services. In essence, services must be carried out with due care and skill and any materials supplied in connection with those services must be reasonably fit for the purpose for which they were supplied. A breach of this warranty entitles the customer to sue for damages.

Tips for suppliers negotiating a recycled water management agreement

- Use plain language when communicating with customers.
- Highlight important information for customers.
- Before signing an agreement, provide customers with all relevant information about the source and quality of the recycled water, the treatment and delivery systems used to supply the recycled water and its water quality characteristics. This will assist the customer to make an informed decision about

the suitability of the recycled water for their intended purpose and whether the potential risks associated with its proposed use are acceptable.

- If you are aware of any defects or contaminants in the recycled water, point them out to the customer before entering into the contract. There is an ongoing obligation for the supplier to disclose any relevant information about defects that come to light during the term of the agreement.
- Provide the customer with a recycled water quality specification based on water quality characteristics relevant to their particular end use (see section 9.4). Ensure that this specification is based on adequate quality-assured monitoring data.
- Explain to customers that the quality of recycled water sometimes varies in nutrient levels and/or other contaminants. Before entering into a recycled water agreement, fully disclose information about any contaminants in recycled water that could be expected to occur and that may impact on the environment, health or recycled water infrastructure. Provide information on the nature of the impact (for example chronic or acute effects) and any actual or indicative monitoring data on the levels of contaminants in recycled water. Explain that while you have given information about contaminants that are typically in recycled water, there may be other contaminants you are not aware of.
- If you think that a customer misunderstands the information or terms of the agreement, clarify their understanding. For example, if a customer thinks the water would be suitable for a particular use and you know that this is not the case, correct the misunderstanding.
- If the customer insists on using recycled water for a purpose for which you know it is not suited, the supplier should make it clear to the customer that the water is not suitable for this purpose. Make written notes of your discussions and send a letter to the customer confirming your position. Require the customer's formal agreement to only use the recycled water for the specific use that you have discussed and agreed upon as being a suitable use for the recycled water. While service providers cannot be held responsible if the result is unsatisfactory because the customer insisted on having the service carried out in a particular way or with particular materials, it is wise to seek legal advice prior to entering into a contract with such a customer.
- When discussing pricing of recycled water, make sure the customer has enough information to assess the full cost.

- Provide relevant information to your customers as it becomes available (for example pass on new information about water quality and risks, provide regular reports or summaries of water quality and environmental monitoring).
- Be open and honest. Put yourself in your customer's position – if you would want to know about something in relation to the quality of the recycled water, tell them about it.
- If an existing customer asks permission to use the recycled water for a purpose other than the use permitted under the agreement, make sure you establish whether the water is suitable for this new use and that any further risks are disclosed. The supplier may elect to approve this alternative use in writing (see clause 10.1 (Use) of the *Model recycled water agreement*). The agreement, and where appropriate the recycled water use management plan (see section 11), should be amended to reflect the alternative use.
- Do not make statements such as: 'no responsibility for loss or damage'. Seek legal advice regarding the application of the implied conditions and warranties to recycled water agreements and the extent to which liability can be limited.

9.1.3. Product liability (defective goods)

Under Part VA of the *Trade Practices Act 1974*, a person who is injured, or whose property is damaged, by a defective product may have a right to compensation by the manufacturer of the product. Goods are considered defective if their safety is 'not what persons are entitled to expect'. Factors that can be taken into account in determining whether goods are defective include the manner in which they are marketed, instructions or warnings that accompany the goods and the time that has elapsed since the supply of the goods. The provisions relating to manufacturers' liability for defective goods cannot be restricted, excluded or modified by contract.

As with implied warranties (previous section), it may be argued that councils and other local government bodies are not bound by these provisions of the *Trade Practices Act 1974*. Similarly, it is possible that recycled water would not be considered a 'manufactured' good under the Act. Notwithstanding this, it is best to ensure compliance and seek legal advice.

Manufacturers incur liability when a customer or another individual suffers injuries as a result of the supply of defective goods. If an individual is injured or dies, manufacturers may also be liable to compensate any other person who has suffered loss as a result of the

injuries or death of the individual. The manufacturer's liability extends to domestic or household-type goods, land and buildings or fixtures that are destroyed or damaged as a result of the use of the defective goods (provided these were for private use). Under the *Trade Practices Act 1974*, affected parties may make claims for damages or compensation for death or personal injury due to defective goods, subject to certain limitations.

Tips for suppliers outlined in the previous boxes are suggestions that may assist suppliers to minimise their risk of liability under the defective goods provisions of the *Trade Practices Act 1974*. Independent legal advice should be sought by suppliers of recycled water on these issues.

9.2. Ensuring recycled water is 'fit for purpose'

Ensuring that recycled water is fit for the purpose for which the customer intends to use it is an important supplier responsibility, with implications for treatment, storage and distribution. The appropriate quality of recycled water will depend on the customer's particular end use, site characteristics and risk factors.

The supplier of recycled water and potential customers should, at an early stage in the development of the water recycling scheme, discuss the proposed use/s of the recycled water and agree on what the actual use will be. It is a joint decision as to whether the recycled water is suitable for the customer's desired purpose, and this decision should be based on the best available information.

The *Queensland Water Recycling Guidelines* describe five classes of recycled water. Classes of recycled water are largely based on microbiological characteristics and provide an indication of the level of the treatment processes used and the human health risks associated with its use. Table 1 describes the five classes of recycled water.

Both suppliers and customers should become familiar with the information in the *Queensland Water Recycling Guidelines* on the classification system for recycled water and about water quality characteristics of recycled water from different sources and treatment processes. Relevant industry codes of practice and other documents that identify water quality requirements for particular end uses, for example the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC & ARMCANZ 2000), should also be consulted.

Once the parties have agreed to the customer's intended use for the recycled water, this use should be clearly stated in the recycled water agreement. In the *Model recycled water agreement*, this is referred to as the 'Permitted Use'. The *Model recycled water agreement* also suggests that the customer may not use the recycled

Table 1: Description of the five classes of recycled water

Class of Recycled Water	Description
Class A+	No pathogens should be detectable. Safe for many uses other than those involving human consumption.
Class A	Very low levels of microbiological indicators. Safe for most end uses, including those that could involve occasional human contact.
Class B and Class C	Only to be used with appropriate control measures in place.
Class D recycled water	Has the lowest microbiological quality with very limited number of recommended uses.

water for any purpose other than the agreed use without the supplier's written consent (clause 10.1 (Use)). Fresh consultation with the supplier is necessary to determine if the recycled water is suitable for any alternative use. For example, a customer using recycled water to irrigate sugar cane (Class C water is the minimum recommended quality) may wish to convert to tropical fruit production. The supplier's treatment facility may not produce the higher quality recycled water (Class A+) typically required for irrigating non-processed edible food crops.

Under clause 8.1 (Acknowledgement) of the *Model recycled water agreement*, the customer acknowledges that the recycled water is not fit for potable purposes, and is only suitable for the 'Permitted Use' under the conditions set out in the agreement. Other unsuitable uses for the recycled water could also be specified depending on the class of recycled water provided.

9.3. Disclosing relevant information

Recycled water suppliers should provide all relevant information to enable the customer to understand the quality of the recycled water and make an informed decision about whether it is suitable for their intended purpose and that the potential risks associated with its use are acceptable.

The information provided by suppliers should aim to show that the recycled water is 'fit for purpose' and is of 'merchantable quality' and satisfies the requirements for 'relevant information' under the *Workplace Health and Safety Act 1995* (see section 10.2). This could include details about:

- the source of recycled water (for example an STP or other wastewater treatment facility, stormwater or rainwater);
- the treatment processes used to produce the recycled water and the contaminants removed by these treatment processes;
- the reliability of the treatment processes and the type of defects in the recycled water that would result if the treatment process failed;
- long-term monitoring data to demonstrate that the treatment processes reliably produce recycled water of a given quality;

- the proportion and type of trade waste or other inputs to the treatment facility, which could affect levels of particular contaminants in the recycled water;
- any tests to determine the presence or levels of trace contaminants in the recycled water;
- health hazards associated with any contaminants in the recycled water;
- potential adverse environmental impacts of using recycled water and contaminants of environmental concern;
- potential adverse impacts of recycled water use on infrastructure or assets; and
- precautions for the safe use of recycled water in the workplace or to protect the general public (for example general precautions outlined in the *Queensland Water Recycling Guidelines*).

Suppliers cannot reasonably be expected to know the concentrations of all contaminants in the recycled water that could possibly have adverse health or environmental impacts at the customer's site. Knowledge about trace contaminants constantly evolves. The supplier should be open and honest in disclosing all relevant information they have when the agreement is being negotiated and should pass on new information about recycled water quality and risks as it becomes available. They should also keep abreast of current research and knowledge relating to the safe use of recycled water.

9.4. Recycled water quality specification

Including an accurate and detailed water quality specification in the recycled water agreement can benefit the supplier and customer by ensuring that the expectations of both parties are appropriate. Descriptions such as 'secondary undisinfectated effluent' or 'disinfectated treated effluent' do not provide sufficient indication of fitness for purpose or potential health or environmental risks of the recycled water.

9.4.1. Developing the specification

The water quality characteristics included in the specification should be selected jointly by the parties to ensure that they

are relevant to the customer's intended use. This could include water quality characteristics that could affect:

- potential human or animal health risks;
- potential environmental impacts on or off-site;
- the long-term sustainability of use at the customer's site; and
- the life or effectiveness of the customer's recycled water infrastructure.

The starting point for a recycled water specification should be the microbiological class specified in the *Queensland Water Recycling Guidelines*. Table 2 provides a list of other water quality characteristics that can be important in determining the suitability for particular end uses of recycled water. This list is intended to provide a starting point for discussions between suppliers and

customers concerning the recycled water quality and, where necessary, be a guide for further testing of the recycled water.

A common practice in current water recycling agreements is to adopt the discharge water quality characteristics and concentration limits set in the Development Approval from the STP, or other wastewater treatment facility, as the recycled water quality specification. However, it needs to be recognised that such licence limits reflect wastewater quality characteristics relevant to the health of aquatic ecosystems (for example nutrients, suspended solids or organic content as represented by biochemical oxygen demand), which are not necessarily the same parameters that determine the safety and sustainability of recycled water for a particular end use.

Table 2: Characteristics of recycled water from sewage treatment plants relevant to sustainable use of recycled water.

