



Government of **Western Australia**  
Department of **Commerce**

**Building**  
**Commission**

***Consultation Paper***

**BASIC PLUMBING REPAIRS IN  
REMOTE ABORIGINAL COMMUNITIES**

**February 2015**

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# 1. INTRODUCTION

## 1.1. Background

Following representations from the Department of Aboriginal Affairs in 2009, the Building Commission conducted consultations with various stakeholders, with a view to creating some flexibility around the carrying out of basic plumbing repairs in remote Aboriginal communities.

Before that work could be completed, the Council of Australian Governments (COAG) took the decision to include plumbing as part of the National Occupational Licensing Scheme (NOLS). During discussions on the development of that scheme, consideration was given to the possibility of allowing basic plumbing work to be done by people who have received appropriate training but who may not necessarily hold a full plumbers licence. The outcome of those discussions was that a restricted permit was to be included in the NOLS regime.

In December 2013, COAG formally abandoned implementation of NOLS. As a consequence, the Building Commission has since turned its mind back to making amendments to WA's existing plumbing laws, as had been contemplated in 2009.

In so doing, we have taken into account the findings of an independent review of WA's plumbing regulations conducted by consulting firm, ACIL Allen Consulting (ACIL Allen), in late 2013.

ACIL Allen considered the issue of a restricted licence for basic plumbing work in remote communities as part of their review, concluding that:

*"...there is a strong argument in favour of allowing Environmental Health Workers to perform minor plumbing works [in remote communities]. Given the flexibility to enable it, the Government should ensure that they are able to do so legally." p.56*

During the earlier work in 2009, the Building Commission looked at two different options for enabling trained non-plumbers to perform basic plumbing repairs in remote Aboriginal communities.

The first option was the introduction of an exemption power to exclude basic plumbing work from the licensing requirements.

The second option was to implement a new class of restricted licence or permit to enable appropriately trained non-plumbers to perform basic plumbing repair work.

Legal advice on a range of issues that have arisen since 2009 in relation to the powers the Plumbers Licensing Board (the PLB) has over non-plumbers indicates that the first option is not appropriate without first amending the *Plumbers Licensing Act 1995* (the 'Plumbing Act') to provide for the necessary compliance powers. Making those legislative changes would greatly delay the implementation of any proposal.

In light of that - and given that the aim is to reduce the incidence of ongoing negative health outcomes (see **Section 2**) - the Building Commission is proposing at this stage to only consider options that can be implemented promptly and without requiring any amendment to the Plumbing Act. This means looking only at the possibility of introducing some form of licence or permit scheme.

## 1.2. The purpose of this consultation paper

This paper outlines the extent of the problem and seeks comment from stakeholders on the following licensing/permit schemes as possible options to address the issues:

1. a restricted licence/permit scheme that enables trained non-plumbers to carry out certain basic plumbing tasks in remote Aboriginal communities (in other words, an occupational licence/permit issued to individual workers); or
2. a business licence scheme for 'service providers to remote communities' that enables such businesses to employ or engage appropriately-trained persons to perform certain basic plumbing tasks in the remote Aboriginal communities to which the service provider is contracted; or
3. a scheme that consists of a combination of both occupational licences/permits and business licences.

This paper also seeks comment on the following additional topics:

1. The **scope of plumbing repair work** to be covered in any licensing/permit scheme;
2. The **meaning of 'remote Aboriginal community'** for the purposes of any licensing/permit scheme; and
3. How **compliance** is to be enforced.

## **2. STATEMENT OF THE PROBLEM**

The Australian Government, as part of its 'Closing the Gap' initiative, published a resource sheet in December 2013 titled '*Housing strategies that improve Indigenous health outcomes*'. It found that 'dwellings in many remote Indigenous communities are in a poor state of repair and many households experience disruptions to their electricity and water supplies, mainly due to equipment failure (Australian Indigenous HealthInfoNet 2008), with clearly documented negative impacts upon health, such as increased gastroenteritis and parasitic infections".

The geographical location of many remote Aboriginal communities creates a number of barriers to basic plumbing maintenance being undertaken in a timely manner. Key among them are the distance from the nearest plumber and access at certain times of the year, particularly the wet season.

These barriers mean that minor issues with a plumbing system (e.g. blocked toilet or shower drain, broken tapware, etc.) may create high risks of infection and disease due to the length of time they remain unresolved.

Advice from members of remote communities, and from those who provide services to remote communities, along with information collected during inspections carried out by PLB compliance officers, has identified a number of instances where poor plumbing maintenance has created a health risk in remote Aboriginal communities.

Further, the requirement in the *Plumbers Licensing and Plumbing Standards Regulations 2000* (the 'Plumbing Regulations') that all plumbing work must be undertaken by a licensed plumber at all times and in all circumstances may actually be making the problem worse by delaying the provision of plumbing maintenance. This is out of step with the broad aim of the plumbing laws, which is to protect the community by ensuring that everyone has access to plumbing systems that have been installed (and continue to operate) to a high standard.

### **2.1 Scope of work to be included in a restricted licence/permit scheme**

To be effective, the restricted licence or permit scheme will need to provide for the holder to perform the most common types of basic plumbing repair work. The purpose of such work would be to respond to situations where, if problems are left unchecked, negative impacts to public health may result.

