# WAYLEAVE PROCESS AND STANDARDS FOR THE INSTALLATION OF SERVICES IN ROAD RESERVES- CAPE AGULHAS MUNICIPALITY

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# 1 PREAMBLE

## 1.1 Introduction

1.1.1 There is currently no consistency in the standard of workmanship between the various Service Owners and Network Licensees when installing municipal and/or telecommunication services. This Document aims to provide a clear guideline to the standards that all applicants must comply with when working in the Cape Agulhas Municipality road reserves.

1.1.2 This document covers the following:

(a) General conditions of compliance (Fundamental Principals)

(b) Process Flow - The process to be followed for the application and approval for Wayleaves and Permits-to-Work.

(c) Technical Specifications - The minimum construction standards for the installation of telecommunication and services

1.1.3 This Document is intended to be a "Dynamic Document" and will be regularly updated in consultation with the relevant Stakeholders.

1.1.4 The latest available version of this Document will be applicable on the date that an application is made for wayleaves.

1.1.5 Where it appears that the requirements of this Document are different from other Cape Agulhas Municipality Standard Specifications– or complying with the specifications contained herein could result in danger to the public or construction workers or damage to existing infrastructure, then clarification shall be sought from the Operational Manager of the applicable administration.

## 1.2 Legal aspects

1.2.1 Constitution and Municipal By-Laws vs Electronic Communications Act

(a) It is part of a local authority's competencies in terms section 155 (6&7) of the constitution (Part B - Schedule 4&5) to ensure that infrastructure and services are delivered in a sustainable manner to all people. These services are defined in Schedule 4 and 5 of the constitution and place a moral and social responsibility on the local authority.

(b) In terms of section 155(4) of the constitution local authorities must provide these services in a sustainable manner. This infrastructure consists of amongst other water-, sewer-, stormwater-, electricity-, road-, and public transport networks. These infrastructure networks all makes use of the available space in the public road reserves, which requires coordination and regulation to ensure services are not compromised.

(c) The road reserves are acquired at a large cost to the Cape Agulhas Municipality and to ensure that the Cape Agulhas Municipality delivers on its constitutional requirements. Private services in a public road reserve must be coordinated within the available space restriction the road reserves and surroundings impose.

(d) The current drive for the rapid deployment of fibre networks by more than 400 license holders issued a license by ICASA, requires a coordinated effort to manage the services of all infrastructure and service providers. Each provider wants to lay claim to an exclusive space in the road reserve that suits their business model, but the available space simply cannot accommodate the large number of telecommunication providers.

(e) This reiterates the need to allocate a dedicated space to different infrastructure providers to ensure that not only telecommunication services, but also critical services like water, sewer, roads, stormwater and electricity is provided in a sustainable manner.

(f) Failing this the Cape Agulhas Municipality could find itself in a situation where it is extremely well connected, but maintenance and expansion to their own infrastructure to meet economic growth is sterilized.

(g) These requirements are made in terms of the Cape Agulhas Municipality under the common law.

(h) These requirements apply to a holder of an ECNS licence under the Electronic Communications Act 36 of 2005 in respect of the installation of an electronic communications facility in a road reserve of Cape Agulhas Municipality, unless on application the Cape Agulhas Municipality grants a deviation.

## 1.3 Abbreviations & Definitions

1.3.1 AMM – Asset Management and Maintenance

1.3.2 CAPEX – Capital Expenditure

1.3.3 CIDB - Construction Industry Development Board

1.3.4 Cape Agulhas Municipality IS&T – Cape Agulhas Municipality Information System and Technology

1.3.5 Closed Access Network is where the operator for that network (or infrastructure owner) does not allow other Service Providers to sell services over their network.

1.3.6 Contractor – A CIDB registered Contractor appointed by the Network Licensee and/ or Service Owner

1.3.7 Day – A day shall be a calendar day

1.3.8 ECSA – Engineering Council of South Africa

1.3.9 Engineer – A Civil Engineering practitioner registered with ECSA as a Pr Eng or a Pr Tech Eng, appointed by the Network Licensee and/or Service Owner

1.3.10 ECNS - Electronic Communications Network Service Licensee (here after referred to a Network Licensee) – A registered company that has obtained a licence to provide a telecommunications network under the approval of the Independent Communications Authority of South Africa (ICASA).

1.3.11 FTTH – Fibre-to-the-Home will typically involve more density of products / fibre with trenching on both sides of the road, where wall boxes, boundary boxes are installed on property boundary walls through erf connections.

1.3.12 FTTB/S – Fibre-to-the-Business and/or –Site/Tower will typically involve trenching on one side of the road, with deeper trenches, fewer manholes and no erf connections.

1.3.13 ICASA – Independent Communications Authority of South Africa

1.3.14 Network Licensee – A registered company that has obtained a licence to provide a telecommunications network under the approval of the Independent Communications Authority of South Africa (ICASA)

1.3.15 OPEX – Operational Expenditure

1.3.16 Open Access Network refers to a network where the operator of that network (or the infrastructure owner), offers the network infrastructure to a range of service providers on an OPEN ACCESS basis. These Service Providers can then provide various services (internet, data and voice) over the fibre infrastructure to the end user.

1.3.17 Permit-to-Work – A permit-to-work follows after a wayleave approval has been granted and specifies the work to be done with time frames; where risk and strict controls have already been identified and approved. It forms an essential part of asset management and no work may commence without this signed document.

1.3.18 Primary network – Main (bulk) telecommunications network linking up different areas/regions. Normally follows major road routes and individual property connections are not common.

