

# DEPLOYMENT OF A FIBRE NETWORK WITHIN THE SOL PLAATJE MUNICIPAL AREA

## SECTION 38: HERITAGE IMPACT ASSESSMENT

## SECTION 34: PROPOSED ALTERATIONS TO STRUCTURES OLDER THAN 60 YEARS (SIDEWALKS)



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For Frogfoot Networks Pty (Ltd)

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## EXECUTIVE SUMMARY

This report is the Heritage Impact Assessment (HIA) in terms of Section 38 of the National Heritage Resources Act of 1999 (NHRA) for the deployment of a fibre network system within certain areas within the Sol Plaatje Municipal Area by Frogfoot Networks Pty (Ltd), an open access fibre network provider. Application is also made in terms of Section 34 of the NHRA to obtain a permit to do alterations to sidewalks older than 60 years.

The study area is certain areas (the term “Sectors” are used to indicate the different areas of deployment) within the Sol Plaatje Municipal area. Eight sectors located within the following suburbs have been identified for the deployment of the fibre network system as indicated on the **Areas of Fibre Deployment within the Sol Plaatje Municipal Area, Annexure 1**, namely:

|           |                                    |
|-----------|------------------------------------|
| Sector 1  | New Park                           |
| Sector 2  | Caters Glen                        |
| Sector 3  | Heuwelsig                          |
| Sector 4  | Cassandra                          |
| Sector 7  | Klisser                            |
| Sector 8  | South Ridge/Minerva Gardens        |
| Sector 9  | Belgravia                          |
| Sector 10 | Verwoerd Park/Riviera/Diamond Park |

The study area includes the areas older than 60 years within the different Sectors. Some areas within Sector 9 have been formally demarcated as heritage areas while others about areas identified as heritage areas in the Sol Plaatje Municipal Spatial Development Framework.

Heritage resources within the study area have been identified and described. Due to the scale of the study area it was, however, not possible to identify and describe all individual heritage resources and more emphasis was placed on streetscapes and the cultural landscape.

The Heritage Impact Assessment (HIA) includes a cultural landscape assessment and a visual impact assessment as per the requirements of the Record of Decision issued by the Northern Cape Heritage Resources resulting from two Notice of Intent submissions. The findings of these components of the report are to guide the manner of implementation of a fibre network and to propose heritage indicators and mitigation measures in order to reduce potential negative impacts on the heritage resources in the study area.

The HIA assessed the impact of the proposed deployment of fibre through conventional trenching and aerial fibre respectively. No micro-trenching is allowed in terms of the Wayleave Approvals received from the Sol Plaatje Municipality.

It was found that the deployment of aerial fibre within Sector 9, which includes the declared heritage areas of Belgravia, Memorial Road area and Klisser is not desirable, due to the

negative visual impact thereof on the historical urban landscape, individual heritage resources with architectural significance and other identified heritage resources. Frogfoot Networks decided to not go ahead with the deployment of aerial fibre in these areas and has removed all poles and cables. Fibre deployment by means of conventional trenching is thus considered the more desired option in these areas. As the mature trees in this area are also considered an important heritage resource certain mitigating measures are proposed to prevent damage to the trees and their root systems while doing trenching. Although no curb stones are affected by the excavations, care should also be taken to not damage the historical curb stones. Archaeological monitoring would also be required.

The remainder of the study area is the areas older than 60 years within the remainder of the study area. Architectural character in these areas are primarily domestic and includes small pockets of historical period styles such as Victorian and Edwardian. Small sections have streetscapes that conform to a consistent/uniform homogeneous period style. In general the majority of the single residential dwelling houses and general residential dwelling complexes are a mixture of twentieth century architectural styles. The streetscapes in these areas can be considered 3C's heritage resources – being typical/representative of a period and not having a high architectural or streetscape significance.

Typical of these streetscapes are also mature trees and tree lanes which contribute to the typical streetscape character of these areas and is considered a heritage resource. These mature trees and tree lanes assist to a great extent to conceal/absorb the visual impact of aerial fibre infrastructure (wooden poles and cables). Aerial fibre in these areas can thus be supported subject to certain mitigation measures to further lessen the visual impact thereof, especially on street corners and intersections as well as on erven with longer street fronts such as open spaces, community buildings as well as other individual sites with heritage significance. In these areas the trees and tree lanes are considered to be the more important heritage resource and conventional trenching which could damage the root systems of the mature trees is thus the less desirable option.

Although fibre deployment by means of micro-trenching would be the most desirable option from a heritage point of view, this is not being allowed by the Sol Plaatje Municipality in terms of their Wayleave Approvals. It is thus recommended that the most area appropriate deployment of fibre as per the recommendations of the Heritage Impact Assessment be allowed to continue, subject to the implementation of the proposed mitigation measures due to the important economic advantages which the deployment of a fibre network would have for residents of the Sol Plaatje Municipal area.

The results of consultation with communities affected by the proposed development and other interested parties regarding the findings and proposals of the Heritage Impact Assessment as well as the response thereto are also included in the report.

# HERITAGE IMPACT ASSESSMENT

## DEPLOYMENT OF A FIBRE NETWORK WITHIN THE SOL PLAATJE MUNICIPAL AREA

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## SECTION 1: INTRODUCTION

### 1.1 PROJECT DESCRIPTION

Frogfoot Networks Pty (Ltd), an open access fibre network provider, has contracted *Christine Havenga and Associates* as the Heritage Practitioner to conduct a Heritage Impact Assessment (HIA) to address the possible impact of the deployment of an open fibre network system by means of conventional trenching and/or aerial fibre within certain areas within the Sol Plaatje Municipal area. Andrew Berman of *Urban Design Services* assisted with further urban design and townscape significance inputs. An input from Rene Maria Brett of *Viridian Consulting Landscape Architects* was obtained with regard to the visual impact of the activities on the cultural/urban landscape and also specifically the landscape elements such as the mature trees and tree lanes on the sidewalk verges.

The study area is certain areas (the term “Sectors” are used to indicate the different areas of deployment) within the Sol Plaatje Municipal area. Eight (8) sectors located within the following suburbs have been identified for the deployment of the fibre network system as indicated on the **Locality Map, Annexure 1**, namely:

|          |             |           |                                    |
|----------|-------------|-----------|------------------------------------|
| Sector 1 | New Park    | Sector 7  | Klisser                            |
| Sector 2 | Caters Glen | Sector 8  | South Ridge/Minerva Gardens        |
| Sector 9 | Belgravia   | Sector 10 | Verwoerd Park/Riviera/Diamond Park |
| Sector 3 | Heuwelsig   |           |                                    |
| Sector 4 | Cassandra   |           |                                    |

Please see the attached **Annexure 1**, a **Locality Plan of Areas of Fibre Deployment within the Sol Plaatje Municipal Area**. , **Annexure 2**, shows the **Areas older than 60 year** which would be addressed in the Heritage Impact Assessment.

Various options of deployment have been considered depending on the specific circumstances of an area. In terms of Frogfoot’s Wayleave Approval), obtained from the Sol Plaatje Municipality on 30 January 2020, the following manners of deploying fibre are allowed:

- Conventional trenching
- Overhead lines

Frogfoot has since had further discussions with the Sol Plaatje Municipality regarding the possibility of micro-trenching in the road reserves as they have done in other municipal areas. No micro trenching in the road reserve would, however, be allowed as the Directorate Infrastructure and Services indicated that there is currently no National Standard for the provision of micro trenching



currently in existence (in compliance with the Standards Act). He further stated that the current standard for the provision of telecom ducting is SANS 1200LC (Standardised Specification for Civil Engineering Construction) which only makes provision for conventional trenching methods. In an e-mail dated 29 April 2021 (**attached as Annexure 10**) he writes: *“The methodology employed in micro trenching is a machined one which relies on scanning technology which has serious limitation when dealing with older services which tend to have densities beyond the parameters of such devices (scanners). As the Sol Plaatje Municipality we are constantly exposed to these devices and thus, we are in a position to comment on the effectiveness of these devices. Currently, there is a place for these scanners. However, when using these scanners as a means of foresight for a blind mechanised method it would present an infinite risk to our infrastructure.”*

It should be noted that Frogfoot Networks decided to not go ahead with aerial fibre deployment within Belgravia, Memorial Road area and Klisserville. The poles and other aerial related infrastructure have since been removed.

Some of these areas have been formally demarcated as heritage areas while others were identified as heritage areas in the Sol Plaatje Municipal Spatial Development Framework. The study area also includes some areas, other than the declared and identified heritage areas, which contain some structures older than 60 years. No formal heritage survey has been done for the municipal area to identify heritage resources within the municipal area.

A Notice of Intent to Development was submitted on 1 October 2020 which applies to Sector 1 (New Park), Sector 2 (Caters Glen), Sector 3 (Heuwelsig), Sector 4 (Cassandra), Sector 7 (Klisser), Sector 8 (South Ridge/Minerva Gardens) and Sector 9 (Belgravia). In terms of the response received on 10 November 2020 from the Northern Cape Heritage Authority the Heritage Impact Assessment (HIA) must address all areas older than 60 years within the above Sectors.

A second Notice of Intent was submitted on 15 January 2021. This NID specifically addresses Sector 10 (Verwoerd Park/Riviera/Diamond Park) where the deployment of a fibre network is also proposed.

This report aims to:

- Provide a description of the proposed project, including a sufficient level of detail to enable the reader to identify relevant issues and concerns.
- Describe the local environmental and development context within which the project is proposed, to assist further in identifying issues and concerns.

- Provide an overview of the planning and approvals process that has been followed to date (including the issues and concerns identified to date, together with an explanation of how these issues have been addressed in the development proposal, if at all).
- Identify what the heritage resources are within the different Sectors, their significance and how they would be affected.
- Recommendations were made to assist the heritage authority with their decision to allow the activities associated with the deployment of the fibre network system as well as some mitigating measures to lessen the impact thereof on the urban/cultural landscape and identified heritage resources.

## 1.2 LEGAL REQUIREMENTS

The proposed activities associated with the deployment of the fibre network system is subject to Sections 34 and 38 of the National Heritage Resources Act (Act 25 of 1999) (NHRA) and the Heritage Impact Assessment will be evaluated by the relevant committee of the Northern Cape Heritage Resources Authority (NCHRA).

### Section 38

Two Notices of Intent to Develop (NID) in terms of Section 38(1) of the NHRA were submitted to the Northern Cape Heritage Resources Authority on 1 October 2020 (for Sectors 1, 2, 3, 4, 7, 8 and 9) and 15 January 2021 (Sector 10) as the proposed activities associated with the deployment of the fibre network, be it by means of conventional trenching or overhead lines, as being allowed for in terms of the Wayleave Approval issued by the Sol Plaatje Municipality, will include the following development categories as listed in Section 38(1) of NHRA, namely:

Section 38(1)(a): *The construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;*

Section 38(1)(c): *Any development or other activity which will change the character of a site—*

*(i) exceeding 5 000 m<sup>2</sup> in extent.*

It was recommended that the areas older than 60 years within the study area of the NID form part of the study area of the HIA for the wider Frogfoot Networks fibre deployment project.

### **Section 34**

Section 34(1) of the NHRA states that “*no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority*”.

In terms of the NHRA a structure is defined as “*any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith*”.

No alterations are proposed to any buildings. In terms of this definition a sidewalk could, however, possibly be considered as a structure. Some sidewalks within the study area are older than 60 years and application is thus simultaneously made to allow for a permit in terms of Section 34 to allow for the excavations within these side walk areas. It should be noted that no alterations would be made to the historical curb stones.

### **Response to NID submission**

A response to the NID for Sectors 1, 2, 3, 4, 7, 8 and 9 was received from the NHCA on 13 November 2020. A second response to the NID for Sector 10 was received on 5 March 2021. In response to the information provided in the NID submissions, NCHRA responded as follows:

- *NHCRA will require further studies in areas protected under Section 34 of the National Heritage Resources Act.*
- *A visual impact study, cultural landscape as well as mapping of heritage resources, particularly the historic structures, to inform contextual impacts.*
- *Since there is reason to believe that heritage resources, especially of local significance, will be impacted upon, NCHRA required a Heritage Impact Assessment in terms of Section 38(3) of the NHRA assessing the impacts of the development on the heritage resources which it has identified; visual impact, cultural landscape and historic structures.*
- *A HIA is required consisting of Visual Impact Assessment, a Cultural Landscape Study (the essential character of an area) and a Built Environment study consisting of mapping the historic structures in the affected area as well as any other historic resources.*
- *Application to fell, lop or radically prune a tree in a heritage area, or in the vicinity of a historic building or area which deemed to have historic value should be submitted to the Northern Cape Heritage Resources Authority. The authority can advice on*

*significant trees even outside of the heritage area. Trees affected by such applications are assessed on the basis of their impact on the landscape species, size, health, vitality and cultural significance.*

- *The results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources in the affected area.*
- *Decisions on conventional or micro trenching within the road reserve on evidence of any significant archaeological material in the area must be made by the South African Heritage Resources Agency (SAHRA).*

Copies of the **NCHRA's Responses to the Notices of Intent to Develop** is attached as **Annexure 3** to this report.

When this application was discussed with the South African Heritage Resources Agency for referral to them it was indicated that they are in fact the authority responsible for Section 38 applications in the Northern Cape Province. It was then agreed with them that the public participation process can proceed and that the HIA and comments then be submitted to them for consideration and that they would notify the NCHRA about the application.

The above requirement will be supplemented with the basic requirements of an HIA study as noted in Section 38 (3) of the Act:

- a) The identification and mapping of all heritage resources in the area affected;
- c) An assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;
- e) An assessment of the impact of the development on such heritage resources;
- g) An evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
- i) The results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
- k) If heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and
- m) Plans for mitigation of any adverse effects during and after the completion of the proposed development.

The proposed development does not trigger any of the listed activities as set out in the 2014 Environmental Regulations published in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) and would thus not require environmental authorisation.

### 1.3 STATEMENT OF INDEPENDENCE

This is to confirm that *Christine Havenga and Associates*, acting as the Heritage Practitioner, Andrew Berman of *Urban Design Services* acting as Urban Designers and Rene Maria Brett of *Viridian Consulting Landscape Architects* acting as the Landscape Architect, are responsible for undertaking the report. They are independent practitioners and have no vested or financial interest in the future development of the study area being either approved or rejected by the relevant authorities.

### 1.4 EXPERTISE AND PROFESSIONAL ACCREDITATIONS OF THE SPECIALISTS

The expertise of the Heritage, Urban Design and Landscape specialists is presented underneath:

| <i>Company name</i>  | <i>Qualifications and expertise</i>   | <i>Professional accreditations</i>  |
|--|---|---|
| <i>Christine Havenga and Associates (Christine Havenga)</i>  | M Phil in the Conservation of the Built Environment – University of Cape Town<br><br>M Town and Regional Planning – University of Stellenbosch                              | Association of Professional Heritage Practitioners (APHP) No. 0083<br><br>South African Council for Professional Planners (SACPLAN) – Reg. No. A/945/1997   |
| <i>Urban Design Services (Andrew Berman)</i>                 | B.Arch. School of Architecture, University of Cape Town<br><br>Master of City Planning and Urban Design - University Cape Town, RSA   | South African Council for the Architectural Profession (SACAP ) - Reg. No. 3518<br><br>Urban Design Institute of South Africa (UDISA) - Reg. No. B001<br><br>Association of Professional Heritage Practitioners (APHP) No. 0011 |
| <i>Viridian Consulting Landscape Architects (Rene Brett)</i> | B. Landscape Architecture - University of Pretoria, RSA<br><br>Master of City Planning and Urban Design - University Cape Town<br><br>Green Star SA Accredited Professional | South African Council for the Landscape Architectural Profession (SACLAP) – Reg. No. 20122<br><br>Urban Design Institute of South Africa (UDISA) – Reg No. V002   |



## 1.5 Constraints and Limitations

The following constraints and limitations were experienced in the compilation of this report:

- Information collated within the Provincial Heritage Register lacked detailed descriptions of the recorded heritage resources, compounding multiple heritage resources types at a single locale. These were considered accurate and not reassessed as part of this study;
- No intangible heritage resources were recorded through the engagement process.
- All individual heritage resources within the study area could not be surveyed in its entirety due to the scale of the study.

## 1.6 METHODOLOGY AND SOURCES OF INFORMATION

- A survey of diverse information repositories was made to identify appropriate relevant information sources. These sources were analysed for credibility and relevance. Credible, relevant sources were then critically reviewed. The objectives of the literature review were to gain an understanding of the cultural landscape within which the project is located; and identify any potential fatal flaws, sensitive areas, current social complexities/issues and known or possible tangible heritage. Information was gained through obtaining the following historical and archival documentation:
  - (i) Diagrams and township plans of the study area.
  - (ii) Maps and aerial photographs from National Geo-spatial Information.
  - (iii) South African Heritage Resources Information System (SAHRIS), online / electronic journals and platforms, and certain internet sources.
  - (iv) Heritage surveys done by the former National Monuments Council.
  - (v) The Northern Cape Heritage Authority Heritage Register
  - (vi) The Sol Plaatje Integrated Development Plan and Municipal Spatial Development Framework.
  - (vii) Other relevant resources which are cited and included in the literature review's bibliography.
- Site visits and photographic surveys of the study area. The assessors completed an inspection of all declared structures, previously identified buildings and structures and select structures and buildings at risk within the study area. Other heritage resources were also identified and the significance thereof being described in the HIA.

## 1.7 ASSUMPTIONS

It is assumed that the data on the proposed project information provided by the client and project team associated with the instalment of the fibre network is accurate and up to date at the time of finalising the draft report.

- The authors assume that where information is supplied by others, this information is correct and up to date unless otherwise stated by the client, project team or source. No responsibility is accepted by Christine Havenga & Associates for incomplete or inaccurate data supplied by others.
- The assessment of the significance of impacts of the proposed project on heritage resources has been based on the assumption that the activities will be confined to the areas to be impacted.
- Where detailed information is not available, the precautionary principle, i.e. a conservative approach that overstates negative impacts and understates benefits, has been adopted.
- Christine Havenga & Associates assumes that the applicant (Frogfoot Networks) will in good faith implement the mitigation measures identified in this report and elsewhere. In this regard, it is assumed that Frogfoot Networks will commit sufficient resources and employ suitably qualified personnel to undertake such mitigation.

## SECTION 2: SITE AND CONTEXT DESCRIPTION

### 2.1 SITE DESCRIPTION AND LOCATION

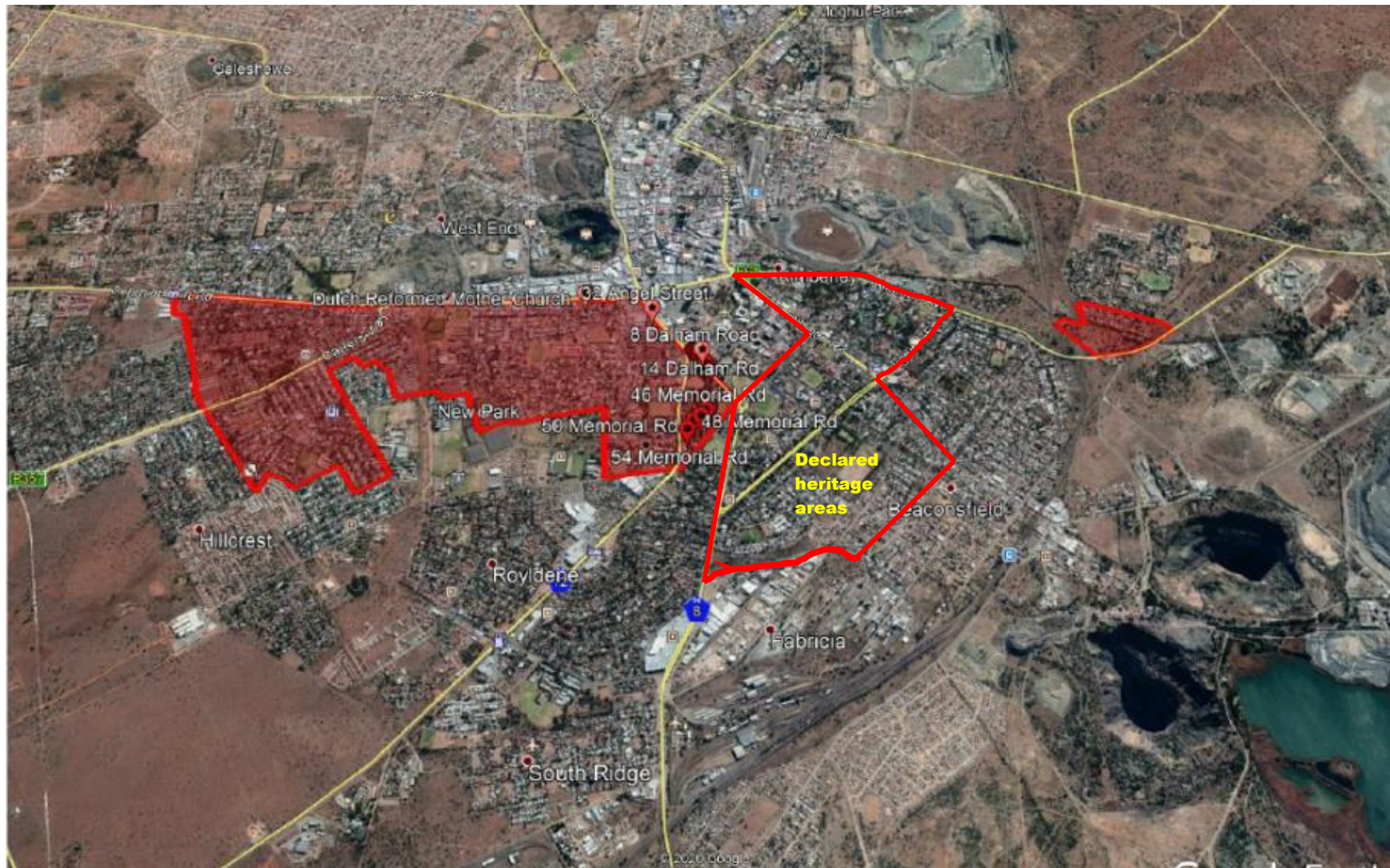
**Figure 1** on the next page shows the areas proposed for the enrolment of a fibre network in the Sol Plaatje Municipal Area as addressed in the first NID document submitted 1 October 2020 (boundaries indicated in yellow). In the response of the NCHRA to this NID submission it was indicated that the study area of the HIA should include “*areas protected under Section 34 of the National Heritage Resources Act*”. Some further clarity in this regard has been sought and it was indicated by the relevant officials of the NCHR that the study area of the HIA needs to cover all areas older than 60 years where it is intended to deploy the fibre network system.

The study area of the HIA will thus include the areas demarcated in red on **Figure 2** on the page 10. The areas not coloured in red, are the declared heritage areas where no aerial fibre will be deployed.



