



NS172

Design Requirements for Cable Jointing Pits and Vaults

AUGUST 2008

Amendments: NSA1514 Feb09 and NSA1573 May10.



SUMMARY

Network Standard NS172 describes the design requirements for power cable jointing pits and vaults. For communication pits, refer to NS204 *Communications Pits - Specifications and Installation Guidelines*.

ISSUE

Ausgrid staff: for issue to staff associated with the design and construction of power cable jointing pits and vaults.

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It is possible that conflict may exist between standard documents. In this event, the most recent standard is to prevail.

This document has been developed using information available from field and other sources and is suitable for most situations encountered in Ausgrid. Particular conditions, projects or localities may require special or different practices. It is the responsibility of the local manager, supervisor, assured quality contractor and the individuals involved to ensure that a safe system of work is employed and that statutory requirements are met.

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This document is **not** intended to address issues that include, but are not limited to:

- Environmental and planning requirements
- Construction, inspection and maintenance safe work practices
- Inspection and maintenance requirements
- Emergency preparedness and response
- Earthing and substation layout design

Note: The use of any steelwork in substations have unique requirements with respect to earthing. All designs involving steelwork are to be reviewed by *Network Engineering*.

INTERPRETATION

In the event that any user of this Standard considers that any of its provisions is uncertain, ambiguous or otherwise in need of interpretation, the user should request Ausgrid to clarify the provision. Ausgrid's interpretation shall then apply as though it was included in the Standard, and is final and binding. No correspondence will be entered into with any person disputing the meaning of the provision published in the Standard or the accuracy of Ausgrid's interpretation.

Network Standard
NS172
Design Requirements for Cable Jointing Pits and Vaults
August 2008

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1 INTRODUCTION

This Network Standard describes the minimum design requirements for cable jointing pits and vaults for use with power cables and pilots. For pits exclusively for use with optical fibre pilot cables, refer to NS204 Communications Pits - Specifications and Installation Guidelines. It does not cover construction requirements, authority approvals, safety or environmental requirements relating to construction of pits or vaults. Normal industry practices apply in addition to any Ausgrid design requirements detailed herein.

2 ASBESTOS

All materials and equipment used for construction of Ausgrid's assets are to be free from Asbestos and or Asbestos related products.

Suppliers are expected to comply with OH&S Act together with Regulation 2001 and confirm in writing that all products supplied to Ausgrid contain no Asbestos related materials.

3 DEFINITIONS

Pits	Used for the 11kV and low voltage distribution network.
Vaults	Used for the transmission and sub-transmission network.
Compliance Officer	Ausgrid officer responsible for dealings with parties involved in construction of Ausgrid network assets. This would normally be the ASP Compliance Officer. The Compliance Officer only checks compliance of contestable construction not capital works.

Note: This document uses 'pits' to denote 'pits or vaults' when dealing with general issues that apply to both pits and vaults.

4 REFERENCES

4.1 Associated Network Standards

The following Network Standards must be read in conjunction with this Network Standard:

NUS 100	Field Recording of Network Assets
NS104	Specification for Network Project Design Plans
NS130	Specification for Laying of Underground Cables Up to 22 kV
NS148	Overhead Line Support, Street Light Column, Pit and Pillar Numbering
NS149	Drawing Content for Chamber Type Substations, Control Points, Cable Risers and Ductlines
NS156	Working Near or Around Underground Cables
NS168	Specification for the Design and Construction of Underground Sub-Transmission Lines
NUS 174	Environmental Procedures
NS 203	Planning and Design Standards for Electrical Network Communications Assets
NS 204.7.1	Communications Pits - Specifications and Installation Guidelines

Refer to ES 9 Agreement for Connection of Developments for a more comprehensive list of available Network Standards.

4.2 Other Relevant Standards

The following Australian Standards are relevant to this Network Standard:

AS/NZS 1891.4	Industrial fall-arrest systems and devices - Selection, use and maintenance
AS 1319	Safety signs for the occupational environment
AS 1100 series	Technical drawing
AS 1170	Minimum design loads on structures (known as the SAA Loading Code)
AS 1657	Fixed platforms, walkways, stairways and ladders – Design, construction and installation
AS 2865	Confined Spaces
AS 3600	Concrete Structures
AS 3610	Formwork for concrete
AS 3996	Access covers and grates
AS 5100	Bridge Design Set
ENA DOC 001-2008	National Electricity Network Safety Code
OHS Regulation 2001	
NSW Occupational Health and Safety Regulation 2001	

5 PIT OR VAULT DESIGNS

A pit may be constructed from reinforced concrete blockwork, reinforced concrete or brickwork depending on the location of the pit within the street and geographically within the city.

