



Alice Springs Town Council ROADWORKS GUIDELINES

ATTACHMENT G UPDATED SEPTEMBER 2012

Please read the attached Rules, Requirements, Technical Clauses and drawings for working within the ASTC road reserve before commencement of works.

CONTENTS

1. GENERAL CLAUSES

- 1.1 GENERAL RULES
- 1.2 GENERAL REQUIREMENTS

2. TECHNICAL CLAUSES

2.1 SEALED ROADS

- 2.1.1 General
- 2.1.2 Excavation
- 2.1.3 Bedding
- 2.1.4 Backfill
- 2.1.5 Reinstatement
- 2.1.6 Services
- 2.1.7 Testing
- 2.1.8 Maintenance
- 2.1.9 Expiry

2.2 UNSEALED ROADS

- 2.2.1 Excavations
- 2.2.2 Backfill
- 2.2.3 Select Fill
- 2.2.4 Properties
- 2.2.5 Stabilised Backfill
- 2.2.6 Base Course
- 2.2.7 Excavated Material
- 2.2.8 Finished Surface Levels

2.3 THRUST BORING

- 2.3.1 General
- 2.3.2 Standards
- 2.3.3 Proposed Methods
 - 2.3.3.1 Thrust or Tunnel Boring
 - 2.3.3.2 Thrust Boring with Pipe Casing
 - 2.3.3.3 Thrust Boring without Pipe Casing
 - 2.3.3.4 Filling of Cavities

2.4 LANDSCAPING

- 2.4.1 Standards
- 2.4.2 Protection of Existing Vegetation
- 2.4.3 Removal of Trees and Other Vegetation
- 2.4.4 Damage to Trees Shrubs and Other Vegetation
- 2.4.5 Trenching in Grassed Areas
- 2.4.6 Damage to Irrigation Systems

3. DRAWINGS

Typical Cross Section (A) – Shallow Excavation (up to 600mm approx. depth)

Typical Cross Section (B) – Deeper Excavation (greater than 600mm)

Typical Plan View (C) – Multiple Road Openings not exceeding 1.5m in width

Typical Plan View (D) – Multiple Road Openings exceeding 1.5m in width

GENERAL RULES AND REGULATIONS FOR WORKING WITHIN COUNCIL ROAD RESERVE

1.1 GENERAL RULES

1. **Permit to Work** - within the Alice Springs Town Council road reserve will be issued under the condition that the Applicant understands and agrees to comply with the following Rules and Regulations, Technical Specification and referenced documents.
2. **Public Consultation** - must be undertaken by advertising in the local paper every 7 days. It also may be necessary to do letter drops or any other consultation as requested by Council.
3. **Traffic Management** – shall comply with requirements of Australian Standard AS1742.3.
4. **Photographic Record** - of the proposed worksite must be taken by the contractor and supplied to Council after all works have been completed.
5. **Council Infrastructure** - that has been moved or damaged must be reinstated or replaced to the satisfaction of ASTC and must conform to the appropriate Australian Standards and regulations.
6. **Council Stormwater** - inlets must be covered to prevent foreign material entering the system. It is not permitted to wash or dump anything into the Council Stormwater System.
7. **Excess Material** - must be removed from site.
8. **Costs and Fees** – pay all costs associated with permits, clearances, repairs and reinstatement due to the implementation of the Works covered by this Permit.
9. **Sealed Roads** - All repair work must be carried out in accordance with Section 2 Technical Clauses.

1.2 GENERAL REQUIREMENTS

1. **Verge Works** - must comply with Council Verge Development Protocol. Any verge that has been developed and has a permit to be developed must be reinstated to the satisfaction of the land owner.
2. **Trees or vegetation** – that are damaged or removed must be replaced to the satisfaction of ASTC.
3. **Footpaths and Driveways** - A driveway/crossover permit is required for each driveway. Any footpath that has been damaged or removed must be reinstated or replaced to the satisfaction of ASTC. (Refer to ASTC Construction of footpaths Guidelines).

2. TECHNICAL CLAUSES

2.1 Sealed Roads

Refer to ASTC Bituminous Surface Maintenance Guide

2.1.1 General

Open excavation within sealed pavements is not permitted. (Unless approval is given by ASTC) approval will only be given under extreme circumstances. E.g. burst water pipes.

Install pipes, conduits, etc, by thrust or tunnel boring under the road.