**Figure 1:** Areas in the Sol Plaatje Municipal Area proposed for the enrolment of a Fibre Network as addressed in the first NID document submitted 1 October 2020 (boundaries indicated in yellow) Source: Frogfoot Networks website





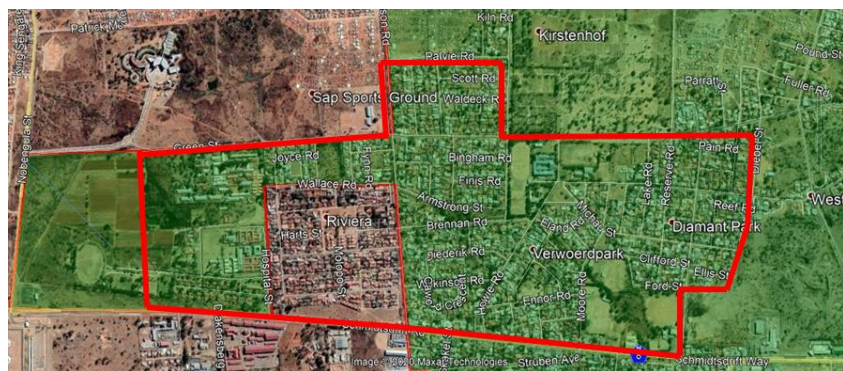
***Figure 2:*** Aerial Photograph indicating the boundaries of the areas containing structures older than 60 years where aerial fibre is proposed. The area not coloured in red is the declared heritage areas where no aerial fibre would be deployed.



The boundaries of the study area for the second NID submission of 15 January 2021 which addresses Sector 10 (Verwoerd Park/Riviera/Diamond Park) are indicated on **Figure 3** underneath.



**Figure 3:** Additional areas in the Sol Plaatje Municipal Area proposed for the enrolment of a Fibre Network as addressed in the second NID document submitted 15 January 2021



**Figure 4:** Areas older than 60 years within Sector 10



The boundaries of the study area has been determined by utilising historical aerial photographs and more specifically the 1960, 1964 and 1968 aerial photographs which have been obtained from the website of the National Geo Spatial Information Section of the Department of Rural Development and Land Reform's Geospatial Portal. (<http://www.cdngiportal.co.za/cdngiportal/>)

Detailed plans of each of the different sectors which could contain structures older than 60 years are shown in the Townscape Analysis of the HIA, Chapter 8.

### SECTION 3: NATURE OF THE ACTIVITIES OF THE DEPLOYMENT OF THE FIBRE NETWORK

Various options of deployment within the sidewalk section of the municipal (public) road reserves within the Sol Plaatje Municipality have been considered depending on the specific circumstances of an area. In terms of Frogfoot's **Wayleave Approval**, obtained from the Sol Plaatje Municipality on 30 January 2020, the following manners of deploying fibre are allowed:

- Conventional trenching
- Overhead lines

The option of micro-trenching was also investigated and discussed with the Engineering Department of the Sol Plaatje Municipality as this would have been Frogfoot's preferred method of deployment. The municipality, however, confirmed that no micro trenching in the road reserve is allowed as the SANS 1200 Regulations (Standardised Specification for Civil Engineering Construction) do not make provision for it and further indicated that it would present "an infinite risk to their infrastructure". (Refer to Annexure 10)

It should also be noted that Frogfoot Networks decided **to not go ahead with aerial fibre deployment within Belgravia, Memorial Road area and Klisserville**. The poles which have been erected have since been removed. There would thus only be conventional trenching in the following Sectors:

|          |   |
|----------|---|
| Sector 7 | Klisser                                       |
| Sector 9 | Belgravia (which includes Memorial Road area) |

In the following sectors both aerial fibre and conventional trenching are proposed.

|          |             |
|----------|-------------|
| Sector 1 | New Park    |
| Sector 2 | Caters Glen |

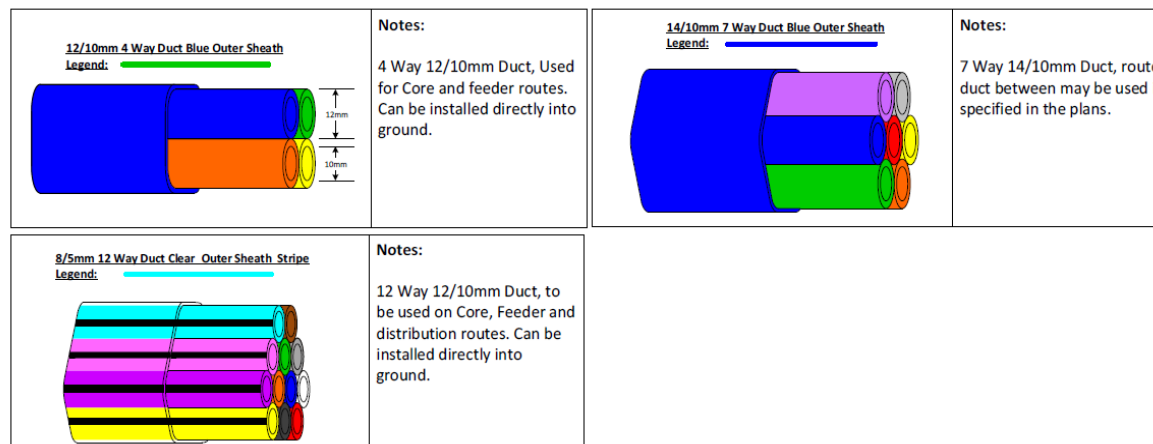
|           |                                    |
|-----------|------------------------------------|
| Sector 3  | Heuwelsig                          |
| Sector 4  | Cassandra                          |
| Sector 8  | South Ridge/Minerva Gardens        |
| Sector 10 | Verwoerd Park/Riviera/Diamond Park |

There are certain requirements and guidelines in terms of legislation such as the Telecommunications Act 103 of 1996 and National Forest Act 84 of 1998 which guide the deployment of aerial fibre and conventional trenching. Underneath are some basic specifications with regard to the different manners of fibre deployment being allowed in terms of wayleave approval:

### **Conventional trenching**

The process for deployment of fibre by means of conventional trenching within the municipal road reserve would entail the following:

- a. An Outside Diameter Fibre will be hosted at the nearest designated node feeding the Gigabit Passive Optical Network within the suburb.



*Figure 1.2 – Duct Sizes and Applications*

- b. The suburb will be broken down into multiple parts with separate feeder fibres running to each. Typically this will comprise of two, 4 way and one 12 way duct.

- c. The fibre will route from the aggregation node to a series of MUC315 distribution Hand Holds situated along the various core, feeder and distribution routes. This will in turn feed fibre cores to the Erf Border Boxes situated within the road reserve between two property boundaries.
- d. Each Erf Border Box will normally serve two households.

The design for the routing of the cables may differ with each premises. A design will be made based on the notes, photographs and sketches made during the site survey.

Underneath are some images which give an indication of the nature of the activities associated with conventional trenching.



**Figures 5 - 8: Some photographs of conventional trenching within the Sol Plaatje Municipal area**

### **Deployment of aerial fibre**

As indicated earlier, there are certain requirements and guidelines in terms of legislation such as the Telecommunications Act 103 of 1996 and National Forest Act 84 of 1998 which guide the deployment of aerial fibre. These include specific specifications and guidelines with regard to e.g. the number of poles per kilometre, determining the most appropriate position of poles, the height and nature of the poles and cables, colours of cables, fixing of boxes to poles and taking cognisance of other overhead lines such as Telkom lines. There are also specific guidelines with regard to tree pruning where required, e.g. liaison with private land owners and authorities and guidelines with regard to the type of trees to be pruned.

The considerations which would guide the preferred/most desirable manner of fibre deployment within the Sol Plaatje municipal area would inter alia include the following:

- An assessment of the soil conditions, e.g. if a terrain is very rocky and accordingly difficult to trench.
- The existing utilities infrastructure of the municipality and other service providers such as Eskom are not deployed to the required specifications which has the risk of conventional trenching disrupting the already fragile services which could be difficult to fix.
- The visual impact of aerial fibre on existing structures and streetscapes, e.g. in areas with heritage significance or with scenic qualities.

Underneath are some images of the manner in which the aerial fibre is deployed, showing the wooden poles, overhead lines and the manner in which a box is attached to a pole.



Secure the box by means of strapping with a Band it tool

**Figures 9 - 10:** Some photographs of the poles, overhead cables and a box strapped to a pole

Underneath and on the next page are examples of existing overhead aerial fibre deployment within the Sol Plaatje Municipal Area.



**Figure 11:** Overhead aerial fibre cables in Sector 1(Kestellhof)



**Figure 12:** Overhead fibre cables in Caters Road in Sector 4 (Cassandra)

Deployment of a fibre network system within certain areas within the Sol Plaatje Municipal Area





**Figure 13: Overhead fibre in Lawson Street in Sector 1 (New Park)**



**Figure 14: Overhead fibre in Lawson Street in Sector 1 (New Park)**



**Figure 15: Overhead fibre Hick Street in Sector 1**



**Figure 16: Overhead fibre Saul Road in Sector 1 (Hadison Park)**

Deployment of a fibre network system within certain areas within the Sol Plaatje Municipal Area

## SECTION 4: STATUTORY CONTEXT

### 4. STATUTORY CONTEXT

#### 4.1 NATIONAL HERITAGE RESOURCES ACT, 1999 (ACT 25 OF 1999)

The national estate consists of the following as set out in Section 3 of the NHRA:

##### **Section 3(1):**

For the purposes of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.

##### **Section 3(2):**

Without limiting the generality of subsection (1), the national estate may include—

- (a) places, buildings, structures and equipment of cultural significance;
- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and palaeontological sites;
- (g) graves and burial grounds, including—
  - (i) ancestral graves;
  - (ii) royal graves and graves of traditional leaders;
  - (iii) graves of victims of conflict;
  - (iv) graves of individuals designated by the Minister by notice in the Gazette;
  - (v) historical graves and cemeteries; and
  - (vi) other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- (h) sites of significance relating to the history of slavery in South Africa;

- (i) movable objects, including—
- (i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens; (ii) objects to which oral traditions are attached or which are associated with living heritage;
- (iii) ethnographic art and objects;
- (iv) military objects;
- (v) objects of decorative or fine art;
- (vi) objects of scientific or technological interest; and (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

The National Heritage Resources Act also makes provision for the grading of local heritage resources if it fulfils one or more of the criteria set out in Section 3(3) of the Act or in the case of a site contributing to the environmental quality or cultural significance of a larger area. Certain heritage resources are considered more valuable than others based on age, symbolic context, architectural merit, uniqueness or associations with significant people and other considerations. This will influence their grading.

### **Section 3(3):**

Without limiting the generality of subsections (1) and (2), a place or object is to be considered part of the national estate if it has cultural significance or other special value because of—

- (a) its importance in the community, or pattern of South Africa's history;
- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- (h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- (i) sites of significance relating to the history of slavery in South Africa

### **Sections 27 and 30**

Various sites/structures within the study area (primarily in the Belgravia area, which includes Du Toitspan Road, Milner Street and Carrington and Memorial Road areas), have been identified as Provincial Heritages Sites in terms of Section 27 of the NHRA and are listed on the Northern Cape Heritage Register prepared in terms of Section 30 of the NHRA. Please see the **attached list of heritage resources within the Sol Plaatje Municipal area contained in the Heritage Register for the Northern Cape**, attached as part of **Annexure 3**. All these sites have been plotted on a plan, also attached as part of **Annexure 3, Identified Heritage Resources within the Sol Plaatje Municipal Area**. Due to the scale of the study area a klm file will be submitted with the HIA on which all the listed sites are plotted on a Google Earth Map which provides a clearer view of these sites.

The Northern Cape Heritage Register is primarily based on annotated *Survey of Buildings and Sites of Architectural, Historical and Contextual Importance in Kimberly* done by the Division of Professional and Technical Services of the former National Monuments Council in 1986.

No further Heritage Audit has yet been finalised for the Sol Plaatje Municipal area and no heritage resources within the municipal area have thus been graded (except for those declared as Provincial Heritage sites) or the significance thereof been formally described in such a register. The following areas are declared heritage areas in terms of Section 31 of the NHRA:

- Belgravia (Including Du Toitspan Road, Milner Street and Carrington)
- Memorial Road area

(A description of the exact **Boundaries of Declared Heritage Areas** is also attached as part of **Annexure 3**.)

### **Section 34**

Section 34(1) of the NHRA states that “no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority”.

In terms of the NHRA a structure is defined as “any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith”.

No alterations are proposed to any buildings. In terms of this definition a sidewalk could, however, possibly be considered as a structure. Some sidewalks within the study area are older than 60 years and application is thus simultaneously made to allow for a

permit in terms of Section 34 to allow for the excavations within these side walk areas. It should be noted that none of the historical curb stones (older than 60 years) are removed during the conventional trenching activities. Where road cuts are done, the contractors tunnel/trench underneath these curb stones.

### **Section 38**

As the proposed the proposed activities associated with the deployment of the fibre network, be it by means of conventional trenching or overhead lines, will include the following development categories as listed in Section 38(1) of NHRA, namely:

Section 38(1)(a): The construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;

Section 38(1)(c): Any development or other activity which will change the character of a site—  
(i) exceeding 5 000 m<sup>2</sup> in extent.

A Notice of Intent to Development was submitted to the Northern Cape Heritage Resources Authority and it was indicated that a Heritage Impact Assessment would be required for certain areas where the fibre network is deployed.

## **4.2 THE SOL PLAATJE MUNICIPAL LAND USE MANAGEMENT SCHEME, 2008**

The Sol Plaatje Land Use Management Scheme, 2008 does not make provision for any Heritage Overlay Zones. There are specific provisions with regard to the Big Hole area, but this area does not form part of the current HIA study area.

In Section 17(1) it states that “permission in terms of Clause 28 shall be required for any alteration to or development affecting an erf listed in the heritage register as compiled and gazetted in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999). This provision would thus affect any of the areas or structures identified in the Heritage Register of the Northern Cape Province and the declared Provincial Heritage Sites.

## **4.3 WAYLEAVE APPROVAL PROCESS**

All public land within the Sol Plaatje Municipal Area is owned by the municipality. The local Council is therefore responsible to administrate the publicly owned land and need to give permission to all parties before they may install utility services or infrastructure.

All parties and their contractors therefore need to obtain permission from the local authority to install their services or infrastructure on the public land.

Normally a department within the municipality acts as the custodian of these permissions, even for council services. For the Sol Plaatje Municipal Area it is done by the Directorate Infrastructure and Services. This enables the responsible use of public assets, by co-ordinating service installation, minimising service clashes, simplifies maintenance of assets, and minimises collateral damage due to new installations or construction.

Using a formalised Wayleave, the Council also has the opportunity to control the installation of services, as well as to specify installation and protection requirements for the installed services, and to verify that the service designs meet the engineering and other standards prescribed by the council.

To allow for the deployment of fibre within the road reserves, a Wayleave Approval was thus submitted to the Directorate Infrastructure and Services for each of the different Sectors. These Wayleave Approvals are subject to certain conditions of approval. In terms of Frogfoot's **Wayleave Approval**, obtained from the Sol Plaatje Municipality on 30 January 2020, the following manners of deploying fibre are allowed:

- Conventional trenching
- Overhead lines

No micro trenching in the road reserve is allowed within the Sol Plaatje Municipal Area as indicated earlier in this report.

## **SECTION 5: KEY POLICY INFORMANTS AND SPATIAL POLICIES**

This section briefly outlines key policy informants and Spatial Studies/Policies which informs the future development of the subject block and its immediate surrounds, and includes a brief description of relevant planning and urban design policy for the study area.

### **5.1 SOL PLAATJE MUNICIPALITY INTEGRATED URBAN DEVELOPMENT FRAMEWORK**

The Sol Plaatje Integrated Urban Development Framework (IUDF) is guided by the four principles set out in the National Development Plan (NDP): spatial justice, spatial sustainability, spatial quality, spatial efficiency, and spatial resilience. To achieve this transformative vision, the IUDF introduces four overall strategic goals:

- Spatial Integration: To forge new spatial forms in settlement, transport, social and economic areas.
- Inclusion and Access: To ensure people have access to social and economic services, opportunities and choices.
- Inclusive Growth: To harness urban dynamism for inclusive, sustainable economic growth and development.
- Good Governance: To enhance the capacity of the state and its citizens to work together to achieve spatial and social integration.

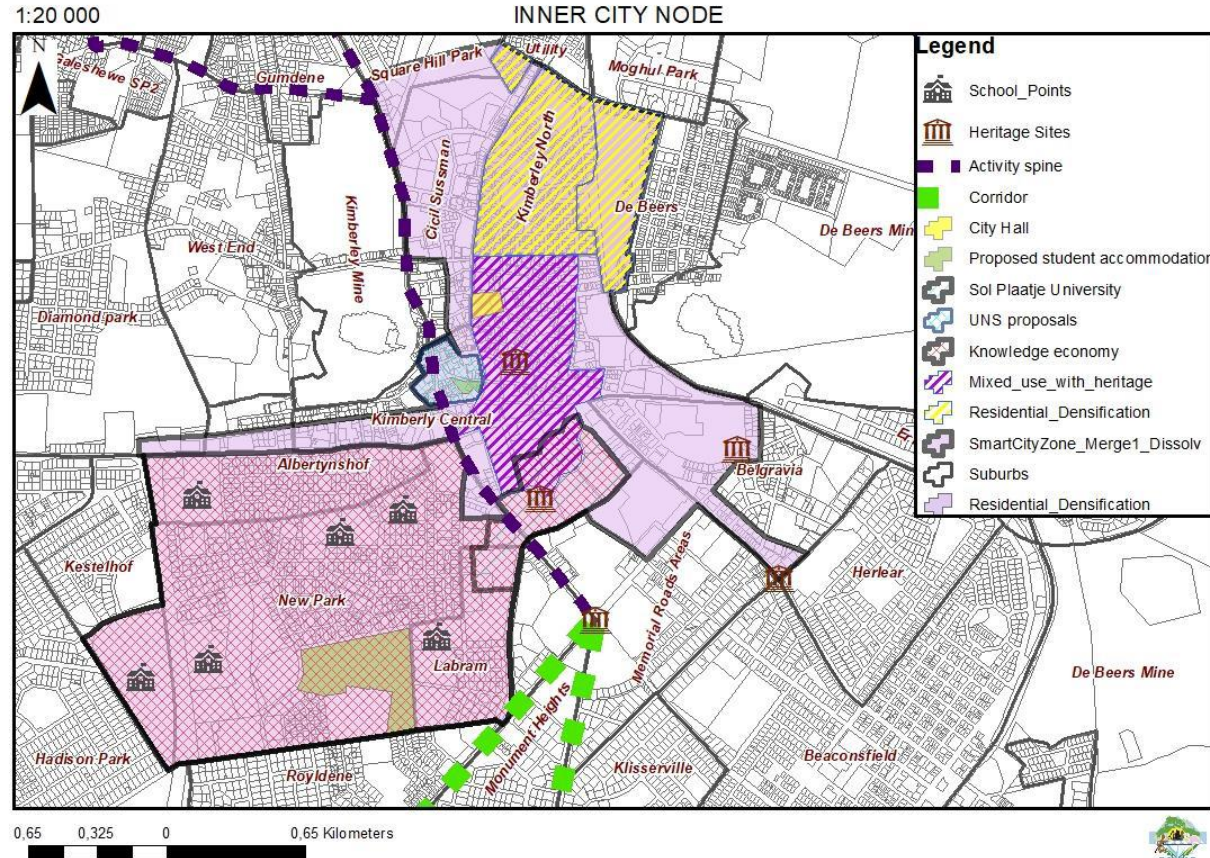
## **5.2 SOL PLAATJE LOCAL MUNICIPALITY DRAFT SPATIAL DEVELOPMENT FRAMEWORK 2018-2023 (DRAFT)**

The Municipal Spatial Development Framework (MSDF) is a dynamic model of strategic planning that will be reviewed annually, adjusting its focus and direction based on spatial transformation that takes place on the ground. In addition, it is a spatial policy document that identifies the main challenges and opportunities in the Sol Plaatje Local Municipality (SPLM). Fundamentally, it sets a spatial vision for the future and outlines a set of strategies in order to achieve the vision.

The MSDF states that it is imperative that this MSDF ensures spatial transformation that will enhance and preserve the heritage of the Sol Plaatje Local Municipality. The natural and heritage assets, cultural experiences and destinations places identified in this study are considered important structuring elements of the city. The heritage resources within Kimberley have been identified as key assets of the city. A number of areas which are deemed to be heritage conservation worthy areas (inter alia based on a survey of the former National Monument Council) within the city have been identified, namely:

- (i) Beaconsfield;
- (ii) Belgravia;
- (iii) Inner City;
- (iv) De Beers;
- (v) Open Mine;
- (vi) West End;
- (vii) Memorial Road area;
- (viii) Greater no 2; and
- (ix) Herclear.





**Figure 17: Extract from the draft Sol Plaatje Municipal Spatial Development Framework, 2018-2023**

The heritage value of the “Inner City Zone” is also acknowledged in the MSDF. This node includes the Civic Centre Precinct and the University Precinct. The associated student accommodation is spread out throughout the Inner City and neighbouring suburbs. This includes formal and informal student accommodation. This area is characterised by several listed buildings of heritage significance and the impact of new developments on heritage resources needs to be carefully considered. **Figure 17**, on the previous page shows the boundaries of the Inner City as well as the adjacent residential areas associated with the University where densification and mixed land uses, taking in consideration the impact on heritage resources, are proposed.



Although the MSDF stresses the importance of protecting heritage resources within the city, it also promotes social and economic development. In this regard it specifically refers to the importance of telecommunication in this regard. It is stated that a 'smart city' approach to development should be adopted. The MSDF describes a smart city as *"an urban development vision that integrates numerous information and communication technologies and the internet solutions in a secure fashion. This is done in order to better manage and distribute a city's assets. Technologies such as social media, information market places, and the internet of things can support the Sol Plaatje in achieving objectives such as community well-being, social mobility, economic growth, and infrastructure resilience. New housing developments must include fibre optic networks to ensure that an information rich future is secured. Adopting this approach in Sol Plaatje can go a long way in addressing the urban and social ills faced in the municipality. The Sol Plaatje University intends to commence with a pilot to stimulate a safe zone with free Wi-Fi within the CBD linking the university and the FET College through this initiative. This will be the beginnings of the smart city in Sol Plaatje."*

### **5.3 Sol Plaatje Local Municipality Local Economic Development Strategy (2008)**

This document stresses the important role which heritage can play in tourism within the Sol Plaatje Municipal Area. Current tourist attractions with heritage significance in the city and immediate surrounding area includes those associated with the mining history of the city (e.g the Big Hole area, Open Mine Museum Village, historical pubs and electric tram lane), those associated with the siege and relief of Kimberley during the South African War, the South African War battlefields on the N12 outside the city, the Kimberley Archaeological Route (Platfontein archaeological site), the historical residential areas (e.g. Beaconsfield, Belgravia, West End, Memorial Road area and Herclear) various museums within the city (McGregor Museum, the William Humphreys Art Gallery, the Freddie Tait Golf Museum and the Spoornet Railway Museum), the Inner City area, the Galeshewe area and the Schmidtsdrift San settlement.