1.3.19 Secondary network – Telecommunications network distributing through individual areas or zones. Normally follow larger ring/block roads and individual property connections are not common.

1.3.20 Service Owner – The Service Owner is accountable for the specific service provided, which includes both the infrastructure and/or network service.

1.3.21 Tertiary network – Telecommunications network providing connection to individual properties. Normally follow smaller roads to provide individual property connections. Commonly referred to as "Fibre-to-Home, Last Mile, etc." and generally consists of smaller diameter cables and ducts.

1.3.22 Wayleave – A wayleave is the right obtained to cross land, where access to property is granted by the land owner / asset holder. The local Council is responsible to administrate public owned land and need to give permission to all parties before they may install utility services or infrastructure, even if supplied by Council. This enables the responsible use of public assets, by coordinating service installation, minimizing service clashes or collateral damage due to new installations or construction activities.

# 2 GENERAL CONDITIONS OF COMPLIANCE (Fundamental Principals)

## 2.1 Appointment of ECSA Registered Engineer

2.1.1 TELECOMS AND OTHER EXTERNAL APPLICATIONS: The Network Licensee / Service Owner shall appoint an ECSA registered Civil Engineer to oversee the installation of the network (see **Appendix B: Appointment of ECSA registered Engineer**). The appointed Engineer must have sufficient competency in Road Building and Materials to advise regarding the requirements for the trench backfill, layer works and surfacing.

2.1.2 INTERNAL APPLICATIONS: An ECSA registered Civil Engineer shall be appointed to oversee the installation of any works inside the road reserve, forming part of a Contract and/or planned works (CAPEX or OPEX).

## 2.2 Appointment of CIDB Registered Contractors

2.2.1 TELECOMS AND OTHER EXTERNAL APPLICATIONS: All installations and reinstatements done for or on behalf of a Network Licensee and/or Service Owner, involving the excavation and backfill of trenches in a Cape Agulhas Municipal road reserve, shall be undertaken by a CIDB registered contractor with a minimum 3CE designation and with a grading appropriate to the value of the contract. See **Appendix C: Appointment of CIDB registered Contractor.**

2.2.2 Proof of CIDB Registration must be submitted at the Start-up Meeting, as per Appendix E: Documents to be submitted at the Start-Up Meeting.

## 2.3 Wayleave and Permit-to-work approval and validity

2.3.1 No work in a Cape Agulhas Municipal road reserve may commence unless:

(a) Application has been made for wayleaves in accordance with this document and.

(b) Master Agreement has been concluded and a Permit-to-Work have been received and collected by the Service Owner or appointed Engineer and where the Service Owner has accepted all conditions set forth.

2.3.2 Should a wayleave be rejected for any valid reason or lapse in validity, work may not commence, and a new application shall be submitted for wayleave approval.

2.3.3 Validity time frames for wayleaves: 12 Months from date of approval

2.3.4 Validity time frames for permits-to-work: 6 Months

2.3.5 Should the project / proposed works exceed the time frames listed in point 2.3.3 and 2.3.4, the Service Owner or appointed Engineer may request an extension of time from the Department Operational services.

## 2.4 Trenching vs. Directional Drilling

2.4.1 No open trenching or micro trenching will be allowed in the roadway without the written permission of the Department Operational services and all road crossings shall be done by directional drilling. Thrust boring will not be allowed. Where conditions do not allow and only with the written permission of the Department Operational services will open trenches be allowed.

2.4.2 Any damage done to Cape Agulhas Municipality infrastructure shall be made good by the Service Owner and/or Network Licensee to the satisfaction of the relevant affected Directorate within the Cape Agulhas Municipality , as well as TDA: AMM.

## 2.5 "One Trench" or Co-building Methodology for TELECOMS

2.5.1 All Network Licensees and/or Service Owners will have to make use of the same space allocation ("One Trench") for telecommunication services in the road reserve. The maximum permissible space allocation per route for all networks will be 1.0m wide and no telecommunication infrastructure may transgress the maximum permissible space allocation. Once the first licensee has installed services, further licensees must install their services so that a width of no more than 1.0m is occupied by **all** telecommunication services.

Should the first meter not be available for telecommunication services, then the next meter shall be investigated. The Network Licensee or appointed Engineer shall determine a viable position for the services, as close to the road reserve boundary as possible and **no trenching within 1.0m of the road kerb will be allowed, unless if approved in advance by** the Infrastructure Department.

2.5.2 All Network Licensees applying for wayleaves for a specific route must contact all other **active** Network Licensees and/or Service Owners to afford them the opportunity to share trenches or co-build along the route (see **Appendix D: List of internal Departments within the Cape Agulhas Municipality and active Network Licensees**). Documentary proof that all service providers have been contacted must be submitted together with the wayleave application. If no response from a Network Licensee is received within 7 days, evidence that the opportunity to share the trench/co-build has been delivered to the Network Licensee's nominated contact person will suffice to confirm that:

(a) The Network Licensee has been notified of the pending work and have been given the opportunity to indicate any cables that they might have in the area to the current applicant.

(b) The Network Licensee has been given the opportunity to share trenches/co-build.

2.5.3 Should a Network Licensee elect to share a trench with the first applicant, the service providers must reach a mutual agreement upfront on the cost apportionment.

## 2.6 Trench positions and Ducts for TELECOMS

2.6.1 Further to the "One Trench" and 1m dedicated space for Telecoms, the primary and secondary networks must generally be installed on one side of the road. The tertiary networks may be allowed on both sides of the road to minimize road crossings. Irrespective of the network category, no network may be installed outside the space allocated for networks.