Following initial consultations with a number of stakeholders, plumbing work that is usually necessary to prevent public health problems developing in remote communities includes the following:

1. Replace leaking tap washers, spindles, handles and shower roses.
2. Replace leaking outside hose taps and hose tap vacuum breakers.
3. Replace leaking cistern inlet and outlet washers and valves.
4. Repair or cap burst water main for emergency purposes.
5. Repair or replace damaged or missing vent pipes and cowls.
6. Clear blocked waste pipes and drains.
7. Repair or replace missing or broken inspection mounds, gully mounds and grates.
8. Repair or replace section of damaged waste pipe or sanitary drain for emergency purposes.

The above list contains the most likely tasks that regularly need to be performed in remote Aboriginal communities.

To provide a degree of flexibility, it may also be necessary to include a provision in the Plumbing Regulations that enables the PLB to prescribe other tasks that may be performed under the restricted licensing or permit scheme. These would be decided on a case by case basis.

#### **Discussion points**

1. Is the proposed scope of work sufficient to meet the basic plumbing needs of remote communities?
2. Should the Plumbers Licensing Board have the power to add additional tasks to the scope of work covered by a restricted permit or licence where a need is identified?
3. Are there any drawbacks to introducing a restricted licensing or permit scheme for remote Aboriginal communities)? If so, what are they?

### 3. LICENSING OPTIONS

#### 3.1 Background

Currently, the Plumbing Regulations provide for four main categories of licence or permit for the carrying out of plumbing work in Western Australia. These are a:

- **Plumbing Contractor's Licence**, which authorises the holder to carry out the type(s) of plumbing work specified on their licence; exercise general direction and control in the carrying out of plumbing work by the holder of a tradesperson's licence; and supervise the carrying out of plumbing work by an apprentice or provisional tradesperson.
- **Tradesperson's Licence**, which authorises the holder to carry out plumbing work under the general direction and control of a licensed plumbing contractor, and to supervise the carrying out of work by an apprentice or provisional tradesperson.
- **Provisional Tradesperson's Licence**, which authorises the holder to carry out plumbing work under the supervision of a licensed plumbing contractor or tradesperson. This licence is intended to enable overseas-trained plumbers to undertake work experience while completing any gap training required to ensure they understand local conditions and plumbing standards specific to WA.
- **Restricted Plumbing Permit** for licensed electricians and licensed gasfitters, which authorises the holder to perform limited plumbing work associated with like-for-like changeovers of hot water units.

The options set out below are intended to operate in addition to these existing categories of licence and permit.

#### 3.2 Options

##### 3.2.1 OPTION 1 - Introduce a restricted class of occupational licence or permit

Given the restricted nature of the work that is to be covered by the scheme, one option is to grant the authority to perform basic plumbing repairs in remote communities via a permit scheme similar to that which operates for licensed electricians and gasfitters as described above. For the purposes of this discussion, we have referred to this category as a 'Restricted Plumbing Permit (Remote Aboriginal Communities)'. Further detail is set out below.

##### *Training requirements to obtain a Restricted Plumbing Permit (Remote Aboriginal Communities)*

The prerequisites for obtaining a Restricted Plumbing Permit (Remote Aboriginal Communities) must be to ensure that the applicant has the skills and knowledge to perform 'basic plumbing repair work' to the required standards. Given that the purpose of the permit proposal is to ensure that basic plumbing services are maintained in remote Aboriginal communities, the applicant also needs to be a person who is either located at a



remote community or regularly attends the remote community as part of their work. Where possible and appropriate, the requirements should also relate to existing qualifications that may be held within the community<sup>1</sup>.

#### *Certificate II in Indigenous Environmental Health*

The Certificate II in Indigenous Environmental Health meets a number of these requirements. It is a qualification that provides people with practical skills and knowledge in the environmental health principles and health care skills required to work in a community setting. It is currently delivered by a number of Registered Training Organisations throughout WA, and in certain cases is delivered within the remote communities themselves. This Certificate II qualification is also held by Aboriginal Environmental Health workers who are already engaged to provide services in remote Aboriginal communities.

Included in the Certificate II in Indigenous Environmental Health qualification are a number of optional units about basic plumbing, including<sup>2</sup>:

- HLTPOP214D Provide basic repairs and maintenance to health hardware and fixtures
- HLTPOP216D Monitor and maintain septic or on-site systems.
- HLTPOP217D Monitor and maintain sewerage or effluent systems.
- HLTPOP218D Monitor and maintain water supply.

#### *Certificate II in Remote Area Essential Services*

A further training option that could be considered is the Certificate II in Remote Area Essential Services. However, this qualification is perhaps more relevant to plumbing work relating to community infrastructure as it contains a number of units that relate to water services, including<sup>2</sup>:

- NWP253B Install and repair water services.
- NWP255B Maintain and repair wastewater collection assets.
- NWP257B Maintain and repair wastewater collection systems.
- NWP259B Operate, monitor and maintain pump stations.
- NWP260A Monitor and report water treatment processes.
- NWP261A Operate and maintain water treatment plant and equipment.
- NWP263A Operate and maintain wastewater treatment plant and equipment.

The following diagram (**Diagram 1: Matrix of training units / plumbing work**) shows the types of plumbing work that each of the units listed above might enable. Conditions could

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<sup>1</sup> In addition to the training requirements, applicants will also need to demonstrate that they meet the 'fit and proper person' test that applies to all categories of licence or permit under the Plumbing Regulations.

<sup>2</sup> Further information on the units listed is contained in **Attachment A**.

be placed on a Restricted Plumbing Permit (Remote Aboriginal Communities), limiting the holder to performing only the type of plumbing work for which they have received training.