## SECTION 6: BRIEF HISTORY OF THE STUDY AREA AND ITS ENVIRONS

The study area contains a number of residential suburbs located within the Kimberley township area (demarcated municipal area of the Sol Plaatje Municipality) which is the capital and largest city of the Northern Cape Province. The city developed from the diamond mining camp that was formerly known as Vooruitzicht, Colesberg Kopje and De Beers New Rush. It was renamed Kimberly in 1873 in honour of the Earl of Kimberley and attained municipal status in 1877, and city status in 1912. (*Richardson, Historic Sites of South Africa, 2001, p 53*) Around 1994 post the apartheid era, the Kimberley City Council was renamed Sol Plaatje Municipality.

The only traces of any precolonial settlement within the city's boundaries are scatters of Stone Age artefacts and there is no record of what the place/s might have been called before the first nineteenth century frontier overlay of farm names. It lay beyond the areas occupied by Tswana people in the pre-colonial period. Sites such as the nearby Wildebeest Kuil testify to a Khoe–San history dating up into the nineteenth century.

The city has considerable historical significance due to its diamond mining past and the siege during the Second Anglo-Boer war. It is further associated with important business people of this period such as Barney Barnato and Cecil Rhodes who established the De Beers diamond company in the early days of the mining town. It is also associated with some other historical figures such as Sol Plaatje, a prominent writer and activist and Frances Baard as well-known trade unionist.

Founded after the discovery of diamonds on farms in the area in 1869–71, the mining camp of Kimberley grew as a result of the intensive digging of the diamond-bearing pipe at the hill called Colesberg Koppie. The camp was named after John Wodehouse, 1st Earl of Kimberley, who was then British colonial secretary. The town of Kimberley was created in 1878 and incorporated into the Cape Colony in 1880. In 1885 the Cape Town Railway reached Kimberley, and during the South African War the town was besieged by the Boers for 126 days until relieved by Gen. John French on February 15, 1900. City status was granted in 1912 with absorption of the mining town of Beaconsfield.

After 1888 the Kimberley Mine at Colesberg Koppie and most other mines in the area were controlled by a trust organized by Cecil Rhodes, with production placed in the hands of De Beers Consolidated Mines Ltd. Kimberley Mine (now called the Big Hole), long the richest diamond-producing mine in the world, was closed in 1914, but several other mines remain productive, and diamond mining and cutting remain prominent industries.

Belgravia, Kimberley's oldest residential suburb, dates back to the 1870s, bearing testament to the success stories of the time, with many of these massive homes built during the peak of diamond trade. It became a fashionable suburb in the 1890's during a building

boom which followed the amalgamation of the mines. The wealthier citizens built large, elegant homes of clay-coloured Kimberley brick, with elaborate iron roofs and intricate wooden verandah trim. The area has tree-lined streets, hedges and pleasant gardens which contribute to the historical streetscapes of this area. Large open spaces such as Queens Park and the school sport fields also contribute to the specific character of the area. Some well-known residents, associated with the early mining era history of Kimberley, resided in Belgravia, e.g. J. B. Currey, John Orr, Fritz Hirschhorn and Ernest Oppenheimer as well as Rhodes who financed the Sanatorium Kimberley's former most prestige hotel and health resort. Several declared National Monuments, Provincial Heritage sites and other sites/structures which have been included in the heritage register of the Province are found in this area.

The Memorial Road area also contains several National Monuments (e.g. the Honoured Dead Memorial designed by Sir Herbert Baker, which commemorates those who fell during the Kimberley siege I 1904) Provincial Heritage sites and other identified sites/structures which have been included in the heritage register of the Province.

The remainder of the study area includes the residential suburbs of New Park, Caters Glen, Heuwelsig, Cassandra, South Ridge, Minerva Gardens, Verwoerd Park, Riviera and Diamond Park which are later early 20<sup>th</sup> century suburbs. The New Park area abuts the Central Business District of the city, which also includes the Sol Plaatje University Precinct. The CBD area (Civic Centre Precinct) is an identified heritage area in the MSDF which contains various identified and declared heritage sites. No fibre deployment is proposed in this area.

The Diamond Park and Verwoerd Park areas abuts the West End Cemetery which is an important local heritage resource and accommodates the grave of Solomon T Plaatje and some people killed during the 1952 Mayibuye Uprising. The Cemetery also contains 241 Commonwealth burials of the First World War, the great majority of them due to the influenza epidemic of October 1918. There are also 169 Second World War burials in the cemetery as well as a Jewish burial section.

## SECTION 7: HERITAGE RESOURCES WITHIN THE STUDY AREA

The following areas within the study area are formally demarcated heritages areas in terms of Section 31 of the National Heritage Resources Act:

- Belgravia (Including Du Toitspan Road, Milner Street and Carrington)
- Memorial Road area

(A document is attached indicating the exact **Boundaries of the Declared Heritage Areas – Annexure 3**)

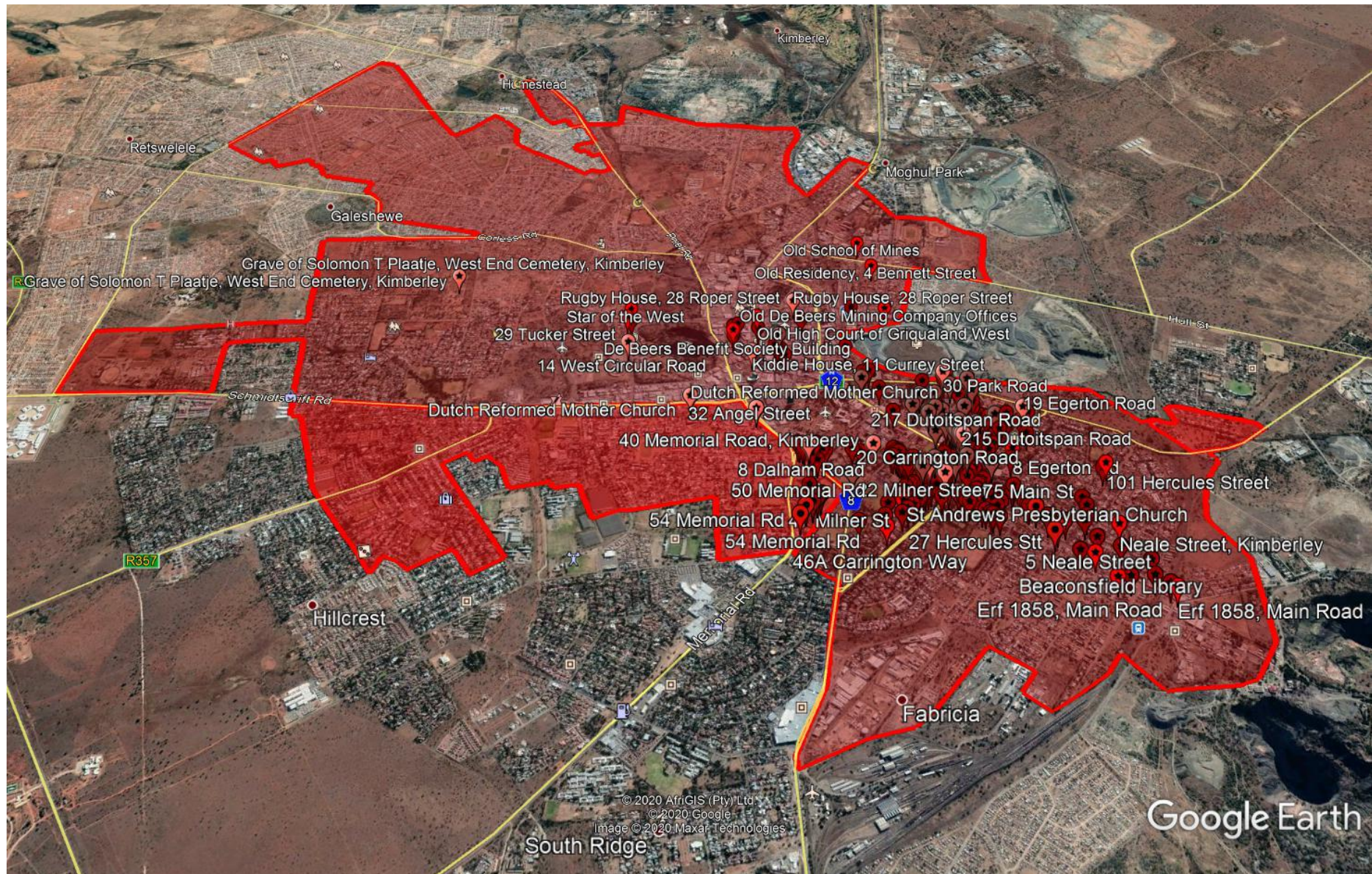
Various sites/structures within the study area have been identified in terms of Section 30 of the National Heritage Resources Act, 1999 as Provincial Heritages Sites in the Northern Cape Provincial Heritage Register. Please see the attached **list of the Northern Cape Heritage Authority**, attached as **Annexure 3**. All these sites have been **plotted on a plan**, see **Figure 18** on the next page. Due to the scale of the study area it is not possible to indicate all these sites on an A4/A3 page. This plan, however, gives a good indication of the areas where most of the identified heritage resources are found.

The demarcation of the heritage areas and the individually identified heritage resources listed in the Provincial Heritage Register is primarily based on an annotated *Survey of Buildings and Sites of Architectural, Historical and Contextual Importance in Kimberly* done by the Division of Professional and Technical Services of the former National Monuments Council in 1986. The listed heritage resources are primarily found in the Belgravia, Klisserville and Memorial Road areas as well as West End and the Central Business District Area.

Some further areas with heritage significance have been identified in the Sol Plaatje Municipal Spatial Development Framework, 2009. This is primarily the Central Business District (Civic Centre Precinct) of the city.

No further heritage audits have been done for the study area recently. Due to the scope of the study area and the nature of the project it was not possible to do a detailed heritage audit for all individual heritage resources within the study area which is the responsibility of the relevant heritage authorities. The study will, however, identify and describe heritage resources in the assessment of the Cultural Landscape and Built Environment (Townscape and Streetscape Analysis) assessment for the study area in the next chapter. Due to the extent of the study area more focus would be placed on the cultural landscape/streetscapes than the history or significance of individual heritage resources.





**Figure 18:** Areas older than 60 years within the wider Sol Plaatje Municipal area with the identified and declared heritage sites plotted thereon.

Deployment of a fibre network system within certain areas within the Sol Plaatje Municipal Area



## SECTION 8: CULTURAL LANDSCAPE AND BUILT ENVIRONMENT (TOWNSCAPE AND STREETScape) ASSESSMENT OF THE DIFFERENT SECTORS

The term "cultural landscape" embraces a diversity of manifestations of the interaction between humankind and its natural environment. A cultural landscape can be defined as a geographic area (including both cultural and natural resources), that is associated with a historic event, activity or person, or exhibiting any other cultural or aesthetic values.

The study area is an urban area (primarily suburban) which comprises tangible and intangible heritage resources. These resources do not occur in isolation from one another, but are rather as temporal palimpsests. These resources must be considered within the context of the cultural heritage baseline to provide a meaningful interpretation of the cultural significance of the individual resources, their interactions through time, and the multi-layered landscape.

The different Sectors within the study area will be addressed individually. The underneath listed factors will be used to analyse the cultural landscape and built environment (townscape and streetscape) and assess the possible impact of fibre deployment on the character and heritage significance of the individual areas. See **Tables 1 to 4** in this chapter. Indicators will then be proposed to minimise the impact of the fibre deployment on the cultural landscape and built environment in the specific Sectors.

- Urban structure (framework and hierarchy of routes and space, landmarks/features and edge conditions)
- Density and mix (development intensity and range of uses)
- Scale, height and massing
- Architectural character form and appearances (building types, period styles, materials, style, colour, textures)
- Landscape setting and character (typography, natural features, vegetation and greenery)
- Street character – spatial qualities and edge conditions, walls, trees, edges and fences.
- Build street frontages, architectural detail and roof outlines.

This chapter would also address the heritage significance of the townscapes and individual structures within the study area. As indicated earlier, due to the scope of the study area and the nature of the project it was not possible to do a detailed heritage audit for all individual heritage resources within the study area which is the responsibility of the relevant heritage authorities. This chapter will, however, identify and describe heritage resources in the assessment of the Cultural Landscape and Built Environment (Townscape and Streetscape Analysis) assessment for the study area. Due to the extent of the study area more focus would be placed on the cultural landscape/streetscapes than the history or significance of individual heritage resources.



The residential suburbs of Belgravia, Memorial Road area and Klisser contain some of the formally declared heritage areas within the study area. It is characterised by tree-lined streets, hedges and pleasant gardens which contribute to the historical streetscapes of these areas. Large open spaces such as Queens Park and the schools and school sport fields as well as some landmark sites such as the Honoured Dead Memorial contribute to the specific character of the area.

The residential suburbs of Belgravia, Memorial Road area and Klisser have historical and architectural association with the early mining history of Kimberley and some historical events and figures from this period. There is also some association with the Anglo Boer War – e.g. the Honoured Dead Memorial and its sacred circle. These areas contain historical townscapes which are important components in the social and historical layering of the development of the original Kimberley township. Many of the streetscapes, individual dwelling houses and other structures have aesthetic, historical, architectural as well as associational significance.

Several declared National Monuments, Provincial Heritage sites and other sites/structures which have been included in the heritage register of the Province are found in these areas.

Underneath and on the next pages are some images of typical streetscapes, land mark sites and structures as well as the architectural character and style in the Belgravia, Memorial Road Area and Klisser se areas.



***Figures 20 and 21: Tree lanes on the sidewalks and in the middle of respectively Memorial Road and Carrington Street***





**Figure 22:** *Honoured Dead Memorial in Memorial Road (Declared National Monument and Provincial Heritage Site)*



**Figure 23:** *Queens Park in Park Road, Belgravia (mentioned in the Provincial Heritage Register) a 3A heritage resource*





**Figure 24: Kimberley Boys High in Memorial Road, Belgravia**



**Figure 25 Edwardian style Kimberley Girls High School Building, (Rendelsham Road, Belgravia**

Underneath and on the next page are a few of the dwelling house structures with exceptional architectural significance. Many buildings present a high level of architectural detail, including bay windows, articulated entrances and porches, roofed verandas, and timber fretwork to gable ends.



**Figure 26: Alexander McGregor Memorial Museum (10 Chapel Street) (a declared National Monument and Provincial Heritage site)**



**Figure 27: Victorian dwelling at 12 Edgerton Road, Belgravia**



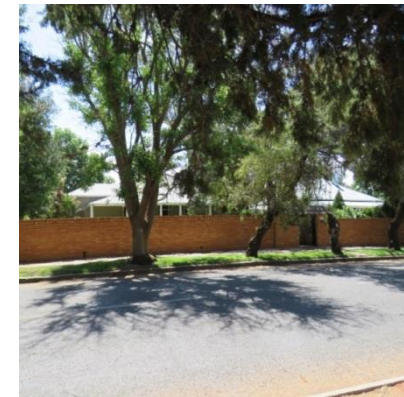


**Figure 28:** Late Victorian mansion in 10 Lodge Road with typical wooden, decorated verandah (National Monument and Provincial heritage site)



**Figure 29:** Lodge Road (National Monument and Provincial Heritage site)

Underneath are some typical residential streetscapes. The streets have a residential character and the edges form enclosure which gives a sense of place. The edge conditions is a combination of traditional fences and more modern type of fences which in many cases effectively screen much of the front garden spaces and buildings with generally the roof spaces being visible.



**Figures 30 - 32:** Building frontages and roof outlines are largely setback from the street boundary and are often screened from view by walls, fences and trees.

| TABLE 1: ASSESSMENT OF THE CULTURAL LANDSCAPE AND BUILT ENVIRONMENT IN SECTORS 7 AND 9 (BELGRAVIA, MEMORIAL ROAD AREA AND KLISSER) |  |   |
|--|--|---|
| Factor/element   | Analysis   | Indicators/potential impacts/mitigation proposals   |
| Urban structure (framework and hierarchy of routes and space, landmarks/features and edge conditions)                              | <p>Radial road structure around landmark sites such as Queens Park and the Honoured Dead Memorial.</p> <p>Longitudinal and square blocks in the residential areas which is somewhat unusual in older rural township areas.</p> <p>Major routes such as Carrington Road and to a lesser extent Dutoitspan Road have a central row of trees.</p> <p>Typical of the sidewalks are mature tree lanes. Little other greenery on the sidewalks. Some of the pavements or carriageway crossings are paved but mostly gravel verges are present.</p> | <p>As no aerial fibre deployment is proposed there would be no visual impact on the streetscapes or individual heritage resources. No indicators in this regard are thus required.</p> <p>Protect avenue trees and historical original curb stones and paving.</p> <p>Trenching activities must comply with the <b>Tree Protection Guideline For Construction, Excavation &amp; Trenching For Aerial And Underground Fibre Optic Cabling in Annexure 5</b> to prevent any damage to the root systems of the trees.</p> <p>No curb stones to be removed or damaged. Trenching on side corners should be by means of tunnelling underneath curb stones.</p> |
| Urban Grain (pattern of blocks, erven and buildings)   | <p>Because the blocks are relatively small, there a few erven to a block and the houses appear to be quite large in relation to the size of the erven.</p> <p>The area has relatively high density with quite an urban quality to it.</p>  | None  |
| Density and mix (development intensity and range of uses)  | Existing development almost exclusively residential. The areas have a relatively higher density with community facilities such as schools and churches, parks and small low scale local commercial facilities.   | None  |
| Scale, height and massing  | Domestic scale is prevalent, primarily single storey. Massing is commensurate with single residential dwellings and accompanying rectangular form with pitched roofs and articulated frontages.  | None  |

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| Architectural character form and appearances (building types, period styles, materials, style, colour, textures) | <p>Architectural character is domestic and includes historical period styles such as Victorian and Edwardian. Also typical is the verandah's.</p> <p>Buildings are set back from the street and are often screened from view by walls, fences and trees.</p> <p>The area conforms to a consistent/uniform homogeneous period style.</p>   | <p>New elements such as poles and wires would be out of character.</p> <p>Modern or contemporary elements should not be installed.</p>  |
| Landscape setting and character (typography, natural features, vegetation and greenery)                          | <p>Kimberley is flat and there is a combination of avenue trees and pockets of garden trees. Little vegetation on the street verges.</p>  | <p>Trenching activities must comply with the <b>Tree Protection Guideline For Construction, Excavation &amp; Trenching For Aerial And Underground Fibre Optic Cabling</b> in Annexure 5 to prevent any damage to the root systems of the trees.</p> |
| Street character – spatial qualities and edge conditions, walls, trees, edges and fences.                        | <p>The streets have a residential character and the edges form enclosure which gives a sense of place.</p> <p>The numerous intersections due to the small blocks – contributes to a sense of place.</p> <p>Edge conditions – there is a combination of traditional fences and more modern type of fences which in many cases effectively screen much of the front garden spaces and buildings with generally the roof spaces being visible.</p> | None  |
| Build street frontages, architectural detail and roof outlines.  | <p>Building frontages and roof outlines are largely setback from the street boundary, more often than not only visible with oblique views through gaps in the street boundary enclosures and screening vegetation.</p> <p>Many buildings present a high level of architectural detail, including bay windows, articulated entrances and porches, roofed verandas, and timber fretwork to gable ends.</p>  | None  |



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|  | Most building frontages, particularly the late Victorian/Edwardian houses have some form of gable end facing the street, setting up a rhythm of alternate pitched roof elements, and horizontal elements of parapets, eaves and ridge lines. |  |
|--|--|--|



These areas contain primarily residential suburbs being developed in the early and mid 20<sup>th</sup> century. Some community facilities such as schools, churches, parks, sport fields and some lower scale local business uses. No formal heritage audits have been done in these areas and there are no formal declared heritage areas within these areas. Only a few heritage resources have been formally identified on the Provincial Heritage Register.

There are only two formally declared heritage sites in these areas. Firstly the Dutch Reformed Church in Albertyn Street in New Park (a declared National Monument and Provincial Heritage Site) which would be considered as a 3A graded heritage resource due to the role of the church in the local community of this area of the city.

The Sol Plaatje Museum in Angel Street in New Park. The Sol Plaatje Museum (Sol Plaatje House) at 32 Angel Street in New Park is also a declared National Monument and Provincial Heritage Site. Due to the role of Sol Plaatje in the wider Northern Cape context this would be a 3A or even a 2A heritage resource. This area is on the boundary of the former Malay Camp, a cosmopolitan suburb which was subject to forced removals prior to the Group Areas Act. This adjacent area has heritage significance, but has become an urban area where little of the original character of the Malay Camp is visible.

Some houses with earlier Victorian elements are found in Lawson Street. These dwelling houses are typical of an architectural style of a certain historical period in the township development of the Kimberley Township. None of the houses are, however, exemplary examples of this type of architecture. Several of them have been insensitively altered especially through more modern boundary walls. There are, however, some sections of Lawson Street have relatively intact historical streetscapes. Some of these dwelling houses and portions of streetscapes would be considered as 3C heritage resources.

A small section of Diamond Park contains some older dwelling houses which are representative of an architectural style of a certain period associated with the residents employed in the later mining activities in the City. These houses do not have high architectural significance, but can probably be considered 3C heritage resources being typical of a certain period within the township development of the local municipal area.

The adjacent West End area is an identified heritage area in the MSDF and the West End Cemetery, bordering the study area, has some heritage significance. The cemetery is an important local heritage resource and the grave of Solomon T Plaatje and some people killed during the 1952 Mayibuye Uprising. The cemetery also contains 241 Commonwealth burials of the First World War, the great majority of them due to the influenza epidemic of October 1918. There are also 169 Second World War burials in the cemetery.



The dwelling houses in the remainder areas of these Sectors are not considered to significantly contribute to the cultural and historical landscape of the Kimberley township area having specific aesthetic characteristics valued by a community or cultural group or in terms of the architectural style demonstrating a high degree of creative or technical achievement at a particular period.

The street landscape in these areas is conventional, namely a typical grid layout from this period. There is nothing distinctive from an urban design or town planning point of view. It is not considered a historical layout and is typical of more modern town planning. Typical of the streetscapes in these Sectors is the presence of mature trees and tree lanes on the verges of the sidewalks. Little other vegetation is found on the sidewalks. Some of the sidewalks are tarred or paved while other are gravel. Some is a combination of paved driveways and gravel sidewalks on the remainder areas.

Underneath and on the next pages are some images of typical streetscapes, land mark sites and structures as well as the architectural character and style in Sector 1 (New Park and Labram) and Sector 2 (Rhodesdene And Caters Glen).

