



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **NWP440A Supervise conduit inspection and reporting**

**Release: 2**

## NWP440A Supervise conduit inspection and reporting

### Modification History

NWP440A Release 2: Layout adjusted. No changes to content.  
NWP440A Release 1: Primary release.

### Unit Descriptor

This unit of competency describes the outcomes required to supervise or manage the inspection and reporting of the condition and features in sewer and stormwater conduits using specialised CCTV equipment.

### Application of the Unit

This unit supports the attainment of skills and knowledge required for people who supervise or manage work involved in the inspection and reporting of the condition and features in sewer and stormwater conduits using specialised CCTV equipment. It is also applicable to people who prepare inspection reports from data supplied by specialised CCTV sewer inspection operators.

### Licensing/Regulatory Information

Not applicable.

### Pre-Requisites

Not applicable.

### Employability Skills Information

This unit contains employability skills.

### Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the range statement. Assessment of performance is to be consistent with the evidence guide.

## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<b>1 Determine inspection reporting requirements</b>	<p>1.1 Determine the <i>inspection reporting standard</i> and <i>special inspection and reporting requirements</i> of the client or asset owner from specifications and/or instructions.</p> <p>1.2 Obtain <i>plans and maps of assets</i> to be inspected and identify relevant asset data.</p> <p>1.3 Seek clarification of inspection reporting requirements from the client/asset owner for unusual or non-routine inspections.</p> <p>1.4 Verify the competence of operators undertaking the inspection.</p>
<b>2 Review video images, data and reports from inspections.</b>	<p>2.1 <i>Check video records</i> of inspections.</p> <p>2.2 Compile documentation from inspection and check for completeness and accuracy.</p> <p>2.3 Recognise unsatisfactory video images and other non-compliant data and submit non-compliance reports to the operator.</p> <p>2.4 Label and reference inspection information according to specifications and/or enterprise procedures.</p>
<b>3 Identify and code defects and other features from video images of conduit inspection.</b>	<p>3.1 Identify and code structural defects, service conditions and other features of the <i>conduit</i> in accordance with industry code and/or specifications.</p> <p>3.2 Record asset and inspection data using appropriate software in accordance with industry code and/or specifications.</p> <p>3.3 Investigate and report unrecognisable defects, service conditions or other features.</p> <p>3.4 Identify a conduit at risk of imminent failure and communicate details to the system operator/asset owner according to <i>operational procedures</i>.</p> <p>3.5 Confirm defects or malfunctioning of maintenance holes, pits or other access structures with the operator and report in accordance with industry code and/or specifications.</p>
<b>4 Prepare conduit inspection reports for client.</b>	<p>4.1 Compile <i>inspection reports</i> and present to the client in the format required by the industry code/specifications or enterprise practice.</p> <p>4.2 Follow <i>inspection video and data security procedures</i> in accordance with the specifications and or enterprise procedures.</p>

## Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

- identify structural defects, service conditions and other features in a range of different conduits
- apply industry inspection reporting code requirements
- use data capture software
- access and interpret conduit details from asset information systems (GIS), construction drawings, plans/maps, house service diagrams
- identify inspection reporting requirements in specifications
- interpret policies, procedures and standards
- communicate with clients and operators

### Required knowledge:

- industry inspection reporting code
- data capture, recording and reporting software
- asset information systems
- operational plans/maps
- design plans for construction
- features of conduits used in Australia or operating area for gravity sewer and stormwater construction over the last 100 years
- construction and operation of sewerage and stormwater systems

## Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency in this unit**

The candidate should demonstrate the ability to supervise or manage the inspection and reporting of the condition and features in sewer and stormwater conduits using specialised CCTV equipment Including:

- identifying and correctly coding all critical defects and or features of conduits observable in inspection video records
- recognising poor quality, inaccurate and other non-compliant video images and data from conduit inspections
- interpreting correctly all relevant asset information on maps, plans and drawings of the conduit provided by the asset owner/operator/client

### **Context of and specific resources for assessment**

Access to the workplace and resources including:

- documentation that should normally be available in a water industry organisation
- relevant codes, standards, and government regulations

Where applicable, physical resources should include equipment modified for people with disabilities.

Access must be provided to appropriate learning and/or assessment support when required.

Assessment processes and techniques must be culturally appropriate, and appropriate to the language and literacy capacity of the candidate and the work being performed.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice
- a decision of competence only taken at the point when the assessor has complete confidence in the person's competence over time and in various contexts
- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence

- where assessment is for the purpose of recognition (RCC/RPL), the evidence provided will need to be authenticated and show that it represents competency demonstrated over a period of time
- assessment can be through simulated project-based activity and must include evidence relating to each of the elements in this unit

In all cases where practical assessment is used it will be combined with targeted questioning to assess the underpinning knowledge. Questioning will be undertaken in a manner appropriate to the skill levels of the operator, any cultural issues that may affect responses to the questions, and reflecting the requirements of the competency and the work being performed.

## Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording, if used in the Performance Criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

***Inspection reporting standards*** may include:

- Conduit inspection reporting code of Australia WSA 05 2006
- Australian conduit condition evaluation manual
- other enterprise or national reporting codes

***Special inspection and reporting requirements*** may include:

- pre-cleaning preparation of asset
- detailed inspection of certain defects and/or features in the conduit
- type and number of photographs / video clips of defects and or features
- measurement and reporting of operational or conduit parameters such as gas concentrations

***Plans and maps of assets*** may include:

- geographic information systems (GIS)
- construction drawings
- manual systems
- hard copy systems

***Checkvideo records*** includes:

- image quality
- completeness
- camera operation
- compliance with the inspection reporting standard and special inspection or reporting requirements

***Conduit*** may include:

- pipes manufactured from:
  - vitrified clay (earthenware)
  - reinforced concrete
  - polyvinyl chloride (PVC)
  - polyethylene
  - polypropylene
  - unlined cast iron
  - cast iron cement lined
  - asbestos cement
  - ductile iron cement lined
  - glass reinforced plastic
  - mild steel cement lined
  - profiled thin gauge steel
- other conduits include:
  - concrete box culverts

- circular or oviform brick
  - circular or oviform cast in situ concrete
  - circular, rectangular or variable cross section stone masonry block
  - lined pipes or other cross sections
  - access structures such as:
    - maintenance holes
    - drainage pits
    - maintenance shafts
- Operational procedures*** may include:
- communication and reporting protocols
  - standard operating procedures
  - organisational policies
- Inspection reports*** may include:
- videotapes
  - CDs, DVDs or other digital media
  - computer generated reports in a variety of formats
  - asset information such as plans, maps, asset location, number, age and type
  - photographs
- Inspection video and data security procedures*** may include:
- backup copies of computer files
  - tracking of tapes and disks
  - authorised deletion of files

## **Unit Sector(s)**

Not applicable.

## **Competency field**

Collection and distribution.