	Certificate II in Indigenous Environmental Health				Certificate II in Remote Area Essential Services						
	HLTPOP214D	HLTPOP214D	HLTPOP217D	HLTPOP218D	NWP253B	NWP255B	NWP257B	NWP259B	NWP260A	NWP261A	NWP263A
Replace tap washers, tap or shower rose (like for like), outlet washers on cistern, 'P' and 'S' traps, plug and washer, cistern outlet valves.	X	Where HLTPOP214D is completed in conjunction with at least one of			X						
Replace outside hose tap and fit hose cock vacuum breaker.	X	HLTPOP214D,			X						
Repair/replace vents, including cowls.	X	HLTPOP217D or			X						
Replace cistern and cistern inlet valve.	X	HLTPOP218D.			X	X					
Clear blockages in waste fixtures.	X										
Repair/replace inspection opening outlets and overflow gullies (like for like).					X	X					
Repair severed water supply line.					X						
Cut off or cap water supply pipe (emergency only).					X						
Repair severed sanitary or drainage line.							X				
Repair severed sanitary or drainage pipe (bends and branches).							X				
Cut off or cap sanitary or drainage pipe (emergency only).							X				
Clear blockages (soil and main drain).							X				
Repair severed sanitary or drainage pipe (straight lengths).							X				

**Diagram 1: Matrix of training units / plumbing work**

*Certificate II in Water Operations*

A third training option that could be considered is the Certificate II in Water Operations. However, while this course does contain a number of units that may be relevant to performing basic plumbing work in remote Aboriginal communities, there are no reports of this qualification being commonly held by service providers operating in such communities.

In deciding which of the above training options may be the most appropriate, it is also worth considering any longer-term benefits that may be generated. For example, whether the qualification could provide a pathway to a plumbing apprenticeship. While not a matter that falls within the scope or aim of the Plumbing Regulations, such an outcome may be beneficial in the context of the Australian Government's "Closing the Gap" initiative.

### **Discussion points**

4. Are the three Certificate II qualifications discussed above appropriate to the types of basic plumbing repair work proposed to be covered by the Restricted Plumbing Permit (Remote Aboriginal Communities) scheme?
5. If not, why, and what alternative qualifications do you suggest?

### *Compliance*

Currently, holders of a plumbing licence or permit are required to notify the PLB when they intend to perform major plumbing work by sending in a Notice of Intention form. They must also submit a Certificate of Compliance once they have completed that work. The licensed plumbing contractor pays a fee to purchase Notices of Intention, as well as an additional fee where new plumbing fixtures are being installed.

Information contained in the Notice of Intention is then used by the PLB for compliance and enforcement purposes to ensure plumbing work is conducted in accordance with the plumbing standards and that licence/permit holders are complying with the terms of their licence/permit.

Due to the urgent nature of much of the work intended to be covered by the Restricted Plumbing Permit (Remote Aboriginal Communities), and the circumstances in which it is to be performed, it is envisaged that only a compliance notification system would apply in the case of the Restricted Plumbing Permit (Remote Aboriginal Communities). In other words, no Notice of Intention would be required, only a Compliance Notice.

This could be achieved by requiring the permit holder to maintain a register of work performed under the permit, and submit this register to the Plumbers Licensing Board on a monthly basis for compliance and enforcement purposes. This is similar to the existing requirement of licensed plumbing contractors in maintaining a Multi-Entry Certificate for any minor plumbing work they perform.

To ensure appropriate standards of work are maintained, it may also be necessary to require the community to ensure that a licensed plumbing contractor must attend within an appropriate timeframe to ensure that any plumbing work performed by the holder of a Restricted Plumbing Permit (Remote Aboriginal Communities) complies with the plumbing standards, and rectify any work that does not comply.

### **Discussion points**

6. Is it appropriate to require the holder of a Restricted Plumbing Permit (Remote Aboriginal Communities) to maintain a register of all work performed?
7. Should there be a requirement that community administrators must ensure that a licensed plumbing contractor examines the work of the holder of a Restricted Plumbing Permit (Remote Aboriginal Communities) within a set period of time after any work is completed? If so, what should this period be?
8. Are there any other compliance issues that need to be considered in developing the Restricted Plumbing Permit (Remote Aboriginal Communities) scheme?

### **3.2.2 OPTION 2: Introduce a business licence applicable to 'remote community service providers'**

A person performing basic plumbing repair work in a remote community is likely to be the employee of a 'remote community service provider', e.g. an Aboriginal Environmental Health Worker employed by a service provider contracted to the Department of Health. In these instances, it may be more appropriate for any obligations to be on the service provider rather than the individual performing the work.

This does not mean that all employees of a service provider could perform basic plumbing repair work in a remote Aboriginal community. Rather, it would be the responsibility of the service provider to ensure that any employee who does perform this type of work is appropriately trained and that records of any work performed are kept. Service providers would also be responsible for any rectification work that may be necessary if the work does not comply with the requirements of the Plumbing Regulations.

For the purposes of this discussion paper, we have referred to this option as the 'Service Provider Licence'.

#### *Nature of the 'Service Provider Licence'*

It is envisaged that the effect of a 'Service Provider Licence' would be to place a duty on the service provider to ensure that:

- the people the service provider employs or engages to carry out the restricted plumbing work have successfully completed prescribed training; and
- the service provider has systems in place to ensure that the work carried out by those people is appropriately supervised and is in compliance with the plumbing standards in the Plumbing Regulations.