**Images 41** and **42** are examples of dwelling houses with some Victorian elements in Lawson Street. Some relative intact streetscapes are found in Lawson Street, e.g. the area between Truter and Reservoir Streets and between Scanlan and Angle Streets. The remainder of Lawson Street abuts the Sol Plaatje University buildings to the one side and some modern dwelling houses.



**Figure 34: 41 Lawson Street**



**Figure 35: 82 Lawson Street**



**Figure 36:** *Relative intact streetscape in Lawson Street between Scanlan and Angle Streets.. Mature tree lanes are found on the verges of the sidewalks. Little other greenery is found on the sidewalks.*



**Figures 37 to 39:** *Modern structures at opposite side of Lawson Street (e.g. boundary wall of the university's sport grounds)*





**Figure 40 and 41** *Dwelling houses in Holland Street. Some insensitive later additions and modern boundary walls.*



**Figures 42 and 43:** *Typical streetscape in Labram – Hicks Street with gravel sidewalks and mature tree lanes. Typical modern 20<sup>th</sup> century house in Hicks Street.*



**Figure 44:**      *Typical suburban public open space areas, E.g. a POS in William Gasson Street in Labram and*



**Figure 45:**      *Modern school building in New Park (Adamantia High School)*





**Figures 46 and 47: Sol Plaatje Museum at 32 Angel Street, New Park**

The Sol Plaatje Museum and Library is at 32 Angel Street (on the edge of the former Malay Area) is a house where Solomon T. Plaatje lived during his last years at 32 Angel Street. The Sol Plaatje Educational Trust was set up in 1991 to serve as a custodian for this and other legacy projects. In 1992, 32 Angel Street was declared a National Monument (Provincial Heritage Site under 1999 legislation. Plaatje's grave in West End Cemetery, Kimberley, is also a declared Provincial Heritage site.



**Figure 48: Angel Street streetscape where Sol Plaatje Museum is located**

Deployment of a fibre network system within certain areas within the Sol Plaatje Municipal Area

Underneath are some streetscapes and 20<sup>th</sup> century dwelling houses in Labram, Albertynshof and Kestellhof areas.



**Figure 49: Jacobus Smit Street**



**Figure 50: Welgevonden Street**



**Figure 51: Jacobus Halket Road**



**Figure 52: Conrad Street**



**Figure 53: Pickering Road**





**Figure 54: Caters Road**



**Figure 55: George Barrel Road**



**Figure 56: Simons Street**



**Figures 57 and 58: Typical streetscapes with tree lanes on the verges of the sidewalks**



| <b>TABLE 2: ASSESSMENT OF THE CULTURAL LANDSCAPE AND BUILT ENVIRONMENT IN SECTOR 1 (NEW PARK AND LABRAM) AND SECTOR 2 (RHODESDENE AND CATERS GLEN)</b> |  |  |
|--|--|--|
| <b>Factor/element</b>  | <b>Analysis</b>  | <b>Indicators/potential impacts/mitigation proposals</b>   |
| Urban structure (framework and hierarchy of routes and space, landmarks/features and edge conditions)  | <p>A combination of longer rectangular blocks and shorter blocks. Relatively wide streets.</p> <p>Typical of the sidewalks are mature tree lanes. Little other greenery on the sidewalks. Some of the pavements or carriageway crossings are paved but mostly gravel verges are present.</p> | <p>The streets and buildings, especially in the older areas (e.g. Lawson Road and Holland Street) have local significance (3C). New elements in the streetscape should be introduced with care – e.g. place poles so that it can be absorbed by mature trees, put poles on erf corners not directly in front of dwelling houses or other structures.</p> <p>The location of the poles on street corners is visually very intrusive and presents a physical barrier to pedestrians and other non-motorised modes of transport such as bicycles and wheelchairs.</p> <p>The directional change of the cabling requires additional bracing poles to support the treated timber poles used. This results in multiple poles on each street corner which is visually very intrusive. As each street corner / side of road requires this, the cumulative visual effect changes the residential character to an industrial character. Street trees are positioned away from the intersections and splays to avoid visual barriers to traffic at intersections. The poles are placed directly in the line of sight at the splays. The open character of the intersections without street trees mitigating the visual impact of the poles means that the multiple poles and bracing is completely exposed.</p> <p>It is recommended that an alternative type of pole is used at intersections, which does not require bracing and multiple poles. A stronger steel structure with a single base / anchor point should be investigated. The actual visual bulk of the structure must be reduced and if possible two poles placed at the corners of the splays rather than a single one placed within the splay should be considered.</p> <p>The structures on the corners cannot be hidden and thus require greater aesthetic consideration. The poles should be in lighter shades and neutral colours that blend better with</p> |

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|   |  | <p>the general background. The aim is to reduce the visual clutter and physical barriers presented by the multiple timber poles on the street corners.</p> <p>In these areas the tree avenues are the main heritage resource and the mature trees should be protected. Trenching activities must comply with the proposed <b>Tree protocol</b> in <b>Annexure 5</b> to prevent any damage to the root systems of the trees. The specifications with regard to</p> <p>Compliance with the Tree/Bush Cutting guidelines in Chapter 3 of <b>Frogfoot Draft FTTH Aerial Line Cable Specifications</b> attached as Annexure 6 is also essential.</p> |
| Urban Grain (pattern of blocks, erven and buildings)      | <p>A combination of some longer and shorter street blocks. In the shorter blocks there are a few erven to a block and the houses appear to be quite large in relation to the size of the erven.</p> <p>Houses mostly rectangular with additional hip sections.<br/>Pockets of trees are found.<br/>Small sections contain finer grain – e.g. Lawson Road and portions of Holland Street</p> <p>Relatively high density – quite an urban quality to it.</p> | None  |
| Density and mix (development intensity and range of uses) | Existing development almost exclusively residential. The areas have a relatively higher density with community facilities such as schools and churches, parks and small low scale local commercial facilities.   | None  |
| Scale, height and massing                                 | <p>Domestic scale is prevalent, mostly single storey. Massing is commensurate with single residential dwellings.</p> <p>Mix of twentieth century styles. Few ordinary architectural examples with ordinary or minor aesthetic merit. No other heritage significance</p>  | None  |

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| Architectural character form and appearances (building types, period styles, materials, style, colour, textures) | <p>Architectural character is domestic and includes small pockets of historical period styles such as Victorian and Edwardian. Also typical in these older areas are the veranda's.</p> <p>Buildings are set back from the street and are often screened from view by walls, fences and trees.</p> <p>Small sections have streetscapes that conform to a consistent/uniform homogeneous period style. In general the majority of the single residential dwelling houses and general residential dwelling complexes are a mixture of twentieth century architectural styles. The streetscapes can be considered 3C's heritage resources – being typical/representative of a period and not having a high architectural or streetscape significance.</p> <p>These structures can be considered representative of a certain of period - the architecture is neither distinctive or notable.</p> | <p>New elements such as poles and wires should be installed with care. E.g. position poles so that it can be absorbed by mature trees, erect poles on erf boundaries and not directly in front of dwelling houses or other structures.</p> <p>The impact of the pole structures on the street corners is rather intrusive and more appropriate pole positioning or alternative type of poles on the street corners should be considered. See earlier proposal.</p> <p>Compliance with the <b>Tree Protection Guideline For Construction, Excavation &amp; Trenching For Aerial And Underground Fibre Optic Cabling</b> and <b>Frogfoot Draft FTTH Aerial Line Cable Specifications</b> is important to protect the mature trees in these areas.</p> |
| Landscape setting and character (typography, natural features, vegetation and greenery)                          | <p>Kimberley is flat and there is a combination of avenue trees and pockets of garden trees. Little vegetation on the street verges.</p>   | <p>Compliance with the <b>Tree Protection Guideline For Construction, Excavation &amp; Trenching For Aerial And Underground Fibre Optic Cabling</b> and <b>Frogfoot Draft FTTH Aerial Line Cable Specifications</b> is important to protect the mature trees in these areas.</p>  |
| Street character – spatial qualities and edge conditions, walls, trees, edges and fences.                        | <p>The streets have a residential character and the edges form enclosure which gives a sense of place.</p> <p>The numerous intersections due to the small blocks – contributes to a sense of place.</p> <p>Edge conditions – there is a combination of more traditional fences and modern type of</p>  | <p>The numerous intersections due to the relatively short blocks result in multiple poles on each street corner which is visually very intrusive. As each street corner / side of road requires this, the cumulative visual effect changes the residential character to an industrial character. Street trees are positioned away from the intersections and splays to avoid visual barriers to traffic at intersections. The poles are placed directly in the line of sight at the splays. The open character of the intersections without street trees mitigating the visual</p>  |

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|   | fences.   | <p>impact of the poles means that the multiple poles and bracing is completely exposed.</p> <p>It is recommended that an alternative type of pole is used at intersections, which does not require bracing and multiple poles as per earlier proposal.</p> <p>Poles on the remainder of the verges should be positioned in such a manner that its visual impact can be absorbed by mature trees. Poles should also be erected on erf corners and not directly in front of dwelling houses or other structures.</p> |
| Build street frontages, architectural detail and roof outlines. | Building frontages and roof outlines are nearer to the street and are very visible due to smaller front garden areas and lack of mature trees in front gardens. Roof lines are visible from the street. Some frontages are obscured by high solid boundary walls and other security measures. | None   |

### 8.3 SECTOR 4: CASSANDRA SECTOR 8: SOUTH RIDGE/MINVERVA GARDENS

Both aerial fibre and conventional trenching as ways of installing the fibre network are proposed in these sectors. Aerial fibre has already been installed in certain areas within these sectors. In terms of the NID response, the HIA have to address the areas older than 60 years within these areas. No areas within South Ridge and Minerva are older than 60 years.

Cassandra is a relatively new extension on the eastern side of Kimberley bounded by the R64 (Aristotle Road, the main road towards Free State Province – to Bloemfontein), the railway line towards the west and Ernes Road Oppenheimer towards the north. A small portion of the suburb contains areas older than 60 years. This area includes primarily the following streets, Aristotle Street, Ernst Oppenheimer Street, Samaria Road, Coaton Street, David Harris Street, Gibson Street, Gardener Williams Street and Du Cane Street as can be seen on the underneath **Figures 56 and 60**.



**Figures 59 and 60:** Figure 59 shows the surrounding areas older than 60 years in green. Figure 60 shows the area of Cassandra older than 60 years in red.



This portion of Cassandra is characterised by later 20<sup>th</sup> century architecture, less mature tree lanes than in other residential areas within the city, various pole like structures such as Eskom overhead power lines, high mast lightning poles, overhead telephone poles. This is especially prevalent in the area adjacent to the railway line, e.g. Samaria Road. A few of the streets have the typical mature tree lines as found elsewhere in the city. There is, however, much less trees especially towards the railway line and there is very little greenery on the sidewalks other than trees. Underneath and on the next pages are some photographs showing the urban character of this area.



**Figures 61 and 62:** Dwelling houses in Samaria Road next to the railway line. Various other pole structures are found in this area.



**Figures 63 and 64:** Tree lanes and mature trees found in some streets, but in general sidewalks less planted.



**Figures 65 to 67:**

***There is no uniform architectural style. Houses typically a variety of later 20<sup>th</sup> century architectural styles.***

| <b>TABLE 3: ASSESSMENT OF THE CULTURAL LANDSCAPE AND BUILT ENVIRONMENT IN SECTOR 4 (CASSANDRA)</b>    |  |  |
|---|--|--|
| <b>Factor/element</b>   | <b>Analysis</b>  | <b>Indicators/potential impacts/mitigation proposals</b>   |
| Urban structure (framework and hierarchy of routes and space, landmarks/features and edge conditions) | <p>Longer rectangular blocks. Relatively wide streets.</p> <p>Typical tree lanes in some streets, but in general the sidewalks are less vegetated than elsewhere in this city. Except for some trees, little other greenery on the sidewalks. Some of the pavements or carriageway crossings are paved but mostly gravel verges are present.</p> <p>The streets abutting the railway line is characterised several pole like structures, e.g. overhead electric lines, high mast lightning and overhead telephone poles.</p> | <p>Although a relatively newer area, there are some established areas with a specific streetscape character. New elements in these streetscapes should thus also be introduced with care – e.g. place poles so that it can be absorbed by mature trees, put poles on erf corners not directly in front of dwelling houses or other structures.</p> <p>The location of the poles on street corners is visually very intrusive and presents a physical barrier to pedestrians and other non-motorised modes of transport such as bicycles and wheelchairs.</p> <p>The directional change of the cabling requires additional bracing poles to support the treated timber poles used. This results in multiple poles on each street corner which is visually very intrusive. As each street corner / side of road requires this, the cumulative visual effect changes the residential character to an industrial character. Street trees are positioned away from the intersections and splays to avoid visual barriers to traffic at intersections. The poles are placed directly in the line of sight at the splays. The open character of the intersections without street trees mitigating the visual impact of the poles means that the multiple poles and bracing is completely exposed.</p> <p>It is recommended that an alternative type of pole is used at intersections, which does not require bracing and multiple poles. A stronger steel structure with a single base / anchor point should be investigated. The actual visual bulk of the structure must be reduced and if possible two poles placed at the corners of the splays rather than a single one placed within the splay should be considered.</p> <p>The structures on the corners cannot be hidden and thus require greater aesthetic consideration. The poles should be in lighter shades and neutral colours that blend better with</p> |

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|  |  | <p>the general background. The aim is to reduce the visual clutter and physical barriers presented by the multiple timber poles on the street corners.</p> <p>In these areas the tree avenues are the main heritage resource and the mature trees should be protected. Trenching activities must comply with the proposed <b>Tree Protection Guideline For Construction, Excavation &amp; Trenching For Aerial And Underground Fibre Optic Cabling</b> in <b>Annexure 5</b> to prevent any damage to the root systems of the trees. The specifications with regard to</p> <p>Compliance with the Tree/Bush Cutting guidelines in Chapter 3 of Frogfoot Networks <b>Frogfoot Draft FTTH Aerial Line Cable Specifications</b> attached as <b>Annexure 6</b> is also essential.</p> |
| Urban Grain (pattern of blocks, erven and buildings)   | <p>Relatively longer blocks within this section of Cassandra. Houses mostly set back from the street. Relatively lower density.</p> <p>Houses mostly rectangular with additional hip sections.</p> <p>This area has a more rural character. Sidewalks in general less planted.</p> | None   |
| Density and mix (development intensity and range of uses)                                      | Existing development almost exclusively residential. Some general residential developments.  | None   |
| Scale, height and massing  | <p>Domestic scale is prevalent, mostly single store. Massing is commensurate with single residential dwellings.</p> <p>Mix of twentieth century styles. Few ordinary architectural examples. Ordinary of minor aesthetic merit. No other heritage significance.</p>                | None   |
| Architectural character form and appearances (building types, period styles, materials, style, | Architectural character is more modern later 20 <sup>th</sup> century dwelling houses. No uniform architectural style.   | Although new elements such as poles and wires should be installed with care, the impact thereof on the streetscape is less intrusive than elsewhere in the city due to the specific character of this section of Cassandra, especially the area  |



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| colour, textures)   | <p>Buildings are set back from the street and are often screened from view by walls, fences and trees.</p> <p>The streetscapes in this section of Cassandra are not considered a heritage resource.</p>                                    | <p>adjacent to the railway line.</p> <p>It is proposed that poles should be positioned in such a manner that it can be absorbed by mature trees where possible, erect poles on erf corners and not directly in front of dwelling houses or other structures.</p> <p>The impact of the pole structures on the street corners should be addressed as proposed earlier.</p> |
| Landscape setting and character (typography, natural features, vegetation and greenery)   | <p>Kimberley is flat and there is a combination of avenue trees and pockets of garden trees. Little vegetation on the street verges.</p>   | <p>Compliance with the Tree/Bush Cutting guidelines in Chapter 3 of <b>Frogfoot Draft FTTH Aerial Line Cable Specifications</b> attached as <b>Annexure 6</b> is also essential.</p>   |
| Street character – spatial qualities and edge conditions, walls, trees, edges and fences. | <p>The streets have a residential character and the edges form enclosure which gives a sense of place.</p> <p>Edge conditions – there is a combination of more modern type of fences, e.g. vibrecrete and exclusively palisade fences.</p> | <p>None</p>  |
| Build street frontages, architectural detail and roof outlines.                           | <p>Building frontages and roof outlines are more set back from the street.</p> <p>Roof lines are visible from the street. Some frontages are obscured by high solid boundary walls and other security measures.</p>                        | <p>None</p>  |

#### 8.4 SECTOR 10: VERWOERD PARK, DIAMOND PARK AND RIVIERA

Both aerial fibre and conventional trenching as ways of installing the fibre network are proposed in this sector. In terms of the NID response, the HIA have to address the areas older than 60 years within these areas. The areas within Sector 10 which are older than 60 years are indicated in **Figure 68** The green areas in **Figure 69** are 60 years or older.



**Figure 68:** Locality Plan of Sector 10



**Figure 69** Figure shows the areas older than 60 years in green. Sector 10's boundaries indicated in red.

The oldest section of this area is a portion of Diamond Park adjacent to the West End area. This area is more or less bounded by Pin Road, French Road, Auction Road, Anderson Road and St Augustine's Road. This area contains some earlier 20<sup>th</sup> century style houses. Although representative of a certain period within the township development of the Kimberley township area they are ordinarily architectural examples and have minor aesthetic merit. These streetscapes can be considered 3C heritage resources. Except from being representative of a certain period they contain no other heritage significance. Streetscapes are not intact any more and more modern dwelling houses are found in between.

On the next pages are some photographs of the different suburbs within this Sector to show the typical character of these areas.

Underneath are some photographs of the oldest section of Diamond Park.



**Figures 70 - 73:**      *Some older dwelling houses and streetscapes in Augustine Road in Diamond Park*



**Figures 74 and 75:**      *Some later dwelling houses and streetscapes in Augustine Road in Diamond Park*





**Figures 76 and 77:** Some earlier dwelling houses and streetscapes in French Road in Diamond Park



**Figures 78 and 79:** Reef Street in Diamond Park. This area has quite a rural character. Less of the typical tree lanes elsewhere in Kimberley.



**Figures 80 and 81:** Auction Street in Diamond Park. This area has also quite a rural character.





**Figures 82 and 83:**     *Anderson Street, Diamond Park*

Underneath and on the next pages are some photographs of the Verwoerd Park area:



**Figures 84:**     *Howie Road in Verwoerd Park with the West End cemetery at end of the road*





**Figure 85:** *West End Cemetery – Findlayson Road*



**Figure 86:** *Michau Street, Verwoerd Park*



**Figure 87:** *Findlayson Road, Verwoerd Park*



**Figure 88:** *NG Church Howie/Finus Road*



**Figure 89:** *School building Howie Road*

Deployment of a fibre network system within certain areas within the Sol Plaatje Municipal Area





**Figure 90 and 91:**      ***Howie Road***



**Figure 92 and 93:**      ***Silson Road***



**Figure 94:** ***Fisher Road, Riviera***



**Figure 95:**      ***Tugela Road, Riviera***

| TABLE 4: ASSESSMENT OF THE CULTURAL LANDSCAPE AND BUILT ENVIRONMENT IN SECTOR 10 (DIAMOND PARK, VERWOERD PARK AND RIVIERA) |   |   |
|--|---|---|
| Factor/element   | Analysis  | Indicators/potential impacts/mitigation proposals   |
| Urban structure (framework and hierarchy of routes and space, landmarks/features and edge conditions)                      | <p>A combination of longer rectangular blocks and shorter blocks. Wide streets.</p> <p>Some mature tree lanes on sidewalks. Little other greenery on the sidewalks. Some of the pavements or carriageway crossings are paved but mostly gravel verges are present.</p> <p>Area has quite a rural character to it, however little gardening, except for some trees, on individual erven.</p> | <p>The streets and buildings in the older areas of Diamond Park have local significance (3C).</p> <p>New elements in these streetscapes and also elsewhere in this area should thus be introduced with care – e.g. place poles so that it can be absorbed by mature trees, put poles on erf corners not directly in front of dwelling houses or other structures.</p> <p>The location of the poles on street corners would also be visually very intrusive and presents a physical barrier to pedestrians and other non-motorised modes of transport such as bicycles and wheelchairs.</p> <p>It is recommended that an alternative type of pole is used at intersections, as has been done elsewhere in the City, which does not require bracing and multiple poles. A stronger steel structure with a single base / anchor point should be investigated. The actual visual bulk of the structure must be reduced and if possible two poles placed at the corners of the splays rather than a single one placed within the splay should be considered.</p> <p>The structures on the corners cannot be hidden and thus require greater aesthetic consideration. The poles should be in lighter shades and neutral colours that blend better with the general background. The aim is to reduce the visual clutter and physical barriers presented by the multiple timber poles on the street corners.</p> <p>In these areas the tree avenues are the main heritage resource and the mature trees should be protected. Trenching activities must comply with the proposed <b>Tree Protection Guideline For Construction, Excavation &amp; Trenching For Aerial And Underground Fibre Optic Cabling</b> in <b>Annexure 5</b> to prevent any damage to the root</p> |