2.6.2 No service will be allowed longitudinally in the roadway. Services may only be installed in the verges and only if there is sufficient space. Where no sufficient space along a route exists, alternative routes must be determined.

2.6.3 Where existing ducts have been installed for Cape Agulhas Municipality and are available under roads, they shall be used for road crossings after obtaining permission from the Cape Agulhas Municipality: the Infrastructure Department.

2.6.4 Positioning of telecommunication infrastructure may not compromise future expansion of the Cape Agulhas Municipality's infrastructure or available space in the road reserve. Where the Service Owner has deviated from the approved position within the road reserve and expansion of existing infrastructure is required, the Service Owner shall relocate such services at their own cost.

## 2.7 Tariffs, Financial Exclusions, Guarantees and Term Tenders

2.7.1 TELECOMS AND OTHER EXTERNAL APPLICATIONS:

(a) Although the Cape Agulhas Municipality does not at this stage have an approved tariff for refundable deposits and administrative fees, we are currently in the process of considering the aforementioned as tariffs which will be subject to council approval in the next budget cycle.

(b) Some Service Owners have annual bank guarantees in place in lieu of frequent monetary transactions. These *bank guarantees are in lieu of the Refundable Deposits* called for on each approved wayleave application. Should the Service Owner not have a bank guarantee in place, payment must be made upfront, prior to wayleave approval being granted.

(c) Service Owners are required to make use of the Cape Agulhas Municipality's approved pro-forma bank guarantee, which can be obtained from the Infrastructure Department.

(d) Guarantee applicable % of cost of project (10%) applicable time to be confirmed

(e) The applicant must open a municipal account with the Cape Agulhas Municipality

## 2.8 Defects Liability Period

2.8.1 The Service Owner shall be responsible for all defects resulting from the works for a period of one year after the final completion certificate has been signed off and submitted to the Infrastructure Department.

## 2.9 Indemnification

2.9.1 All Service Owners must indemnify the Cape Agulhas Municipality against any third-party liability claims resulting from their works or presence of infrastructure in a public road reserve.

## 2.10 Remedial works.

Where failure of pavements or any other defects occur resulting from the installation and operations of the telecommunications infrastructure after defects liability periods the service provider must do

remedial works immediately after be notified by the municipality. The service provider will be held liable for any claims as a result of the failure.

## 2.11 Relocation of services.

Where services were not installed in accordance with approved plans relocation of the services to correct positions must be done by the service provider for their cost. Where telecommunication services are installed outside the 1.0m space directly next to the road reserve boundary any relocation required to install/construct municipal services must be done by the service provider within a reasonable time for their account on written request by the municipality.

The applicant will be liable for any cost for the relocation of services if requested by the applicant and approved by Cape Agulhas Municipality.

# 3 PROCESS FLOWS

## 3.1 Service Enquiry (Preliminary Planning Phase)

3.1.1 During the Service Enquiry Phase the Service Owner or Engineer needs to obtain as-built information from the relevant Directorates and external parties, in an effort to determine a viable route for the newly proposed infrastructure.

(a) During this Phase, no formal application is made and no fees are charged, except when the applicant needs to introduce trial holes or other invasive investigations.

(b) Any trial hole inside the verge of the road can be approved via the Miscellaneous Permit application. See **Error! Reference source not found.**

(c) Any trial hole inside the black top area of the road reserve must be approved through a wayleave application. See **Appendix A: Documents to be submitted with application for wayleaves**

3.1.2 Flow Diagram 1: Service Enquiry (Preliminary Planning Phase) provides guidance for the determination of a route.

## 3.2 Wayleave Application and Approval

3.2.1 The Wayleave Approval process includes the official submission of the wayleave application and at this stage the proposed route should have been determined. The wayleave application must be submitted by either the Service Owner or his appointed Engineer.

3.2.2 Flow Diagram 2: Wayleave Application and Approval provides guidance on the application process, submission requirements and technical assessment up to wayleave approval.

3.2.3 The final approved wayleave must be collected by the Service Owner or delegated Engineer and signed by the representative as proof of collection

## 3.3 Permit-to-Work, Project Execution and Closure

3.3.1 The Service Owner or appointed Engineer must collect the Permit-to-work prior to commencement of works. The permit will only be issued once the approved wayleaves have been received and all fees/deposits have been paid in full.

3.3.2 Flow Diagram 3: Permit-to-Work, Project Execution and Closure provide guidance how to proceed from collection of the Permit-to-work up to Close of Project.

3.3.3 During this Phase additional costs can be incurred by the applicant in terms of unplanned open trenching or penalties. These charges can be determined in advance if known, or otherwise will be calculated by a Representative of the Cape Agulhas Municipality, the Infrastructure Department during the completion inspection.

# 4 TECHNICAL SPECIFICATIONS

## 4.1 Manholes and structures for TELECOMS

4.1.1 Only brick built manholes (preferred in areas of heavy traffic) or prefabricated GRP manholes will be allowed.

4.1.2 Brick manholes shall have walls constructed from NFX bricks using stretcher or Flemish bond and shall be 220/230mm thick.

4.1.3 All manhole covers and frames must comply with the SANS 1200 specification and shall have a minimum load bearing capacity of 400kN.