Recycled water use or system configuration	Recycled water quality characteristics	Potential environmental, operational or productivity impacts
Irrigation of crops/grasses (all types)	Total Dissolved Solids (TDS) ¹ or Electrical Conductivity (EC) Sodium Adsorption Ratio (SAR) ² Boron Chloride pH, water hardness Nutrients Nitrate (No ₃ ⁻)	Soil structure and soil fertility Salinisation of soil and groundwater Damage to plant growth Damage to foliage Corrosion/fouling of pipes & fittings Bioclogging of irrigation equipment Eutrophication from nutrient enriched runoff to waterways Leaching through soils and contamination of groundwater
Long distribution system and/or retention times	Biochemical oxygen demand (BOD) or suspended solids/turbidity	Odour problems, biofilm (slime) growth in pipes and storage tanks
Recycled water stored in lagoons	Nutrients	Algal blooms in storages
Significant trade waste inputs	Heavy metals Pesticides and stable organic compounds	Acute toxicity to some plants Accumulation of toxicants in the food chain
Pasture irrigation, cattle shed washdown	Helminths	Tapeworm infection in livestock
Environmental purposes (for example wetlands) ³	Nutrients BOD Temperature, Chlorine, Ammonia	Algal growth Oxygen depletion in receiving waters, leading to death of aquatic organisms Harmful to fish and other organisms
Recreational purposes – ornamental water bodies and passive recreation (no swimming or boating)	Aesthetics Nutrients	Clarity, colour, oil and grease, debris Algal growth & blooms affecting aesthetic qualities and biological health

¹ TDS is a measure of the inorganic and dissolved solids such as sodium, calcium, magnesium, iron, chloride, sulphates, bicarbonate, nitrates and phosphates.

² SAR is the ratio of sodium ions (Na⁺) relative to calcium (Ca²⁺) and magnesium ions (Mg²⁺) in the soil solution. SAR indicates the potential for sodium to accumulate in the soil.

³ Recycled water characteristics important for environmental and recreational purposes are highly site specific depending on the receiving water quality (environmental values).

The concentration and range of contaminants in recycled water can vary. Examples include microbial pathogens and contaminants that come into the treatment plant in irregular trade waste discharges. This variability makes it difficult to set an absolute concentration limit for many water quality parameters. Accordingly, recycled water quality limits are usually expressed as the percentage of time or the percentage of samples taken that are below a certain concentration limit. For example, a 50-percentile limit is the concentration of the parameter that must be met at least 50 percent of the time. A 95-percentile limit is a more stringent standard: it is the concentration limit that has to be met 95 percent of the time. Averaging limits recognises the variability in the performance of treatment processes and quality of inflows to the treatment plant and give the supplier some leeway in meeting acceptable recycled water quality.

The supplier should be careful not to give an absolute guarantee or warranty for a particular recycled water quality specification. The terminology used in the *Model recycled water agreement* is that the supplier will use ‘best endeavours’ to meet the water quality specification. A qualification is often also included that compliance with Development Approval discharge limits takes precedence over the recycled water quality specification.

The supplier’s treatment process may have no capacity to remove certain water quality parameters of interest to the customer. For example, conventional treatment processes do not remove salts, which is an important parameter for most irrigation uses. A compliance limit will not usually be included in the recycled water specification for such parameters, although it may include, for information purposes only, an average concentration and/or a concentration range for the parameter derived from previous monitoring by the supplier. The supplier may be required to monitor levels of such parameters on an ongoing basis and to provide the results of this monitoring to the customer.

One possible format for a recycled water specification is included as annexure B (Water quality specification) in the *Model recycled water agreement*. It is important that suppliers ensure that any classifications and descriptions of recycled water in the recycled water agreement are accurate. That is, they are based on sufficient quality - assured monitoring data. Care should also be taken to ensure that the classifications and descriptions are consistent between the agreement and the recycled water management plan or equivalent plan. This may be relevant to trade practices laws relating to ‘sale by description’ and ‘misleading conduct’ (see section 9.1).

Another important provision in relation to recycled water quality specifications is that the supplier takes no responsibility or liability for any changes in recycled water

quality that occur below the delivery point. It is appropriate that the customer takes responsibility for managing recycled water quality, including storage, on their site.

9.4.2. Notification limits

The recycled water quality specification can also include ‘notification limits’ for certain water quality parameters. This means that if any single sample exceeds this concentration limit, the customer is immediately notified of the result. If a notification limit is exceeded, the supplier may also be required to promptly investigate whether there is an underlying problem with the treatment processes and report back to the customer about any findings or actions taken. Clause 8.6 (Adverse results) of the *Model recycled water agreement* provides an example.

The aim of notification limits and procedures is to inform customers as soon as possible when monitoring indicates a significant departure from the desired recycled water quality. The notification limit for a particular parameter will generally be higher than the corresponding long-term or average concentration limit in the water quality specification.

Notification limits and related procedures may not be relevant for all water quality parameters and water recycling schemes. They are likely to be appropriate in situations where:

- a short-term increase in the concentration of a water quality parameter could have an immediate (acute) environmental or health impact at the customer’s site;
- water quality parameters are frequently monitored (for example on a daily basis or continuously such as for chlorine or turbidity); and
- the key treatment process is a biological system that could be temporarily affected by trade waste or other inputs that kill the micro-organisms that help treat the wastewater. In such systems, a general indicator of the activity or ‘health’ of the micro-organisms involved in breaking down the wastes can be a proxy for elevated levels of a range of potentially dangerous contaminants in the recycled water (for example from an illegal pesticide dumped into the sewer).

If the customer is aware that the recycled water they recently received, or are about to receive, may be of poor quality, they may be able to take precautionary action to minimise any adverse effects. For example, they could store the poor quality recycled water and dilute it with water from another source before use, or apply the recycled water more sparingly than usual.

Notification limits and procedures are less relevant for parameters that are infrequently monitored (for example on a monthly or longer basis) because it will be unclear

for how long levels of the parameter have been elevated and whether preventative measures by the customer will be effective. They are also less useful if the potential adverse impacts of a particular contaminant result from the overall load applied to the soil or otherwise used at the customer's site over a long period (that is the contaminant has a chronic impact). However, even for these parameters, the customer may be interested in the number of times an upper 'notification' or 'trigger' limit was exceeded over a longer period such as a year.

9.4.3. Monitoring requirements

To demonstrate compliance with any agreed water quality specification and for quality assurance purposes, the supplier has an obligation to monitor recycled water quality. Developing the water quality specification will therefore typically involve agreeing on a set of water quality parameters, average concentration and/or notification limits and a monitoring program. The Water Quality Specification in the *Model recycled water agreement* (annexure B) includes monitoring frequencies and sampling locations for each of the parameters selected.

Locations and frequencies for all monitoring associated with the scheme, including final water quality, the status of treatment processes and environmental or health-based indicators, should also be set out in the recycled water management plan.

The minimum monitoring requirements of the supplier are outlined in the recycled water quality specification (see annexure B of the *Model recycled water agreement*). These monitoring requirements should form part of the recycled water agreement even if a recycled water management plan has not yet been prepared.

When designing and describing the monitoring regime the following factors should be addressed:

- accurate description of the monitoring location for each parameter. Parameters that are important in determining the safety of final use of the recycled water (such as microbiological indicators and chlorine residual) ideally should be monitored at or as close as possible to the customer's delivery point. This is rarely practical due to the large distances between individual customer delivery points and the treatment facility. Recycled water is often monitored at the outlet from the treatment facility or the outlet from a final wastewater storage lagoon into the distribution system.
- variability of recycled water quality between the monitoring point indicated in the water quality specification and the customer's delivery point. For example, storing recycled water in an uncovered dam downstream of the monitoring point could lead to a degradation in water quality as a result of

eutrophication or contamination by bird or animal - derived faecal matter. If the recycled water has a long residence time in the distribution system, this could lead to stagnation, bacterial regrowth and odour problems. As noted in section 9.1, to avoid implications under the misleading conduct provisions of trade practices law, any potential defects in the recycled water should be disclosed to the customer prior to entering into the agreement. Factors that could cause recycled water quality to deteriorate between the monitoring point and customer's delivery point should also be disclosed to the customer, although it may not be necessary to include these factors in the agreement.

- monitoring locations must be appropriate to the particular parameter and not produce misleading data. For example, it is not generally appropriate to monitor microbiological indicators such as E. coli levels at the outlet of storage lagoons because levels can be affected by contamination with animal and bird sourced faecal matter (for example from ducks) in the lagoon. The reliability of E. coli as an indicator of disinfection efficiency is thereby reduced.
- regular reporting of monitoring data to the customer. This is best done as a formal report provided on a regular basis. The supplier should also provide results of any specific water quality testing to the customer at any time upon request. Under clause 12.1 (Annual report) of the *Model recycled water agreement*, the supplier must provide the customer with an annual report that includes the results of water quality monitoring undertaken to determine compliance with the water quality specification.
- where the customer requires very high quality recycled water (for example Class A+ water for irrigation of non-processed edible crops or water of a very specific chemical composition for an industrial use), a requirement could be included for an independent audit to be carried out at specified intervals to determine or verify the supplier's performance in meeting the water quality specification. For the customer, such a provision will ensure a higher level of quality assurance and transparency of monitoring data.

10. Compliance with legislation

Suppliers and customers must use recycled water safely and comply with laws relating to trade practices, environmental protection and public and occupational health. Those laws include:

Queensland legislation

- *Water Act 2000*;
- *Health Act 1937*;
- *Workplace Health and Safety Act 1995*;
- *Environmental Protection Act 1994*;
- *Integrated Planning Act 1997*;
- *Fair Trading Act 1989*;
- *Food Act 1981*; and
- *Sale of Goods Act 1896*.

Australian Government legislation

- *Trade Practices Act 1974*.

Relevant obligations under these Acts are outlined in chapter 2 of the *Queensland Water Recycling Guidelines*. Trade practices law is discussed in detail in section 9.1 of this Manual. This section gives an overview of key provisions in the legislation relevant to managing environmental and health risks in recycled water schemes.

Clause 11 (Compliance with laws) of the *Model recycled water agreement* requires parties to comply with all laws, including section 319 (General environmental duty) and section 320 (Duty to notify environmental harm) of the *Environmental Protection Act 1994*. It also recommends compliance with the *Queensland Water Recycling Guidelines* as 'best practice', although this is not a legal requirement and could be included if both parties agree it is a useful provision.

The Reclaimed Water Agreement Manual (Di Carlo & Sherman 2004) provides a detailed discussion of common law obligations in relation to the safe use of recycled water, particularly in the areas of negligence, nuisance and trespass.

10.1. General environmental duty and duty to notify

The *Environmental Protection Act 1994* states that we all have a general environmental duty. This means that we are all responsible for the actions that we take that affect the environment. To decide what meets your general environmental duty, you need to consider:

- the nature of the harm or potential harm;
- the sensitivity of the receiving environment;
- the current state of technical knowledge for the activity;

- the likelihood of successful application of the different measures that might be taken; and
- the financial implications of the different measures as they would relate to the type of activity.

If you become aware of serious or material environmental harm being caused by an activity you are involved in, you have a duty to report that harm, unless the harm is authorised (such as under an environmental protection policy, an environmental management program, an environmental protection order, or an authorisation or direction from an authorised person in an emergency). This is the duty to notify environmental harm. If you fail to fulfil this duty it is an offence and you can be prosecuted (refer to EPA Prosecution Guidelines).

To determine how you can meet your obligations to fulfil the general environmental duty (s319), duty to notify (s320) and other relevant provisions, refer to the *Environmental Protection Act 1994*.