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|  |   | <p>systems of the trees.</p> <p>Compliance with the Tree/Bush Cutting guidelines in Chapter 3 of Frogfoot Networks <b>Frogfoot Draft FTTH Aerial Line Cable Specifications</b> attached as <b>Annexure 6</b> is also essential.</p> |
| Urban Grain (pattern of blocks, erven and buildings)   | <p>A combination of some longer and shorter street blocks. In the shorter blocks there a few erven to a block and the houses appears to be quite large in relation to the size of the erven.</p> <p>Houses mostly rectangular with additional hip sections.</p> <p>The area has quite a rural character, e.g. Reef Street and Auction Street in Diamond Park and Michau Street and Howie Street in Verwoerd Park.</p> | None  |
| Density and mix (development intensity and range of uses)  | Existing development almost exclusively residential. The areas have a relatively higher density with community facilities such as schools and churches, parks and small low scale local commercial facilities.  | None  |
| Scale, height and massing  | <p>Domestic scale is prevalent, primarily single storey. Massing is commensurate with single residential dwellings.</p> <p>Mix of twentieth century styles. Few ordinarily architectural examples with ordinary of minor aesthetic merit. No other heritage significance</p>  | None  |
| Architectural character form and appearances (building types, period styles, materials, style, colour, textures) | Architectural character is domestic and includes small pockets of historical period styles, e.g. in Augustine Road in Diamond Park  | New elements such as poles and wires should be installed with care. E.g. position poles so that it can be absorbed by mature trees, erect poles on erf boundaries and not directly in front of dwelling houses or other structures. |

|   |   |  |
|---|---|--|
|   | <p>Buildings are relatively close to the street and are a variety of walls and fences are found.</p> <p>Small sections have streetscapes that conform to a consistent/uniform homogeneous period style. In general the majority of the single residential dwelling houses and general residential dwelling complexes are a mixture of twentieth century architectural styles.</p> <p>The streetscapes can be considered 3C-heritage resources – being typical/representative of a period and not having a high architectural or streetscape significance.</p> <p>These structures can be considered representative of a certain of period - the architecture is neither distinctive or notable.</p> | <p>The impact of the pole structures on the street corners is rather intrusive and more appropriate pole positioning or alternative type of poles on the street corners should be considered. See earlier proposal.</p> <p>Compliance with the <b>Tree Protection Guideline For Construction, Excavation &amp; Trenching For Aerial And Underground Fibre Optic Cabling</b> and <b>Frogfoot Draft FTTH Aerial Line Cable Specifications</b> is important to protect the mature trees in these areas.</p>   |
| Landscape setting and character (typography, natural features, vegetation and greenery)   | <p>Kimberley is flat and there is a combination of avenue trees and pockets of garden trees. Little other vegetation on the street verges.</p>  | <p>Trenching activities must comply with the <b>Tree Protection Guideline For Construction, Excavation &amp; Trenching For Aerial And Underground Fibre Optic Cabling</b> in Annexure 5 to prevent any damage to the root systems of the trees.</p>  |
| Street character – spatial qualities and edge conditions, walls, trees, edges and fences. | <p>The streets have a residential character and the edges form enclosure which gives a sense of place.</p> <p>The numerous intersections due to the small blocks – contributes to a sense of place.</p> <p>Edge conditions – there is a combination of more traditional fences and modern type of fences.</p>   | <p>The numerous intersections due to the relatively short blocks result in multiple poles on each street corner which is visually very intrusive. As each street corner / side of road requires this, the cumulative visual effect changes the residential character to an industrial character. Street trees are positioned away from the intersections and splays to avoid visual barriers to traffic at intersections. The poles are placed directly in the line of sight at the splays. The open character of the intersections without street trees mitigating the visual impact of the poles means that the multiple poles and bracing is completely exposed.</p> <p>It is recommended that an alternative type of pole is used at intersections, which does not require bracing and multiple poles as per earlier proposal.</p> |

|   |   |  |
|---|---|--|
|   |   | Poles on the remainder of the verges should be positioned in such a manner that its visual impact can be absorbed by mature trees. Poles should also be erected on erf corners and not directly in front of dwelling houses or other structures. |
| Build street frontages, architectural detail and roof outlines. | Building frontages and roof outlines are nearer to the street and are very visible due to smaller front garden areas and lack of mature trees in front gardens. Roof lines are visible from the street. Some frontages are obscured by high solid boundary walls and other security measures. | None   |



## SECTION 9: VISUAL IMPACT ASSESSMENT

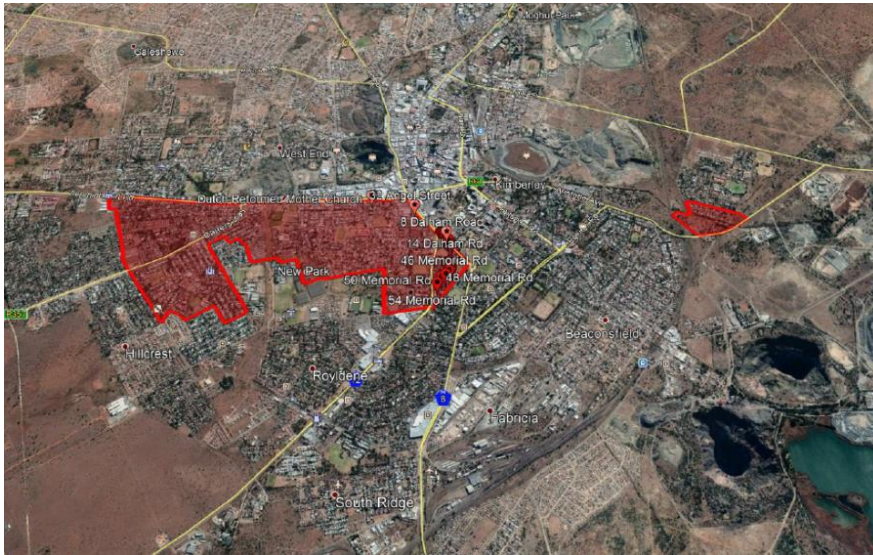
The Visual Impact Assessment (VIA) will only cover the areas where aerial fibre is proposed as the fibre deployment by means of conventional trenching would have no visual impact on the receiving environment.

Frogfoot Networks decided **to not go ahead with aerial fibre deployment within Belgravia, Memorial Road area and Klisserville**. The poles and cables which have been erected in these areas have since been removed. There would thus only be conventional trenching in these areas and the impact of aerial fibre in these areas would thus not be assessed as part of the Visual Survey.

In the following sectors both aerial fibre and conventional trenching are proposed.

|           |                                    |
|-----------|------------------------------------|
| Sector 1  | New Park                           |
| Sector 2  | Caters Glen                        |
| Sector 3  | Heuwelsig                          |
| Sector 4  | Cassandra                          |
| Sector 8  | South Ridge/Minerva Gardens        |
| Sector 10 | Verwoerd Park/Riviera/Diamond Park |

As per the requirements of the Northern Heritage Cape Heritage Authority in their response to the original NID submission, dated 10 November 2020, the visual impact of the deployment of aerial fibre within the areas older than 60 years within these Sectors will be assessed. On the next page is a map, **Figure 96**, showing the extent of these areas – demarcated in red. A second NID for Sector 10 (Verwoerd Park/Riviera/Diamond Park) was submitted in January 2021. The areas older than 60 years within Sector 10 which have also been included in the HIA and which would be addressed by the VIA are the green areas within the area demarcated by the red boundary line in **Figure 97**. (Also see **Annexure 2** to this report.)



**Figures 96 and 97:** *Aerial maps showing the extent of the area to be covered by the Visual Impact Assessment. The red areas in Figure 96 are the areas older than 60 years within Sector 1(New Park), Sector 2 (Catters Glen), Sector 3 (Heuwelsig), Sector 4(Cassandra)and Sector 8 (South Ridge/Minerva Gardens). The green areas within the demarcated red indicating the boundaries of Sector 10 (Verwoerd Park/Riviera/Diamond Park) in Figure 97 shows the areas older than 60 years.*

## 9.1 METHODOLOGY, REPORT CONTENT AND SEQUENCE OF WORK

A desktop survey using digital topographical survey maps and GIS databases were used to identify and assess the study area setting, to identify landform, urban landscape, and built form patterns of the receiving environments. Aerial photography from a variety of sources as well as Digital Terrain Modelling (Google Earth) was used to assist in this part of the study.

Following the desktop study, site visits were undertaken to familiarize with the urban landscape character, land uses and sense of place of these areas, assess the built environment landscape and heritage character thereof, identify visual impact on heritage resources and conduct fieldwork to capture site photographs from and toward key views and viewers.

It must be noted that the aim of photography and photomontage in visual studies is to represent the receiving environment under consideration and the proposed development, both as accurately as is practical. However, two-dimensional photographic images and photomontages alone cannot capture or reflect the complexity underlying the visual experience and should therefore be considered an approximation of the three-dimensional visual experiences that an observer would receive in the field.

The purpose of the Visual Survey is to:

- Identification of view sheds, and view catchment areas, generally based on the impact on streetscapes and individual structures/buildings (as possible identified heritage resources) within the identified suburbs.
- Identification of important viewpoints and view corridors within the affected environment, including sensitive receptors.
- Determination of the visual absorption capacity (VAC) of the urban landscape, usually based on vegetation cover or urban fabric in the area.
- Determination of the relative visibility, or visual intrusion of the aerial fibre (wooden poles and lines).
- Determination of the relative compatibility or conflict of the project with the surroundings.
- A comparison of the existing situation with the probable effect of the proposed project.
- Define the probable visual impact in the form of professional opinion.
- Provide information on management and mitigation of potential impacts, as necessary.

## **9.2 THE RECEIVING ENVIRONMENT**

### **9.2.1 Land uses in study area**

The study area contains primarily residential suburbs containing Single Residential and General Residential dwelling units with a relatively higher density except for Sector 10 which has quite a lower density rural character. The areas also contain some Community Facilities such as churches, schools, public open spaces and some buildings of the Sol Plaatje University as well as some lower scale commercial land uses. Some areas border the CBD area where mixed land uses are found. The Verwoerd Park area borders the West End Cemetery.

Municipal and other infrastructure includes road reserves (black top and sidewalks as well as underground municipal services), street lightning poles, telecommunication infrastructure (Telkom poles/cables, cellular masts and satellite discs), electrical substations and Eskom overhead lines.

### 9.2.2 Cultural landscape

The Cultural Landscape and Built Environment (Townscape and Streetscape) has been assessed and described in detail in Chapter 8 of the HIA. The study area of the Visual Impact Assessment (thus excluding the areas of Belgravia, Memorial Road area and Klisser) contains some older and more recent 20th century architecture. The street landscape in these areas is relatively conventional, namely a typical grid layout from this period with a combination of longer rectangular blocks and shorter blocks. In the shorter blocks there are a few erven to a block and the houses appear to be quite large in relation to the size of the erven. There is nothing distinctive from an urban design or town planning point of view. It is not considered a historical layout and is typical of more modern town planning.

Domestic scale is prevalent, primarily single storey. Massing is commensurate with single residential dwellings. Buildings are relatively close to the street. Edge conditions include a combination of more traditional fences and modern type of fences.

The streets have a residential character and the edges form enclosure which gives a sense of place. The numerous intersections, due to the smaller street blocks found in most of the study area, contribute to a sense of place.

The Architectural character form and appearances of the study area is primarily domestic and is a mixture of 20<sup>th</sup> century architectural styles. It includes small pockets of historical period styles and relatively intact streetscapes with a consistent/uniform homogenous period style. These streetscapes consist of primarily dwelling houses which are relatively ordinary architectural examples with ordinary or minor aesthetic merit. The streetscapes can be considered 3C's heritage resources – being typical/representative of a period and not having a high architectural or streetscape significance.

Kimberley is flat and there is a combination of avenue trees and pockets of garden trees. Mature tree lanes are found on most of the sidewalks within the study area. There is little other greenery on the sidewalks. Some of the pavements or carriageway crossings are paved but mostly gravel verges are present. Certain areas, e.g. within Sector 10 have quite a rural character to it.

Building frontages and roof outlines are mostly nearer to the street and are very visible due to smaller front garden areas and lack of mature trees in front gardens. Roof lines are visible from the street. Some frontages are often obscured by high solid boundary walls and other security measures.

No heritage audit has yet been done by either the Provincial Government or the local Sol Plaatje Municipality in any of these areas. None of these areas have also been identified as heritage areas in the Sol Plaatje Municipal Spatial Development Framework. It does border on some identified heritage areas, e.g. the West End area and the CBD area.



Although heritage resources within these areas will be identified as part of the HIA study it was, due to the scope of the study area, not possible to provide detailed descriptions regarding the heritage significance of individual heritage resources.

It is also important to note that some mixed use and higher density development is proposed in the Municipal Spatial Development Framework for certain areas (e.g. the New Park area) within the study area as well as immediately adjacent areas which will have a significant impact on the intactness of the current urban landscape environment.

### **9.3 ANALYSIS CRITERIA**

An analysis will be done for each of the individual Sectors and the visual impact of the aerial fibre would be evaluated in terms of the following criteria:

#### **9.3.1 Visual Exposure**

The Guideline for involving visual & aesthetic specialists in EIA processes defines receptors as individuals, groups or communities who are subject to the visual influence of a particular project (Oberholzer, 2005, p. 28). The locations of these receptors in the study area are variable, but can be assumed to be occupying public roads, places and spaces, places of recreation, places of employment etc.

The following were identified as potential visual receptors, to be confirmed during the visibility analysis.

- Local residents of these areas;
- The anticipated views seen by commuters and pedestrians using local roads;
- Views from community and municipal facilities (municipal buildings, museums, monuments, local churches and educational institutions);
- Views from structuring open spaces (local neighbourhood and public parks, urban and public squares, sports fields and other public or publicly accessible open spaces); and
- Views on road edges and road corners.

### 9.3.2 Visual Absorption Capacity (VAC)

The visual absorption capacity (VAC) of the receiving environment refers to the potential of the landscape to conceal the aerial fibre structures, e.g. mature trees and tree lanes being able to conceal/absorb some of the visual impact of the aerial fibre structures (poles and cables).

### 9.3.3 Urban Landscape Integrity and Sensitivity as a Visual Resource

Landscape character, landscape quality and “sense of place” are used to evaluate the visual resource i.e. the receiving environment. A qualitative evaluation of the landscape is essentially a subjective matter. In this study the aesthetic evaluation of the study area is determined by the professional opinion of the authors based on site observations.

The historic urban landscape is the urban area understood as the result of historic layering of cultural and natural values and attributes. This wider context includes notably the site’s topography, geomorphology, hydrology and natural features, its built environment, both historic and contemporary, its infrastructures above and below ground, its open spaces and gardens, its land use patterns and spatial organization, perceptions and visual relationships, as well as all other elements of the urban structure. It also includes social and cultural practices and values, economic processes and the intangible dimensions of heritage as related to diversity and identity.

This understanding of the historic urban landscape provides the basis for a comprehensive and integrated approach for the identification, assessment, conservation and management of such landscapes. This approach is aimed at preserving the quality of the human environment, enhancing the productive and sustainable use of urban spaces, while recognizing their dynamic character, and promoting social and functional diversity. It integrates the goals of urban heritage conservation and those of social and economic development. It is rooted in a balanced and sustainable relationship between the urban and natural environment, between the needs of present and future generations and the legacy from the past. It also considers cultural diversity and creativity as key assets for human, social and economic development, and provides tools to manage physical and social transformations and to ensure that contemporary interventions are harmoniously integrated with heritage in a historic setting.

Landscape Integrity refers to “the relative intactness of the existing landscape or townscape, whether natural, rural or urban, and with an absence of intrusions or discordant structures” (Oberholzer, 2005, p. 28).

In terms of urban landscape sensitivity, the receiving environment contains some identified and unidentified heritage resources. View sheds from these sensitivities would be addressed for the different Sectors to determine the extent to which the RE in each area is visually affected by the existing and proposed of aerial fibre consists of

#### **9.3.4 Visibility and Visual Intrusion**

Visual intrusion can be defined as the nature of intrusion of an object on the visual quality of the environment resulting in its compatibility (absorbed into the landscape elements) or discord (contrasts with the landscape elements) with the landscape and surrounding land uses. It can result from human-caused change in the land form, water form, vegetation, or the addition of a structure which creates a visual contrast in the basic elements (form, line, colour, texture) of the naturalistic character of a landscape or urban area.

This study will assess the visibility and possible visual intrusion caused by the aerial fibre structures by taking into consideration the nature of the proposed project and the approach that the Frogfoot project team has taken in terms of form-based typologies, material choice, position of poles etc.

#### **9.3.5 Relative compatibility with surrounding landscape**

This refers to the extent to which the proposed development and land usage is in line with or in conflict with the surrounding development and land usage taking into consideration the qualities of the receiving environment, with specific reference to the 'sense of place'. It needs to be determined if the existing and proposed structures are appropriate within a specific landscape and fit in/blend in well with the surrounding landscape. This would be evaluated as follows:

- Appropriate: The development will fit in well with the surrounding landscape
- Moderately appropriate: The development can blend in, but to a lesser degree and only with care.
- Inappropriate: The development introduces new elements into the landscape that do not fit in.

## 9.4 ANALYSIS

It should be noted that in some Sectors within the study area aerial fibre has already been deployed which allows for a comparison between the current situation and the past when there were no such structures. Some historical Google street view images would be used to demonstrate the impact. **Table 5** underneath would demonstrate the visual impact of the aerial fibre taking into consideration the criteria described in paragraph 9.3.

**Table 5: Visual Impact Analysis**

| Criteria               | Evaluation of impact  |
|------------------------|---|
| <b>Visual Exposure</b> | <p>The aerial fibre consists of wooden tar poles and cables. There are two lengths of poles, 6 m and 8 m. The 8 m poles are used at road crossings to allow for trucks. The 6 m poles are installed in the ground to a depth of 900 mm, thus actual visible pole is 5.1 m in height. The 8 m poles are installed to a depth of 1.2 m, so the actual visible height will be 6,8 m. In terms of Frogfoot's specifications for the deployment of aerial fibre, the successive poles are erected in intervals of <math>\pm 17</math> poles per km - the overhead cables will thus have a span length of <math>\pm 59</math> m. These standards, however, refer chiefly to country works. Where routes enter towns, the pole spacing may have to be modified owing to street intersections. Uneven ground and bends may necessitate additional poles.</p> <p>The receptors of the aerial fibre who would be most subject to the visual influence of the aerial fibre structures would primarily be the following:</p> <ul style="list-style-type: none"> <li>• Residents who view it from their private properties</li> <li>• Commuters and pedestrians passing by</li> </ul> <p>Should the wooden poles be positioned directly in front of dwelling houses, the poles would be visually very obtrusive to residents. Existing poles have in general been positioned on erf boundaries which contribute to lessening the visual impact thereof on individual buildings and the streetscape. Consultation in this regard took place with land owners to ensure that the position of these poles is in general acceptable to them.</p> <p>Due to the height of the poles, the cables are in general not that visually obtrusive as all dwelling houses and other buildings within the study area are primarily single storey and view levels would thus primarily be from ground level.</p> <p>Mature trees and tree lanes on the road verges are a distinctive feature of the Kimberley streetscape and cultural landscape. These trees assist to limit the visual exposure to pedestrians and commuters passing by. The trees also assist to lessen the visual exposure from individual households especially if care has been taken to ensure that the pole structures are positioned on erf boundaries rather than directly in front of dwelling houses as stated earlier.</p> |



Residential erf fronts are in general not that long which allow for poles to be erected on the erf boundaries. It would, however, be more difficult if not impossible to position poles on the erf boundaries of bigger erven with longer streets fronts (e.g. public and private open spaces, sport fields, school sites and larger community sites such as churches) as the span length on the aerial cable between successive poles is  $\pm 59$  m. If several poles are planted on these street fronts it would be visually very obtrusive to pedestrians and commuters. There are currently no examples where several poles have been planted on the street fronts of such erven.

Due to the height of the poles the aerial fibre cables would be visually less obtrusive to pedestrians walking on sidewalks or on the blacktop areas of roads. The poles and cables are, however, very visible and quite obtrusive to all receptors on the street corners/street intersections. This is due to it being visually very exposed as the visual impact thereof can in general not be absorbed by trees, the fact that there are a number of poles and stay poles and the position thereof in relation to the street splays which have in general not been taken into consideration.



**Figure 98:** *Trees and position of the poles on the erf boundary assist to lessen the impact of this earlier 20<sup>th</sup> century dwelling house in Lawson Street, New Park*



**Figure 99:** *Trees lanes and mature trees lessening the visual impact of aerial fibre on the streetscape*



**Figures 100 and 101:** *Where there are less trees or from different angles the visual impact on receptors is higher*



**Figures 102 and 103:** *The red dotted line indicates the sight line of the visual receptors. The cables would not be visually perceived by them.*





**Figures 104 - 107:** *The visual impact of poles and stay poles on street corners on visual receptors is high and is perceived as quite obtrusive by both pedestrians and commuters*

|                                   |  |
|-----------------------------------|--|
| <b>Visual Absorption Capacity</b> | <p>The visual absorption capacity (VAC) of the receiving environment differs from area to area. Most streets in the residential areas within the study area of the VIA contains sidewalks (verges) with mature trees and tree lanes. These tree lined streetscapes have the potential to conceal the aerial fibre structures and absorb to a large extent some of the visual impact of the aerial fibre structures (poles and cables). This would be the case in areas such as New Park, Caters Glen, Diamond Park and Riviera.</p> <p>An area such as Cassandra is a newer residential area with fewer mature trees. In this area there are, however, several other visually invasive man-made structures (e.g. the railway line, Eskom overhead lines and poles and high mast lightning) which already impact on the streetscapes and urban character of the area which makes the impact of the aerial fibre structures less obtrusive in this specific urban context.</p> <p>Certain sections of the Verwoerd Park area contain streets which have quite a rural feeling to it. Here are fewer trees and the sidewalks are quite exposed with little greenery. It can, however, be argued that the wooden poles also have a rural quality to it – similar to e.g. traditional telephone poles – and might not be totally out of character with the area although the perceived visual impact of the structures is higher.</p> <p>As indicated earlier, the impact of the aerial fibre structures on street corners/intersections are visually quite obtrusive. In general fewer trees are planted on streets corners as mature trees could negatively impact on sight distances of commuters at intersections. There are thus fewer trees to absorb/conceal the aerial fibre structures. Existing examples of aerial fibre deployment at intersections shows a number of poles and stay poles and the position thereof in relation to the street splays which have in general not been taken into consideration. The impact of these poles on street corners on the general cultural landscape of the city has been exaggerated by the fact that street blocks in many areas are relatively short and the number of intersections thus more.</p> <p>Residential erf fronts are in general not that long which allow for poles to be erected on the erf boundaries of individual erven. As indicated, mature trees on the sidewalks assist to conceal the pole structures. It would, however, be more difficult, if not impossible, to position poles on the erf boundaries of bigger erven with longer streets fronts (e.g. public and private open spaces, sport fields, school sites and larger community sites such as churches) as the span length on the aerial cable between successive poles is <math>\pm 59</math> m. If several poles are planted on these street fronts it would be visually very obtrusive to pedestrians and commuters. There are currently no examples where several poles have been planted on the street fronts of such erven. In these cases it would be better to consider conventional trenching.</p> |
|-----------------------------------|--|





**Figure 108:** *Trees on Lawson Street being able to absorb/conceal the visual impact of the aerial fibre on this area containing some historical dwelling houses on a relatively intact streetscape*



**Fig. 109:** *Street front in Lawson Street without aerial fibre (Google street view 2019)*



**Fig. 110:** *Street front with aerial fibre deployed (2020)*



**Figure 111** *Some open spaces are more exposed and their long treeless street fronts offer little absorption capacity to conceal aerial fibre structures*



**Figure 112:** *Tree lanes concealing aerial fibre*



**Figure 113:** *Aerial fibre more visible*





**Fig. 114:** *Aerial fibre more visible due to lack of trees and longer street fronts*



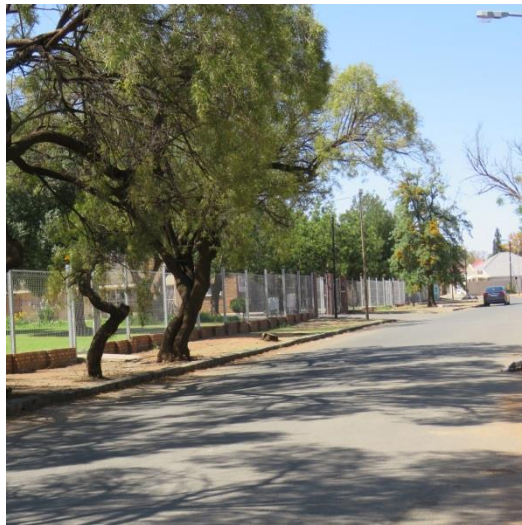
**Fig.115:** *A more exposed older streetscape in Diamond Park*



**Figure 116:** *A more rural landscape in Verwoerd Park. Mature trees would be able to conceal aerial fibre structures.*



**Figure 117:** *NG Church Kimberley site. Aerial fibre structures in front of this historic site would be inappropriate due to the long street front, no trees to conceal it and the visual impact it would have on this heritage*



**Fig. 118:** *Poles have been erected on the erf boundary of the NG Church Kimberley site. There is thus no visual impact on the church site.*





**Figures 119 - 122:** *Street intersections and corners have less potential for concealing aerial fibre structures*

**Urban Landscape Integrity and Sensitivity as a Visual Resource**

The landscape quality and “sense of place” have higher significance in certain areas of the city. A qualitative evaluation of these landscapes is essentially a subjective matter, but it can be accepted that certain areas within the study area have a finer grain and contain some older streetscapes where care should be taken with the introduction of new urban elements.