4.1.4 Manhole sizes on primary networks may not exceed 900mm external dimension;

4.1.5 Manhole sizes on secondary networks may not exceed 600mm external dimension;

4.1.6 Boundary chamber sizes on tertiary networks may not exceed 300mm external dimension;

4.1.7 All manholes and structures must be accommodated in the space allocated for the trench (1.0m) No manholes on intersections setback minimum 10m

4.1.8 No above ground structures that could interfere with sight distance will be allowed on splays or within 25m of a splay;

4.1.9 No above ground structures will be allowed in pedestrian access ways or at pedestrian crossings;

4.1.10 No above or underground structures will be allowed at intersections and universal access positions to ensure unimpeded travel for handicapped persons. This will generally imply that manhole positions must be a minimum of 10.0 m from intersections and access points and positions of manholes must allow sufficient space for handicapped persons and wheelchairs to utilize the sidewalks;

4.1.11 The minimum permissible spacing for manholes shall be 45.0m c/c after all Network Licensees have installed their infrastructure and a maximum of 2 manholes at any given position will be allowed. Therefore, the design must consider existing and future Network Licensee's;

4.1.12 All manhole/boundary chamber covers must bear the name of the company in embossed letters to clearly define the different service provider's infrastructure.

## 4.2 Manholes and structures for NON-TELECOMS Service Providers

4.2.1 All manholes and structures must comply to the minimum requirements as set out in the Cape Agulhas Municipality's **Minimum Standards Engineering Services**

## 4.3 Boundary Boxes for TELECOMS

4.3.1 Boundary boxes must be robust and durable and may not exceed 300mm in dimension;

4.3.2 The new boundary box must be placed next to the existing Telkom AJB (Manhole);

4.3.3 Only one boundary box per 2 erven will be allowed for house connections. Where a second network provider services the same property a maximum of 2 boundary boxes per position will be allowed;

4.3.4 Boundary boxes for house connections may be placed in the road reserve verge but shall not be further than 200mm from the erf boundary. Boundary boxes may be mounted on walls with the permission of the property owner.

## 4.4 Typical trenching and backfill requirements for TELECOMS

4.4.1 Trenching may only be done in roads where approval has been received from the Infrastructure Department. Trenching may not be done in concrete roads.

4.4.2 The design depth of excavation of the trenches shall be at least the depth given on the drawing in **Appendix H: Trenches in Roads and Sidewalks**. Only where it is not possible to comply with this requirement due to the presence of other services will a modification of the depth requirement be made. The appointed Engineer shall advise the revised depth of the ducts after consultation with the Infrastructure Department.

4.4.3 All excavation shall be done strictly in accordance with the requirements of the wayleaves and the Permit-to-Work and shall typically be done by hand. Excavation using mechanical means will only be allowed where confirmation in writing from all service owners has been obtained.

4.4.4 Material from the trenches shall be excavated in layers and the different material types (where suitable) shall be set aside for backfilling of the trench. The material shall be backfilled in the same depth ranges from which it was excavated. Alternatively, suitable imported material may be used. Clay may not be used as backfill material.

4.4.5 No excavated materials may be stored in the road reserve for longer than 7 days and may not impede traffic or pedestrian flow in any way.

4.4.6 All surplus material shall be removed from site and disposed of at approved locations.

4.4.7 The density and material quality of all layers shall be tested by a SANAS approved Civil Engineering Testing Laboratory in accordance with SANS 3001 or TRH1 where there are no SANS 3001 standards. The DCP test results for each layer shall be better than those given in the table below:

| Density according to DCP and RCCD tests | | | | |
|---|---|---|---|---|
| Backfill Layer | Below surfaced road (every 5m) | | Below paving on sidewalks (every 20m) | |
| | DCP mm/blow | RCCD mm/3 blows | DCP mm/blow | RCCD mm/blows |
| 50mm – 200mm | < 5 | < 18 | < 10 | < 40 |

| | | | | |
|---|---|---|---|---|
| 200mm – 350mm | < 10 | < 45 | < 20 | < 80 |
| 350mm – 500mm | < 15 | < 75 | < 30 | < 100 |
| 500mm > | < 30 | | < 30 | |

4.4.8 Should Water Bound Macadam or Penetration Macadam be encountered, the road shall be made good with the same type of layers and the same layer thicknesses.

4.4.9 Bedding sand and a sand blanket for the cables/ducts shall be used in accordance with the typical cross sections.

4.4.10 All backfill material shall be compacted at Optimum Moisture Content (OMC)

4.4.11 Water from the Cape Agulhas Municipality may be used to achieve OMC provided that a metered standpipe is obtained from Cape Agulhas Municipality.

4.4.12 All disturbed surfaces within the roadway must be reinstated immediately and the final base layer must be covered with a minimum of 50 mm compacted thickness BTB layer until final surfacing is replaced, this to accommodate traffic.

4.4.13 All disturbed surfaces within the verge of the road reserve must be made safe the same day.

## 4.5 Typical trenching and backfill for Non-Telecom Services

4.5.1 Trenching may only be done in roads where approval has been received from the Infrastructure Department. Trenching may not be done in concrete roads.

4.5.2 The design depth of any trench shall be to the requirements as set out in the SANS Standards for Roadworks only where it is not possible to comply with this requirement due to the presence of other services will a modification of the depth requirement be made. The appointed Engineer shall advise the revised depth of the ducts after consultation with the Infrastructure Department.

4.5.3 Material from the trenches shall be excavated in layers and the different material types (where suitable) shall be set aside for backfilling of the trench. The material shall be backfilled in the same depth ranges from which it was excavated. Alternatively suitable imported material may be used. Clay may not be used as backfill material.