### *Requirements to obtain a Service Provider Licence*

Service providers intending to obtain a permit to cause the carrying out of plumbing work in remote communities would be required to show that they have the appropriate systems in place to ensure that individuals performing basic plumbing work are suitably trained and that appropriate documentation is kept.

Requirements that a service provider permit may be required to meet could include:

1. Any employee who carries out basic plumbing repair work is to hold a training qualification appropriate to the plumbing work to be carried out.
2. The employer is to ensure that any person carrying out basic plumbing repair work has appropriate tools and is informed of appropriate processes to carry out the work safely.
3. An employee carrying out basic plumbing repair work is aware of the requirement to document the work they carry out, and is provided with the necessary systems to comply with those record-keeping requirements.
4. A system is in place to ensure that a licensed plumbing contractor inspects any work within a suitable period of time after it is performed. It may be possible for this to be based on a risk analysis of work undertaken rather than any fixed period of time.

In regard to appropriate training, it is likely that the training of an employee to perform basic plumbing repair work would be commensurate with that required to obtain a Restricted Plumbing Permit (Remote Aboriginal Communities).

### *Compliance*

Compliance measures for service provider licensees would be similar to those discussed on page 8 above. However, checks may also need to be carried out by the regulator to ensure that holders of service provider licences continue to maintain appropriate systems to ensure any work carried out under the licence is performed in accordance with the plumbing standards.

### **3.2.3 OPTION 3: A combined scheme of occupational permits and service provider licences**

As a third option, it may be appropriate to have a combination of both an occupational permit scheme and a business permit scheme so that basic plumbing repair work in remote Aboriginal communities can be done either by an individual person who holds a Restricted Plumbing Permit (Remote Aboriginal Communities) or by an appropriately trained person employed or engaged by a business entity that holds a 'Service Provider Licence'.

#### **Discussion points**

9. Would it be appropriate to create a class of restricted business licence for service providers operating in remote Aboriginal communities? If no, why? If yes, what systems should a provider be required to have in place to qualify for a 'Service Provider Licence'?
10. Do you foresee any issues arising from having a dual system of occupational permits for individuals and business licences for service providers? If yes, what are they?
11. Would it be appropriate to require that a licensed plumbing contractor must examine the work performed by employees of service providers? If yes, within what period of the work finishing should the examination be required to take place?

#### **4. What is meant by the term 'remote Aboriginal community'?**

The purpose of enabling trained non-plumbers to perform basic plumbing repairs in remote communities is to overcome distance and access barriers that prevent licensed plumbing contractors from performing the work on a timely basis.

For this reason, it is necessary to limit the location where the restricted permits/licences have effect. In other words, it is necessary to determine what is and is not a 'remote Aboriginal community' for the purposes of the restricted permit/licence scheme.

The Building Commission proposes two possible approaches to address this:

- 1 The first is to list in the Plumbing Regulations the names of each community where basic plumbing work may be conducted by the holder of a Restricted Plumbing Permit (Remote Aboriginal Communities) or a Service Provider Licence.
- 2 The second is a more flexible approach whereby communities will be able to apply to be registered by the Plumbers Licensing Board as a location where a Restricted Plumbing Permit (Remote Aboriginal Communities) or a Service Provider Licence applies.

#### **Discussion points**

12. Should the remote Aboriginal communities be specifically identified in the Plumbing Regulations or is a more flexible registration system preferable?
13. If you think they should be specifically identified, which remote Aboriginal Communities should be covered by the restricted permit/licence scheme?

## 5. FUNDING THE RESTRICTED PERMIT/LICENSING SCHEME

The PLB is an industry-funded body, resourced through licensing and compliance fees consisting of:

- Application fees for tradesperson licences and plumbing contractor licences.
- Licence and permit fees for tradesperson licences, plumbing contractor licences and restricted plumbing permits.
- Purchases of 'notices of intention to carry out plumbing work' and certificates of compliance.
- Purchases of multi-entry certificates of compliance.
- Fixture fees for new installations.

As an industry-funded body, it is essential that the PLB's activities are fully funded via the fees it charges. For this reason, it is important to ensure that any costs associated with administering the restricted permit scheme are offset by collecting fees from those who make use of the scheme.

The main beneficiaries of a restricted plumbing permit/licence scheme would be the administrators of the communities and community residents (through greater flexibility in maintaining plumbing systems). It could also be argued that the holders of a Restricted Plumbing Permit (Remote Aboriginal Communities) or a Service Provider Licence would also benefit from greater employment/business development opportunities.

As such, it is perhaps appropriate that the costs associated with this restricted permit/licensing scheme be borne by those parties.

Given the above, it is considered appropriate that a permit/licence fee is charged which is commensurate with the cost of administering the permit/licence scheme. Depending on the process for prescribing the locations where the restricted licence/permit scheme applies (as discussed in section 4 above), it may also be appropriate to charge a registration fee.

In addition, it may be appropriate to require the permit/licence holder to pay a fee to lodge their register of work with the PLB (see the 'compliance' sections on pages 8 and 10 above).

### **Discussion points**

14. What funding options do you believe are appropriate to fund the administration and compliance elements of a restricted plumbing permit scheme for remote Aboriginal communities?

## 6. OTHER ISSUES

This consultation paper addresses the key issues relating to the development and implementation of a scheme to enable basic plumbing repair work to be conducted in remote Aboriginal communities by people who are not the holders of a full plumbers licence.

If there are other issues that have not been addressed in this paper but which you believe need to be taken into account in finalising a proposal for consideration by the Government, please feel free to raise them with us. The following section titled, 'How to have your say' sets out the ways in which you may submit your comment.