Only a few streets within the study area of the VIA contain relatively intact older streetscapes. This would e.g. be certain sections in Lawson Street and Holland Street in New Park as well as older sections in Diamond Park. Due to the fact that aerial fibre structures have already been deployed in some areas it is possible to determine the impact thereof on the landscape integrity of these areas. Historical Google Street View images from before the aerial fibre has been deployed have been compared with scenarios where aerial fibre has already been deployed to determine if these new structures are intrusive or discordant in nature on the landscape integrity of these areas.

In terms of urban landscape sensitivity, receiving environment can contain some identified and unidentified heritage resources. The underneath photographs and images would demonstrate view sheds from these sensitivities to determine the extent to which the receiving environment in each area is visually affected by the existing and proposed of aerial fibre structures.



***Figure 123:*** A 2020 photograph with aerial fibre



***Figure 124:*** A 2019 Google street view photographs without aerial fibre structures in Lawson Street.





***Figure 125: Lawson Street without aerial fibre, 2019 Google street view***



***Figure 126: Lawson Street with aerial fibre deployed***

**Images 125 – 126** give an indication of the impact of the aerial fibre poles and cables on a historic townscape in Lawson Street. Small sections of the streetscape within Lawson Street are relatively intact with some early 20<sup>th</sup> century dwelling houses. Several of these houses have, however, been insensitively altered and the streetscape at the opposite side of the road contains late 20<sup>th</sup> century and early 21<sup>st</sup> century dwelling houses as well as the Sol Plaatje University sport fields and buildings. There is no uniform architectural style and although representative of a certain period in the historical development of the Kimberley township none are exceptional architectural examples. The

above photographs show that the impact of the aerial fibre structures on this urban landscape is minimal due to the fact that all poles have been positioned on the erf boundaries and most of the impact of the pole structures are concealed or absorbed by mature trees. It does not negatively affect any heritage significance of these streetscapes.

Another example of an older streetscape is St Augustine Street in Diamond Park. No aerial fibre has yet been deployed in this area. Here mature trees would also assist to lessen the visual impact of the aerial fibre. Certain of the older streets in Verwoerd Park have quite a rural character and the sidewalks are much more exposed due to less trees and greenery. The wooden poles can, however, be considered to be a type of “rural” element and is thus not considered to be totally out of character with this urban landscape.



**Figure 127: St Augustine Street in Diamond Park**





**Figure 128:** Auction Road in Verwoerd Park which has a more rural character, no paved sidewalks, wide road and rural structures such as wind mill (“windpomp”) structures



**Figure 129:** Street boundary of the West End Cemetery in Findlayson Road

The deployment of aerial fibre structures in front of older urban landscape such as the West End Cemetery or in front of church buildings which are considered important components of the local heritage landscape would be

|  |   |
|--|---|
|  | inappropriate and it can have a negative visual impact on these heritage resources.   |
| <b>Visibility and Visual Intrusion</b>                   | As indicated earlier, the areas where the deployment of the aerial fibre is most visible and cause most visual intrusion are on street corners and street intersections. These corner sections of the sidewalks are visually very exposed. It is recommended that alternatives be investigated and implemented to lessen the visual impact of these corner structures. See recommendation in this regard in paragraph 9.6.  |
| <b>Relative compatibility with surrounding landscape</b> | <p>The VIA assessed if the existing and proposed aerial fibre structures are in line with or in conflict with the surrounding development and land usage taking into consideration the qualities of the receiving environment, with specific reference to the 'sense of place'. It thus evaluates if the existing and proposed structures are appropriate within a specific landscape and fit in/blend in well with the surrounding landscape.</p> <p>The aerial fibre structures are a new element which is introduced in the urban landscape of the city. Although it is used to introduce modern technology to the urban area, it is an older, more rural type of element.</p> <p>On the next pages are some examples where the visual compatibility/or not of aerial fibre within the Sol Plaatje Municipal area is assessed.</p> <p>Firstly the impact of already deployed aerial fibre on the Sol Plaatje Museum and Library in Angle Street in New Park, a major local and provincial heritage resource, would be assessed. This is the house where Solomon T. Plaatje lived during his last years at 32 Angel Street in the former Malay Camp. Plaatje was a founder member of the ANC and would become the party's first secretary general. While based in Kimberley, the brilliant journalist, intellectual, teacher and linguist served as a court interpreter, translator, novelist and newspaper editor. He authored a number of important documentary books, in particular <i>Native Life in South Africa</i> and sang the first ever sound recording of Nkosi Sikelele' iAfrika. The Sol Plaatje House Museum hosts a library for African literature, with interesting displays on Sol Plaatje's life and the role of African involvement in the Anglo-Boer War.</p> <p>The Sol Plaatje Educational Trust was set up in 1991 to serve as a custodian for this and other legacy projects. In 1992, 32 Angel Street was declared a National Monument (Provincial Heritage Site under the NHRA). Plaatje's grave in West End Cemetery, Kimberley, is also a declared provincial heritage site.</p> <p><b>Figure 130</b> is a photograph of the street view in Angel Street before aerial fibre has been deployed. <b>Figures 131 and 132</b> show the impact of the aerial fibre being deployed on the area. From these photographs it is clear that the aerial fibre structures in this case are in general compatible with the surrounding streetscape due to the fact that the poles have been located on the erf corners and has no visual impact on the building as such. The area is on the boundary with the CBD with a high rise block of flats in the background which further assist to absorb the impact of the cables. In general it can thus be stated that the aerial fibres in this streetscape is compatible with the general character of this</p> |

semi-commercial area.



**Figure 130:** *Street view in Angel Street before aerial fibre has been deployed*



**Figures 131 and 132:** *Aerial fibre being deployed in front of the Sol Plaatje Museum and Library in Angel Street, New Park*



Underneath are some images which demonstrate the way aerial fibre has been deployed in the immediate areas of the Dutch Reformed Mother Church at Newton, also a Provincial Heritage Site due to its local historical and architectural significance. The original church was designed by the Rev. J. D. Kestell, who was Minister in Kimberley between 1882 and 1893. The building was built in three stages and dedicated on 29 May 1886. **Figure 33** shows the building with its original boundary wall and before aerial fibre has been deployed. **Figures 132 and 133** shows the church with its new fence. Although aerial fibre has been deployed in this area no poles were erected on the boundary of the church.



**Figure 133:** *The Dutch Reformed Church before the new boundary walls have been erected*



**Figures 132 and 133:** *The church with its new fence. Although aerial fibre has been deployed in this area no poles were erected on the boundary of the church*



**Figure 134** underneath shows the aerial fibre pole on the erf corner of the adjacent church hall. There is thus no impact on the streetscape of the church building as such. This is considered a sensitive way of aerial fibre deployment as new structures such as aerial fibre structures (poles and cables) would not be compatible with the historic streetscape of the church building.



***Figure 134: The aerial fibre pole on the erf corner of the adjacent church hall***

In certain areas aerial fibre structures, even if it is more exposed, would be more compatible with the surrounding streetscape. Underneath in **Figures 135** and **136** on the next page are aerial fibre structures in respectively Jacobus

Smit Street in and Henry Schmidt Street with high mast lighting and telecommunication infrastructure in the background. In these specific contexts the overhead cables and the poles do blend in with the surrounding landscape to some extent and are considered compatible with the nature thereof in these specific areas. The same would apply to Samaria Road in Cassandra which is adjacent to the railway line where several other overhead structures and cables are found.



**Figures 135 and 136:**

***Aerial fibre structures in Jacobus Smit Street and Henry Schmidt Street with high mast lighting structures and telecommunication infrastructure in the background***



**Figure 137:** ***Aerial fibre structures in Samaria Road in Cassandra next to the railway line where there are also other overhead structures such as Eskom overhead lines and Telkom lines.***

## 9.5 CONCLUSIONS IN TERMS OF THE RECEIVING ENVIRONMENT

The argument is often made is that it is necessary to make some sacrifices for the economic advantages which new technology can bring to a local community, be it electrical infrastructure, telephone poles, wind towers, sun panels, telecommunication masts or in this case the aerial fibre structures (wooden poles and cables). Other may argue that it is essential to retain intact sites with a specific sense of place due to the significance of certain rural and urban landscapes. There thus remain a number of areas when assessing the visual impact of new structures within a landscape which are heavily dependent on subjective opinions. Opinions of the receptors and the assessor could also differ. One person may see the aerial fibre structures (poles and cables) as very invasive in the urban landscape while other will argue that it is not that visible and that the economic advantages the deployment of fibre has for local communities outweigh any visual impact it may have.

It would be difficult to argue that the poles and cables have no visual impact. During the assessment of these urban landscapes it became clear that these structures are very visible from certain vantage points, e.g. on street corners and street intersections. It is, however, much less visible when people walk or commute (drive) through streets as the visual impact of these poles are not on eye level and the poles in most streets within the study area are to a large extent being absorbed or concealed by the mature trees and tree lanes which are typical of streetscapes in the Kimberley township area. Poles have also been positioned on the erf boundaries which lessen the impact thereof on the individual dwelling houses or other structures. From some angles poles would be visible, but these sensitivities are highly localized.

In all the Sectors within the study area the mature trees and tree lanes are a very important component and typical of the urban landscape. The mature trees can thus be considered as one of the most important components which contribute to the specific sense of place of these areas and can be considered as the most significant heritage resource in the study area of the VIA (which exclude the declared heritage areas of Memorial Park, Klisser and Belgravia) as the architectural style of the vast majority of the dwelling houses are conventional and have very little heritage significance. Conventional trenching has the potential to irrevocably damage the root systems of these mature trees. In the Sectors which forms part of the VIA it would thus be better to rather protect the trees as a significant heritage resource and aerial fibre is thus considered to be the desirable option for the deployment of fibre. This is in contrast to the declared historical areas of Belgravia, Klisser and Memorial Road where the architectural significance of the individual dwelling houses and other structures as well as the architecturally intact streetscapes would trump the importance of the trees as a heritage resource and where conventional trenching would be the more desirable option.

## 9.6 MANAGEMENT ACTIONS AND MITIGATION MEASURES TO LESSEN THE VISUAL IMPACT

Although the deployment of aerial fibre within all the Sectors, except for the declared historical area, is not considered to negatively affect the heritage significance of the areas covered by the Visual Impact Assessment – thus the areas older than 60 years - certain mitigating measures are proposed to minimise the visual impact of the aerial fibre structures:

- No aerial fibre should be allowed within the declared historical areas of Belgravia, Memorial Park and Klisser.
- Alternative pole structures should be investigated on street corner/intersections which are visually intrusive.
- Poles should be erected on erf corners and not directly in front of dwelling houses or other structures.
- Where possible poles should be positioned in such a manner that the mature trees and tree lanes can absorb its visual impact on the streetscape. The excavations for poles should, however, comply with the **Tree Protection Guideline for Construction, Excavation & Trenching for Aerial and Underground Fibre Optic Cabling (Annexure 5)** and **Frogfoot Draft FTTH Aerial Line Cable Specifications (Annexure 6)** to protect the mature trees in these areas.
- No poles should be erected directly in front of local heritage resources such as open spaces, churches, schools, monuments, cemeteries and other significant buildings or structures. Poles should be erected on the erf corners and when these street fronts are too long to accommodate the standard cable span, conventional trenching would be the more desirable option of fibre deployment.

## 10. PUBLIC PARTICIPATION PROCESS

Heritage resources do not occur in isolation from heritage producers or consumers. To this effect, a pivotal component of the Heritage Resource Management process is an effective, integrated Public Participation Process (PPP) to:

- Identify, acknowledge, and analyse the needs, wants and expectations of stakeholders;
- Facilitate two-way communication streams between all stakeholders that promotes inclusive, participatory decision-making processes; and
- Manage risks and conflicts that may manifest.



The Public Participation Process adhered to legislative requirements, as well as the principles embodied by the International Association of Public Participation (IAP2) to achieve the objectives, goals and priorities as outlined in the following table.

| Notify   | Engage   | Include  | Co-operate   | Empower   |
|--|--|--|--|---|
| Create awareness of the heritage resource management process in relation to the enrolment of a fibre network within the Sol Plaatje Municipal Area, how it will impact the public, and indicate proposed mutually beneficial solutions | Engage with key stakeholders and Interested and Affected Parties (I&APs) through implementation of a functional and effective communication plan | Create a platform for all stakeholders to provide suggestions, concerns, aspirations and solutions | Forge partnerships with the stakeholders to ensure alignment of interest for achieving common goals and objectives | Ensure meaningful participation and inclusive decision-making which empowers stakeholders |

There is only one registered heritage group within the Sol Plaatje Municipal Area and a copy of the document was sent to them. The HIA was advertised in the *Find It* online newspaper. A copy was only put on the website of the *Heritage Portal* (<http://www.theheritageportal.co.za>). The document was also referred to the local ward councillors and the relevant internal Departments of the Sol Plaatje Municipality. Copies of these notices are attached as **Annexure 7**.

A total of five comments were received, please see **Annexure 8**. One was in support of any type of deployment while the others raised the following issues which are summarised underneath with a response thereto: (A **formal response letter addressed to SAHRA** is attached as **Annexure 9**.)

### 10.1 Expired Wayleaves Approval

- Wayleaves have expired and have been unlawfully obtained
- No public participation process during wayleave approval process

#### Response

Although not directly related to the heritage process, the nature of the Wayleave Approvals does determine the manner in which the fibre is allowed to be deployed within the road reserves of the municipal area.

The application for Wayleave Approvals to the Engineering Department of the Sol Plaatje Municipality to enable Frogfoot Networks to do work in the road reserves (sidewalks/verges) has been submitted in the normal manner and there were no unlawful processes. The municipality did not require any heritage approvals for their initial approval of the wayleaves.

As indicated above, due to the long periods it took to obtain any responses from the Northern Cape Heritage Authority, Frogfoot's Wayleave Approvals obtained from the municipality have since lapsed. A new application has since been submitted and Frogfoot Networks have had several meetings with the Engineering Department of the Sol Plaatje Municipality in this regard. This Department has requested a public participation process for the Wayleave Approval application. They agreed that the public participation process for the HIA can serve this purpose.

There is no national standard for the Wayleave Approval process at municipalities and each municipality has its own requirements. A public participation process is not normally required for Wayleave Approvals, but some municipalities By-Laws allows for it to be requested. There is no such requirement in the relevant By-Laws of the Sol Plaatje Municipal Area.

## **10.2 Micro-trenching should be the preferred option of fibre deployment**

- Micro-trenching should be the preferred option
- Frogfoot should pursue this with the municipality
- HIA should recommend micro-trenching

### **Response**

Micro-trenching would be the most desirable option to deploy fibre to lessen the impact on any heritage resources within the Sol Plaatje Municipal Area and is stated as such in the HIA.

Micro-trenching is a fibre-laying technique that uses specialised machines to cut a narrow and shallow trench into a road's surface, alongside the pavement where the curb and the tarmac meet, rather than traditional fibre laying techniques which require much larger trenches to be dug.

The benefits of micro-trenching are:

- Less disruption of roads and sidewalks
- Faster deployment
- More cost effective trenching

This is also the preferred method of implementation for Frogfoot and they have used it in other municipalities as can be seen on their website. (<https://www.frogfootfibre.com/frogfoot/myaccount/home/news/post.jsp?postId=12>) This method of trenching is used extensively in Europe and the USA, but has yet to become widely accepted by municipalities here in SA. Frogfoot is in the process of setting up a Proof of Concept projects with both Tshwane and Cape Town municipalities.

Frogfoot Networks, however, had several discussions in this regard with the Sol Plaatje Municipality's Engineering Department and they are not willing to support micro-trenching as they are of the opinion that it would pose a threat to the structural integrity of their roads. The issue was again discussed with them as a result of these comments and the following e-mail, dated 29 April 2021, was sent to Renier Meyer of Frogfoot Networks by Moghamad Abrahams of the Directorate Roads and Stormwater of the municipality:

*"There is currently no National Standard for the provision of micro trenching currently in existence (in compliance with the Standards Act). The only current standard for the provision of telecom ducting is SANS 1200LC, which makes provision for conventional trenching methods. The methodology employed in micro trenching is a machined one which rely on scanning technology which has serious limitation when dealing with older services which tend to have densities beyond the parameters of such devices (scanners). As the Sol Plaatje Municipality we are constantly exposed to these devices and thus, we are in a position to comment on the effectiveness of these devises. Currently, there is a place for these scanners. However, when using these scanners as a means of foresight for a blind mechanised method it would present an infinite risk to our infrastructure."* (Please see **Annexure 10** for a copy of this e-mail.)

Although micro-trenching would have been the preferred method of deployment from a heritage perspective, it is a municipal council prerogative to allow micro-trenching or not and some municipalities allow it while other refuse it such as in this case.

### **10.3 The necessary heritage and environmental processes were not followed before construction started**

As indicated earlier, certain of the activities associated with the allowed manner of deployment of the fibre network system within the Sol Plaatje Municipal Area are subject to Sections 34 and 38 of the National Heritage Resources Act (Act 25 of 1999) (NHRA). As soon as Frogfoot Networks has been notified regarding the required heritage processes, they appointed heritage consultants to assist them with the required processes as set out in the Act as explained in paragraph 1 of this letter. They stopped work and also removed the aerial fibre from the declared conservation areas.

#### 10.4 Harm to trees during the deployment of aerial fibre

- Champion trees need to be identified
- Trees have been harmed
- Frogfoot negotiated with the municipality for tree cutters
- Local residents have not been involved in the pruning of trees as prescribed in tree protocol of Frogfoot

#### **Response**

The importance of the heritage significance of individual trees and tree lanes on the sidewalks within the Sol Plaatje Municipal Area, and specifically within the declared heritage areas such as Belgravia and the Memorial Road area, but also as an important streetscape component elsewhere in the city, is clearly described and acknowledged in the HIA. Most of these trees are mature and some of the trees within the historical areas are associated with historic figures who lived in these areas in the past, hence several of them being considered as “champion trees”. For this reason, a landscape architect was involved to provide an expert input for the HIA and developed a tree protocol (*Tree Protection Guideline for Construction, Excavation & Trenching for Aerial And Underground Fibre Optic Cabling, attached as Annexure 5 to HIA*) to limit any damage to these “champion trees” as well as trees in general within the study area. Frogfoot Networks also amended their *Draft FTTH Aerial Line Cable Specifications*, attached as Annexure to the HIA, to reflect the recommendations in the tree protocol prepared for the HIA.

It is considered unfortunate if some of these trees have been harmed by the activities of Frogfoot Networks during the deployment of fibre earlier. It appears if there is much more sensitivity in this regard and more interaction with individual land owners and it should be noted that only four (4) people complained about harm to some trees within the study area.

As these trees are located on municipal land, Frogfoot Networks were not allowed to prune any of these trees or appoint their own contractors. In terms of their Wayleave Approvals the municipality provided them with municipal contracted tree pruners/cutters who they were required to use. Pruning was thus done by these municipal contractors. These contractors have been sensitised about the tree protocols and it would be recommended that some training be done with them regarding the requirements of the tree protocols.



### **10.5 Damage to curb stones in historical areas**

The objectors claim that the trenching causes some damage to curb stones in the historical areas.

#### **Response**

It is not clear where this damage was done as no proof in this regard was submitted. It is a specific requirement of the HIA that these curb stones should be protected. Frogfoot Networks indicated that no trenching was yet done in the declared conservation areas where these curb stones are found – fibre has been deployed by means of aerial fibre in these areas which has since been removed and all work in these areas has stopped pending the outcome of the HIA.

As stated in the HIA, none of the historical curb stones (older than 60 years) will be removed during the conventional trenching activities. Where road cuts are done, the contractors should tunnel/trench underneath these curb stones.

### **10.6 Trenches being left open for long times**

It has been claimed that trenches have been left open for long periods of time.

#### **Response**

Although this issue are not related to the HIA as such, Frogfoot Networks have certain protocols with regard to closing up trenches. The general rule is that in normal circumstances the maximum period for it to be not enclosed is five (5) days and on private driveways no longer than half a day. These trenches should also be securely barricaded for public safety reasons.

In some exceptional circumstances, e.g. where they hit rock, it would take longer to enclose these trenches as it sometimes needs to be filled with concrete which first need to set before the trench can be enclosed.

### **10.7 Need geological proof why it is difficult to trench in Sol Plaatje Municipal Area**

The objectors require geological proof why it is difficult to trench within the Sol Plaatje municipal area as various other companies have been able to do it while deploying some type of underground services.

**Response**

The geological conditions depend on the specific area within the municipal area. For example, dolomite deposits are found in the areas adjacent to the CBD which makes trenching difficult – these are the areas where Frogfoot Networks will deploy most of their fibre network. In some of the other areas within the City this is not the case, e.g. the areas where some other contractors of e.g. Vodacom is trenching at the moment.

**10.8 Trenching should be done on street corners**

The objectors pointed out the negative visual impact of aerial fibre structures on street corners and requires that trenching be done.

**Response**

The negative visual impact of the current poles associated with the aerial fibre on street corners/intersections has been clearly pointed out in the HIA and certain mitigating measures have been proposed. There are, however, some practical implications which need to be considered, e.g. the structural integrity of the structures. Other options such as for example the use of stay wires have been investigated by Frogfoot, but these wires would not be clearly visible in the evening which can have some safety implications for pedestrians. . Frogfoot Networks will have to address this issue in accordance with the heritage indicators in the HIA.

The HIA recommends the following mitigating measures in Chapter 11 with regard to the positioning of the poles on the street corners/intersections:

*“It is recommended that an alternative type of pole is used at intersections, which does not require bracing and multiple poles. A stronger steel structure with a single base / anchor point should be investigated. The actual visual bulk of the structure must be reduced and if possible two poles placed at the corners of the splays rather than a single one placed within the splay should be considered. The structures on the corners cannot be hidden and thus require greater aesthetic consideration. The poles should be in lighter shades and neutral colours that blend better with the general background. The aim is to reduce the visual clutter and physical barriers presented by the multiple timber poles on the street corners.”*

It should be noted that no aerial fibre would be allowed within the conservations areas. No objections were received from any residents within the areas where aerial fibre has already been deployed.