4.5.4 No excavated materials may be stored in the road reserve for longer than 7 days and may not impede traffic or pedestrian flow in any way.

4.5.5 All surplus material shall be removed from site and disposed of at approved locations.

4.5.6 The depth and quality of the layer works which are replaced shall be determined by the Engineer The layer works shall be compacted in layers of thickness equal to the existing layers, but not more than 150mm per lift, unless the remainder of a lift is less than 75mm.

4.5.7 The density and material quality of all layers shall be tested by a SANAS approved Civil Engineering Testing Laboratory in accordance with SANS 3001 or TRH1 where there are no SANS 3001 standards. The DCP test results for each layer shall be better than those given in the table provided in **Item 4.4.**

4.5.8 Should Water Bound Macadam or Penetration Macadam be encountered, the road shall be made good with the same type of layers and the same layer thicknesses.

4.5.9 Bedding sand and a sand blanket for the cables/ducts shall be used in accordance with the typical cross sections.

4.5.10 All backfill material shall be compacted at Optimum Moisture Content (OMC)

4.5.11 Water from the Cape Agulhas Municipality may be used to achieve OMC provided that a metered standpipe is obtained from the Cape Agulhas Municipality.

4.5.12 All disturbed surfaces within the roadway must be reinstated immediately and the final base layer must be covered with a minimum of 50 mm compacted thickness BTB layer until final surfacing is replaced, this to accommodate traffic.

4.5.13 All disturbed surfaces within the verge of the road reserve must be made safe the same day.

## 4.6 Micro-trenching

4.6.1 Micro-trenching will not be allowed in roads. Micro trenching will only be allowed if approved by the delegated Operational Manager.

4.6.2 All micro trenching allowed in sidewalks/verges will share the same 1.0m space allocated to telecommunication services irrespective of methodology followed.

4.6.3 Micro trenching may only be done with a recognised mechanical machine capable of cutting a clean trench to varied depth and width.

4.6.4 No micro trenching will be allowed directly behind the road kerb and no trench will be allowed closer than 300mm behind the kerb.

4.6.5 The minimum permissible cover to any cable/duct installed by micro trenching must be 350mm.

4.6.6 The permissible width for the micro trench shall be 50mm and where an asphalt surface is disturbed the surfacing cut shall be increased to 150mm to replace the surfacing layer.

4.6.7 Where micro-trenching is allowed by the Infrastructure Department, the Network Licensee or the appointed Engineer shall submit a specific design and specification for the micro-trenching to be evaluated and approved.

4.6.8 The relevant planning and design process prescribed must still be followed and all surfaces shall be scanned using Ground Penetrating Radar to determine the existing underground services. Where risk of damaging such services exists open trench methodology must be used.

## 4.7 Reinstatement of asphalt surfaced areas

4.7.1 After reinstatement of layer works the surface layer shall be neatly cut to produce a straight line. The final cut lines must ensure that straight and parallel lines are achieved giving a square block finish. Asphalt surfaces on roads must preferably be cut with jack hammers or other devices to produce a bond edge. Asphalt surfaces on sidewalks must be saw-cut producing straight lines.

4.7.2 Where the width of the sidewalk is less than 1.5 m, the entire width of the surfacing shall be replaced.

4.7.3 Where the width of the sidewalk exceeds 1.5 m, the minimum reinstatement width shall be 1.5 m, provided that there is only one scar and the un-reinstated strip left over is more than 500 mm.

4.7.4 Where any strip of asphalt less than 500mm wide remains, it shall be replaced simultaneously with the trench asphalt.

4.7.5 No collapsing or sagging as a result of the works will be accepted. Any settlement at the end of the 1 year defects liability period shall be made good to Cape Agulhas Municipality Standards.

4.7.6 Final reinstatement of any works must be completed within 10 days after trench backfill. Backfilled and compacted same day – final reinstatement must be completed 10 days All excavations must be backfilled and compacted to prescribed standards on the same day. Final reinstatement of the surfacing layer must be completed within 10 days after trench backfill. All non- surfaced areas to be maintained until final surfacing takes place

## 4.8 Reinstatement of concrete surfaced areas

4.8.1 After reinstatement of layer works the existing concrete edges shall be neatly cut to produce a straight line. The final cut lines must ensure that straight and parallel lines are achieved giving a square block finish.

4.8.2 Final reinstatement of any works must be completed within 10 days after trench backfill.

## 4.9 Reinstatement of brick paved areas

4.9.1 Where trenches are excavated through brick paved areas, the bricks shall be carefully removed and stacked and shall not be cut.

4.9.2 When reinstating the brick surface, bricks and cuttings shall be carefully replaced to match the existing pattern. Jointing sand (no cement) in accordance with the SANS 1200 MS specification shall be swept into the joints for the full depth of the bricks prior to undertaking the final compaction of the brick surface using a vibratory plate compactor and a pneumatic roller in areas with heavy vehicular traffic.

4.9.3 The paving pattern of the reinstated brick surface must be visually equal to or better than the existing brick paving.

4.9.4 After compaction, the replaced bricks shall tie into the existing bricks within a tolerance of 3mm.

4.9.5 The jointing sand shall be topped-up after 3 months.

4.9.6 No collapsing or sagging as a result of the works will be accepted. Any settlement at the end of the 1 year defects liability period shall be made good by removing the bricks, re-compacting the fill and base layers and replacing the brick surface.