10.2. Workplace Health and Safety Act 1995

Under the *Workplace Health and Safety Act 1995*, recycled water is considered to be a 'substance', and as such, a person in control of a workplace has an obligation to ensure that the substance is 'used properly' (section 15). A substance is not used properly when it is used without regard to available appropriate information or advice about its use.

Employers also have a general obligation to ensure the health and safety of their employees, themselves and other persons who may be exposed to risks arising out of the conduct of their business. This obligation may include one or more of the following:

- conducting a hazard identification and risk assessment;
- providing and maintaining a safe and healthy work environment;
- ensuring safe use, handling, storage and transport of substances;
- ensuring safe systems of work; and
- providing information, training and supervision to ensure health and safety.

The employer obligations under the *Workplace Health and Safety Act 1995* apply to all workplaces, including those where recycled water is used or produced.

Under section 34 of the *Workplace Health and Safety Act 1995*, a manufacturer or supplier of a substance for use at a workplace has an obligation to ensure that the substance:

- is safe and without risk to health when used properly;
- is tested and examined to ensure it is safe and without risk to health when used properly; and
- is accompanied by relevant information, when supplied to another person.

‘Relevant information’ means information that clearly identifies the substance, and specifies:

- (a) any precautions that must be taken for the safe use of the substance;
- (b) any health hazards associated with the substance; and
- (c) the results of any tests carried out for the substance that are relevant to its safe use.

Suppliers of recycled water should provide their customers with all relevant information about possible contaminants in recycled water that could cause harm to human health as a result of the use of the recycled water. This should include appropriate advice on how the recycled water can be safely used. In any event, water suppliers should disclose this information to meet their trade practices obligations (see section 9.1).

10.3. Legal liability

Compared to traditional methods of wastewater treatment and discharge to waterways, new and less familiar risks can be associated with water recycling schemes. The main adverse impacts or risks that could potentially arise from the supply and use of recycled water include:

- environmental damage;
- impacts on the health of the general public, employees and neighbours; and
- harm to animals or food safety.

There is a perception, particularly among suppliers, that water recycling schemes have opened up avenues of legal liability due to the potential for harm or loss from the supply and use of recycled water. The main potential sources of liability are:

- liability for statutory offences under environmental protection, workplace health and safety and human and stock health legislation. Suppliers and customers of recycled water could face prosecution from enforcement agencies such as the EPA;

- liability under the common law of nuisance and negligence. Suppliers and customers could be liable for damages to third parties such as adjoining landowners or consumers of products derived from recycled water use (*The Reclaimed Water Agreement Manual* (Di Carlo & Sherman 2004) provides a detailed discussion of negligence and nuisance);
- liability for damages for breach of express terms of the contract for the supply and use of the recycled water (discussed in section 14);
- liability of suppliers for breach of implied terms of contract, for example implied conditions that goods are ‘fit for purpose’, are of ‘merchantable quality’ and must ‘meet their description’ (discussed in section 9.1);
- liability of suppliers under the fair trading laws, including provisions relating to misleading and deceptive conduct and supply of defective products (see section 9.1); and
- liability for breach of statutory duties. Recycled water suppliers who are statutory authorities can be liable for damages if they fail to carry out a particular duty in relation to the supply of recycled water (for example, as under the *Water Act 2000*).

10.3.1. Measures to limit liability

The key for both suppliers and customers of recycled water is to minimise risks and avoid harm or damage from occurring in the first place. This requires having an effective management system to identify and control risks, such as a recycled water management plan prepared in accordance with the *Queensland Water Recycling Guidelines*.

Measures for limiting legal liability in water recycling projects can be incorporated in the recycled water agreement. Each party should consider the liabilities and measures to limit those liabilities specific to their project and obtain their own legal advice.

The following measures for reducing risks and legal liability are discussed separately in this Manual:

- recycled water management plans (section 11);
- exclusion and indemnity clauses (section 12); and
- public liability insurance (section 13).

11. Recycled water management plans

The preparation of recycled water management plans as described in this Manual and in the Queensland Water Recycling Guidelines is currently **not** a mandatory or regulatory requirement for water recycling schemes in Queensland.

Recycled water management plans are suggested as a risk assessment and risk management tool to assist in the prevention of health and environmental impacts arising from business activities using recycled water.

The Plans should cover all stages of a recycled water scheme from the production to the use of recycled water and address both human health and environmental hazards. The Hazard Analysis and Critical Control Point (HACCP) process is the preferred method to develop the plans. HACCP is a systematic approach to hazard identification, risk assessment and control. Chapter 4 of the *Queensland Water Recycling Guidelines* outlines the main steps involved in the HACCP process and its application to preparing recycled water management plans.

The *Model recycled water agreement* refers to two management plans:

- the Recycled water *supply* management plan (annexure C). Typically this will encompass the STP or other wastewater treatment facility (for example at a meatworks, sugar mill or factory) and the wastewater inputs to this facility, central storage facilities for recycled water and distribution pipelines, pumping stations and associated infrastructure. The supplier's plan will demonstrate that they are capable of reliably providing recycled water that is fit for the intended purpose at the agreed levels of service.
- the Recycled water *use* management plan (annexure D). Typically this encompasses the infrastructure and activities associated with the final use of recycled water and may also include distribution pipelines and storage or re-treatment facilities on the customer's site. It addresses on and off-site environmental and health impacts. The customer's plan will demonstrate that they have identified foreseeable on and off-site environmental risks and impacts to community health and amenity from the use of the recycled water at the site and have put in place reasonable steps to control these risks.

The distinction between customer and supplier systems, for the purposes of developing management plans, is not always clear. For example, a supplier may build and operate a lagoon inside the property of one customer and this lagoon is used to store recycled water for several

scheme participants. Alternatively, a customer's off-take could be from a section of pipeline owned and maintained by another customer. A split should be made on the basis of who is primarily responsible for operating and maintaining the relevant infrastructure.

Management plans are living documents that should be reviewed on an ongoing basis in response to information obtained from the operation of the scheme and new knowledge about risks and control measures or changes to guidelines or regulations. For example, it may be appropriate for the supplier to reduce the frequency of monitoring *E. coli* in recycled water and instead introduce on-line turbidity monitoring if this proves to be a more useful indicator of disinfection efficiency. However, regulatory requirements for monitoring in EPA licences or other Development Approvals must be complied with.

Ideally the recycled water management plans should be incorporated in the recycled water agreement and each party should commit to comply with their respective plan. To achieve this, the plans would need to be developed in parallel with negotiation of the agreement and attached to the agreement before it is signed.

11.1. Supplier's management plan

Where water recycling facilities operate under an existing management system, such as an ISO 9000-style quality management system or an ISO 14001-style environmental management system, the operating procedures and monitoring regime developed through the HACCP process should be integrated into these existing systems, so as to minimise the number of operational plans that the supplier's employees and contractors are required to use.

Many existing recycled water agreements require the development of a management plan for the customer's site, but it has not been standard practice to include a complementary plan for the supplier's system. However, this is a way for the supplier to communicate and manage risks and improve transparency. It also recognises that managing risks in water recycling schemes is a joint responsibility of the supplier and customer.

Modification of the supplier's plan may be required if there is a significant change to the treatment or delivery system, for example if the quality of the recycled water is significantly improved through a treatment upgrade or a recycled water storage dam is constructed.

11.2. Customer's management plan

Customers may have existing risk management plans such as Site-Based Management Plans, Irrigation Management Plans, Environmental Management Plans, Environmental

Improvement Plans or Farm Management Plans. These types of plans have tended to focus on irrigation-based uses and management of environmental risks and natural resources (such as surface water and groundwater and soils).

A recycled water management plan is broader in scope than these traditional plans and includes risks to human health, workplace health and safety and all components of the customer's recycled water system (not just application of the water). With the addition of risk assessment and the inclusion of human health considerations, the more traditional plans could be adapted to function as a recycled water management plan.

In several schemes in Queensland, the supplier has taken the lead role in developing the customer's or recycled water 'use' management plan. This has taken the form of contributing expertise or advice, providing templates for irrigation management plans and in some cases preparing the plan on the customer's behalf with their final approval. In contrast, in some Victorian agricultural irrigation schemes, recycled water customers had primary responsibility for preparing management plans and carrying out regional and on-site environmental monitoring. Whichever approach is taken, it is important that the customer has a sense of ownership and a commitment to implement the plan.

It is also important that the people involved in day-to-day operations at the customer's site are involved in preparing the plan, to ensure that control measures are practical and cost-effective. If the controls are too onerous or complex or it is difficult to verify that they have been implemented, the recycled water customer or their employees and contractors may be less inclined to observe them.

11.3. Modification of recycled water management plans

Either the supplier's or the customer's recycled water management plan may need to be modified in the following circumstances:

- if the quality of the recycled water is significantly improved, for example through an upgrade of the STP or a program that reduces trade waste contaminants in plant inflows;
- if the customer's intended use of the recycled water, including the crop grown (refer to clause 10.1 (Use) of the *Model recycled water agreement*), were to change;
- if there were a change in the extent or location of recycled water use at the customer's site;
- if the customer installs a facility to further treat recycled water at their site; and

- if there is a major change to the method of applying recycled water, for example conversion from high pressure spray irrigation to under-tree or trickle irrigation.

It is good practice to periodically review recycled water management plans every two to five years to ensure they accurately reflect current practices of recycled water treatment, delivery and use. This also provides an opportunity to address any new risks or control measures that may have come to light in the intervening period. Clause 12.2 (Review of usage of recycled water and management plans) of the *Model recycled water agreement* provides that the parties must review the management plans at least once every two years. If the management plans are part of the recycled water agreement, any amendments needed to the plans would have to be negotiated and agreed to by both parties.

11.4. Environmental monitoring

Some form of environmental monitoring is likely to be appropriate in many water recycling schemes, particularly for irrigation uses. The types and comprehensiveness of monitoring will depend on the nature and scale of the hazards identified in risk assessment and the sensitivity of the various environmental components.

For irrigation uses, this could involve monitoring impacts on groundwater and water quality, surface waters and wetlands, native flora and fauna, soil properties, community amenity (for example odours or spray drift) and contaminant levels in stock, produce or soils. Little, if any, environmental monitoring may be relevant for an industrial customer using recycled water in a closed system.

Monitoring is costly and it is important to design an environmental monitoring program that gives sound information at an affordable cost. Unless the program is rigorously designed, data is not likely to be of value in determining either the baseline condition or impacts over time. A good starting point for the design of monitoring programs is the *Australian Guidelines for Water Quality Monitoring and Reporting*, which is part of the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC & ARMCANZ 2000). Sampling techniques are dealt with in the *Water Quality Sampling Manual* (EPA 1999) and *Australian Standards: Water Quality – Guidance* (AS/NZS1998).

The practical limitations of monitoring, such as preserving and transporting microbiological samples in remote areas, should also be recognised and alternatives considered.

The importance of having good baseline data cannot be overstated. For example, a comprehensive

characterisation of the recycled water, soil, surface waters and groundwater should be conducted prior to commencing irrigation with recycled water.