For thrust or tunnel boring under sealed pavements conform to THRUST BORING section.

Do not excavate thrust boring pits closer than 3 metres to the edge of the sealed road without prior written approval from the ASTC Technical Services Department.

Maintain a minimum depth of thrust boring of not less than 1m below the existing road surface unless approved otherwise.

Note: Council must inspect compaction and final seal on all road openings and sign off (refer to attached sign off form supplied with permit)

2.1.2 Excavation

Size of excavation is to be kept to a minimum consistent with the work to be undertaken and backfill compaction in accordance with backfill requirement.

All continuously paved surfaces (e.g. brick paving) shall be opened by removal of complete units with every care being taken to prevent breakage. Removed pavers are to be stacked on pallets and if not replaced by close of business on the day of operation, these pavers are to be removed from site.

Excavations are to be back filled immediately.

Do not excavate within 1 metre of any road element, e.g. kerb and gutter, drainage structure, etc., without the prior approval of the ASTC Technical Services Department.

Reinstate any landscaping or other structure damaged or disturbed as a result of the works. Undertake remedial works as directed by the ASTC Technical Services Department.

Pay all fees associated with the location of all utilities in the vicinity of the excavation, prior to commencement of the works.

Pay all costs associated with the location and repairing of utilities damaged by the excavation works.

Fence the excavation as per the requirements of the Work Health Act, AS1742.3 and all other conditions herein.

Provide adequate shoring, conforming to the requirements of the Work Health Act, to prevent the collapse of trenches. Refer to the clause, excavations, stockpiles and gradients within work zones and clear zones in the Provision for Traffic Section.

Benching of trench walls is not permitted.

Where an excavation is to remain open overnight, fix reflectorised signage and barriers to the site perimeter fencing in accordance with all relevant Acts of legislation and the relevant Australian Standards.

Shore all trenching or excavations which are deeper than 1.5 metres and where a person is required to enter them, unless an engineer certifies that shoring is not required. Provide a copy of the engineer's Certification on request.

Where any trenching or excavation works which require shoring are being proposed, notify NT WorkSafe a minimum of 7 days prior to these works commencing. Refer to NT WorkSafe Bulletin WH 03.01.04

2.1.3 Bedding

Sand may be used for bedding or conduit surrounds, it shall be compacted to 90% of its Maximum Modified Dry Density (MMDD).

2.1.4 Backfill

Backfilling is to comprise Quarry Sand stabilised with 5% cement. This shall be used immediately above the trench base or bedding layer and be continuously poured in one homogenous layer. No additional Road Base layer is required, Priming and Asphalt surfacing can be placed directly onto the stabilised backfill. Asphalt surfacing can be placed within 7 days of pouring the stabilised backfill.

Compaction required in backfill is vibratory compaction using a concrete needle vibrator. Backfill is to be finished to the levels and shape of the surface prior to excavation

2.1.5 Reinstatement

The Contractor shall carry out final reinstatement of previously paved surfaces.

On completion of backfilling, the Contractor shall leave the site in a neat and tidy condition with all material removed. Appropriate warning signs are to be maintained until after reinstatement works are completed.

2.1.6 Services

The Contractor shall be solely responsible for the identification and protection of all services and equipment of any Agency/Authority in the vicinity of the work. Any damage that occurs to any service as a result of the work shall be made good to the satisfaction of the appropriate Agency/Authority, at the expense of the permit holder.

2.1.7 Testing

Compaction testing at no cost to the Council by a NATA registered laboratory shall be carried out on all bedding works prior to placing backfill. Production of satisfactory results will be required prior to acceptance of the work by Council.

2.1.8 Maintenance

The Contractor shall be responsible for the repair of any failure resulting from the work undertaken by them for a period of 12 months from the date of his contract practical completion.

2.1.9 Expiry

This road-works permit is job specific and expires upon completion of the work.

Should any failure occur during the contract maintenance period, which requires the excavation to be re-opened by the Contractor; a new permit will be required.

2.2 Unsealed Roads

2.2.1 General

Open excavation within unsealed roads is permitted where approval is granted in writing from the Alice Springs Town Council.

2.2.2 Excavations

Size of excavation is to be kept to a minimum consistent with the work to be undertaken and backfill compaction in accordance with the backfill requirement.