### **General Discussion points**

15. What is your interest in the proposal?
  - i) Resident of a remote community.
  - ii) Administrator of a remote community.
  - iii) Licensed plumbing contractor.
  - iv) Environmental health worker.
  - v) Provider of service to remote communities.
  - vi) Other (please specify).
16. Overall, what impact do you think the proposal will have on you?
17. Do you have a different model you prefer that ensures the basic plumbing services remain in operation in remote communities.
18. Do you foresee any financial benefits or losses arising from the implementation of a scheme to enable basic plumbing repair work to be conducted in remote Aboriginal communities by people who are not the holders of a full plumbers licence?
19. If yes, please say why and (if possible) provide an estimate as to how much.



## 7. HOW TO HAVE YOUR SAY

There is no specified format for providing your comment. You are welcome to:

- respond directly to the discussion points above; or
- write a short letter or email outlining your comments or concerns.

Submissions can be emailed to: [plumbingreview@commerce.wa.gov.au](mailto:plumbingreview@commerce.wa.gov.au)

Or mailed to:

Plumbing Review Team  
Building Commission  
Locked Bag 14  
CLOISTERS SQUARE WA 6850

### 7.1 Closing date for submissions

To assist us in finalising a proposal for the consideration of the Minister for Commerce, we need to receive your feedback by **no later than 5.00pm (AWST) on Friday 17 April 2015.**

### 7.2 Information provided may become public

After the consultation period concludes, all responses received may be publicly available on the Department of Commerce website. Please note that because your feedback forms part of a public consultation process, the Government may quote from your comments in future publications. If you prefer your name to remain confidential, please indicate that in your submission. As submissions made in response to this paper will be subject to freedom of information requests, please do not include any personal or confidential information that you do not wish to become available to the public.

### 7.3 How your input will be used

The information gathered from this consultation will be taken into account when finalising the submission to the Minister for Commerce seeking approval to make the relevant amendments to the Plumbing Regulations. Your input is crucial as it will assist in identifying issues of concern and will help in the formulation of the advice provided to the Minister.

## ATTACHMENT A: TRAINING ESSENTIAL SKILLS AND KNOWLEDGE

Unit code	Unit name	Essential knowledge	Essential skills
<b>HLT21012 Certificate II in Indigenous Environmental Health</b>			
HLTPOP214D	Provide basic repairs and maintenance to health hardware and fixtures	<ul style="list-style-type: none"> <li>• Correct tools, equipment and materials to be used for the task required.</li> <li>• Household plumbing design and fixtures if working within the context of sewerage systems and/or water supply systems.                             <ul style="list-style-type: none"> <li>• WHS requirements, e.g. protective clothing and equipment, adequate lighting to perform tasks, identification of work place hazards and preventative measures, personal safety issues when dealing with sewage and sewerage systems, etc.                                     <ul style="list-style-type: none"> <li>• Procedures for carrying out repairs.</li> <li>• Procedures for storing tools and equipment on completion of tasks.</li> </ul> </li> </ul> </li> <li>• Regulation and legislation relevant to the work carried out.</li> </ul>	<ul style="list-style-type: none"> <li>• Apply knowledge related to applicable organisation and legislative requirements in relation to repairs and maintenance tasks.                             <ul style="list-style-type: none"> <li>• Apply listening skills and follow instructions.</li> <li>• Apply problem solving skills in relation to repairs and maintenance tasks, i.e. if a tap is leaking, it is important to be able to identify where the tap is leaking from in order to be able address the problem appropriately, etc.</li> </ul> </li> <li>• Complete maintenance tasks according to specifications and manufacturer's instructions.</li> <li>• Demonstrate skills in using relevant / appropriate tools.</li> <li>• Effectively network and communicate with householders, community members and relevant others as required.                             <ul style="list-style-type: none"> <li>• Follow work place instructions.</li> <li>• Set task list and work plan.</li> <li>• Work within task priorities.</li> </ul> </li> </ul>
HLTPOP216D	Monitor and maintain septic or on-site systems	<ul style="list-style-type: none"> <li>• Appropriate trees to plant around septic tanks if required consistent with local codes of practice or legislation.</li> <li>• Basic knowledge and understanding of the water and sewerage plans for the community if available.</li> <li>• How to monitor septic system and check for signs of potential problems.</li> <li>• WHS requirements in relation to working with sewage and sewerage systems.                             <ul style="list-style-type: none"> <li>• Sewerage disposal strategies for communities or outstations without a sewerage disposal system (on site/septic system or sewerage/effluent system) e.g. grease trap and soakage pit, pit toilets, shallow trench latrines etc.</li> </ul> </li> <li>• Various problems that can to happen household plumbing, on site systems and the reasons why e.g. people putting things other than toilet paper down the toilet, people putting food scraps down the sink etc.</li> <li>• What sewage is and the difference between effluent (black) and sullage (grey) water.</li> </ul>	<ul style="list-style-type: none"> <li>• 'Check for signs' of potential problems.</li> <li>• Apply monitoring and recording skills, i.e. checklists, notes etc.</li> <li>• Apply problem solving skills in relation to identifying potential problems that can occur with septic or on-site systems, and household plumbing and fixtures.</li> <li>• Demonstrate understanding of the how septic/on-site systems function.                             <ul style="list-style-type: none"> <li>• Effectively network and communicate with the employing organisation, householders, community members, key people and outside agencies.</li> </ul> </li> <li>• Monitor septic or on site systems and check for signs of potential problems.                             <ul style="list-style-type: none"> <li>• Take into account opportunities to address waste minimisation, environmental responsibility and sustainable practice issues.                                     <ul style="list-style-type: none"> <li>• Use a phone and fax.</li> </ul> </li> </ul> </li> </ul>