Proponents should be mindful that while some impacts can occur in the first year of a scheme, it may take many years for some important impacts to become apparent. For example, nitrate is very mobile and excess application to the soil can result in elevated levels in a groundwater source quite quickly. Phosphorus, on the other hand, is likely to be absorbed into the soil over many years before it leaches into the groundwater.

The recycled water agreement can specify how the responsibility for environmental monitoring, analysis and reporting is to be shared between a supplier and a customer. In multiple-customer irrigation schemes, it can be cost effective and provide more meaningful data if the supplier develops and carries out a whole-of-scheme environmental monitoring program. The Northern Shoalhaven Reclaimed Water Management Scheme (NSW) (Moore & Gould 2003) and the Eli Creek-Pulgul Scheme operated by Wide Bay Water Corporation (Heron & Lever 2000) are examples of this approach. Suppliers may consider environmental monitoring to be a due diligence/duty of care action or alternatively may seek to recover monitoring costs through fees and charges for the recycled water. Monitoring of environmental aspects such as soil properties or structure and stock or produce condition should be part of the customer's routine land management responsibilities.

11.5. Audits and certification

Parties may consider including a requirement for periodic auditing of either the customer's or supplier's management plans or both. The agreement could provide that the supplier will audit the customer's plan and vice versa. Alternatively, an independent party could audit the plans. One way to ensure long-term compliance with a recycled water management plan is to achieve certification under an appropriate HACCP certification scheme, although this is likely to be relevant only to large, complex water recycling schemes. See chapter 4 of the *Queensland Water Recycling Guidelines* for further information.

11.6. Other approaches

A partnership approach to risk management is suggested in the *Queensland Water Recycling Guidelines* and in this Manual. This approach serves to identify the environmental and health risks and control measures that are most relevant to the specific water recycling situation. This then feeds into the recycled water management plan, which is attached to the recycled water agreement.

An alternative approach used in some schemes in Queensland and other states is for the supplier to include a set of standard controls relating to the safe use of recycled water in all their customer agreements or in agreements for customers with a similar end use. These standard clauses typically cover the design, construction, operation and maintenance of the customer's recycled water system, and may include prescriptive procedures relating to:

- prevention of cross-connections to a potable water system and contamination of potable water supplies with recycled water;
- prevention of contamination of groundwater and surface water;
- use of advisory signs at access points on recycled water pipelines and where recycled water is used or stored;
- provision of health and safety training to employees and contractors;
- prevention of infestations of mosquitoes and other pests; and
- operation and maintenance of recycled water infrastructure.

Suppliers may feel that including prescriptive health and environmental controls in the agreement provides greater certainty about the actions required by the customer and their likely compliance with these. However, the EPA does not encourage a prescriptive approach to risk management in water recycling projects as it is not considered to be consistent with best practice management. If site-based controls are not tailored to the particular recycling situation, key hazards can be overlooked and effort wasted on minimising minor hazards. Furthermore, some customers perceive these controls to be rigid and one-sided, and to be putting the supplier in a regulatory role in relation to their activities.

However, if the parties agree that prescriptive customer site-based controls are the best option, it is important that the control measures included in the agreement are:

- consistent with those recommended in the *Queensland Water Recycling Guidelines*;
- reviewed regularly to ensure they are consistent with any amendments or additions to the guidelines or other relevant standards; and
- fair and reasonable, so that the customer is more likely to comply.

12. Exclusion and indemnity clauses

Recycled water suppliers in Queensland and other states have sought to include in supply agreements an indemnity from the customer against any damages, loss, injury or other costs for which the supplier may become responsible or liable resulting from customer's use of recycled water. Generally the indemnity would not apply if the harm resulted from the negligent or deliberate actions of the supplier.

Legal risk can be shared if the customer only indemnifies the supplier against claims if their use of recycled water at the site was not in accordance with the agreement or if the claim arises from the customer's negligent act or omission. To further demonstrate a willingness to share risk, a reciprocal indemnity clause could be included pursuant to which the supplier indemnifies the customer against claims arising from the supplier's breach of the agreement or negligent act or omission. Clause 16

(Indemnity) in the *Model recycled water agreement* provides an example of this approach. The indemnities may also bind or be in favour of the landowner and may also bind the guarantor for the customer.

Some suppliers have sought to extend the customer indemnity to include losses or damages experienced by the customer as a result of failure or interruption to supply, the quality of the recycled water (as long as it conforms to the agreed water quality specification) or operation or maintenance of the supplier's treatment plant and delivery system.

Liability exclusion clauses may have a role in limiting legal risks for suppliers. However, indemnities should be used carefully so as not to give customers the impression that they are being required to bear an unreasonable amount of the risk of the scheme, even when the supplier's actions clearly contributed to any loss.



13. Public liability insurance

Public liability insurance is available to cover local government bodies in the application of recycled water. Recycled water suppliers commonly require customers to take out public liability insurance to cover any claims for damages, loss, injury or other costs by another party due to the use of recycled water on the customer's site and the construction and operation of recycled water infrastructure. The minimum cover required is typically between \$5 million and \$10 million. A public liability insurance clause may also require that the customer provide proof that insurance is in place before any recycled water is supplied, and be able to provide evidence of insurance at any time at the supplier's request. The supplier may even require approval of the insurance product or company.

Under s1123 of the *Local Government Act 1993*, local governments are required to obtain public liability insurance in relation to the exercise of their jurisdiction to a minimum amount prescribed by regulation (currently \$30 million). However, general public liability schemes for local government specifically exclude the release of pollutants, and so do not cover wastewater discharges from STPs, whether it is being disposed of to waterways or land or is being recycled.

A national facility has been developed to provide public liability insurance cover specifically for claims arising from discharge of wastewater from licensed council-operated STPs. Queensland's scheme is run by a business arm of the Local Government Association. The facility breaks water recycling into seven categories, each with different risk exposures. Premiums relate to the end use of the wastewater, the associated risks and the volume of the discharge. The highest risk and premiums attach to domestic uses of recycled water, for example a dual

reticulation scheme. Council use for watering parks and gardens is an intermediate risk, while 'environmental' discharge to waterways has the lowest risk and premium. The insurance for recycled water does not cover the third party using recycled water. The insurance covers claims arising from negligence, unless the council has been recklessly indifferent to damage.

To date, only about one-sixth of the councils with active water recycling schemes have taken up public liability insurance. Reasons for the low uptake could include council uncertainty of the benefits of the insurance, uncertainty about whether they are covered for public liability in relation to water recycling, or concerns about the cost, which would be passed on in the price for recycled water. Public liability insurance for a population of 50 000 people generating recycled water for level 3 – council use, watering parks and gardens was estimated to amount to \$0.55/kL (Price Waterhouse Coopers 2000). This could significantly impact the price of recycled water for rural irrigation-based customers but is unlikely to be significant for urban customers.

Overall, the addition of public liability insurance is not a major increase to the price of recycled water for urban customers and the benefit provided in covering risk far outweighs the small increase in price (Price Waterhouse Coopers 2000).

14. Termination

The supplier and customer are often highly dependent on each other. The customer is likely to depend on the supplier to provide water for its business. The supplier may depend upon the customer purchasing the recycled water in order to comply with mass load licensing requirements for discharges from their treatment facility. Both parties may have invested considerable money and effort in the scheme. Accordingly, termination of the agreement is generally a last resort.

In general terms, three types of breach justify termination: repudiation, breach of an essential term, or a breach causing a substantial loss of benefit. Minor breaches are unlikely to justify termination but recurrent minor breaches in certain circumstances may justify termination.

Clause 18 (Termination) of the *Model recycled water agreement* is an example of a termination clause. In certain cases it provides for immediate termination, for example if the customer contaminates the recycled water so that it is no longer suitable for the customer's specified use or damages the supplier's infrastructure. The contractual right to terminate for other breaches not specifically listed arises after the supplier gives the customer 10 business days' notice to remedy the breach. Contractual rights to terminate are subject to restrictions that apply to rights to terminate conferred by law. The parties should obtain independent legal advice before terminating the contract because premature termination may itself be a breach of contract.

An alternative approach would be to allow the customer a certain number of warnings to rectify breaches before terminating the contract.

Clause 18.3(a) (Termination on interruption of supply or force majeure) also provides for termination by the customer if supply is suspended for a period of three months or more. Broader reciprocal termination rights for the customer could be appropriate. For example, if the customer is under an absolute obligation to take a certain amount of recycled water, the customer may require a right to terminate the agreement if the recycled water supplied exceeds the concentration limits in the water quality specification.

Paragraph (a) of Clause 18.4 (General right of termination) of the *Model recycled water agreement* gives either party the right to terminate the agreement without reason on 12 months' notice. In short-term or temporary supply arrangements, or in situations where finding new customers or alternative water supplies (in the customer's case) is not a practical or cost issue, a shorter period of notice may be able to be negotiated. Paragraph (b) of clause 18.4 permits the customer to terminate the agreement on six months' notice if the customer has sold the land that includes the site.

15. Disputes

Serious disputes can be avoided by good communication between the supplier and the customer. Regular get-togethers with customers through customer forums or site visits may also help to reveal impending issues and head-off a full-blown dispute.

A dispute resolution clause sets out the procedure that the parties may follow as an alternative to resorting to the court system. Dispute resolution clauses often provide that initially the parties or their representatives are to meet to attempt to resolve the dispute. Often the best people to meet to discuss issues in the event of a dispute are those not involved in day-to-day antagonisms. The clause may then set out subsequent procedures such as mediation and/or arbitration. Time limits should be included in the dispute resolution clause to ensure that efforts to resolve the dispute are not delayed or avoided. If a clear procedure is not specified, any claim under the contract is only actionable by the (offended) party instituting court proceedings.

Clause 20 (Disputes) of the *Model recycled water agreement* provides for the parties to firstly negotiate. Failing settlement through negotiation, it provides for mediation and failing settlement through mediation, the dispute is subject to arbitration. The clause is an example only. A party's advisers may consider that other clauses are more appropriate. For example, some practitioners consider arbitration in disputes over recycled water agreements to be undesirable on time and money grounds. Additionally, the appropriate dispute resolution method may depend on the type of dispute. For example, if a dispute is one-sided it may be more appropriate for it to be subject to court proceedings or arbitration than mediation.



16. Property access rights

Councils have relatively broad powers under the *Local Government Act 1993* to enter a person's property.

Under the *Water Act 2000*, service providers have rights to enter land to repair and maintain assets related to the service(s) for which they are registered under the Act. These powers are more limited than those of local government. Water service providers are generally required to give the occupier of the land 14 days' notice of entry and reasons for the entry before undertaking repairs or maintenance of infrastructure (s384), although there are exceptions in an emergency. Fourteen days' notice is not required if the owner consents to the entry.

Suppliers who are not councils or water service providers will need to negotiate specific access rights and terms with the customer.