Brickwork pits can only be used in areas of rock and where the area around the pit is backfilled with a sand/cement mix.

In areas with Acid Sulfate Soils (ASS) or in tidal areas, only wholly reinforced concrete pits shall be used. 50MPa concrete utilising Sulfate Resisting (SR) cement shall be specified.

5.1 Design Loads

The pit shall be designed for a service life of 100 years and the covers (where required), for 50 years. Durability requirements will be to AS 5100 for the pit and to AS 3600 for the cover.

The pit and any temporary road cover for use during construction shall be designed to carry road loads as required by the RTA for bridge design. The pit is also to be designed for any special conditions unique to its location such as neighbouring building foundations.

If there is the potential for a high water table at the pit it shall be designed to resist buoyancy forces.

Any walls that have pulling eyes or eye bolts are to be designed to resist 50 kN point load (working load) applied at any location in the wall. Pits designed to incorporate pulling eyes shall have all walls in which eyes may be fitted, designed to resist 50kN point load (working load) at any location on the wall.

5.2 General Requirements

According to OHS Regulation 2001, Section 77, anyone who designs or lays out the confined space must be formally trained in the following:

- the hazards of confined spaces,
- risk assessment procedures,
- risk control measures,
- emergency procedures, and
- selection, use, fitting and maintenance of safety equipment.

The trained person, responsible for the safe layout of a confined space shall certify that the design of the pit is fit for purpose and shall provide details of their training and experience.

5.2.1 Design Drawings

Ausgrid requires copies of any drawing produced in relation to the construction of any pit that is to be included as part of Ausgrid's network assets. Refer also to NS149.

Structural drawings of the proposed pit, certified by a structural engineer, are to be submitted to the Ausgrid Customer Operations Planning Officer for approval. Construction shall not commence without an approved drawing. The drawing shall include all necessary provisions from this standard and shall be fully dimensioned.

The structural drawings are to be presented to the Ausgrid Customer Operations Planning Officer as full sized or electronic form drawings. All drawings are to be placed on drawing sheets, in sizes A0, A1, A2, A3, A4 or B1 only, in accordance

with ISO-A and ISO-B standard. Each sheet shall utilise a drawing border and drawings are to comply with the latest edition of the AS 1100 series. Electronic drawings are to be compatible with the latest release of AutoCAD or Microstation software. The Ausgrid Customer Operations Planning Officer will advise on which of these systems will be acceptable for the project.

The title block of each sheet shall contain the following information:

- The asset number or description of the pit or pits, so that the Ausgrid Customer Operations Planning Officer can readily identify where the pit design is to be used.
- The geographic location of the pit or pits.
- The scale of the various views contained on the drawing.
- The drawing number and the amendment or revision or issue number assigned by the designer.
- The date of original design and subsequent amendments, revisions or issues.
- The printed name and signature of the responsible accredited designer.

The drawing sheets shall also have provision for:

- The addition of Ausgrid's drawing number. This number will be added by Ausgrid once the pit design or variation to the design is accepted by the Ausgrid Customer Operations Planning Officer. A blank rectangular space of 90 mm wide x 50 mm high is to be left immediately above the title block for the addition of this number.
- An amendment or revision or issue table.

The drawings must not bear Ausgrid's name or logo if an accredited designer other than Ausgrid has undertaken the design.

All drawings must be fully dimensioned and contain cross-references to other drawings in the project. All dimensions must be to clear and finished sizes and sufficient details must be present to fully define the pits to be constructed in accordance with the design. Drawings made over grid or modular base lines without sufficient dimensions are not satisfactory.

The drawings must provide all construction details and must also document the design loads and design life.

The contractor is to annotate and submit 'as built' drawings of the pit on completion of the works. The 'as built' drawings shall be submitted electronically along with two full size paper copies in the format described above.

5.2.2 Standard Items

Ausgrid requires standard features to be included to all pits to permit operation as intended during the lifetime of the structure.