All continuously paved surfaces (e.g. brick paving) shall be opened by removal of complete units with every care being taken to prevent breakage. Removed pavers to be stacked on pallets and if not replaced by close of business on the day of operation, removed pavers are not to be left on site overnight.

Excavations are to be back filled at the completion of each day..

Do not excavate within 1 metre of any road element, e.g. kerb and gutter, drainage structure, etc., without the prior approval of the ASTC Technical Services section.

Reinstate any landscaping or other structure damaged or disturbed as a result of the works.

Undertake remedial works as directed by the ASTC Technical Services Section.

Pay all fees associated with the location and repair of all utilities in the vicinity of the excavation, prior to commencement of the works.

Fence the excavation as per the requirements of the Work Health Act, AS1742.3 and all other conditions herein.

Provide adequate shoring, conforming to the requirements of the Work Health Act, to prevent the collapse of trenches. Benching of trench walls is not permitted.

Where an excavation is to remain open overnight, fix reflectorised signage and barriers to the site perimeter fencing in accordance with all relevant Acts of legislation and the relevant Australian Standards.

Provide all warning signs, lights fencing, barriers etc in accordance with all relevant Acts of legislation and the relevant Australian Standards.

Shore all trenching or excavations which are deeper than 1.5 metres and where a person is required to enter them, unless an engineer certifies that shoring is not required. Provide a copy of the engineer's Certification on request.

Where any trenching or excavation works which require shoring are being proposed, notify NT WorkSafe a minimum of 7 days prior to these works commencing. Refer to NT WorkSafe Bulletin WH 03.01.04

2.2.3 Backfill

Refer to clauses 2.2.4

2.2.4 Select Fill

Use select fill as backfill, comprised of gravel, decomposed rock or broken rock, free from organic matter and lumps of clay. Conform to the following:

GRADING

AS SIEVE(mm)	% PASSING (DRY WEIGHT)
75.00	100
9.50	30-100
2.36	15-65
0.075	5-25

2.2.5 Properties

CBR, 4 day soaked at 95% MMDD at 2.5 mm penetration: 30 minimum.

Plasticity Index: 2 - 15% maximum.

Linear Shrinkage: 2 - 6%.

Place backfill by the compacted layer method:

Place each layer not in excess of 250mm compacted thickness.

Mechanically compact all backfill to a level indicative of the existing pavement compaction.

Provide test results to confirm compaction has been achieved.

2.2.6 Stabilised Backfill

GRAVELS; stabilise the backfill where excavation has occurred in a stabilized pavement or as directed by ASTC.

Replace backfill with a similar material to that excavated, stabilised with 5% cement, by mass in pavements and backfill around all concrete culverts, pipes or conduits with clean fill sand conforming to the properties of the table – MATERIAL SIZE and stabilised with 3% cement by mass. Compact in accordance with the BASE COURSE clause.

SANDS; Clean granular material free from sticks, stones and other deleterious material with Plasticity Index less than 6, conforming to the table MATERIAL SIZE. Flow and vibrate stabilised sand back fill in situ using the same methods for vibrating concrete to improve density and to remove air voids.

Table - Material Size

AS SIEVE (mm)	PERCENTAGE PASSING BY DRY MASS
19.0	100
2.36	50-100
0.60	20-90
0.30	10-60
0.15	0-25
0.075	0-10

2.2.7 Base Course

Use base course material for the top 200mm of the unsealed pavements.

Use base course comprising of naturally occurring gravels in rural or remote locations and fine crushed

rock comprising durable particles of a tightly binding nature. Ensure that these materials are free from organic matter and other deleterious material.

Use base course materials complying with Alice Springs Town Council requirements.

Mechanically compact the base course to produce a hard, impervious, homogeneous and durable surface, level with the existing pavement level and with a consistent cross fall at adjacent pavements.

Where the pavement is stabilised, stabilise the top 200mm with cement, at a rate of 5% by mass.

2.2.8 Excavated Material

Excavated material may be used to backfill areas outside the pavement area.

Bring up the backfill in layers not exceeding 250 mm compacted thicknesses.

Remove any excess excavated material from the site and dispose of in authorised areas only. Do not dump in bushland adjacent to the road.

Pay all fees and costs associated with the disposal of excess excavated material.

2.2.8 Finished Surface Levels

Finish the surface levels to reflect the existing surface levels prior to excavation and conform to the following tolerances;

Straight Edge Deviation: maximum 5 mm in 3 metres and a finished level tolerance of -0mm to +5mm.