The supplier and customer should negotiate access rights and incorporate these in the recycled water agreement. Clause 10.5 (Access) of the *Model recycled water agreement* provides that the supplier may enter the site to undertake monitoring and to inspect and test the customer's infrastructure. A provision such as this would be necessary to allow the supplier to take samples for environmental monitoring under the recycled water management plan.

Each party will need to ensure that it secures rights to enter land to install and maintain infrastructure if it does not own the land on which its infrastructure is to be installed. For example, it may be necessary for the customer to be granted an easement over a third party's property. However, it is best to avoid locating significant customer infrastructure that the customer needs to regularly maintain (such as pumps) on the supplier's or a third party's land. Such an arrangement is unlikely to result in optimal risk management. The implications for the landowner's public liability insurance would also need to be considered.



17. Glossary

This glossary of terms supplements the glossary within the *Queensland Water Recycling Guidelines*.

call option	In relation to the recycled water agreement, a call option is when the customer is provided with the option to renew the agreement for a further term. A call option is in the favour of the customer.
dual reticulation	The simultaneous supply of water from two separate sources, requiring two sets of pipes, one to provide potable water and the other to provide recycled water for non-potable purposes.
effluent	Treated or untreated liquid waste flowing from sewage treatment plants, agricultural or industrial processes.
indemnity	A promise to cover losses of another person.
irrigation	The watering of crops, pasture, golf courses, parks, gardens and open spaces, which may involve using different applications (for example drip, trickle, spray and flood).
non-potable purposes	The use of water for purposes other than drinking, cooking, bathing and laundry, for example irrigation of gardens, lawns and toilet flushing.
potable	(Water) of a quality suitable for drinking, cooking and personal bathing.
put option	In relation to a recycled water agreement, a 'put option' provides the supplier with an opportunity to decide whether or not to renew the agreement with the existing customer for a further term.
recycled water	Appropriately treated wastewater and urban stormwater suitable for further use.
STP	Sewage treatment plant.
treated effluent	Aqueous waste flowing from sewage treatment plants, agricultural or industrial processes that has been subjected to various treatment processes (screening, sedimentation, biological and chemical) to improve its quality.
wastewater	The used water of community, industry or agriculture containing dissolved and suspended matter. Also called 'treated effluent'.
water recycling	Use of appropriately treated wastewater and urban stormwater for further beneficial purposes.

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Appendix – Model recycled water agreement

MODEL RECYCLED WATER AGREEMENT

between

[Supplier name] ABN [Supplier ABN]

and

[Customer name] ABN [Customer ABN]

and

[Guarantor name] ABN [Guarantor ABN]

and

[Owner name] ABN [Owner ABN]

(Delete this page from final agreement)

Disclaimer: While this document has been prepared with care, it contains general information and is not intended to provide legal, professional or commercial advice. The Queensland Government accepts no liability for any use of this document. Persons proposing to use this agreement should satisfy themselves independently about the appropriateness of the agreement for their circumstances and they should seek their own professional advice regarding the use of the agreement.

When to use this model recycled water agreement

The purpose of this model recycled water agreement is to provide general guidance on the issues that should be independently considered by both a supplier and a customer when developing an agreement for the supply, on a commercial basis, of recycled water to a customer and its use at the customer's site. It particularly relates to the supply of recycled water from a treatment plant operated by a local government and regulated under an EPA licence (development approval). It may also be relevant to the supply of recycled water from sources such as industrial activities (for example meat works, sugar cane mill, fruit processing), agricultural activities (for example cattle feedlots and piggeries) and stormwater.

This Model agreement could be amended to accommodate a range of end uses of recycled water, water quality and customer site characteristics including:

- public open space irrigation (including parks, golf courses, sports grounds)
- agricultural purposes including:
 - irrigation of food crops
 - irrigation of crops including trees, turf and wholesale nurseries
 - irrigation of pasture including stock watering and animal shed wash down
- industrial purposes (for example wash down, process water, boiler feed and cooling water)
- dust suppression at road works, construction sites, quarries and mines
- providing water for recreational water bodies (for example lakes and fountains etc).

This Model agreement is not suitable when the end use of the recycled water is an *environmentally relevant activity*. In this case the EPA will directly regulate (licence) the use of recycled water on the customer's site and a different form of agreement may be required.

How to use this model recycled water agreement

This document provides a starting point for a supplier and customer to develop an agreement for the supply and use of recycled water. All parties to the agreement should obtain independent legal advice before signing the recycled water agreement. Each and every clause of this agreement should be assessed with respect to the specific circumstances of the particular water recycling scheme and customised as necessary.

Users of this document are also encouraged to discuss the content of their particular recycled water agreement with colleagues or employees involved in planning and implementing the water recycling scheme as well as suppliers and customers who have dealt with similar circumstances in other schemes.

Steps to developing a recycled water agreement

The following steps are provided as general guidance only. Please read the suggested provisions of the model agreement carefully and in conjunction with the relevant sections of the *Manual for recycled water agreements in Queensland* and the *Queensland Water Recycling Guidelines* ('Guidelines'), which have been published by the Queensland Environmental Protection Agency.

1. Complete the Schedule at the end of the document:

Land: The real property description of the land of which includes the site where the recycled water will be used should be set out here.

Permitted use: The permitted use of the recycled water should use terminology consistent with Table 6.3 of the Guidelines. If the parties have agreed that the recycled water only be used on a specific crop then that crop should be specified.

Levels of service: The levels of service should be worked out jointly, based on the customer's requirements and the capabilities of the supplier's treatment storage and delivery system. Demand from existing and potential customers in the scheme should be considered.

Fee: A fee for the recycled water supply, or a formula for calculation of the fee should be specified for the term of the agreement and the renewed terms. Fee types include a two-part tariff, usage fee and seasonal pricing. Methods of calculating fees over time include CPI reviews, a set annual percentage increase and setting a constant fraction of a potable water service fee.

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Supplier infrastructure: The infrastructure required to deliver the recycled water from the treatment plant to the delivery point to be installed by the supplier under clause 4.1.

Supplier infrastructure contribution option: If the supplier is to be reimbursed for the cost of the supplier infrastructure then clause 4.2 may be used. Clause 4.2 sets out two alternatives for the reimbursement. Option 1 provides that the customer must reimburse the supplier for the cost of installation (up to the maximum) when the supplier invoices the customer. Option 2 provides for reimbursement only if the agreement is terminated early under clause 18.1 because of the customer's breach. If the supplier is not to be reimbursed then 'Nil' should be inserted in the Supplier infrastructure contribution option item of the Schedule.

Customer infrastructure: This sets out the items of infrastructure that the customer is required to construct under clause 4.3.

Special conditions: This item provides for special conditions. Under clause 19 the special conditions prevail over any other clause of the agreement.

2. Complete the Annexures to the agreement:

Annexure A: Insert a plan of the **Site** in annexure A. The area where the recycled water will be used should be hatched in black. The **delivery point** at which the supplier will deliver the recycled water should be clearly marked.

Annexure B: Insert the **water quality specification**, which has been agreed between the supplier and the customer in annexure B.

Annexure C: Insert the **recycled water supply management plan** in annexure C. This is the supplier's plan for the safe generation and supply of recycled water. The plan should be prepared in accordance with chapter 4 of the Guidelines. The plan should be completed and inserted in the agreement before the agreement is signed.

Annexure D: Insert the **recycled water use management plan** in annexure D. This is the customer's plan for the safe use of the recycled water at the **Site**. The plan should be prepared in accordance with chapter 4 of the Guidelines. The plan should be completed and inserted in the agreement before the agreement is signed.

3. Complete the execution pages at the end of the body of agreement, including:

- the Customer
- any Guarantors of the customer (if applicable)
- the Owner of the Site (if not the customer)
- the Supplier.

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THIS AGREEMENT is made this _____ day
of _____ 20____

BETWEEN: [Supplier name] ABN [Supplier ABN] of
[Supplier address] (‘the **Supplier**’)

AND: [Customer name] ABN [Customer ABN] of
[Customer address] (‘the **Customer**’)

AND: [Guarantor name] ABN [Guarantor ACN] of
[Guarantor address] and [Guarantor name]
[Guarantor address] [Guarantor ACN] (‘the
Guarantor’)

AND: [Owner name] ABN [Owner ABN] of [Owner
address] (‘the **Owner**’)

Background

- A. The Supplier owns and operates the Treatment plant.
- B. The Customer occupies, or is entitled to occupy, the Site on the Land.
- C. The Customer has requested that the Supplier supply the Recycled water for the Customer’s use at the Site for the Permitted use.
- D. The Supplier has agreed to sell, and the Customer has agreed to buy and use the Recycled water on the terms of this Agreement.
- E. The Guarantor guarantees the performance of the Customer under this Agreement.
- F. The Owner owns the Land and consents to the supply and use of the Recycled water in accordance with this Agreement.

Agreed Terms:

1. Interpretation

1.1 Definitions

In this agreement the following definitions apply:

'Agreement' means this document and all annexures to it;

'Business day' means a day other than a Saturday, Sunday or public holiday on which banks are open for business in the local government area which includes the Land;

'Commencement date' means the date specified in item 8 of the Schedule;

'Customer infrastructure' means the infrastructure to convey and use the Recycled water after the Delivery point identified in item 29 of the Schedule;

'Delivery point' means the location for delivery of the Recycled water by the Supplier to the Customer identified in item 6 of the Schedule;

'Expiry date' means the date specified in item 6 of the Schedule;

'Fee' means the fee specified in item 14 of the Schedule;

'Force majeure' means: -

- (a) war, whether declared or undeclared, revolution or act of public enemies;
- (b) riot or civil commotion;
- (c) strike, stoppage, ban, limitation on work or restraint of labour;
- (d) act of God;
- (e) fire, flood, storm, tempest or washaway;
- (f) act or restraint of any governmental or semi-governmental or other public or statutory authority;
- (g) failure of the electricity supply caused by events beyond the control of the Supplier or the Customer; or
- (h) a change in any law which makes it unlawful to supply or use the Recycled Water in accordance with this Agreement;

'GST amount' means the amount of GST on a Taxable Supply calculated at the rate of GST applicable at the time that the supply is made;

'GST', 'Tax invoice' and 'Taxable supply' have the meanings given in the *A New Tax System (Goods and Services Tax) Act 1999*;

'Guidelines' means the Environmental Protection Agency (Qld) *Queensland Water Recycling Guidelines*, December 2005;

'Land' means the land identified in item 1 of the Schedule;

'Levels of service' means the quantity, delivery pressure or rate of delivery and restrictions on service availability for the supply of the Recycled water specified in item 11 of the Schedule;

'Permitted use' means the use specified in item 10 of the Schedule;

'Potable' means suitable for drinking;

'Public liability insurance amount' means the amount specified in item 16 of the Schedule;

'Recycled water supply management plan' means the plan for the safe generation and supply of Recycled water in annexure C;

'Recycled water use management plan' means the plan for the safe use of the Recycled water at the Site in annexure D;

'Recycled water' means the treated effluent produced by the Treatment plant and supplied to the Customer under this Agreement;

'Renewed term' means the renewed term specified in item 10 of the Schedule;

'Renewed term fee' means the fee for the supply of the recycled water during the Renewed term specified in 18 of the Schedule;

'Site' means the part of the Land on which the Recycled water may be used identified in item 5 of the Schedule;

'Special conditions' means the conditions specified in item 33 of the Schedule;

'Supplier infrastructure' means the infrastructure to deliver the Recycled water to the Delivery point specified in item 23 of the Schedule;

'Supplier infrastructure contribution option' means the option for the purposes of clause 4.2 specified in item 23 of the Schedule;

'Supplier infrastructure maximum contribution' means the amount for the purposes of clause 4.2 specified in item 13 of the Schedule;

'Treatment plant' means the Supplier's effluent treatment plant identified in item 7 of the Schedule;

'Water quality specification' means the standard in annexure B.