5.2.2.1 General

The drawings shall include as a minimum the following standard items where required:

- Standard Ausgrid ladders, refer to drawing number A1-49813 or 157908.
- Retractable handrails drawing A2-120488.
- Standard pulling eye drawing A2-63678.
- Standard eyebolt drawing E 49703.
- Title shall include the size of the pit.
- A drainage sump (300 mm x 300mm x 300 mm deep) with hinged cover shall be provided adjacent to the base of certain access ladders (Gatic 331S33L

hinged grate and frame or equivalent). A minimum of one sump shall be provided under each traffic lane.

- Provide falls in the base slab towards the sumps to provide drainage.
- Temporary road plate and beam system for covering the pit during construction.

The drawing number may be obtained by contacting the Ausgrid Customer Operations Planning Officer.

5.2.2.2 Special Conditions

- Provision for Acid Sulfate Soils where applicable.
- Provision for unusual loading such as crane loads, loading from foundations adjacent to the structure, etc.
- Design for support of other services in or near the pit for both construction and final situations to meet Authority requirements.

5.2.3 Pit or Vault Access

All pits 2 m x 2 m or larger are to be fitted with a minimum of two single part 900 mm x 900 mm openings. Pits smaller than 2m x 2m are non standard and require special approval.

For larger pits in CBD locations (see Note) where functional flexibility and physical protection is required because of traffic and onlookers, only 900 x 900 mm openings are to be used as described below.

Note: Traffic management in city streets can be more difficult if large openings are used in these locations. There is also concern that larger openings will give passers by the opportunity to throw items into the work place. The physical protection afforded by the reinforced concrete roof slab of the pit is more valuable than the improved ventilation and other advantages offered by the larger openings in these locations.

For large pits in locations not having those issues, the minimum requirements are one 900 mm x 900 mm access cover plus a large (e.g. 4 m² or greater) removable cover, not exceeding 3000 kg in weight. The larger cover is to permit easy access and general work within the pit without a roof creating restrictions.

The principles for location of pit accesses are as follows:

- The ground adjacent to pit accesses must be capable of withstanding construction and service loadings and loads applied by vehicles such as a suitably sized crane for lifting the large cover. There must be sufficient space to position and operate the crane.
- Where the pit is located such that it crosses opposing lanes of traffic, the pit should have two openings in each lane.
- The space within a pit may be divided into sections by walls, cable banks or when there is more than one level. Every section of the pit is to have two means of ingress/egress.
- Accesses shall be located so they do not interfere with cable entry banks.
- Locate accesses in corners of the pit where possible.
- The larger cover should be positioned above the main work area in the pit. That is, away from congested areas such as at duct entries.
- For pits which are 4 m x 4 m and bigger, four accesses are required unless physically impractical.
- The distance from anywhere in the pit to the nearest ladder base should not be more than 3.0 m.

- Allowance shall be made to accommodate the road plates and support beams required during construction. Road plates are 3m x 4m and are supported on the edge of the excavation and by one or more beams if required. Support beams are typically 530mm deep and span across the pit. The permanent structure and access hatches shall be located to avoid the support beam(s).

Multi-part accesses may be used with the following limitations:

- Multi-part access covers are not to be used in roadways
- Multi-part access covers are to have a minimum clear opening of 900mm
- Multi-part access covers may only be used for pits of 2.2 m x 2.2 m and smaller
- Access covers with the following arrangements of covers are acceptable:
 - 2 x 2 multi-part
 - 1 x 3 trench covers
- Multi-part access covers may only be used in footpath situations where there is adequate space to allow removal and temporary storage of the covers, and there is adequate space for pedestrian traffic around the pit. (ie a minimum available footpath width of 1200 mm on one side of the opening with the covers removed).
- The support beam for a multi-part access cover shall be corrosion resistant. For non-corrosive environments, it may be made from galvanised steel with a minimum galvanising rate of 600 grams per square meter. In corrosive environments, 316 grade stainless steel is required.

Where the whole roof of a pit is removable, the depth of the pit may be reduced. Refer clause 5.4.1.