4.9.7 Final reinstatement of any works must be completed within 10 days after trench backfill.

## 4.10 Reinstatement of driveways

4.10.1 After reinstatement of layer works the surface layer shall be neatly cut to produce a straight line. The final cut lines must ensure that straight and parallel lines are achieved giving a square block finish. The same surface finish must be implemented in the reinstatement in order to tie into the existing appearance and functionality. (This includes standard materials used and approved by the Cape Agulhas Municipality, which comprises of Asphalt, Paving and Concrete)

4.10.2 Where any strip of existing surface treatment, between the road edge/kerb line and trench is less than 300mm wide, it shall be replaced simultaneously with the trench reinstatement.

4.10.3 No collapsing or sagging as a result of the works will be accepted. Any settlement at the end of the 1-year defects liability period shall be made good to Cape Agulhas Municipality Standards.

4.10.4 Final reinstatement of any works must be completed within 10 days after trench backfill.

## 4.11 Reinstatement of non-surfaced/grassed vegetation covered areas

4.11.1 Trench widths and depths shall be the same as for surfaced areas.

4.11.2 Bedding sand and bedding blanket shall be the same as for trenches in surfaced areas.

4.11.3 The excavated material which is used for backfill must be compacted to match the density of the neighbouring undisturbed areas but with a minimum of 93% of MDD up to 100mm from the top of the trench.

Reinstate surface (final 100mm) as per existing surface. Once the backfill is compacted, carefully replace the grass / vegetation ensuring no depressions in the surface along the trench route. Grass should be firm and compacted into place using a heavy roller.

4.11.4 Final reinstatement of any works must be completed within 10 days after trench backfill.

## 4.12 Reinstatement of unsuccessful drill operations

4.12.1 In the event that directional drilling is unsuccessful, the drill tunnel must be filled / pumped with concrete.

## 4.13 Traffic/pedestrian accommodation

4.13.1 When construction takes place, traffic shall always be accommodated in accordance with Chapter 13 of the South African Road Traffic Signs Manual (SARTSM).

4.13.2 In the event of a temporary road or lane closure and/or where trenching is proposed within the road way, a traffic accommodation plan in accordance with SARTSM shall be drawn up by the Network Licensee's contractor (including a drawing) and shall be submitted to the Network Licensee's Engineer for comment and to the Traffic Authority for comment/approval.

4.13.3 The Traffic Authority shall be given 2 weeks to inspect and comment on/approve the traffic accommodation plan prior to the start-up meeting. The traffic accommodation plan shall minimize disruption to traffic and the Engineer shall reject a traffic plan which causes unnecessary or undue disruption of traffic and pedestrians.

4.13.4 The **approved** (by the Traffic Authority) traffic accommodation plan shall be submitted by the Network Licensee's Engineer at the start-up meeting for final approval/acceptance by the TDA.

4.13.5 The Traffic Authority shall be invited to the start-up meeting and shall be advised of the construction start date.

4.13.6 No work may commence until the traffic accommodation plan has been approved and traffic is accommodated in accordance with the plan.

4.13.7 Safe pedestrian movement shall be accommodated at all times and works shall be clearly delineated at all times. Where pedestrians are required to use opposite sidewalks the deviation of pedestrian must be clearly signed and delineated to ensure the safety of pedestrians.

4.13.8 Vehicular- and pedestrian access to affected properties must be ensured at all times or as agreed to by the permit holder and the affected owner or lessee.

4.13.9 Information signage must be erected during the construction period, indicating the name of the Service Owner (name of company) and contact details of the appointed Engineer and Contractor.

## 4.14 Health & Safety, Environmental

4.14.1 The Service Owner must ensure that all legislative and contractual requirements in terms of Occupational Health and Safety and Environmental Authorization are adhered to for the full duration of the project.

4.14.2 If any environmental process are triggered, it will remain the responsibility of the applicant to follow due process in obtaing the relevant consent of the deligated authority

## 4.15 As-Built Information

4.15.1 TELECOMS APPLICATIONS: Detailed as-built documentation in accordance with Appendix F: Final Inspection Checklist for Telecoms shall be submitted by the appointed Engineer prior to the completion certificate being issued. Where required submission of new applications must accompany as built drawings of the complete network installed by the particular network provider to evaluate the route and space allocation for the new route applied for. All information to be provided in electronic format i.e. shape file / geo-database as accepted by the GIS department of Cape Agulhas Municipality.

4.15.2 INTERNAL AND EXTERNAL CIVIL APPLICATIONS: As-built drawings must be submitted after completion of works and must be certified by a professional Engineer. All requirements, as set out in the **"Minimum Standards for Civil Engineering Services in Townships"** – latest version, must be submitted.

## 4.16 General

4.16.1 Any silting of roads or drainage infrastructure resulting from the works has to be cleaned to the satisfaction of the Infrastructure Department.