1.2 Interpretation

In this Agreement, unless a contrary intention appears:

- (a) words importing a gender include any other gender;
- (b) words in the singular include the plural and vice versa;
- (c) 'includes' means includes without limitation;
- (d) a reference to any legislation includes any subordinate legislation made under it and any legislation amending, consolidating or replacing it;
- (e) a reference to guidelines includes any amendments to the guidelines and any guidelines consolidating or replacing the guidelines;
- (f) a reference to an individual or person includes a corporation or other legal entity;
- (g) a reference to a recital, clause, schedule or annexure means a recital, clause, schedule or annexure to this Agreement;
- (h) a party to this Agreement includes the executors, administrators, successors and permitted assigns of that party;
- (i) clause headings have been included for convenience of reference only and are not intended to affect the meaning or interpretation of this Agreement;
- (j) if any expression is defined, other grammatical forms of that expression have corresponding meanings;
- (k) an obligation of two or more persons binds them jointly and severally;
- (l) all dollar amounts refer to Australian currency;
- (m) if there is any inconsistency between the Schedules and a clause of this Agreement, the provisions of that clause prevail to the extent of the inconsistency; and
- (n) if the day on or by which anything is to be done under this Agreement is not a business day, that thing may be done on the next proceeding business day.

2. Term

This Agreement commences on the date of this Agreement and expires on the Expiry date.

3. Renewed Term

If the Customer:

- (a) wishes to renew this Agreement for the Renewed term to commence immediately after the Expiry date; and
- (b) gives a notice to the Supplier not more than 9 months nor less than 6 months before the Expiry date, the Supplier, the Customer, the Guarantor and the Owner must enter into an agreement for the Renewed term on the same terms of this Agreement except that:
- (c) the Fee during the Renewed term will be the Renewed term fee;

- (d) the definition of 'Renewed term' in the Schedule will be amended by deleting the details of the current Renewed term; and
- (e) this clause 3 will be deleted from the Agreement if, after the deletion referred to in paragraph (d) of this clause 3, there are no Renewed terms.

4. Infrastructure

4.1 Supplier infrastructure

The Supplier must install each item of the Supplier infrastructure listed in the Schedule by the respective completion date for the item and must install any Supplier infrastructure not listed in the Schedule by the Commencement date.

4.2 Contribution to the cost of supplier infrastructure

- (a) This clause applies if the Supplier infrastructure contribution option is Option 1. The Customer must pay to the Supplier a contribution of the cost incurred by the Supplier in installing the Supplier infrastructure up to the Supplier infrastructure maximum contribution in the following instalments:

Date	Percentage of the contribution payable on the date
[eg. the date 1 month from the Commencement date]	[eg. 25%]
[eg. the date 3 months from the Commencement date]	[eg. 25%]
[eg. the date 6 months from the Commencement date]	[eg. 25%]
[eg. the date 9 months from the Commencement date]	[eg. 25%]

- (b) This clause applies if the Supplier infrastructure contribution option is Option 2. If this Agreement is terminated otherwise than by reason of the Supplier's breach the Customer must pay to the Supplier the following percentage of the total cost expended by the Supplier on the Supplier infrastructure up to the Supplier infrastructure maximum contribution:

Termination date	Percentage
[eg. 1 year or less from the Commencement date]	[eg. 75%]
[eg. More than 1 years but less than 2 years from the Commencement date]	[eg. 50%]
[eg. More than 2 years but less than 3 years from the Commencement date]	[eg. 30%]
[eg. More than 3 year but less than 4 years from the Commencement date]	[eg. 20%]

4.3 Customer infrastructure

The Customer must, at the Customer's cost, construct each item of the Customer infrastructure by the respective completion date for the item.

4.4 Maintenance of supplier infrastructure

The Supplier must keep all Supplier infrastructure in good repair and condition.

5. Supply

5.1 Supply to delivery point

In consideration of the Customer's payment of the Fee, the Supplier will use its best endeavours to supply Recycled water to the Delivery point from the Commencement date until the Expiry date.

5.2 Levels of service

The Supplier must use its best endeavours to supply the Recycled water in accordance with the Levels of service.

5.3 Passing of property

Ownership of and risk associated with the Recycled water passes to the Customer at the Delivery point regardless of whether the Fee has been paid.

6. Fee

6.1 Payment of fee

- (a) The Customer must pay the Fee to the Supplier within 30 days of the Supplier giving the Customer an invoice for the Fee.
- (b) The Supplier must invoice the Customer quarterly in arrears for Recycled water drawn by the Customer from the Delivery point.

6.2 Invoice

The Supplier must include on the invoice:

- (a) The period to which the invoice applies;
- (b) The quantity of Recycled water drawn by the Customer from the Delivery point during the period; and
- (c) The Fee payable by the Customer.

6.3 Payment

The Customer must pay the Fee to the Supplier at the address of the Supplier in the Schedule or otherwise at the written direction of the Supplier.

7. Meter

7.1 Reading

The Supplier is responsible for maintaining and reading the meter.

7.2 Testing

- (a) The Supplier must test the meter for accuracy (in accordance with Australian Standards) within 10 business days of the date that the Supplier receives a request from the Customer to check the meter for accuracy.
- (b) The Supplier must give the results of the test to the Customer within 5 business days of the date that the Supplier conducts the test.
- (c) If the test indicates that the meter is measuring a volume accurately then the Customer must pay the Supplier's reasonable expense of conducting the test to the Supplier within 5 business days of the date that the Supplier gives the Customer the results.
- (d) If the test indicates that the meter is not measuring volume accurately or if at any time the meter fails to record the Customer's use of Recycled water then the Supplier, acting reasonably, must estimate the usage. The Customer must provide information regarding the Customer's use of the Recycled water to the Supplier reasonably required by the Supplier to make the estimate.

8. Recycled water quality

8.1 Acknowledgement

The Customer acknowledges that:

- (a) by its own investigations it has determined that water which meets the Water quality specification is suitable for the Permitted use at the Site; and

- (b) the Recycled water is not Potable and is not fit for general human contact including contact by swimming, immersion or washing.

8.2 *Supply management plan*

The Supplier must comply with the recycled water supply management plan.

8.3 *Water quality specification*

The Supplier must use its best endeavours to ensure that the Recycled water meets the Water quality specification.

8.4 *Monitoring*

The Supplier must monitor the water quality at the frequency and locations set out in the Water quality specification.

8.5 *Results*

The Supplier must give the results of the monitoring to the Customer within 10 business days of a request from the Customer.

8.6 *Adverse results*

- (a) The Supplier must give the results of the monitoring to the Customer and recommendations of actions that the Customer should take to minimise adverse impacts of using the Recycled water:
 - (i) immediately - if the results show concentrations that exceed the notification limits in the Water quality specification; and
 - (ii) within 48 hours - if the results show concentrations that are materially different from the concentration limits in the Water quality specification so that the Recycled water may not be fit for the Permitted use.
- (b) Within 2 business days of receiving the results the Supplier must give to the Customer results of any actions taken by the Supplier to prevent the variations from the Water quality specification.

9. **Reduction, Interruption or Discontinuance of Supply**

9.1 *Reduction, interruption or discontinuance*

- (a) The Supplier may, at its discretion, reduce, interrupt or discontinue the supply of Recycled water if:
 - (i) the Recycled water fails to meet the Water quality specification;

- (ii) any component of the Treatment plant or Supplier infrastructure is damaged or breaks down;
 - (iii) the Supplier is required to carry out maintenance or repairs to any component of the Treatment plant or the Supplier infrastructure;
 - (iv) the Supplier, Customer or Owner receive from the Environmental Protection Agency a direction requiring that the Recycled water not be supplied to the Site; or
 - (v) the Supplier, Customer or Owner cease to hold any government planning permit, licence, permission, approval or consent necessary for the lawful operation of the Treatment plant or Supplier infrastructure or the use of the Recycled water by the Customer.
- (b) The Supplier will be unable to avoid its obligations under this Agreement by relying on clause 8.1(a) if failure to supply arises from a wilful or negligent act or omission of the Supplier.

9.2 *Notice*

Other than in an emergency, the Supplier will endeavour to give the Customer 48 hours notice of any intended reduction, interruption or cessation of the supply of Recycled water. If there is an unintended reduction, interruption or cessation of the supply of the Recycled water, the Supplier will endeavour to give the Customer immediate notice of the reduction, interruption or cessation.

9.3 *Timing*

The Supplier will endeavour to schedule any reduction, interruption or cessation of supply for the purposes of carrying out maintenance or repairs at a time that causes minimal disturbance to the Customer and other Customers of the Supplier.

10. **Use of the recycled water**

10.1 *Use*

The Customer must only use the Recycled water:

- (a) at the Site; and
- (b) for the Permitted use,

unless the Supplier approves otherwise in writing. The Supplier may withhold its approval or impose conditions on its approval in its absolute discretion.

10.2 *Use management plan*

The Customer must comply with the Recycled water use management plan.

10.3 Minimum usage

- (a) The Customer must use its best endeavours to take the quantity of Recycled water specified in the Levels of service.
- (b) The Customer is not required to take water to the extent to which it cannot take the water because:
 - (i) the Supplier fails for any reason to supply the quantity of Recycled water specified in the Levels of service;
 - (ii) rainfall levels are so high as to significantly diminish or remove the demand for taking Recycled water; or
 - (iii) taking and using the Recycled water is a breach of any law applicable to any matter or thing the subject of or pertaining to this Agreement.
- (c) The Customer must not use Recycled water at a rate greater than the rate in the Levels of service unless the Supplier approves in writing. The Supplier may withhold its approval or impose conditions on its approval and its absolute discretion.

10.4 Resale

The Customer must not sell, donate, assign or provide the Recycled water to any other person without the consent in writing of the Supplier.

10.5 Access

- (a) The Supplier or its agents may enter the Site with necessary materials to:
 - (i) take soil or water samples and undertake environmental monitoring at the Site in accordance with the Recycled water supply management plan or the Recycled water use management plan; and
 - (ii) inspect and test the Customer infrastructure;
- (b) The Supplier will use best endeavours to arrange times to access the Site under this clause which are convenient to the Customer.
- (c) The Supplier may enter the Land in order to enter the Site.