Unit code	Unit name	Essential knowledge	Essential skills
<b>HLT21012 Certificate II in Indigenous Environmental Health</b>			
HLTPOP217D	Monitor and maintain sewerage or effluent systems	<ul style="list-style-type: none"> <li>• Basic knowledge and understanding of the water and sewerage plans for the community if available.</li> <li>• Basic requirements necessary for sewerage ponds to work effectively and efficiently and how to monitor sewerage/effluent systems for signs of potential problems.</li> <li>• WHS requirements in relation to working with sewage and sewerage systems.               <ul style="list-style-type: none"> <li>• Sewerage disposal strategies for communities or outstations without a sewerage disposal system (on site/septic system or sewerage/effluent system) e.g. grease trap and soakage pit, pit toilets, shallow trench latrines etc.</li> </ul> </li> <li>• Various problems that can happen to household plumbing, effluent systems and why e.g. people putting things other than toilet paper down the toilet, people putting food scraps down the sink.</li> <li>• What sewage is and the difference between effluent (black) and sullage (grey) water.</li> </ul>	<ul style="list-style-type: none"> <li>• 'Check for signs' of potential problems.</li> <li>• Apply monitoring and recording skills, i.e. checklists, notes etc.</li> <li>• Apply problem solving skills in relation to identifying potential problems that can occur with sewerage or effluent systems, and household plumbing and fixtures.</li> <li>• Demonstrate understanding of how the sewerage/effluent systems function.</li> <li>• Effectively network and communicate with the employing organisation, householders, community members, key people and outside agencies.</li> <li>• Monitor sewage lagoons and effluent systems and check for signs of potential problems.               <ul style="list-style-type: none"> <li>• Make into account opportunities to address waste minimisation, environmental responsibility and sustainable practice issues.                   <ul style="list-style-type: none"> <li>• Use a phone and fax.</li> </ul> </li> </ul> </li> </ul>
HLTPOP218D	Monitor and maintain water supply	<ul style="list-style-type: none"> <li>• Basic knowledge and understanding of the water and sewerage plans for the community if available.</li> <li>• Knowledge and understanding of how to monitor water supply (what to look for) and the various signs of possible contamination.</li> <li>• Knowledge and understanding of the causes of water contamination (organic and inorganic) and how it can be prevented.</li> <li>• WHS requirements in relation to working with water supply.               <ul style="list-style-type: none"> <li>• Various problems that can happen with household plumbing, water supply systems and why, e.g. people not reporting or fixing leaking taps or toilet cisterns which can then fill up septic tanks or sewerage lagoons, people using the area around the water supply source for recreation uses, etc.</li> </ul> </li> <li>• Various sources of water and how water is accessed in the community, e.g. bore, surface water, spring water, rock catchments, soaks, dams, rain water tanks, etc.</li> <li>• Very basic knowledge of water supply contaminants, e.g. dissolved salts, suspended solids, germs and parasites.</li> </ul>	<ul style="list-style-type: none"> <li>• 'Check for signs' of potential problems.</li> <li>• Apply monitoring and recording skills, i.e. checklists, notes etc.</li> <li>• Apply problem solving skills in relation to identifying potential problems that can occur with water supply systems, and household plumbing and fixtures.</li> <li>• Demonstrate understanding of how the water supply and water supply systems function.</li> <li>• Effectively network and communicate with the employing organisation, householders, community members, key people and outside agencies.</li> <li>• Monitor water supply and water supply systems and check for signs of possible contamination.</li> <li>• Monitor water supply and water supply systems and check for signs of potential problems.               <ul style="list-style-type: none"> <li>• Use a phone and fax.</li> </ul> </li> </ul>