4.16.2 Only rubber tyre excavators will be allowed for trenching in the roadway, not tracked machinery.

4.16.3 The minimum vertical or horizontal clearance between existing and new services shall be not less than 1000mm.

# 5 APPENDIXES

## 5.1 Appendix A: Documents to be submitted with application for wayleaves

| Document | Information/format required | Attached | | |
|---|---|---|---|---|
| | | Yes | No | N/A |
| Application letter | On applicant's letterhead and signed by an authorized person<br>Indicate:<br>• Contact details (address/tel/cell/e-mail)<br>• Project details and scope | | | |
| Approved layout plan / Engineering Plans<br>(1 X Electronic copy ) | Proposed services to scale and dimensioned from either erf boundary or kerb line (1:500) | | | |
| | Details of proposed services. Type, size and levels*<br>*IL and CL for civil services | | | |
| | Existing and proposed structures indicated to scale and dimensioned | | | |
| | Existing fibre of all service providers along full route (for Telecoms applications) – refer to **Appendix D: List of internal Departments within the** | | | |

| | | | | |
|---|---|---|---|---|
| | **Cape Agulhas Municipality and active Network Licensees** | | | |
| For services installation associated with a Development | Final notification letter of approval (for LUPA and environmental approval if triggered. applications) | | | |
| Civil Engineer appointment | As per **Appendix B: Appointment of ECSA registered Engineer or Engineering Technologist** | | | |
| Confirmation that all Network Licensees have been contacted regarding the proposed installation and possible trench share | As per **Appendix D: List of internal Departments within the Cape Agulhas Municipality and active Network Licensees** | | | |

## 5.2 Appendix B: Appointment of ECSA registered Engineer

Note: This appointment must be submitted on the applicant's letterhead

**Applicant (Network Licensee/Service Owner):**

| | |
|---|---|
| Contact Person: | |
| Contact number & e-mail address: | |

**Registered (ECSA) civil engineer or engineering technologist:**

| | |
|---|---|
| Engineering Firm: | |
| Appointed Engineer: | |
| Registration Number & Category: | |
| Contact number & e-mail address | |

**Project description:**

| | |
|---|---|
| Suburb: | |
| Works Description: | |
| Your application reference: | |
| The Cape Agulhas Municipality 's application reference: | |

**Acceptance:**

I hereby undertake and accept responsibility for the inspection and sign off of all works under this appointment, as detailed above. I undertake to do the following:

1. Ensure that all specifications and requirements are met, as set out by the relevant approval, from start-up meeting to final completion;
2. Inform the Cape Agulhas Municipality should the work not be implemented in accordance with the above;
3. Inform the Cape Agulhas Municipality should my services be terminated;
4. Submit the "As-built" documentation in accordance with **Appendix F: Final Inspection Checklist for Telecoms**

**Signed:**

Engineer:

| | | |
|---|---|---|
| | | |
| Name | Signature | Date |

Applicant:

| | | |
|---|---|---|
| | | |
| Name | Signature | Date |

## 5.3 Appendix C: Appointment of CIDB registered Contractor

Note: This appointment must be submitted on the applicant's letterhead

**Applicant (Network Licensee/Service Owner):**

| | |
|---|---|
| Contact Person: | |
| Contact number & e-mail address: | |

**Registered CIBD Contractor:**

| | |
|---|---|
| Contractor's Firm: | |
| Appointed Contractor: | |
| Registration Number and Category: | |
| Contact number & e-mail address: | |

**Project description:**

| | |
|---|---|
| Suburb: | |
| Works Description: | |
| Your application reference: | |
| The Cape Agulhas Municipality 's application reference: | |

**Acceptance:**

I hereby undertake and accept responsibility for the installation of services to specification, as determined by the Cape Agulhas Municipality and to the instruction of the appointed Consultant.

**Signed:**

Contractor:

| | | |
|---|---|---|
| | | |
| Name | Signature | Date |

Applicant:

| | | |
|---|---|---|
| | | |
| Name | Signature | Date |

## 5.4 Appendix D: List of internal Departments within the Cape Agulhas Municipality and active Network Licensees

| Name | Contact Person | Contact Number | Response Received |
|---|---|---|---|
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| **OTHER:** | | | |
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## 5.5 Appendix E: Documents to be submitted at the Start-Up Meeting

| Document | Information/format required | Provided | | |
|---|---|---|---|---|
| | | Yes | No | N/A |
| Appointment of ESCA registered Engineer | **Appendix B: Appointment of ECSA registered Engineer** | | | |
| Appointment of CIDB registered Contractor | **Appendix C: Appointment of CIDB registered Contractor** | | | |
| Approved and signed wayleave | As provided by the Cape Agulhas Municipality | | | |
| Completed Permit-to-Work | As provided by the Cape Agulhas Municipality | | | |
| Indemnification of Cape Agulhas Municipality | Hard copy | | | |
| Traffic accommodation plan | Drawings in accordance with chapter 13 of the South African Road Traffic Signs Manual, **approved by the traffic authority.** | | | |
| Works Programme | Hard copy | | | |

**Note: Construction may not commence until all of the above documents have been submitted in a form acceptable to Cape Agulhas Municipality.**

## 5.6 Appendix F: Final Inspection Checklist for Telecoms

The following information shall be submitted in electronic format on a CD/DVD/USB stick, with hard copies where required:

| Description | Information required | Format |
|---|---|---|
| Engineer's Final Completion Certificate | • As per **Appendix G: Engineer's Final Completion Certificate** | • Hard copy, plus<br>• Electronic copy in PDF format |
| As-built plans | • Latest updated route of services installed<br>• Position of and size of micro ducts, mini ducts and 110mm ducts (accurate position in accordance with the as-built survey)<br>• Position type and size of spare ducts (cross section)<br>• Position of manholes<br>• Final depths of drilled sections<br>• Survey grid on drawings<br>• Existing cadastral information | • Information in shape file as accepted by GIS department of the Cape Agulhas on USB/Flash drive<br>• Drawings referenced in WGS84/ LO19 coordinate system |
| Test results | • According to Test requirements set out in this document | • Information on CD/DVD/USB<br>• PDF format |