11. Compliance with laws

The Supplier and the Customer must comply with:

- (a) any law applicable to any matter or thing the subject of or pertaining to this Agreement including section 319 (general environmental duty) and section 320 (duty to notify environmental harm) of the *Environmental Protection Act 1994*; and
- (b) the Guidelines.

12. Annual Report and review of management plans

12.1 Annual report

The Supplier must give an annual report to the Customer that includes:

- (a) the results of water quality monitoring;
- (b) the results of any environmental monitoring undertaken by the Supplier at the Site;
- (c) the volume of Recycled water supplied under this Agreement;
- (d) the details of the Supplier's performance in meeting the Levels of service;
- (e) appropriate analysis of the information in the preceding paragraphs (a) to (d) for the purposes of assisting the Customer in using Recycled water at the Site in a safe and sustainable manner.

12.2 Review of usage of recycled water and management plans

- (a) The Customer must meet with the Supplier's representative on at least an annual basis to review Recycled water usage at the Site.
- (b) The Customer and Supplier must meet to review the Recycled water use management plan at least once every 2 years. Each party must pay its own costs of and incidental to the review.
- (c) The Supplier must, at the Supplier's cost, review the Recycled water supply management plan at least once every 2 years.
- (d) The review under 12.2(b) and 12.2(c) must include:
 - (i) a review of the extent of compliance with the plan; and
 - (ii) a review to determine any amendments to the plan required to ensure that the plan incorporates:
 - (A) the most up to date information on risks of the supply and use of recycled water and measures to control those risks; and
 - (B) any changes to standards or guidelines relating to the management of the supply and use of recycled water.
- (e) If the review under 12.2(b) concludes that amendments to the Recycled water use management plan are required and the Customer gives the Supplier a notice stating that it agrees to the amendments, the Recycled water use management plan is deemed to include those amendments.

(f) If:

- (i) the review under 12.2(c) concludes that amendments to the Recycled water supply management plan are required; or
- (ii) the Supplier at any time determines that amendments to the Recycled water supply management plan are required to ensure that the plans incorporate:
 - (A) the most up to date information on risks of the supply and use of recycled water and measures to control those risks; or
 - (B) any changes to standards or guidelines relating to the management of the supply and use of recycled water.

The Supplier must give the Customer a notice setting out the amendments and the Recycled water supply management plan is deemed to include those amendments.

13. Insurance

13.1

The Customer must obtain and maintain during the term of this Agreement public liability insurance for the Public liability insurance amount for each accident, claim or event arising from the use of the Recycled water.

13.2

The Customer must give the Supplier evidence of currency and details of the insurance:

- (a) before drawing Recycled water for the first time under this Agreement; and
- (b) upon request by the Supplier.

13.3

The Supplier must obtain and maintain during the term of this Agreement public liability insurance for the Public liability insurance amount for each accident, claim or event arising from the supply of the Recycled water.

14. Assignment

14.1 *Assignment by customer prohibited without consent*

The Customer must not deal in any way with its rights under this Agreement (whether by assignment or otherwise) without the written consent of the Supplier.

14.2 *Application for consent*

The Customer must make a written request for the Supplier's consent to an assignment of this Agreement and must give the Supplier whatever information the Supplier reasonably requires concerning the experience and financial standing of the proposed assignee.

14.3 *Withholding consent*

The Supplier must consent to an assignment of this Agreement to a proposed assignee who will own or occupy the Site from the date of assignment unless:

- (a) the proposed assignee proposes to change the use of the Site;
- (b) the Customer is in default of this Agreement; or
- (c) the proposed assignee has experience or financial standing inferior to that of the Customer.

14.4 *Conditions on consent*

The Supplier may impose conditions on its consent including requirements that:

- (a) the Recycled water use management plan be amended;
- (b) the proposed assignee provides security for the performance of the proposed assignee's obligations under this Agreement which is satisfactory to the Supplier in its discretion;
- (c) the Customer and the proposed assignee execute a deed in a form supplied by the Supplier under which the proposed assignee agrees to comply with the Customer's obligations under this Agreement arising on and after the date of assignment; and
- (d) the Customer pay the Supplier's reasonable costs in relation to giving its consent.

14.5 *Assignment by supplier*

The Supplier may assign all or any of its rights and obligations under this Agreement only if the Supplier obtains from the assignee a deed in favour of the Customer to be bound by the rights and obligations assigned as if the assignee were an original party in place of the Supplier.

15. GST

15.1 *Sums are GST inclusive*

Amounts of payments to the Supplier specified in this Agreement are inclusive of GST.

15.2 *GST amount*

If a supply under this Agreement is a taxable supply the invoice for the supply must be a Tax invoice.

16. Indemnity

16.1

The Customer indemnifies the Supplier from and against all actions, claims, suits, losses, damages and expenses arising from or relating to:

- (a) failure by the Customer to observe, fulfil and comply with the requirements of this Agreement; and
- (b) a negligent act or default on the part of the Customer.

16.2

The Supplier indemnifies the Customer from and against all actions, claims, suits, losses, damages and expenses arising from or relating to:

- (a) failure by the Supplier to observe, fulfil and comply with the requirements of this Agreement; and
- (b) a negligent act or default on the part of the Supplier.

16.3

Despite anything else in this Agreement, the Customer is not liable for any liability or loss to the extent that it is the fault of the Supplier. Where negligence is found to have been contributory, each party must bear responsibility in accordance with that party's proportionate fault.

17. Force Majeure

17.1

Where either the Supplier or the Customer is unable, by reason of Force majeure, to carry out wholly or in part their obligations under this Agreement (other than an obligation to make any payment), they must immediately give to the other party notice setting out the details of such Force majeure. The obligations of that party, so far as they are affected by the Force majeure, will be suspended during, but not longer than the continuance of, the Force majeure.

17.2

The party giving the notice must take all steps and use all reasonable diligence to remove the Force majeure as quickly as practicable but this does not require the party to settle any strike, or other labour difficulty on terms not reasonably acceptable to them.

18. Termination

18.1 *Customer's breach*

If the Customer:

- (a) breaches any clause of this Agreement and fails to remedy the breach within 10 business days after written notice from the Supplier;
- (b) contaminates the Recycled water so that it is not suitable for the Permitted use or so that it may damage the Supplier infrastructure;
- (c) uses the recycled water for purposes other than the Permitted use without the consent in writing of the Supplier;
- (d) diverts the recycled water to land other than the Site without the consent in writing of the Supplier;
- (e) enters into an arrangement or compromise with its creditors;
- (f) has a receiver appointed for all or any part of the its assets;
- (g) has an application made or order filed for the Customer's administration, voluntary or compulsory liquidation, winding up, dissolution or bankruptcy; or
- (h) fails to meet or comply with any Court Order or any law in a material respect, the Customer will be in breach of this Agreement and the Supplier may:
 - (i) exercise any right it has at law;
 - (j) take action to remedy the default and recover the cost from the Customer as a civil debt; and
 - (k) terminate this Agreement by notice in writing to the Customer.

18.2 *Supplier's breach*

If the Supplier breaches any clause of this Agreement and fails to remedy the breach within 10 business days after written notice from the Customer, the Supplier will be in breach of this Agreement and the Customer may:

- (a) exercise any right it has at law; and
- (b) terminate this Agreement by notice in writing to the Customer.

18.3 *Termination on interruption of supply or force majeure*

The Supplier or the Customer may terminate this Agreement by notice in writing to the other if:

- (a) the Supplier has discontinued the supply of Recycled water under clause 9.1 for a continuous period of at least 3 months and that cessation is current at the date of the notice; or

- (b) the obligations of the Supplier or the Customer have been suspended under clause 17 for a continuous period of more than 6 months and that suspension continues at the date of the notice.

18.4 *General right of termination*

In addition to other rights of termination:

- (a) either of the parties may terminate this Agreement without reason on 12 months written notice to the other party; and
- (b) the Customer may terminate this Agreement if the Customer is the Owner of the Land and has sold the Land, on 6 months written notice to the Supplier.

19. **Special Conditions**

19.1 *Application*

The Special conditions apply despite any other clause of this Agreement.

19.2 *Inconsistency*

If there is any inconsistency between the Special conditions and the other terms of this Agreement, the Special conditions prevail to the extent of the inconsistency.

20. **Disputes**

20.1 *Negotiation*

If a dispute arises between the parties arising out of or in connection with this Agreement then within 5 business days after a party provides written notices describing the nature of the dispute to the other party, the parties must meet and attempt to resolve the dispute.

20.2 *Mediation*

- (a) Any dispute arising out of or in connection with this Agreement, which cannot be settled by negotiation must be referred to a mediator agreed upon by the parties.
- (b) If the parties fail to agree upon the mediator within 10 business days after the date of written notice from one party to the other requiring the appointment of a mediator, then the dispute must be referred to a single mediator appointed by the President of the Institute of Arbitrators and Mediators Australia.
- (c) The mediation will be in accordance with Mediation and Conciliation Rules of the Institute of Arbitrators and Mediators Australia.

- (d) Each party must continue to perform this Agreement despite the dispute.

20.3 *Arbitration*

- (a) Any dispute arising out of or in connection with this Agreement, which cannot be settled by mediation must be referred to an arbitrator agreed upon by the parties.
- (b) If the parties fail to agree upon the arbitrator within 10 business days after the date of written notice from one party to the other requiring the appointment of an arbitrator, then the dispute must be referred to a single arbitrator appointed by the President of the Institute of Arbitrators and Mediators Australia.
- (c) The arbitration will be in accordance with the Rules for the Conduct of Commercial Arbitration for the time being of the Institute of Arbitrators and Mediators Australia.
- (d) A party must not commence court proceedings relating to any dispute arising out of or in connection with this Agreement until the arbitrator publishes their final award and then only to recover the sum payable in accordance with that award. This clause 20.3(d) does not apply if the party commences court proceedings seeking urgent interlocutory relief.
- (e) Each party must continue to perform this Agreement despite the dispute.

21. **Guarantee**

21.1

In consideration of the Supplier, at the request of the Guarantor, entering into this Agreement with the Customer, the Guarantor guarantees the obligations of the Customer to Supplier, to:

- (a) pay all money owing by the Customer to Supplier under the Agreement, including any legal and enforcement fees which the Supplier may incur in attempting to recover any money owing by the Customer; and
- (b) perform and observe all the obligations of the Customer expressed or implied in the Agreement.

21.2

The Guarantor agrees, as a separate obligation, to indemnify the Supplier against any loss that it suffers because:

- (a) the Customer breaches any provision of the Agreement, including failure to pay money when it should;

- (b) the Customer becomes insolvent or enters into any form of insolvency administration;
- (c) some payment made by the Customer to Supplier is claimed to be void or voidable or a preference under the law; or
- (d) a representation made by the Customer in relation to the Agreement is or becomes false, misleading or deceptive.