5.2.4 Access Covers

Pit access covers shall comply with AS 3996 and include the words "Electricity" and "Ausgrid" and the number of the pit in labels on the outer surface. They shall be designed to take account of the following issues:

- Covers shall be tested in accordance with AS 3996 and test certificates made available on application.
- Class D units to AS 3996 are required for roads and Class C units are required for footpath situations.
- Covers in road carriageways shall include black pigment in the concrete (and preferably, similar light reflective characteristics to the road top coat) to match the road surface.
- For security, standard purpose-made keys or lifting devices shall be used to ensure access to the pits is limited. Covers shall be designed so that the following keys may be used to open them:
 - long handle Gatic type key, Ausgrid stock code 216
 - short handle Gatic type key, Ausgrid stock code 232.
- The cover shall not present a trip hazard or a hazard to bicycles or motor bikes. Surfaces of smooth steel that may become slippery are not acceptable.
- The life of the access cover shall be considered including its corrosion performance and its wear under traffic loads. For this reason access covers are to be supplied with a snug fitting frame and shall be reinforced concrete, iron castings, stainless steel or galvanised mild steel.
- There must be a system for safely handling the access covers. OH&S guidelines must be followed and the handling system must minimise the opportunity for access covers to be dropped into the pit.

- The covers shall be watertight as described in AS 3996.
- The design must provide for future changes in road/footpath levels.
- Covers that accommodate infill paving are acceptable provided the edge of the frame and the cover are each a minimum of 5mm thick with the cast elements extending to the surface of the paving. Covers for use with pavers are to have a 60 mm set down to match the pavers. Covers that utilise edge plates attached to the cast lid to enclose infill paving and as the interface between the cover and the frame are not acceptable.
- Covers, other than proprietary cast iron covers, shall have a label detailing the weight of the cover.

5.2.5 Ladders

Where possible, ladders are to be detailed in accordance with AS 1657; however, many will not comply with the code because they will be vertical in order to provide lifting access and maximise clearances. Compliance with regulatory authority requirements is achieved by the use of a fall arrest system, which shall be used during climbing and descending. Drawing A1-49813 details the standard vertical ladder. A sloping ladder that complies with AS 1657 is detailed on drawing A1-157908 and should be used when the situation allows. Drawing A2-120488 details the retractable handrails that are approved for use with both types of ladder.

Note: These designs are only appropriate for pits of 1800 mm minimum depth. For shallower pits, access complying with AS 1657 shall be provided.

5.2.6 Fall Arrest

Since pits are normally defined to be confined spaces it is necessary for confined spaces procedures to be used when accessing them. As a result, personnel accessing the pit will be equipped with rescue davits that also have fall-arrest capability. Ausgrid currently use fall-arrest/rescue frames produced by two different manufacturers; Sala Group Pty Ltd and UCL Safety Systems.

The davits have a support frame that requires a minimum of 600 mm clear space around the access hatch. For each access hatch where this space is not available or where another obstruction is present, two wall mounts for the davit shall be provided, one from each of the manufacturers nominated above. This is necessary for all large access hatches (greater than 1 m x 1 m) which shall have one davit support point in each corner of the access hatch. These may also be useful as anchors for handrails.

The wall mounts for the fall arrest system shall comply with AS/NZS 1891.4 and the requirements of the NSW Occupational Health and Safety Regulation 2001 – Section 56 and relevant WorkCover documents.

Wall mounts shall be capable of carrying a 22kN vertical load and a 10 kN.m moment. The system shall be constructed from galvanised or stainless steel.

The wall mounts shall be positioned in the corners of the access chimney adjacent to the ladder so that they do not provide an obstruction to anyone using the ladder.

5.2.7 Columns

Columns interfere with the operation of cable jointing particularly where pulling and turning cables are involved. Therefore, columns are to be avoided and the use of beams or thicker roof slabs is to be investigated. Where the use of columns is unavoidable, the location of the column within the pit is to be nominated by the Ausgrid Customer Operations Planning Officer.

5.2.8 Pulling Eyes

Galvanised pulling eyes are required in the walls and the floor of the pit.

One pulling eye shall be installed in the floor directly below the centre of each access hatch.

The exact location of pulling eyes required in the walls is to be determined when the locations of the incoming cable ducts are known. Pulling eyes are to be positioned such that they are in line with the cable ducts.

Figure 1 is indicative of typical pulling eye locations. Where a duct line has more than one conduit, multiple pulling eyes may be required. The Ausgrid Customer Operations Planning Officer shall approve the proposed pulling eye locations prior to the construction of the pit.

Signage indicating the load capacity of the pulling eyes shall be provided adjacent to each eye.