## 5.7 Appendix G: Engineer's Final Completion Certificate

| | |
|---|---|
| Network Licensee: | |
| CIDB Contractor: | |
| Wayleave Ref No. | |
| Contract Description: | |

The Engineer hereby certifies that as of (date)....., the abovementioned works have:

- Been completed and all defects have been corrected to the satisfaction of the Cape Agulhas Municipality and
- All as-built drawings and other required documents in terms of the conditions of approval, has been submitted.
-

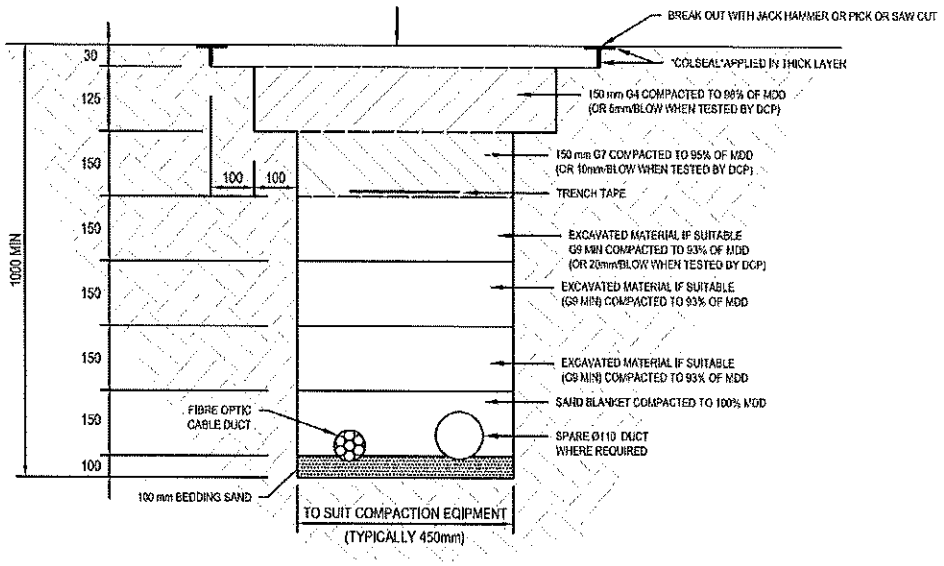
**Signed:**

Engineer:

| | | |
|---|---|---|
| Name | Signature | Date |

Cape Agulhas Municipality: The Infrastructure Department

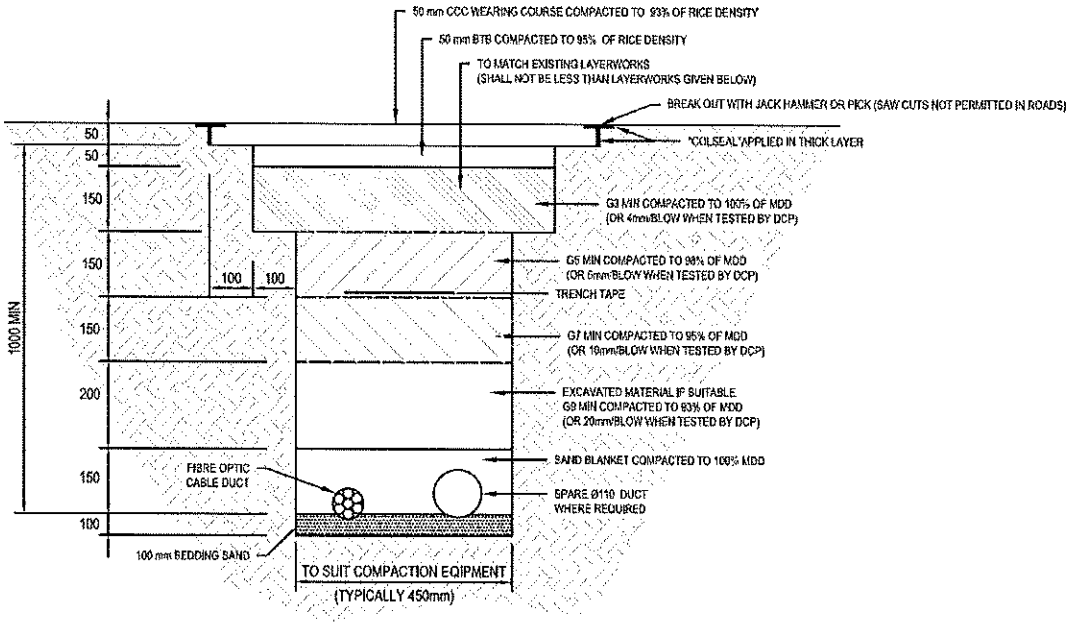
| | | |
|---|---|---|
| Name | Signature | Date |




## TRENCHES IN SIDEWALKS

Notes:

1. Where the width of the sidewalk is less than 2m, the entire width of the surfacing shall be replaced
2. Where any strip of asphalt is less than 500mm wide, it shall be replaced simultaneously with the trench asphalt




## TRENCHES IN ROADS

Notes:

1. The layerworks shown above are the minimum requirement
2. Where the existing pavement is thicker than indicated on the cross section, the engineer shall submit the proposed layerworks to the Regional Manager for approval

## 5.8 Appendix H: Trenches in Roads and Sidewalks

# 6 FLOW DIAGRAMS

6.1 Flow Diagram 1: Service Enquiry (Preliminary Planning Phase)

6.2 Flow Diagram 2: Wayleave Application and Approval

6.3 Flow Diagram 3: Permit-to-Work, Project Execution and Closure