2.3 THRUST BORING

2.3.1 GENERAL

This section specifies the installation of piping beneath trafficked surfaces, buildings or other nominated areas by thrust or tunnel boring, without trenching, disruption to traffic or subsidence.

2.3.2 STANDARDS

Conform to the following Standard unless specified otherwise:
AS 1579 Arc Welded Steel Pipes and Fittings for Water and Waste Water.

2.3.3 PROPOSED METHOD – HOLD POINT

Hold Point – Submit details of the proposed method of thrust or tunnel boring not less than 2 days prior to commencement of construction using that method. Include details of proposed filling of cavities. No disruption or excavation of the surface is to take place over the length nominated.

2.3.3.1 Thrust or Tunnel Boring

Keep dimensions of jacking pits to the minimum necessary.

Use pipe jacking equipment inspected and approved by NT WorkSafe.

HARD COMPETENT MATERIAL: Material with sufficient strength to be self supporting without the use of a pipe casing, and must be accepted as hard competent material by ASTC.

2.3.3.2 Thrust Boring With Pipe Casing

Use pipe casing for thrust boring greater than 200mm in diameter and in material other than hard Competent material.

Use a welded mild steel pipe casing manufactured in accordance with AS 1579 and of sufficient strength to withstand the forces generated irrespective of the nature of subsurface material encountered.

Ensure the inside diameter of the casing is 50mm greater than the maximum outside diameter of the pipe Joints, skids, cradle runners or other protrusions related to pipe insertion.

2.3.3.3 Thrust Boring Without Pipe Casing

Thrust boring less than 200mm in diameter and in hard competent material.

Thrust bore the hole cleanly without projections to a diameter at least 50mm greater than the maximum outside diameter of the pipe joints, skids or other protrusions related to pipe insertion.

Use plastic skids extending the whole length of the pipe apart from joints to ensure the pipe is at least 10 mm clear of the hole perimeter. Insert the pipe so that the joints are neither stressed nor pulled apart.

2.3.3.4 Filling of Cavities

Carry out grouting of the pipe or casing cavity with pumped cementitious grout (Class N10) containing an appropriate plasticising agent. Pipe to be full of water under a pressure equal to normal expected operating pressure.

2.4 LANDSCAPE

2.4.1 STANDARDS

Conform to the following Standards unless specified otherwise:

AS/NZS 3500.1.2 National plumbing and drainage code - Water supply.

AS 4419 Soils for landscaping and garden use.

2.4.2 PROTECTION OF EXISTING VEGETATION

Ensure all trees, shrubs, and other vegetation to be retained within the limits of work are not damaged.

Protect vegetation prior to commencing construction work in the vicinity of that vegetation.

Do not place or dump any chemical type materials including oil, paint, bituminous products, fuels, and Cement / concrete near the vegetation. Prevent windblown chemical type materials, such as cement, from affecting vegetation.

Do not stockpile bulk materials - such as spoil from excavation, boulders, cleared vegetation etc. under or near vegetation. Ensure such spoil is never placed against tree trunks.

Do not remove topsoil from within the drip line (i.e. canopy area) of vegetation unless essential to the works. For any excavation within the drip lines keep open as short a period as possible, and use excavation methods that preserve the root system intact and undamaged.

Cut roots only where it is absolutely necessary. When cutting roots, use a means which does not disturb

the remaining root system.

Backfill excavation around tree roots with material of at least comparable quality to that excavated. Consolidate backfill and do not backfill around trunks above the original level. Thoroughly water backfilling.

Avoid damage to overhead limbs by machinery. Only remove the minimum amount required if limbs must be removed to allow machinery to work.

Where branches are to be removed, cut them back to the branch collar, leaving neat cuts.

2.4.3 REMOVAL OF TREES AND OTHER VEGETATION

Obtain Council approval before the removal of any tree, tree limb, shrub or other vegetation.

Replace any tree, shrub or other vegetation, that has been removed, with new vegetation of the same species to the satisfaction of ASTC.

Remove from site any tree, shrub, or other vegetation removed or destroyed as a result of the works, and dispose of at a Council rubbish dump.