21.3

This unlimited guarantee and indemnity is a continuing guarantee and indemnity and is not affected whatsoever by:

- (a) any indulgence, withdrawal or variation given by Supplier to the Customer in terms of the Customer's obligations under the Agreement;
- (b) any delay or failure by the Supplier to exercise its rights under the guarantee and indemnity;
- (c) any extension of time to pay given by the Supplier to the Customer after the date of execution of this guarantee and indemnity;
- (d) the insolvency of the Customer or Guarantor, or death of the Guarantor; or
- (e) the performance or fulfillment of any or all of the Customer's obligations under the Agreement.

21.4

This guarantee and indemnity remains in force until the Supplier expressly discharges this guarantee and indemnity in writing.

21.5 *The Guarantor acknowledges that:*

- (a) The Guarantor has read and understood the nature of and obligations under this guarantee and indemnity;
- (b) the Guarantor waives all rights in law or in equity that the Guarantor may have as guarantor which may at any time be inconsistent with any of the provisions in this guarantee and indemnity;
- (c) the Guarantor is providing this guarantee as a personal guarantee, not for or on behalf of the Customer;
- (d) the Guarantor is not entitled to notice of the Customer's default;
- (e) the Supplier may enforce its right under this guarantee and indemnity first before proceeding against the Customer;

- (f) the Guarantor has not been subjected to any undue influence or pressure to execute this guarantee and indemnity;
- (g) it is the Guarantor's responsibility to investigate the creditworthiness and financial position of the Customer;
- (h) this Agreement cannot be changed except in writing signed by the Supplier and the Guarantor;
- (i) in deciding to enter into this guarantee and indemnity the Guarantor did not rely on any statement or information given to the Guarantor by Supplier or Supplier's agents except for those set out in this guarantee and indemnity;
- (j) the Guarantor has had an opportunity to seek independent legal and financial advice from an independent lawyer before agreeing to sign this guarantee and indemnity.

22. Notices

22.1 *How to give notice*

Notices under this Agreement must be delivered by hand, by registered mail, or by facsimile to the addresses of the addressee set out after the names of the parties on the first page of this agreement or, if the addressee notifies another address, then to that address.

22.2 *When notice given*

Notice will be deemed to be given:

- (a) if posted - 2 business days after deposit in the mail with postage prepaid;
- (b) if delivered by hand - when delivered by hand; or
- (c) if faxed - upon the sender's facsimile machine noting that the transmission is complete, except that a facsimile transmission received after 5:00pm will be deemed to be received on the next business day.

23. Owner's consent

23.1 *Acknowledgement*

The Owner acknowledges that by its own investigations it has determined that water, which meets the Water quality specification is suitable for the Permitted use at the Site.

23.2 *Consent*

The Owner consents to the supply and use of the Recycled water in accordance with this Agreement.

24. General provisions

24.1 No right in land or allocation

This Agreement is a personal agreement between the Supplier and the Customer and does not create:

- (a) a water entitlement or any other right or interest under the *Water Act 2000*; or
- (b) any right or interest which attaches to the Land.

24.2 No exclusivity

The Customer does not have the exclusive right to the supply of Recycled water from the Treatment plant. The Supplier may enter into agreements for the supply of Recycled water from the Treatment plant to other parties.

24.3 Costs

Each party must pay its own costs of and incidentals to the negotiation, preparation and execution of this Agreement.

24.4 Entire agreement

This Agreement constitutes the entire agreement between the parties. Any prior arrangements, agreements, warranties, representations or undertakings are superseded.

24.5 Variation

No variation of this Agreement will be valid unless it is in writing and signed by both parties.

24.6 Waiver

- (a) Any failure by a party at any time to enforce a clause of this Agreement, or any forbearance, delay or indulgence granted by a party to the other, will not constitute a waiver of the party's rights.
- (b) No provision of this Agreement will be deemed to be waived unless that waiver is in writing and signed by the waiving party.
- (c) A waiver by a party of a breach of any provision of this Agreement will not operate as a waiver of any subsequent breach of the same provision nor as a waiver of any other provision.

24.7 Severability

If anything in this Agreement is unenforceable, illegal or void, then it is severed and the rest of this Agreement remains in force.

24.8 Governing law

This Agreement is governed by the laws of Queensland. The parties irrevocably submit to the jurisdiction of the Courts of Queensland.

Schedule

1. Land	<p>Lot on plan description: <i>[lot on plan description]</i></p> <p>County: <i>[county]</i></p> <p>Parish: <i>[parish]</i></p> <p>Title reference: <i>[title reference]</i></p>	
2. Site	The part of the Land hatched in black in the plan in annexure A	
3. Delivery point	The location marked as the Delivery point on the plan in annexure A	
4. Treatment plant	<i>[Treatment plant name], [Treatment plant address]</i>	
5. Commencement date	<i>[Commencement date]</i>	
6. Expiry date	<i>[Expiry date]</i>	
7. Permitted use	<i>[Permitted use]</i>	
8. Levels of service	Quantity: <i>[quantity – e.g. annual or daily amount, percent allocation or share of scheme available water]</i>	
9. Fee	Period <i>[period]</i>	Fee (inclusive of GST) <i>[Fee or method of calculation]</i>
10. Renewed term	[No of years] commencing on [insert date] and expiring on [insert date]; and	
11. Renewed term fee	Period <i>[period]</i>	Fee <i>[Fee or method of calculation]</i>
12. Supplier infrastructure	A meter to measure the quantity of Recycled water drawn by the Customer, as close as practicable to the Delivery point and the infrastructure required to deliver the Recycled water from the Treatment plant to the Delivery point at the Levels of service, including:	
	Item <i>[Item]</i>	Completion date <i>[completion date]</i>
	<i>[Item]</i>	<i>[completion date]</i>
13. Supplier infrastructure maximum contribution	\$(Amount)	(inclusive of GST)
14. Supplier infrastructure contribution option	<i>[Insert one of the following: 'Not applicable'; 'Option 1'; or 'Option 2']</i>	
15. Customer infrastructure	Item <i>[Item]</i>	Completion date <i>[completion date]</i>
	<i>[Item]</i>	<i>[completion date]</i>
16. Public liability insurance amount	<i>[public liability insurance amount]</i>	
17. Special conditions	SC1. <i>[insert special condition 1]</i> SC2. <i>[insert special condition 2]</i>	

Executed as a deed

[Insert execution clauses for the Supplier, Customer, Guarantor and Owner]

[EXECUTION CLAUSE - Local Government Owned Corporation]

THE COMMON SEAL of)
[NAME OF CORPORATION])
was affixed in the presence of:)

(signature of director)

(name of director)

(signature of director/chief executive officer)

(name of director/chief executive officer)

/ /

(date)

[EXECUTION CLAUSE - Company executing with seal]

THE COMMON SEAL of)
[NAME OF CORPORATION])
was affixed in accordance with its Constitution in the presence of:)

(signature of director)

(name of director)

(signature of director)

(name of director)

/ /

(date)

[EXECUTION CLAUSE - Company executing with seal]

EXECUTED by)
[NAME OF CORPORATION])
in accordance with section 127 of the *Corporations Act 2001*:)

(signature of director)

(name of director)

(signature of director)

(name of director)

/ /

(date)

[EXECUTION CLAUSE - Sole director company executing under seal]

THE COMMON SEAL of)

[NAME OF CORPORATION])

was affixed in accordance with its Constitution in the presence of:)

(signature of sole director and secretary)

(name of sole director and secretary)

____ / ____ / ____
(date)

[EXECUTION CLAUSE - Sole director company executing without seal]

EXECUTED by)

[NAME OF CORPORATION])

in accordance with section 127 of the *Corporations Act 2001*:)

(signature of sole director and secretary)

(name of sole director and secretary)

____ / ____ / ____
(date)

[EXECUTION CLAUSE - Individual executing Agreement on behalf of another person or body]

SIGNED for and on behalf of the)

[NAME OF PERSON/BODY] by)

[NAME OF PERSON SIGNING] in the presence of:)

(signature of witness)

(name of witness)

(signature)

(name)

____ / ____ / ____
(date)

Annexure A

Site Plan

Annexure B

Water quality specification

Class of recycled water described in Table 6.2 of the Guidelines ('Class'):

[Insert one of: A+, A, B, C or D]

Water quality characteristics table ('Table'):

[Insert the table. The following table is an example only. Limit values and monitoring frequency will vary with each water recycling scheme. It does not reflect a specification for any particular level of treatment or recycled water use.]

Water quality characteristic	Notification limit	Limit type	Monitoring location	Monitoring frequency
pH	6.5 to 8.5 pH units	range	Outlet of the storage lagoon	weekly
5-day Biochemical Oxygen Demand	10 mg/L	long term 80 percentile compliance	Outlet of the storage lagoon	weekly
Suspended Solids	15 mg/L	long term 80 percentile compliance	Outlet of the storage lagoon	weekly
Total Nitrogen	10 mg/L	long term 50 percentile compliance	STP outlet, prior to storage	weekly
Ammonia N	mg/L	long term 80 percentile compliance	Outlet of the storage lagoon	monthly
Dissolved Oxygen	2.0 mg/L	minimum	Outlet of the storage lagoon	weekly
Free Chlorine Residual	0.7 mg/L	maximum	Outlet of STP, before storage	weekly
Thermotolerant coliforms Faecal Coliforms, E. coli	100 organisms per 100 mL	median value	Outlet of STP, before storage	monthly
Total Phosphorus	mg/L	long term 50 percentile compliance -	outlet of the storage lagoon	monthly
Sodium Absorption Ratio (SAR) – uncorrected	(no units)	-	outlet of the storage lagoon	monthly
Chloride	mg/L	-	outlet of the storage lagoon	monthly
Electrical Conductivity	0.95 ds/cm	95%ile	outlet of the storage lagoon	weekly

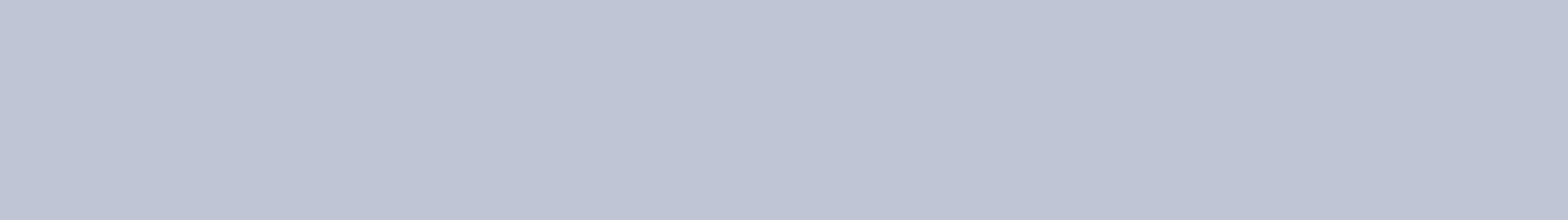
If there is any inconsistency between the criteria for the Class and the criteria in the Table, the criteria in the Table prevail to the extent of the inconsistency.

Annexure C

Recycled water supply management plan

Annexure D

Recycled water use management plan



For more information

- visit www.epa.qld.gov.au/waterrecyclingagreement
- email sustainable.industries@epa.qld.gov.au
- call (07) 3225 1999