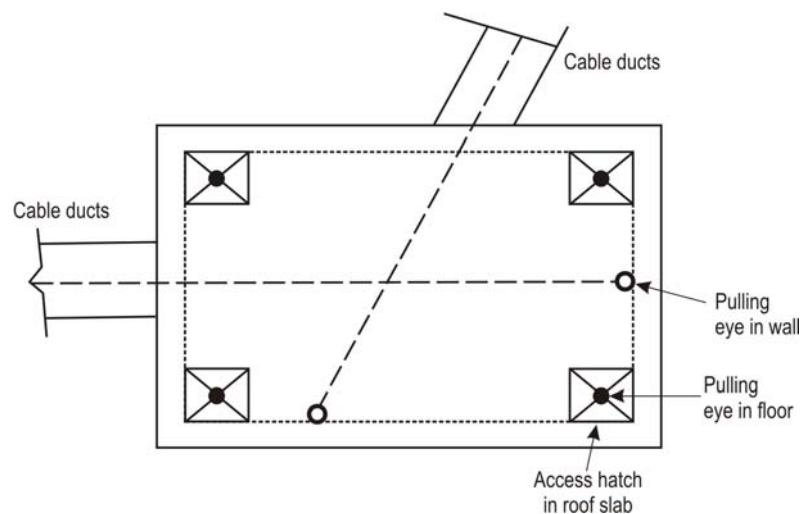


Figure 1: Plan of Pit or Vault

5.2.9 Water Ingress

Generally it is not necessary for pits to be waterproof. However, if the pit is located in a tidal area or in charged ground below the water table nominal water proofing shall be under-taken. The following precautions are deemed to provide acceptable nominal water proofing:

- in-situ concrete shall be used throughout the pit
- hydrophilic water stops shall be used to seal construction joints
- an additive shall be used in the concrete to give it non-absorptive properties. Products such as Xypex or 3CC (by Cementaid) or an approved equivalent are acceptable and shall be used in accordance with the manufacturer's recommendations.

Note: Where a pit is below the water table, or in a tidal area, the potential for uplift due to buoyancy shall be considered and allowed for in the design

5.2.10 Construction Issues

(requiring notation on pit drawings)

- Acid Sulfate Soils (ASS) and soil disposal (refer to clause 7.1)

- Shoring. The shoring of all excavations is the responsibility of the contractor. Evidence of inspection and design of shoring by an approved geotechnical engineer shall be provided to the Ausgrid Compliance Officer.
- Concrete curing requirements
- Strength and age requirements before backfilling around the pit and before traffic may be carried.

5.2.11 Provision for Cable Support

Pit designs shall include provision to support the planned number of cables via the use of support brackets along the side walls of the pit. The support brackets (or provision for future brackets) shall be designed to permit the installation of a straight through or tee joint for each feeder.

The support brackets are to be designed to allow for support of the heaviest size of power cable likely to be installed in the pit. Provision for copper pilot or optical fibre cables shall also be provided, with optical pilots arranged in accordance with the relevant requirements of NS203 and NS204.

5.3 Other Relevant Standards

The pit shall be designed to all the relevant Australian Standards including:

- AS 1170 Minimum design loads on structures (known as the SAA Loading Code)
- AS 1657 Fixed platforms, walkways, stairways and ladders – Design, construction and installation
- AS 2865 Confined Spaces
- AS 3600 Concrete Structures
- AS 3610 Formwork for concrete
- AS 3996 Access covers and grates
- AS 5100 Bridge Design Set
- ENA DOC 001-2008 National Electricity Network Safety Code

5.4 Pit or Vault Dimensions

The ultimate size of the pit is to be approved by the Ausgrid Customer Operations Planning Officer and will in many cases be governed by the space requirements of the cable joints to be constructed within the pits and the bending radii of the cables. Reference should be made to Ausgrid approved jointing instructions for information on joint requirements.

The requirements given in the following sections apply where space and practical construction allow. It is recognised that many other underground services are located in the CBD area and that these will often govern the final size of the pit.

5.4.1 Minimum size of Pits or Vaults

Unless approved otherwise the preferred minimum plan size for pits is as follows:

- For HV pits – 5 m x 4 m
- For LV pits – 2 m x 2 m

The pit should normally have 2 m internal height.