2.4.4 DAMAGE TO TREES, SHRUBS AND OTHER VEGETATION

Replace any tree, shrub or other vegetation, that has been damaged as a result of the work deemed by ASTC to require replacement, with new vegetation of the same species to the satisfaction of ASTC. Replant with trees of 100 litre bag size, and of the same species as that removed. Failing availability of the same species at 100 litre bag size, ASTC will advise of an alternative species.

2.4.5 TRENCHING IN GRASSED AREAS

For backfilling of trenches in grassed areas, place topsoil for the last 100mm of backfill, compact slightly so as to minimise subsidence.

Comply with AS 4419 for topsoil and seed using a mix of:

Paspallum Notatum Argentine @ 20g/sq.m
Pensicolla @ 9g/sq.m, and
Cycodon Conductylon @ 1g/sq.m.

2.4.6 DAMAGE TO IRRIGATION SYSTEMS

Engage a Certified Irrigation Designer with competency in Landscape/Turf Commercial requirements, as recognised by the Irrigation Association of Australia, to carry out repairs to irrigation systems damaged as a result of the work.

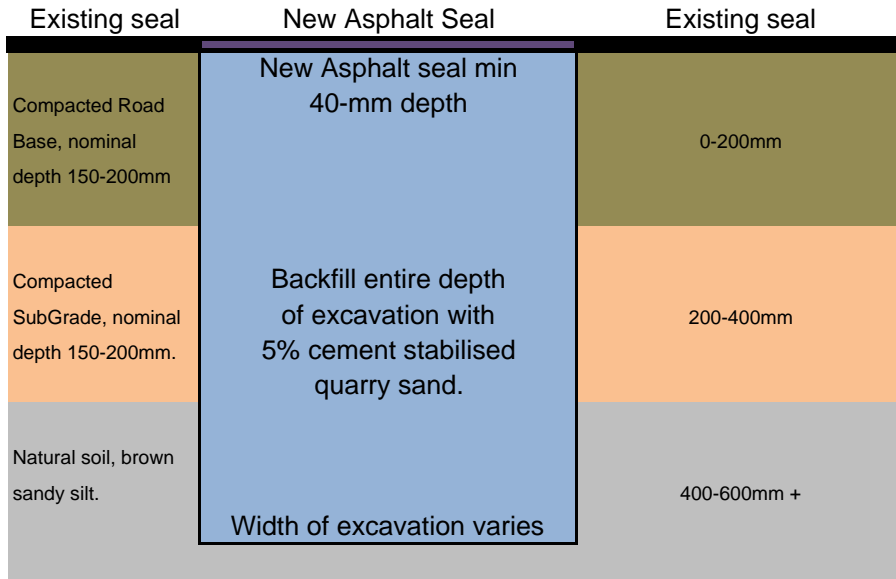
Conform to AS/NZS 3500.1 when carrying out repairs.

Flush the irrigation systems after each repair. Pressure test all repairs upstream of solenoid valves.

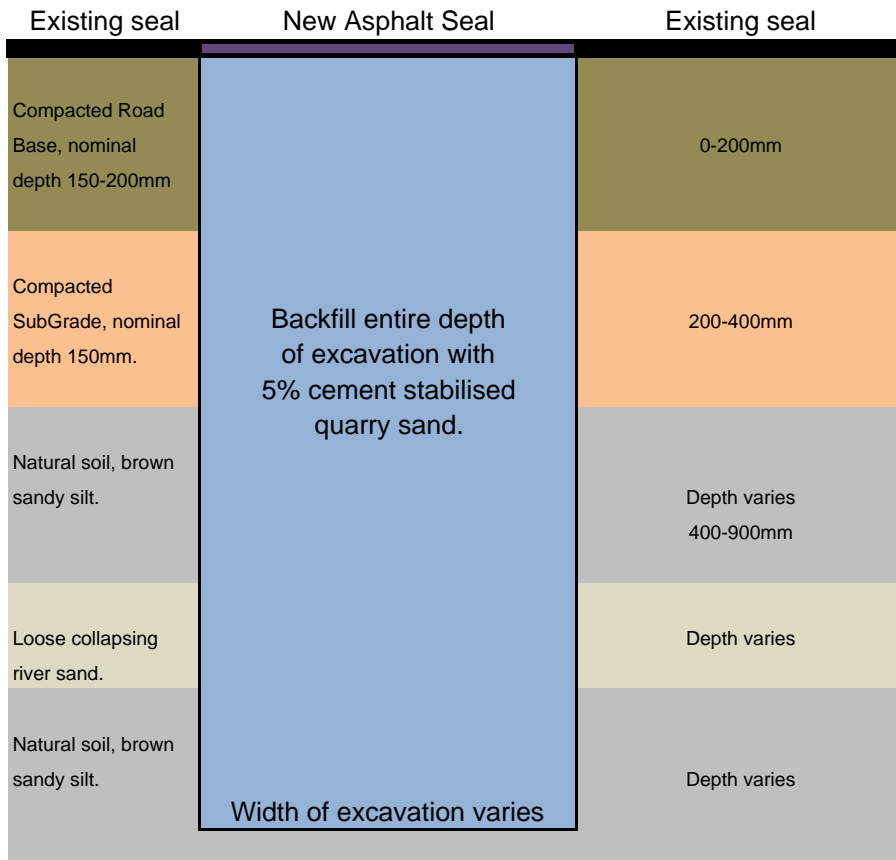
Carry out a final inspection using an approved irrigation installer and in the presence of the ASTC contact Officer prior to the placement of backfill.