Unit code	Unit name	Essential knowledge	Essential skills
<b>UEE21310 Certificate II in Remote Area Essential Services</b>			
NWP253B	Install and repair water services	<ul style="list-style-type: none"> <li>• OHS procedures.</li> <li>• Personal work site safety. <ul style="list-style-type: none"> <li>• Risk factors.</li> </ul> </li> <li>• Equipment operation.</li> <li>• Environmental aspects of service installation.</li> <li>• Pipe systems and installation requirements. <ul style="list-style-type: none"> <li>• Characteristics of pipe materials.</li> <li>• Work-related calculations.</li> <li>• Systems' operation.</li> <li>• Testing systems.</li> </ul> </li> <li>• Corrosion principles applicable to service pipes and fittings.</li> <li>• Operation of water meters. <ul style="list-style-type: none"> <li>•</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Install and repair service pipes and fittings. <ul style="list-style-type: none"> <li>• identify control system faults</li> </ul> </li> <li>• Use safety equipment and personal protective equipment. <ul style="list-style-type: none"> <li>• Use tools and equipment.</li> <li>• Identify hazards.</li> </ul> </li> <li>• Work effectively as part of a team.</li> <li>• Perform work-related calculations.</li> <li>• Identify and respond to operational problems. <ul style="list-style-type: none"> <li>• Use communication systems.</li> </ul> </li> <li>• Interpret plans, instructions and procedures. <ul style="list-style-type: none"> <li>• Follow procedures and standards.</li> <li>• Complete documentation.</li> </ul> </li> <li>• Use literacy skills in regard to verbal and written communication in the workplace.</li> <li>• Communicate with customers and other employees.</li> </ul>
NWP255B	Maintain and repair wastewater collection assets	<ul style="list-style-type: none"> <li>• System hydraulics basics.. <ul style="list-style-type: none"> <li>• System layout.</li> <li>• System calculations.</li> </ul> </li> <li>• Environmental aspects of construction and maintenance. <ul style="list-style-type: none"> <li>• Lock-out procedures for mechanical and electrical installations. <ul style="list-style-type: none"> <li>• Relevant utilities and service bodies.</li> </ul> </li> </ul> </li> <li>• Risk factors and potential hazards of locating underground utilities and services.</li> <li>• Risk factors and potential hazards of installation and maintenance processes. <ul style="list-style-type: none"> <li>• Hazardous materials handling.</li> <li>• Landscape and ground structure of work area.</li> <li>• Equipment operation, capacity and limitations.</li> </ul> </li> <li>• Effects of weather and conditions on construction site or plant. <ul style="list-style-type: none"> <li>• Control systems.</li> <li>• Pipes and fittings.</li> <li>• OHS procedures.</li> </ul> </li> <li>• Personal work site safety. <ul style="list-style-type: none"> <li>• Component parts.</li> </ul> </li> <li>• Repair and maintenance standard operating procedures.</li> </ul>	<ul style="list-style-type: none"> <li>• Install and repair appropriate assets. <ul style="list-style-type: none"> <li>• Clear chokes and blockages.</li> <li>• Maintain assets.</li> </ul> </li> <li>• Identify and respond to operational problems. <ul style="list-style-type: none"> <li>• Use communication systems.</li> <li>• Perform work-based calculations.</li> </ul> </li> <li>• Follow drawings, plans, specifications and instructions. <ul style="list-style-type: none"> <li>• Apply policies and procedures.</li> </ul> </li> <li>• Use safety and personal protective equipment. <ul style="list-style-type: none"> <li>• Work effectively as part of a team.</li> <li>• Use tools and machinery.</li> <li>• Identify hazards.</li> </ul> </li> <li>• Communicate with customers and other employees.</li> <li>• Use literacy skills in regard to verbal and written communication in the workplace. <ul style="list-style-type: none"> <li>• Record work activities.</li> <li>•</li> </ul> </li> </ul>

Unit code	Unit name	Essential knowledge	Essential skills
<b>UEE21310 Certificate II in Remote Area Essential Services</b>			
NWP257B	Maintain and repair wastewater collection systems	<ul style="list-style-type: none"> <li>• System hydraulics basics.               <ul style="list-style-type: none"> <li>• System layout.</li> </ul> </li> <li>• Environmental aspects of maintenance.</li> <li>• Customer and organisational responsibilities for blockages.</li> <li>• Standards and procedures for organisational repair and maintenance.</li> <li>• Lock-out procedures for mechanical and electrical installations.</li> <li>• Closed circuit television (CCTV) and other methods of monitoring.               <ul style="list-style-type: none"> <li>• Relevant utilities and service bodies.                   <ul style="list-style-type: none"> <li>• Communication systems.</li> <li>• Safety procedures.</li> </ul> </li> <li>• Hazardous materials handling.</li> </ul> </li> <li>• Landscape and ground structure of work area.</li> <li>• Risk factors and potential hazards of monitoring processes.               <ul style="list-style-type: none"> <li>• Equipment operation.</li> <li>• Capacity and limitations.</li> </ul> </li> <li>• Effects of weather and conditions on system operation and plant.               <ul style="list-style-type: none"> <li>• Control systems.</li> <li>• Pipes and fittings.</li> </ul> </li> <li>• Disinfection of systems and chemical usage.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and respond to operational problems.               <ul style="list-style-type: none"> <li>• Produce reports and logs.</li> </ul> </li> <li>• Use safety and personal protective equipment.               <ul style="list-style-type: none"> <li>• Use tools and machinery.</li> </ul> </li> <li>• Follow plans, charts and instructions.               <ul style="list-style-type: none"> <li>• Perform work-related calculations.                   <ul style="list-style-type: none"> <li>• Apply policies.</li> </ul> </li> </ul> </li> <li>• Apply monitoring procedures and standards.</li> <li>• Communicate effectively with employees and customers.               <ul style="list-style-type: none"> <li>• Work effectively as part of a team.</li> <li>• Use communication systems.</li> <li>• Give and receive instructions.                   <ul style="list-style-type: none"> <li>• Identify system faults.</li> </ul> </li> </ul> </li> <li>• Use literacy skills in regard to verbal and written communication in the workplace.               <ul style="list-style-type: none"> <li>• Identify hazards.</li> </ul> </li> </ul>