The depth of pits having a fully removable roof may be less than 2 m. The depth of these pits shall be minimised but is to be compatible with the depth of the cables entering the pit. Refer to clause 5.2.4 for the use of multi-part access covers.

The vault or pit size shall also satisfy the requirements in clause 5.4.2.

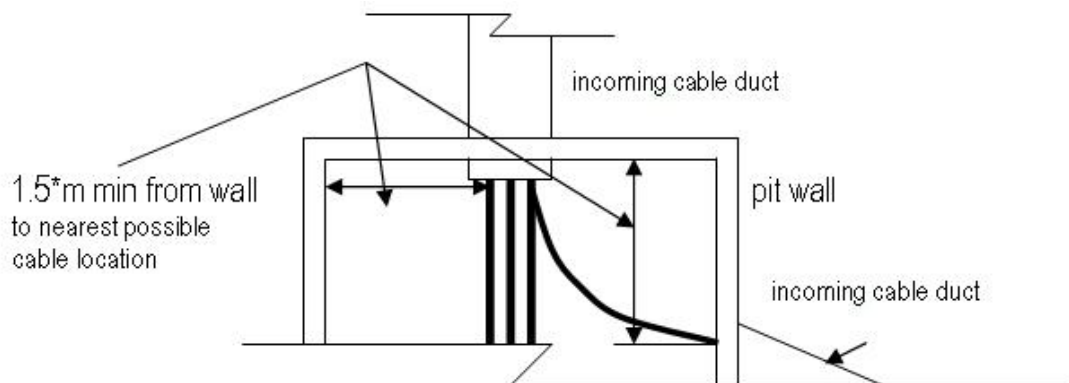
The Ausgrid Customer Operations Planning Officer may approve a reduction of these requirements.

5.4.2 Size Recommendations

The following size recommendations apply in addition to clause 5.4.1. These requirements are desirable to allow for the nominal minimum internal cable bending radii during installation and for working space in HV pits.

The Ausgrid Customer Operations Planning Officer may approve a reduction of these requirements.

Figure 2 shows cable entry details.



* Refer to NS 130 for minimum internal bending radii.

Figure 2: Plan of Cable Entry

Figure 3 shows details of the pit or vault indicating the minimum height of the conduit above the floor of the pit.

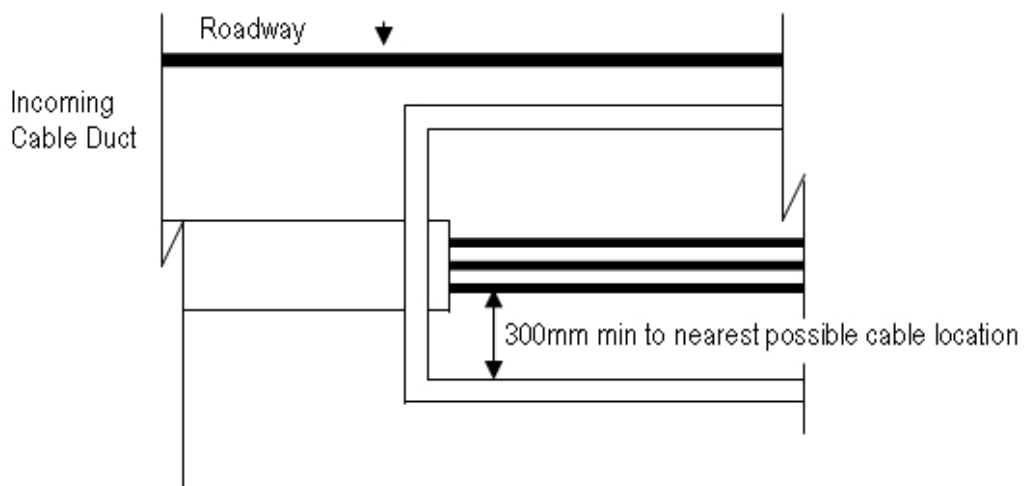


Figure 3: Section Through Pit or Vault

Where cable joints are made in a pit, the length of straight cable required to assemble the joint shall also be considered. This shall include the parking of the joint components during the joint assembly process.

6 PIT IDENTIFICATION AND SIGNAGE

Pits are to be numbered in accordance with the requirements of NS148 *Overhead Line Support, Street Light Column, Pit and Pillar Numbering*.