### **10.9 Cumulative impact**

The HIA only addresses the study area and concern was expressed regarding the possible cumulative impact should other companies also decide to use aerial fibre to deploy their fibre networks.

#### **Response**

Should any other company decide to deploy aerial fibre within the Sectors where it is proposed by Frogfoot Networks or within other areas the same processes need to be followed in terms of the NHRA and should it be considered necessary further streetscape and visual impact assessments will have to be done to determine the impact and desirability thereof. It is, however, highly unlikely that another fibre network company would deploy fibre within the same area as another company as this would not be a financially feasible option for them.

### **10.10 Poles near erf boundaries cause a security risk**

One of the objectors claim that the poles being erected very close to their erf boundaries would pose a security risk to them.

#### **Response**

The poles in the area where this objector is residing have all been removed and there would be no aerial fibre. It is not precisely clear why these poles would cause a security risk to land owners. Notwithstanding, all poles close to erf boundary walls elsewhere have been removed and would be at least a metre to a metre and a half away from it. The optimal position of the poles is discussed with individual land owners. It should, however, be noted that the position of the poles are also determined by where the municipal services are located within the road reserve (sidewalk) and there are often no other options available. In this regard it should also be noted that only one objection in this regard has been received.

### **10.11 Fibre to be deployed in limited areas**

It was stated that although it is claimed that the deployment of fibre would have economic advantages for the City, this would not be available to everybody as fibre would be deployed within limited areas.

**Response**

Fibre is generally deployed in areas where residents are interested to connect to it and there needs to be a return in investment for the specific fibre firm. Should there be interest in other areas, the fibre network would be expanded to include these areas.

**10.12 Using of lanes behind dwelling houses**

The option of using some existing lanes behind dwelling houses in some of the residential areas should be considered as aerial fibre would have less of a visual impact in these lanes.

**Response**

This option was investigated. These lanes belong to either the municipality or Telkom and it is a very difficult and time consuming process to lease public lanes for the purpose of deploying fibre. Many portions of these lanes have been subdivided and consolidated with the adjacent residential erven and are thus now private property where it would not be possible to deploy fibre. Access to the lanes in certain areas are also not possible as a result hereof.

**10.13 No reference to the approved 2008 Spatial Development Framework**

It is stated that the HIA does not refer to the approved 2008 Spatial Development Framework

**Response**

The 2008 SDF was studied. The HIA, however, refers to the Sol Plaatje Local Municipality Draft Spatial Development Framework 2018-2023 as this document addresses conservation and heritage resources in the municipal area in much more detail than the 2008 document and was thus considered more relevant for the purposes of this study.

**10.14 The study did not identify all the individual heritage resources within the study area**

It was indicated that Frogfoot Networks should have expanded the scope of the study so that all individual heritage resources within the municipal area could have been identified.



### ***Response***

As indicated in the HIA, it was due to the extent of the study area not possible to determine the heritage significance of all individual heritage (e.g. for the individual buildings older than 60 years) resources in the area. It is the responsibility of the relevant heritage authority to do a detailed heritage audit of the municipal area and prepare a heritage register. The main heritage resources which would be impacted on by the activities of the fibre deployment have been identified, mapped and described in the HIA.

## **SECTION 11. RECOMMENDATIONS AND CONCLUSION**

The heritage consultants have been involved in the process of investigating different alternatives to mitigate any adverse effects of the proposed deployment of a fibre network on heritage resources within certain areas within the Sol Plaatje Municipal Area. The opinion is held that the proposed deployment of a fibre network within the Sol Plaatje Municipal Area would offer many economic advantages for local residents. It is, however, considered important that deployment of any new structures, such as for example the structures associated with the aerial fibre deployment (wooden poles and cables) within older urban landscapes should be carefully considered.

The Heritage Impact Assessment concluded that it is clear that certain areas within the study area do have very high heritage significance (e.g. Belgravia, Klisser and Memorial Road area) and it is recommended that no aerial fibre be deployed in these areas as per the decision of Frogfoot Networks. In these areas the architectural and historical significance of individual dwellings and other structures as well as streetscapes would be visually negatively impacted on by aerial fibre structures. Although micro-trenching would have been the preferred manner of fibre deployment in these areas, it is not allowed by the Sol Plaatje Municipality. The option of deployment of a fibre through conventional trenching is thus the best available option and is supported, due to the economic advantages which a fibre network would have for residents in these areas. Certain mitigating measures need to be complied with to protect the root systems of the mature trees which are also an important heritage resource in these areas. The historic pavement structures should also not be damaged and all excavations should be underneath the historic curb stones.

The remainder of the study area is the areas older than 60 years within the study area. Architectural character in these areas are primarily domestic and includes small pockets of historical period styles such as Victorian and Edwardian. These sections have streetscapes that conform to a consistent/uniform homogeneous period style. In general the majority of the single residential dwelling houses and general residential dwelling complexes are a mixture of twentieth century architectural styles. The streetscapes in these areas can be considered 3C's heritage resources – being typical/representative of a period and not having a high architectural or streetscape significance.

Typical of these streetscapes are also mature trees and tree lanes which contribute to the specific streetscape character of these areas and is considered a heritage resource. These mature trees and tree lanes assist to a great extent to conceal/absorb the impact of aerial fibre infrastructure (wooden poles and cables). Aerial fibre in these areas can thus be supported subject to certain mitigation measures to further lessen the visual impact thereof, especially on street corners and intersections as well as on erven with longer street fronts such as open spaces, community buildings as well as other individual sites with heritage significance. In these areas the trees and tree lanes are considered to be the more important heritage resource and conventional trenching which could damage the root systems of the mature trees is thus the less desirable option.

From a heritage point of view it is thus recommended that the most area appropriate deployment of fibre as per the recommendations of the Heritage Impact Assessment be allowed to continue, subject to the implementation of the underneath proposed mitigation measures due to the important economic advantages which the deployment of a fibre network would have for residents of the Sol Plaatje Municipal area.

**It is thus recommended that the South African Heritage Authority endorses the findings and underneath mitigation measures of this HIA with regard to the deployment of a fibre network within the Sol Plaatje Municipal area (both conventional trenching and aerial fibre) and that the Northern Cape Heritage Authority issues a permit for work done to the sidewalks older than 60 years to allow for the deployment of fibre through conventional trenching.**

(i) The following recommendations of the VIA and Urban Landscape Analysis be implemented:

- It is recommended that an alternative type of pole is used at intersections, which does not require bracing and multiple poles. A stronger steel structure with a single base / anchor point should be investigated. The actual visual bulk of the structure must be reduced and if possible two poles placed at the corners of the splays rather than a single one placed within the splay should be considered. The structures on the corners cannot be hidden and thus require greater aesthetic consideration. The poles should be in lighter shades and neutral colours that blend better with the general background. The aim is to reduce the visual clutter and physical barriers presented by the multiple timber poles on the street corners.
- Compliance with **Frogfoot Draft FTTH Aerial Line Cable Specifications** (e.g. compliance with guidelines with regard to tree/bush cutting, survey preparation, excavation of pole holes and the erection of poles, the fitting of stays and struts, construction of overhead routes with wooden poles and erection of overhead optical fibre cable) attached as **Annexure 3**. Any subcontractors should be trained by Frogfoot Networks regarding these protocols.

- Compliance with the proposed **Tree Protection Guideline for Construction, Excavation & Trenching for Aerial and Underground Fibre Optic Cabling** attached as **Annexure 5** to prevent any damage to root systems of mature trees which are considered an important heritage resource within this urban context. Any subcontractors should be trained by Frogfoot Networks regarding these protocols.
  - Care should be taken to not harm any of the historical curb stones. Trenching underneath the curb stones is proposed.
  - Poles should in general be positioned on erf corners and not in front of dwelling houses or other structures.
  - In cases of erven with long street fronts, e.g. public and private open spaces, sport fields, school sites and larger community sites such as churches conventional trenching should rather be considered due to the visual impact of various poles on these properties.
- (ii) Archaeological monitoring of all excavation activities by a suitably qualified and registered archaeologist.
- (iii) A Close-Up Report be prepared by Frogfoot Networks within 30 days of completion confirming compliance with the recommendations of the Heritage Impact Assessment.

## SECTION 16      REFERENCES

### PRIMARY SOURCES

Google Earth images and Google Pro images

National Geo-Spatial Information (NGI): Historic aerial photographs

Photographs: Christine Havenga

Surveyor general: Survey diagrams and maps

*Survey of Buildings and Sites of Architectural, Historical and Contextual Importance in Kimberly* done by the Division of Professional and Technical Services of the former National Monuments Council in 1986

Northern Cape Heritage Register

*Survey of Buildings and Sites of Architectural, Historical and Contextual Importance in Kimberly* done by the Division of Professional and Technical Services of the former National Monuments Council in 1986

Frogfoot Draft FTTH Aerial Line Cable Specifications

### ACTS, POLICIES AND GUIDELINES

Sol Plaatje Local Municipality Draft Spatial Development Framework 2018-2023

National Heritage Resources Act (Act No.25 of 1999). Government Gazette Vol: 406, Cape Town. 28 April 1999. No. 19974.

Sol Plaatje Municipal Planning By-Law (2015) and Development Management Scheme



## BOOKS AND PUBLICATIONS

Anderson, Tania (2001). *A Beginner's Guide to the Plants of Kimberley and Surrounds*.

Beet, George and others (10996). *Knights of the Shovel. Glimpses of Life on the Diamond Fields 1869 – 1914*.

McNish, J. T. (1969) *Graves and Guineas. Adventures in Diamond Country, Kimberley 1871 – 1873*. Struik.

McNish, J. T. *The Glittering Road*. (1970) *Adventures in Diamond Country, Kimberley 1874 – 1876*, Struik

Oberholzer, B. (2005). *Guideline for involving visual & aesthetic specialists in EIA processes*. CSIR Report No ENV-S-C 2005 053 F, Provincial Government of the Western Cape, Department of Environmental Affairs and Development Planning, Cape Town.

*Resistance in Northern Cape in the nineteenth century: history and commemoration*: Proceedings of a mini-conference held at the McGregor Museum, Kimberly 14- 16 September 2011.

Richardson, Deirdré (2001) *Historic Sites of South Africa*. Struik Publishers.

Roberts, Brian (1972) *The Diamond Magnates*. Hamish Hamilton, London.

## **ANNEXURE 1**

### **LOCALITY PLAN OF SECTORS OF FIBRE DEPLOYMENT**

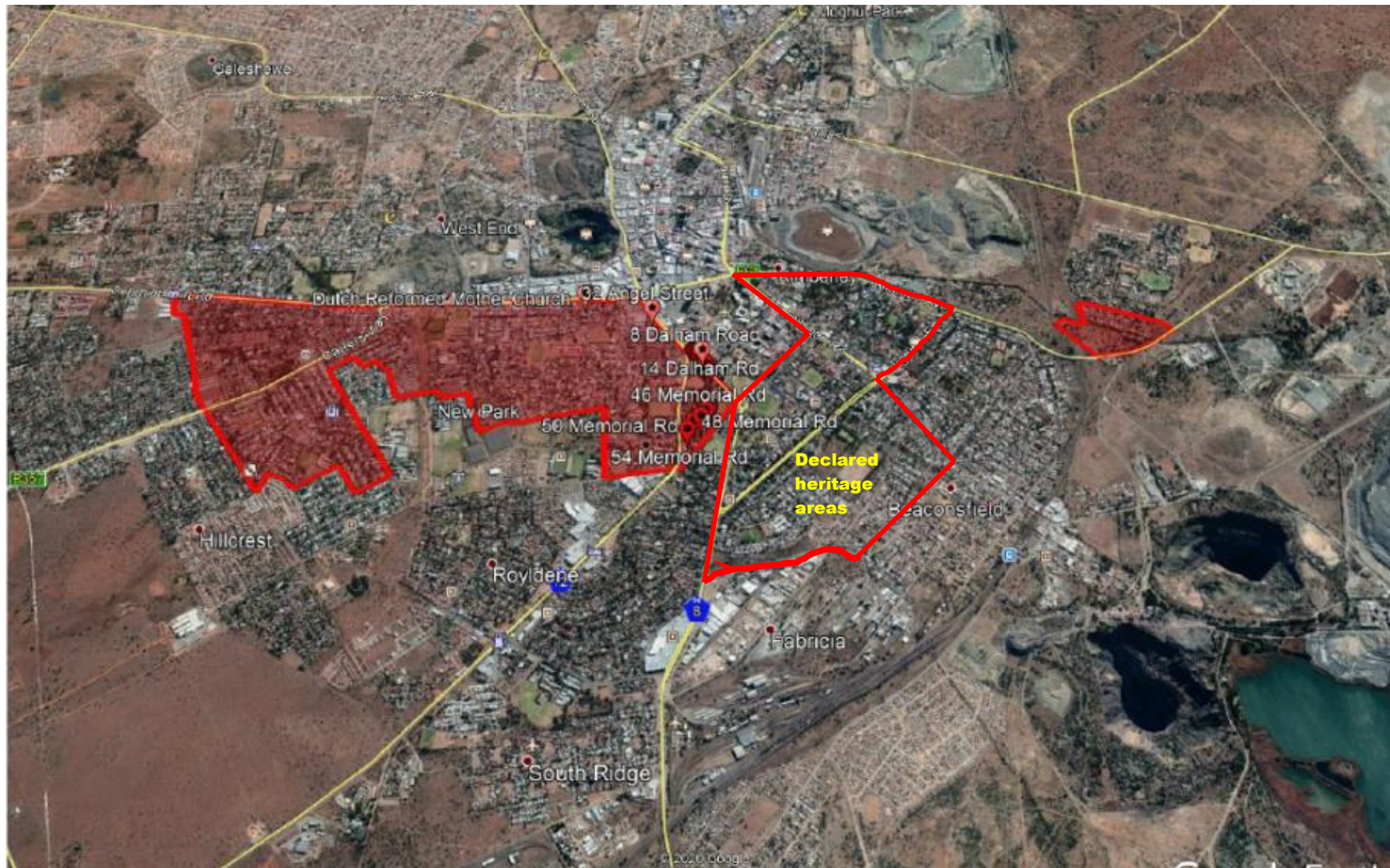


### Areas in the Sol Plaatje Municipal Area proposed for the enrolment of a Fibre Network

Deployment of a fibre network system within certain areas within the Sol Plaatje Municipal Area

**ANNEXURE 2****ANNEXURE 2: PLAN SHOWING THE BOUNDARIES OF THE STUDY  
AREA OF THE HIA**





***Boundaries of the areas containing structures older than 60 years where aerial fibre is proposed  
(Study area in accordance to Northern Cape Heritage Authority Response to NID Submission 1-10- 2020)***

## **ANNEXURE 3**

### **NID ROD'S**

# IMPLEMENTATION OF A FIBRE NETWORK SYSTEM BY FROGFOOT NETWORKS (PTY) LTD IN THE SOL PLAATJE MUNICIPAL AREA

Our Ref:  
Enquiries: Rose Cwangae  
Tel: 053 831 3319

Date: Thursday, 15 October 2020  
Email: kelebogilecwangae@icloud.com



## NOTICE OF INTENT TO DEVELOP

### Attention:

Christine Havenga  
Professional Planner and Heritage Practitioner  
47 Lapalala Crescent (Erf: 379)  
Clara Anna Fontein  
Durbanville 7550

Tel: 073 1951 040

Email: Christine.havenga@firstplan.co.za

### IMPLEMENTATION OF A FIBRE NETWORK SYSTEM BY FROGFOOT NETWORKS (PTY) LTD IN THE SOL PLAATJE MUNICIPAL AREA:

Thank you for your indication that the above development is to take place in Kimberley, Sol Plaatje Municipality in the Northern Cape.

#### 1. Property Description:

Frogfoot Networks Pty (Ltd), an open access fibre network provider, has identified certain areas within the Sol Plaatje Municipal Area for the deploying of a fibre network system.

Initially 9 sectors (term which they use to indicate the different areas of deployment) have been identified, but it was eventually decided to exclude certain areas. The current areas of intended deployment are the following:

Sector 1 New Park  
Sector 2 Caters Glen  
Sector 3 Heuwelsig  
Sector 4 Cassandra  
Sector 7 Klisser  
Sector 8 South Ridge/Minerva Gardens  
Sector 9 Belgravia



# IMPLEMENTATION OF A FIBRE NETWORK SYSTEM BY FROGFOOT NETWORKS (PTY) LTD IN THE SOL PLAATJE MUNICIPAL AREA

Our Ref:  
Enquiries: Rose Cwangae  
Tel: 053 831 3319

Date: Thursday, 15 October 2020  
Email: [kelebogilecwangae@icloud.com](mailto:kelebogilecwangae@icloud.com)



## 2. Proposal Description:

The deployment of a fibre network system within the municipal road network system in the areas indicated on the Locality Plan. Various options of deployment have been considered depending on the specific circumstances of an area. In terms of Frogfoot's Wayleave Approval, obtained from the Sol Plaatje Municipality on 30 January 2020, the following manners of deploying fibre are allowed :

- ❖ Conventional trenching
- ❖ Overhead lines

Frogfoot Networks decided to not go ahead with aerial fibre deployment within Belgravia, Memorial Road area and Klisserville. They already started to remove poles and other aerial related infrastructure.

## 3. Comments:

In terms of section 38 of the NHRA, at the earliest stages of any development project, Northern Cape Heritage Resources Authority (NCHRA) must be informed through the submission of a completed Notification of Intent to Develop (NID) form. Frogfoot started the development without adhering to the prescripts of the National Heritage Resources Act, no. 25 of 1999.

In response to the information provided in the NID form, NCHRA must determine whether or not heritage resources are likely to be impacted by the proposed development:

- ❖ NCHRA will require further studies in areas protected under section 34 of the National Heritage Resources Act.
- ❖ A visual impact study, cultural landscape as well as mapping of heritage resources, particularly the historic structures, to inform contextual impacts.
- ❖ Since there is reason to believe that heritage resources, especially of local significance, will be impacted upon, NCHRA requires an Heritage Impact Assessment in terms of section 38(3) of the NHRA (act 25 of 1999) assessing

NORTHERN CAPE HERITAGE RESOURCES AUTHORITY - ADDRESS: 1 MONRIDGE OFFICE PARK, KIMBERLEY, 8301\*Tel: 053 831 2537\*  
Fax: 053 833 1435\* Mobile: 0790369294\* Email: [ratha.timothy@gmail.com](mailto:ratha.timothy@gmail.com)





## IMPLEMENTATION OF A FIBRE NETWORK SYSTEM BY FROGFOOT NETWORKS (PTY) LTD IN THE SOL PLAATJE MUNICIPAL AREA

Our Ref:  
Enquiries: Rose Cwangae  
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the impacts of the development on the heritage resources which it has identified; Visual impact, cultural landscape and historic structures.

- ❖ An HIA is required consisting of Visual Impact Assessment, a Cultural Landscape study (the essential character of an area) and a Built Environment study consisting of mapping the historic structures in the affected area as well as any other heritage resources.
- ❖ The results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources in the affected area.
- ❖ Decisions on conventional or micro trenching within the road reserve on evidence of any significant Archaeological material in the area must be made by the South African Heritage Resources Agency (SAHRA) {*Mr Phillip Hines, email: [phine@sahra.org.za](mailto:phine@sahra.org.za)*}

#### 4. Terms and conditions:

Northern Cape Heritage Resources Authority reserves the right to request additional information as required. This letter does not constitute conclusion of processes under the National Heritage Resources Act (Act no.25 of 1999). These processes may only proceed further once the contents of this letter have been adhered to.



**IMPLEMENTATION OF A FIBRE NETWORK SYSTEM BY FROGFOOT NETWORKS (PTY) LTD IN THE  
SOL PLAATJE MUNICIPAL AREA**

Our Ref:  
Enquiries: Rose Cwangae  
Tel: 053 831 3319

Date: Thursday, 15 October 2020  
Email: kelebogilecwangae@icloud.com



Should you have any further queries, please contact the designated officials using the project name quoted above.

Yours faithfully

Rose Cwangae  
Heritage Officer  
Northern Cape Heritage Resources Authority

Ratha Timothy  
Manager  
Northern Cape Heritage Resources Authority



# IMPLEMENTATION OF A FIBRE NETWORK SYSTEM BY FROGFOOT NETWORKS (PTY) LTD IN THE SOL PLAATJE MUNICIPAL AREA

Our Ref:

Enquiries: Rose Cwangae  
Tel: 053 831 3319

Date: Thursday, 04 March 2021  
Email: rcwangae@gmail.com



## NOTICE OF INTENT TO DEVELOP RESPONSE

### Attention:

Christine Havenga  
Professional Planner and Heritage Practitioner  
47 Lapalala Crescent (Erf: 379)  
Clara Anna Fontein  
Durbanville 7550

Tel: 073 1951 040

Email: Christine.havenga@firstplan.co.za

### IMPLEMENTATION OF A FIBRE NETWORK SYSTEM BY FROGFOOT NETWORKS (PTY) LTD IN VERWOERD PARK, DIAMOND PARK AND RIVIERA:

Thank you for your indication that the above development is to take place in Kimberley- Verwoerd Park, Diamond Park, and Riviera- Sol Plaatje Municipality in the Northern Cape to round off the project.

#### 1. Property Description:

Frogfoot Networks Pty (Ltd), an open access fibre network provider, intends to deploy a fibre network system in portions of the Verwoerd Park, Diamond Park and Riviera suburbs of the Sol Plaatje Municipal area as per the Locality Plan (Annexure 1).

This area is known as Sector 10 in terms of Frogfoot's deployment programme.

#### 2. Proposal Description:

The deployment of a fibre network system within the municipal road network system in the areas indicated on the Locality Plan, Annexure 1. Various options of deployment have been considered depending on the specific circumstances of an

NORTHERN CAPE HERITAGE RESOURCES AUTHORITY- ADDRESS: 1 MONRIDGE OFFICE PARK, KIMBERLEY, 8301\*Tel: 053 831 2537\*  
Fax: 053 833 1435\* Mobile: 0790369294\* Email: [ratha.timothy@gmail.com](mailto:ratha.timothy@gmail.com)



# IMPLEMENTATION OF A FIBRE NETWORK SYSTEM BY FROGFOOT NETWORKS (PTY) LTD IN THE SOL PLAATJE MUNICIPAL AREA

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area. Frogfoot's is still awaiting a Wayleave Approval from the Directorate Infrastructure and Services of the Sol Plaatje Municipality. In terms of previous Wayleave Approvals and further discussions with this Directorate it was indicated that the following manners of deploying fibre are allowed :

- ❖ Conventional trenching
- ❖ Overhead lines

No micro trenching in the road reserve would be allowed as the Sol Plaatje Municipality Directorate Infrastructure and Services indicated that the SANS 1200 Regulations (Standardised Specification for Civil Engineering Construction) do not make provision for it.