After repairs to damaged wiring and conduit caused as a result of the works, test the entire electrical control system to ensure no adjacent faults, to the satisfaction of the approved Irrigation Installer and ASTC.

Backfilling of Road Openings Within the Sealed Carriageway

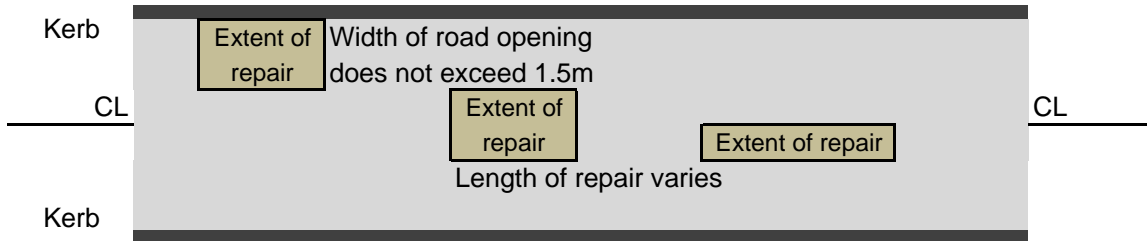


Typical Cross Section (A) shallow excavation (up to 600mm approx. depth)



Typical Cross Section (B) deeper excavation (greater than 600mm)

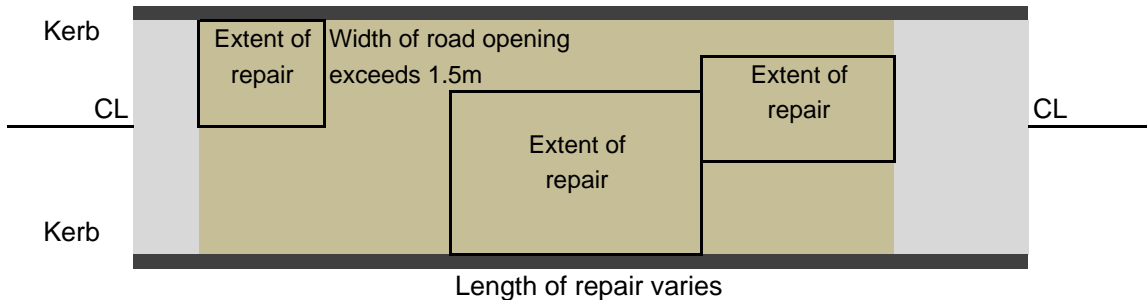
Backfilling of Road Openings Within the Sealed Carriageway



Notes:

1. Asphalt surfacing only extends to the area sawcut for the road opening, no overlap is required. Minimum depth of asphalt shall be 30mm.
2. Backfill over repair shall be 5% cement stabilised quarry sand.

Typical Plan View (C) of Multiple Road Openings not Exceeding 1.5m in Width



Notes:

1. Asphalt surfacing covers full width from kerb to kerb and full length of road openings.
2. Asphalt surfacing shall have a 1.0m longitudinal overlap onto existing sealed surface.
3. Minimum depth of asphalt shall be 30mm.
4. Backfill over repair shall be 5% cement stabilised quarry sand.

Typical Plan View (D) of Multiple Road Openings Exceeding 1.5m in Width