On completion, the number of the drawing that was used to construct the pit and survey information of the pits location is to be given to the Ausgrid Customer Operations Planning Officer who will forward details to the GIS section.

All signage in pits shall be corrosion resistant and shall be fixed with corrosion resistant fasteners.

A plaque displaying the name of the company that designed the pit, the number of the drawing that was used to construct the pit and any other identification is to be displayed in one of the access chimneys. The plaque shall be from 3mm thick aluminium plate and shall have smoothed and rounded edges and corners.

A sign that identifies the pit as a confined space according to AS 2865 is to be placed in a position that is obvious to anyone intending to enter the pit. The sign shall comply with the requirements of AS 2865 and shall be designed in accordance with AS 1319.

Since fall arrest safety procedures are to be used when accessing some pits, a sign highlighting this fact is to be placed prominently at the entrance of the pit.



6.1 Signage for Fall Arrest Wall Mount

Where a wall mount for fall-arrest is installed there must be a metal sign giving the installation and rating information.

The sign shall be from 3 mm thick aluminium plate and shall have smoothed and rounded edges and corners.

The sign should have the following text, with 6 mm minimum height engraved or embossed onto it:

- Installed by (insert name of installer, both individual and company) on (insert date) in accordance with AS/NZ 1891.4.

- Single point davit support anchorage. Free fall arrest – 2 persons
- Maximum davit cantilever 450 mm
- Max number of persons 2

This should apply to all permanent fall arrest fittings in a pit.

6.2 Summary of Signage Requirements

The signage requirements for pits are summarised by the following table.

Sign Type	Location
Pit Identification	One sign per pit at the entry that is likely to be the most commonly used.
Fall-arrest	At every access, for pits where fall-arrest procedures are to be employed.
Confined Spaces Danger sign	At each access to the pit.
Wall Mount Details	A separate sign is required for each wall mount.
Load Capacity of Pulling Eyes	Adjacent to each pulling eye.

7 INSPECTIONS

To ensure the pit meets all Ausgrid's requirements and relevant design criteria, Ausgrid shall be given the opportunity to perform inspection as described in this section.

In addition, during construction the certifying engineer shall carry out all inspections deemed necessary in order to provide the required certification.

Drawings indicating Ausgrid approval shall be used for construction and shall be made available to the Ausgrid Compliance Officer.

7.1 Ground Conditions

During the excavation of the pit, the certifying engineer (refer Section 8) is to inspect the excavation to ensure the ground conditions are suitable for the proposed design. Where there are deviations from the design assumptions, amended drawings to allow for the deviations shall be produced and submitted for approval.

Where Acid Sulfate Soils (ASS) are present, the pit design must allow for these conditions. As the impact of ASS will affect the design of the pit, the contractor is responsible for identifying soil types. The Ausgrid Customer Operations Planning Officer shall be supplied with test certificates relating to soil types prior to acceptance of the design.

7.2 Reinforcement Inspections

A structural engineer who is approved by the Ausgrid Customer Operations Planning Officer shall carry out all inspections of reinforcement. In addition, the Ausgrid Compliance Officer may wish to inspect the reinforcement and shall be given a minimum of 24 hours notice of any inspections. In any case, the structural engineer is required to certify that all reinforcement has been installed in accordance with the approved specific pit structural design.

7.3 Concrete Pours

The Ausgrid Compliance Officer must be given the opportunity to witness all concrete pours and where appropriate make comments or reject the work if it does not comply with relevant standards.

7.4 Final Inspection

The Ausgrid Compliance Officer will inspect the completed pit prior to the issue of the Certificate of Practical Completion.

Pit ladders, sump grates, pulling eyes and signage etc, are to be installed and any material such as formwork and the like to be removed from the pit.

8 PIT DESIGN CERTIFICATION

A structural certificate certifying the design and construction of the pit to the relevant Australian Standards shall be provided and signed by a professional structural engineer. The professional engineer shall be eligible for registration with the Institutions of Engineers (Australia) under classification NPER3. Evidence of the certifying engineer's professional indemnity insurance cover shall be provided with the certification.

A certificate certifying that the Occupational Health and Safety aspects of the design of the pit are fit for purpose shall be provided. Details of the training and experience of the certifier shall be included with the certificate.

9 PIT COMPLETION

The Compliance Officer will issue a Certificate of Practical Completion when the requirements of Sections 6 to 8 have been met.



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