Unit code	Unit name	Essential knowledge	Essential skills
<b>UEE21310 Certificate II in Remote Area Essential Services</b>			
NWP259B	Operate, monitor and maintain pump stations	<ul style="list-style-type: none"> <li>• System hydraulics basics, including suction and lift <ul style="list-style-type: none"> <li>• System layout <ul style="list-style-type: none"> <li>• Principles and purpose of pump operation</li> <li>• OHS requirements</li> </ul> </li> <li>• Types of pump and their operational function</li> </ul> </li> <li>• Pump and pump station operation and maintenance procedures and standards</li> <li>• Principles affecting selection of pump station monitoring points and timing of monitoring activities <ul style="list-style-type: none"> <li>• Environmental aspects of operation</li> </ul> </li> <li>• Lock-out procedures for mechanical and electrical installations <ul style="list-style-type: none"> <li>• Relevant utilities and service bodies <ul style="list-style-type: none"> <li>• Communication systems</li> <li>• Hazardous materials handling</li> </ul> </li> </ul> </li> <li>• Risk factors and potential hazards of operating wastewater transfer systems <ul style="list-style-type: none"> <li>• ■Equipment operation, capacity and limitations</li> <li>• Effects of weather and conditions on system <ul style="list-style-type: none"> <li>• Control systems</li> </ul> </li> <li>• Pump station components</li> <li>• High and low voltage requirements <ul style="list-style-type: none"> <li>• Effect of lightning strikes</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Operate pumps and pumping stations.</li> <li>• Maintain pumps and pumping stations. <ul style="list-style-type: none"> <li>• Identify system faults.</li> <li>• Identify hazards.</li> <li>• Implement remedial action.</li> </ul> </li> <li>• Operate service according to procedures.</li> <li>• Identify and respond to operational problems. <ul style="list-style-type: none"> <li>• Collect data.</li> <li>• Produce reports and logs.</li> </ul> </li> <li>• Use safety and personal protective equipment. <ul style="list-style-type: none"> <li>• Use tools and machinery.</li> <li>• Follow plans and instructions.</li> <li>• Perform work-related calculations.</li> <li>• Apply procedures and standards.</li> </ul> </li> <li>• Communicate with employees and customers. <ul style="list-style-type: none"> <li>• Work effectively as part of a team.</li> <li>• Use communication systems.</li> </ul> </li> <li>• Use literacy skills in regard to verbal and written communication in the workplace. <ul style="list-style-type: none"> <li>• Give and receive instructions.</li> </ul> </li> </ul>
NWP260A	Monitor and report water treatment processes	<ul style="list-style-type: none"> <li>• Operating principles of water treatment processes. <ul style="list-style-type: none"> <li>• Basic water chemistry.</li> </ul> </li> <li>• Water uses and demands, both domestic and industrial.</li> <li>• Physical, chemical and microbiological characteristics of water within the water treatment process. <ul style="list-style-type: none"> <li>• Water quality guidelines.</li> <li>• Reasons for water treatment.</li> </ul> </li> <li>• Types of treatment plants and processes.</li> <li>• Major chemicals and equipment used. <ul style="list-style-type: none"> <li>• Physical and chemical hazards.</li> </ul> </li> <li>• Reasons for data and information collection.</li> </ul>	<ul style="list-style-type: none"> <li>• Apply policies, procedures and standards.</li> <li>• Recognise and report operational problems.</li> <li>• Use safety equipment and personal protective equipment. <ul style="list-style-type: none"> <li>• Select, collect and test samples.</li> <li>• Interpret material safety data sheets (MSDS).</li> <li>• Receive and apply instructions.</li> </ul> </li> <li>• Use literacy skills in regard to verbal and written communication in the workplace.</li> <li>• Communicate with other employees and people that interact within the work environment.</li> </ul>

Unit code	Unit name	Essential knowledge	Essential skills
<b>UEE21310 Certificate II in Remote Area Essential Services</b>			
NWP261A	Operate and maintain water treatment plant and equipment	<ul style="list-style-type: none"> <li>• Water cycle.</li> <li>• Sources of water.</li> <li>• Uses of water, both domestic and industrial.</li> <li>• Physical, chemical and microbiological characteristics of water within the water treatment process. <ul style="list-style-type: none"> <li>• Water quality characteristics.</li> <li>• Reasons for water treatment.</li> </ul> </li> <li>• Types of treatment plants and processes.</li> <li>• Major chemicals and equipment used. <ul style="list-style-type: none"> <li>• Water treatment plant hazards.</li> <li>• Safety equipment.</li> </ul> </li> <li>• Reasons for data and information collection.</li> </ul>	<ul style="list-style-type: none"> <li>• Apply policies, procedures and standards.</li> <li>• Recognise and report operational problems.</li> <li>• Use safety equipment and personal protective equipment. <ul style="list-style-type: none"> <li>• Collect and test samples.</li> <li>• Interpret material safety data sheets (MSDS).</li> <li>• Receive and apply instructions.</li> </ul> </li> <li>• Use literacy skills in regard to verbal and written communication in the workplace.</li> <li>• Communicate with other employees and people that interact within work environment.</li> </ul>
NWP263A	Operate and maintain wastewater treatment plant and equipment	<ul style="list-style-type: none"> <li>• Sources and characteristics of wastewater.</li> <li>• Physical, chemical and microbiological characteristics and basic principles related to wastewater treatment. <ul style="list-style-type: none"> <li>• Reasons for wastewater treatment.</li> </ul> </li> <li>• Types of wastewater treatment plants and processes. <ul style="list-style-type: none"> <li>• Major chemical types and equipment used.</li> <li>• Wastewater treatment plant hazards. <ul style="list-style-type: none"> <li>• Safety equipment.</li> </ul> </li> </ul> </li> <li>• Reasons for data and information collection. <ul style="list-style-type: none"> <li>• Material Safety Data Sheets (MSDS).</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Recognise and report operational problems.</li> <li>• Apply policies, procedures and standards.</li> <li>• Use safety equipment and personal protective equipment. <ul style="list-style-type: none"> <li>• Collect and test samples.</li> <li>• Interpret material safety data sheets (MSDS).</li> <li>• Receive and apply instructions.</li> </ul> </li> <li>• Use literacy skills in regard to verbal and written communication in the workplace.</li> <li>• Communicate with other employees and people that interact within the work environment.</li> </ul>