### 3. Comments:

In response to the information provided in the NID form, NCHRA must determine whether or not heritage resources are likely to be impacted by the proposed development:

- ❖ NCHRA will require further studies in areas protected under section 34 of the National Heritage Resources Act, i.e. properties that are generally protected under the Act.
- ❖ Undertake a visual impact study, cultural landscape as well as mapping of heritage resources, if any, particularly the historic structures, to inform contextual impacts.
- ❖ Since there is reason to believe that possible heritage resources, especially of local significance or properties 60 years or older, will be impacted upon, NCHRA requires an Heritage Impact Assessment in terms of section 38(3) of the NHRA (act 25 of 1999) assessing the impacts of the development on the heritage resources which it has identified; Visual impact, cultural landscape and historic structures.





## IMPLEMENTATION OF A FIBRE NETWORK SYSTEM BY FROGFOOT NETWORKS (PTY) LTD IN THE SOL PLAATJE MUNICIPAL AREA

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- ❖ An HIA is required consisting of Visual Impact Assessment, a Cultural Landscape study (the essential character of an area) and a Built Environment study consisting of mapping the possible historic structures in the affected areas as well as any other heritage resources. The three identified areas contain some dwelling houses older than 60 years which are representative of an architectural style of a certain period associated with the early mining activities of the town.
- ❖ Application to fell, lop or radically prune a tree in a heritage area, or in the vicinity of a historic building or an area which deemed to have historic value should be submitted to the Northern Cape Heritage Resources Authority. The authority can advise on significant trees even outside of the heritage area. Trees affected by such applications are assessed on the basis of their impact on the landscape, species, size, health, vitality and cultural significance.
- ❖ The results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources in the affected area.
- ❖ Decisions on conventional or micro trenching within the road reserve on evidence of any significant Archaeological material in the area must be made by the South African Heritage Resources Agency (SAHRA) {Mr Phillip Hines, email: [phine@sahra.org.za](mailto:phine@sahra.org.za)}. Alternatively, such work, if allowed should be carried out under the supervision of an accredited and qualified archaeologist officially appointed by the developer. A report on work done under the supervision of the accredited and qualified archaeologist must be submitted to the Northern Cape Heritage Resources Authority.



# IMPLEMENTATION OF A FIBRE NETWORK SYSTEM BY FROGFOOT NETWORKS (PTY) LTD IN THE SOL PLAATJE MUNICIPAL AREA

Our Ref:

Enquiries: Rose Cwangae  
Tel: 053 831 3319

Date: Thursday, 04 March 2021  
Email: rcwangae@gmail.com



## 4. Terms and conditions:

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# IMPLEMENTATION OF A FIBRE NETWORK SYSTEM BY FROGFOOT NETWORKS (PTY) LTD IN THE SOL PLAATJE MUNICIPAL AREA

Our Ref:

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Date: Thursday, 04 March 2021  
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Should you have any further queries, please contact the designated officials using the project name quoted above.

Yours faithfully

Rose Cwangae  
Heritage Officer  
Northern Cape Heritage Resources Authority

Ratha Timothy  
Manager  
Northern Cape Heritage Resources Authority



## **ANNEXURE 4**

### **HERITAGE AREAS**



## **1. BELGRAVIA CONSERVATION AREA**

The area consisting of the town area bounded by Dutoitspan Road in the south-west, Regiment Road in the north-east, Foley Street in the north and Egerton Road, including the properties of the McGregor Museum in the south, as well as all the street reserves and the erven with the conservation-worthy buildings thereon, namely Erven 660, 661, 648, 2375, 650, 651, 652, 653, 654, 580, 581, 582, 3607, 583, 584, 585, 586, 587, 588, 589, 590, 452, 453, 454, 425, 2097, 427, 428, 429, 419, 417, 11863, the Cenotaph memorial on Erf 1 in Dutoitspan Road, 602, 16440, 516, 517, 526, 524, 523, 522, 526, 540, 539, 538, 537, 5369, 535, 533, 532, 564, 574, 2180, 3258, 570, 569, 13449, 488, 487, 486, 479, 478, 485, 472, 470, 469, 466, 465, 464, 2300, 12104, 12103, 456, 2517, 15079, 15078, 15077, 15706, 15075, 507, 509, 515, 568, 567, 566, 565, 531, 530, 529, 528, 527, 521, 520, 519, 518, 515, 509, 508, 503, 500, 501, 502, 18564, 18565, 497, 18550, 493, 492, 491, 490, 498, 199, 121173, 484, 483, 473, 474, 475, 476, 477, 2268, 2267, 462, 461, 460, 459, 458, 457, 456, 506, 505, 504, 12104 and 2300, situated in the Sol Plaatje Local Municipality and Division of Kimberley, as indicated on plan T.P. 3A/92 and on file 9/2/049/3/2 in the office of the South African Heritage Resources Agency (SAHRA) in Cape Town.

## **QUEENS PARK CONSERVATION AREA:**

Queens Park area bounded by Regiment Way in the north, including Queens Park and the properties facing the Park on Park Road in the south. The erven numbers are as follows:

660, 661, 648, 2375, 650, 651, 652, 653, 654, 580, 581, 582, 3607, 583, 584, 585, 586, 587, 588, 589, 590, 452, 453, 454, 425, 2097, 427, 428, 429, 419, 417, 11863.

## **2. MILNER STREET AND MEMORIAL ROAD CONSERVATION AREA**

The area consisting of the town area bounded by Dutoitspan Road in the north-east, O'Brien Street in the south-west, Milner Street in the south-east and Lyndhurst Drive in the north-west, Dalham Road, Synagogue Street, Memorial Road, including all the street reserves, and the erven with the conservation-worthy buildings thereon, namely Erven 3192, 513, 542, 543, 544, 557, 541, 12327, 125130, 12129, 12123, 12122, 12121, 943, 944, 945, 946, 947, 948, 949, 950, 1004, 1003, 1002, 1001, 1000, 999, 998, 997, 996, 995, 994, 993, 992, 991, 976, 975, 974, 972, 971, 970, 969, 968, 967, 3267, 906, 905, 904, 903, 902, 901, 900, 899, 889, 890, 891, 892, 893, 894, 895, 896, 897, 8598, 888, 898, 882, 881, 16605, 14423, 14424, 545, 546, 547, 548, 549, 550, 942, 941, 940, 939, 938, 934, 933, 932, 931, 930, 929, 928, 927, 937, 936, 935, 880, 882, 888, 887, 886, 885, 884, 883, the Trim Park on Erf 1, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 2506, 912, 913, 914, 2505, 911, 909, 14511, 14638, 3249, 19275, 910, 926, 925, 924, 923, 922, 921, 920, 919, 918, 917, 916, 915, as well as the Honoured Dead memorial in Memorial Road on Erf 1, situated in the Sol Plaatje Local Municipality and Division of Kimberley, as indicated on plan T. P. 3A/92 and on file 9/2/049/3/3 in the office of the South African Heritage Resources Agency (SAHRA) in Cape Town.

WHAT MAKES THE MILNER I MEMORIAL. ROAD AREA AN AREA OF SPECIAL INTEREST?

- 1 .Pivotal buildings ego Honoured Dead Memorial . Synagogue. Armagh. 4B Memoiral Road. Kimberley Boys High. Diamantveld High School. Chapel at CBC. Nazareth House. Relationships of buildings to open spaces particularly around the memorial.
2. Groupings of conservation-worthy buildings in Main Road. Milner Street. Synagogue Street. Dalham Road.
3. Hidden Gems ego Milner Street House with Timlin paintings. Henrietta Stockdale Chapel.
- 4 . Link with Belgravia and Carrington Road Conservation Areas .
5. Trees - avenues in Milner Street and lower Memorial Road.
6. Setback - broad in Memorial Road and more infinite scale of street frontage in Milner Street. Semidetached units in Synagogue Street .
7. Victorian and early 20th century architectural styles- including Cape Revival and Bakesesque. NMC decided in 1992 that area should be a conservation area.

### **3. Carrington Road**

Carrington Road is the finest residential street in Kimberley, characterised by a variety of largely intact late nineteenth and early twentieth century residences built on a large erven and set back from the street. The street has a treelined pavement on the side on which the older buildings are situated, The character of the more modern houses on the opposite side of the road is sensitive to that of the older houses in terms of setback, scale and single residential status. The unique character of Carrington must be protected against great disturbance of developments.

Sensitive areas like Carrington Road are designated as conservation areas to reduce or eliminate specific threats such as large scale development, roads, rezoning or development pressures.

The Victorian and Edwardian verandah houses and those of miscellaneous eclectic styles found in Carrington Road have gained recognition for the area and this promotes its value.

When the Carrington Road conservation area was designated, it was done with the intention that the special qualities it has be retained, protected and also that appropriate development is encouraged. It is imperative that owners, developers and the responsible local authority be sensitive to the character of the area and that development or change does not destroy its special cultural significance.

Note: The following streets are also included:

Aristotle Avenue, Egerton Road, Foley Street, Hemming Street.

| SiteID | SiteReference    | FullSiteName   | SiteType                      | ArchiveStatus        | DeclarationType             | GazetteNo | Gazette Date | Province         | Latitude   | Longitude | Nid   | Notes |
|--------|------------------|--|-------------------------------|----------------------|-----------------------------|-----------|--------------|------------------|------------|-----------|-------|-------|
| 28261  | 9/2/049/0121     | Grave of Solomon T Plaatje, West End Cemetery, Kimberley | Burial<br>Grounds &<br>Graves | National<br>monument | Provincial Heritage<br>Site | 18694     | 27/02/1998   | Northern<br>Cape | -28.733471 | 24.741246 | 17693 |       |
| 28262  | 9/2/049/0127     | 186 Du Toitspan Road, Kimberley                          | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.748828 | 24.776975 | 17694 |       |
| 28264  | 9/2/049/0120-117 | 18 Carrington Road, Kimberley                            | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.751083 | 24.775583 | 17687 |       |
| 28265  | 9/2/049/0120-118 | 3 Milner Street, Kimberley                               | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.749325 | 24.776661 | 17688 |       |
| 28266  | 9/2/049/0120-119 | 22 Carrington Road, Kimberley                            | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.751561 | 24.775053 | 17689 |       |
| 28267  | 9/2/049/0120-120 | 24 Carrington Road, Kimberley                            | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.751731 | 24.774839 | 17690 |       |
| 28268  | 9/2/049/0120-121 | 14 Elsmere Road, Kimberley                               | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.747597 | 24.776825 | 17691 |       |
| 28269  | 9/2/049/0120-122 | 14 Carrington Road, Kimberley                            | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.75075  | 24.775983 | 17692 |       |
| 28270  | 9/2/049/0120-112 | 12 Carrington Road, Kimberley                            | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.750567 | 24.776197 | 17682 |       |
| 28271  | 9/2/049/0120-113 | 30 Carrington Road, Kimberley                            | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.7524   | 24.774044 | 17683 |       |
| 28272  | 9/2/049/0120-114 | 15 Carrington Road, Kimberley                            | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.75225  | 24.775503 | 17684 |       |
| 28273  | 9/2/049/0120-115 | 13 Milner Street, Kimberley                              | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.750161 | 24.775703 | 17685 |       |
| 28274  | 9/2/049/0120-116 | 17 Carrington Road, Kimberley                            | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.751108 | 24.776911 | 17686 |       |
| 28275  | 9/2/049/0120-106 | 12 Elsmere Road, Kimberley                               | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.747394 | 24.776506 | 17677 |       |
| 28276  | 9/2/049/0120-107 | 2 Milner Street, Kimberley                               | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.748742 | 24.776286 | 17678 |       |
| 28277  | 9/2/049/0120-109 | 30 Milner Street, Kimberley                              | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.751617 | 24.773286 | 17679 |       |
| 28278  | 9/2/049/0120-110 | 20 Milner Street, Kimberley                              | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.750314 | 24.774622 | 17680 |       |
| 28279  | 9/2/049/0120-111 | Dalham House, 17 Dalham Road,<br>Kimberley               | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.749131 | 24.767889 | 17681 |       |
| 28280  | 9/2/049/0120-100 | 4 Milner Street, Kimberley                               | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.748911 | 24.776136 | 17671 |       |
| 28281  | 9/2/049/0120-101 | 40 Carrington Road, Kimberley                            | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.753519 | 24.772739 | 17672 |       |
| 28282  | 9/2/049/0120-102 | 38 Carrington Road, Kimberley                            | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.753219 | 24.773092 | 17673 |       |
| 28283  | 9/2/049/0120-103 | 36 Carrington Road, Kimberley                            | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.752953 | 24.773403 | 17674 |       |
| 28284  | 9/2/049/0120-104 | 34 Carrington Road, Kimberley                            | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.75275  | 24.773656 | 17675 |       |
| 28285  | 9/2/049/0120-105 | 32 Carrington Road, Kimberley                            | Building                      | Register             | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.752569 | 24.773858 | 17676 |       |

| SiteID | SiteReference    | FullSiteName   | SiteType | ArchiveStatus | DeclarationType   | GazetteNo | Gazette Date | Province         | Latitude   | Longitude | Nid   | Notes |
|--------|------------------|--|----------|---------------|-------------------|-----------|--------------|------------------|------------|-----------|-------|-------|
| 28286  | 9/2/049/0120-095 | 9 Milner Street, Kimberley   | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.749667 | 24.776117 | 17666 |       |
| 28287  | 9/2/049/0120-096 | 6 Milner Street, Kimberley   | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.74905  | 24.775981 | 17667 |       |
| 28288  | 9/2/049/0120-097 | 52 Synagogue Street, Kimberley   | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.750936 | 24.774172 | 17668 |       |
| 28289  | 9/2/049/0120-098 | 50 Synagogue Street, Kimberley   | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.750794 | 24.774003 | 17669 |       |
| 28290  | 9/2/049/0120-099 | 46a Carrington Road, Kimberley   | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.755136 | 24.771528 | 17670 |       |
| 28291  | 9/2/049/0120-093 | 28 Carrington Road, Kimberley  | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.752219 | 24.774272 | 17664 |       |
| 28292  | 9/2/049/0120-094 | 10 Milner Street, Kimberley  | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.749333 | 24.775689 | 17665 |       |
| 28293  | 9/2/049/0120-092 | 26 Carrington Road, Kimberley  | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.752042 | 24.774467 | 17663 |       |
| 28294  | 9/2/049/0120-089 | 5 Egerton Road, Kimberley  | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.748453 | 24.779707 | 17661 |       |
| 28295  | 9/2/049/0120-090 | 15 Milner Street, Kimberley  | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.750328 | 24.775519 | 17662 |       |
| 28296  | 9/2/049/0120-075 | 3 Egerton Road, Kimberley  | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.748997 | 24.779019 | 17656 |       |
| 28297  | 9/2/049/0120-077 | 17 Egerton Road, Kimberley   | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.746764 | 24.781508 | 17657 |       |
| 28298  | 9/2/049/0120-085 | 19 Egerton Road, Kimberley   | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.746394 | 24.781836 | 17658 |       |
| 28299  | 9/2/049/0120-087 | 22 Milner Street, Kimberley  | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.750461 | 24.774342 | 17659 |       |
| 28300  | 9/2/049/0120-088 | 21 Egerton Road, Kimberley   | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.745807 | 24.782347 | 17660 |       |
| 28301  | 9/2/049/0120-066 | 8 Egerton Road, Kimberley  | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.748942 | 24.780344 | 17651 |       |
| 28302  | 9/2/049/0120-067 | 23 Milner Street, Kimberley  | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.75077  | 24.774763 | 17652 |       |
| 28303  | 9/2/049/0120-068 | 4 Belgrave Road, Kimberley   | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.742464 | 24.777067 | 17653 |       |
| 28304  | 9/2/049/0120-070 | 25 Milner Street, Kimberley  | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.751231 | 24.7745   | 17654 |       |
| 28305  | 9/2/049/0120-072 | 15 Dalham Road, Kimberley  | Building |               | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.748939 | 24.767711 | 17655 |       |
| 28306  | 9/2/049/0120-061 | 24 Park Road, Kimberley  | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.744414 | 24.776256 | 17647 |       |
| 28307  | 9/2/049/0120-063 | 3 Elsmere Road, Kimberley  | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.747619 | 24.777261 | 17648 |       |
| 28308  | 9/2/049/0120-064 | 2 Elsmere Road, Kimberley  | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.746606 | 24.775578 | 17649 |       |
| 28309  | 9/2/049/0120-065 | Old Bishop's Hostel, Kimberley<br>Boys' High School, Memorial Road,<br>Kimberley | Building | Register      | Heritage Register | 19740     | 12/02/1999   | Northern<br>Cape | -28.772853 | 24.747276 | 17650 |       |



| SiteID | SiteReference    | FullSiteName                           | SiteType | ArchiveStatus | DeclarationType   | GazetteNo | Gazette Date | Province         | Latitude   | Longitude | Nid   | Notes |
|--------|------------------|--|----------|---------------|-------------------|-----------|--------------|------------------|------------|-----------|-------|-------|
| 28310  | 9/2/049/0120-055 | 71 Milner Street, Kimberley            | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.754444 | 24.769594 | 17641 |       |
| 28311  | 9/2/049/0120-056 | 8 Dalham Road, Kimberley               | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.748994 | 24.766694 | 17642 |       |
| 28312  | 9/2/049/0120-057 | 3 Carrington Road, Kimberley           | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.750619 | 24.777483 | 17643 |       |
| 28313  | 9/2/049/0120-058 | 4 Carrington Road, Kimberley           | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.749819 | 24.777206 | 17644 |       |
| 28314  | 9/2/049/0120-059 | 5 Carrington Road, Kimberley           | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.750786 | 24.777192 | 17645 |       |
| 28315  | 9/2/049/0120-060 | 17 Milner Street, Kimberley            | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.750475 | 24.775364 | 17646 |       |
| 28316  | 9/2/049/0120-049 | 20 Park Road, Kimberley                | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.744881 | 24.774667 | 17637 |       |
| 28317  | 9/2/049/0120-050 | 14 Milner Street, Kimberley            | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.7498   | 24.775219 | 17638 |       |
| 28318  | 9/2/049/0120-051 | 23 Park Road, Kimberley                | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.744522 | 24.776028 | 17639 |       |
| 28319  | 9/2/049/0120-053 | 29 Park Road, Kimberley                | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.743136 | 24.776767 | 17640 |       |
| 28320  | 9/2/049/0120-036 | Cenotaph, Spencer Street,<br>Kimberley | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.745682 | 24.774599 | 17633 |       |
| 28321  | 9/2/049/0120-045 | 16 Milner Street, Kimberley            | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.749911 | 24.774906 | 17634 |       |
| 28322  | 9/2/049/0120-046 | 30 Park Road, Kimberley                | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.742883 | 24.776772 | 17635 |       |
| 28323  | 9/2/049/0120-047 | 184 Dutoitspan Road, Kimberley         | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.743524 | 24.770699 | 17636 |       |
| 28324  | 9/2/049/0120-028 | 19 Park Road, Kimberley                | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.744844 | 24.774422 | 17630 |       |
| 28325  | 9/2/049/0120-030 | 2 Loch Road, Kimberley                 | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.746289 | 24.775997 | 17631 |       |
| 28326  | 9/2/049/0120-035 | 7 Carrington Road, Kimberley           | Building | Register      | Heritage Register | 19740     | 12/02/1999   | Northern<br>Cape | -28.751108 | 24.776911 | 17632 |       |
| 28327  | 9/2/049/0120-024 | 8 Salisbury Street, Kimberley          | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.7468   | 24.776956 | 17626 |       |
| 28328  | 9/2/049/0120-025 | 3 Salisbury Street, Kimberley          | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.746611 | 24.776269 | 17627 |       |
| 28329  | 9/2/049/0120-026 | 28 Rendlesham Road, Kimberley          | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.74491  | 24.77864  | 17628 |       |
| 28330  | 9/2/049/0120-027 | 22 Rendlesham Road, Kimberley          | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.745595 | 24.778209 | 17629 |       |
| 28331  | 9/2/049/0120-019 | 8 Carrington Road, Kimberley           | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.750128 | 24.776767 | 17621 |       |
| 28332  | 9/2/049/0120-020 | 13 Spencer Street, Kimberley           | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.745297 | 24.774297 | 17622 |       |
| 28333  | 9/2/049/0120-021 | 1 Loch Road, Kimberley                 | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.746275 | 24.775117 | 17623 |       |

| SiteID | SiteReference    | FullSiteName  | SiteType   | ArchiveStatus     | DeclarationType          | GazetteNo | Gazette Date | Province      | Latitude   | Longitude | Nid   | Notes |
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| 28334  | 9/2/049/0120-022 | 6 Carrington Road, Kimberley                        | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.749964 | 24.776994 | 17624 |       |
| 28335  | 9/2/049/0120-023 | 1 Smith Street, Kimberley                           | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.74355  | 24.778278 | 17625 |       |
| 28336  | 9/2/049/0120-014 | 12 Park Road, Kimberley                             | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.743839 | 24.772153 | 17617 |       |
| 28337  | 9/2/049/0120-015 | 3 Harley Street, Kimberley                          | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.744761 | 24.775717 | 17618 |       |
| 28338  | 9/2/049/0120-017 | 21 Milner Street, Kimberley                         | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.750781 | 24.775025 | 17619 |       |
| 28339  | 9/2/049/0120-018 | 7 Egerton Road, Kimberley                           | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.748658 | 24.779472 | 17620 |       |
| 28340  | 9/2/049/0120-011 | Esmonde, 3 Loch Road, Kimberley                     | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.746006 | 24.775592 | 17614 |       |
| 28341  | 9/2/049/0120-012 | 42 Synagogue Street, Kimberley                      | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.750294 | 24.773331 | 17615 |       |
| 28342  | 9/2/049/0120-013 | 5 Lodge Road, Kimberley                             | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.746308 | 24.778601 | 17616 |       |
| 28343  | 9/2/049/0120-010 | 18 Milner Street, Kimberley                         | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.750139 | 24.774844 | 17613 |       |
| 28344  | 9/2/049/0120-008 | 32 Milner Street, Kimberley                         | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.751719 | 24.773142 | 17611 |       |
| 28345  | 9/2/049/0120-009 | 15 Rendlesham Road, Kimberley                       | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.744494 | 24.778591 | 17612 |       |
| 28346  | 9/2/049/0120-004 | 5 Park Road, Kimberley                              | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.74255  | 24.771064 | 17607 |       |
| 28347  | 9/2/049/0120-005 | 47 Milner Street, Kimberley                         | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.752956 | 24.772511 | 17608 |       |
| 28348  | 9/2/049/0120-006 | 36 Milner Street, Kimberley                         | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.751956 | 24.772878 | 17609 |       |
| 28349  | 9/2/049/0120-007 | 1 Foley Street, Kimberley                           | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.744475 | 24.777547 | 17610 |       |
| 28350  | 9/2/049/0118     | Kiddie House, 11 Currey Street, Kimberley           | Building   | National monument | Provincial Heritage Site | 15326     | 17/12/1993   | Northern Cape | -28.740953 | 24.763321 | 17603 |       |
| 28351  | 9/2/049/0120-001 | 5 Foley Street, Kimberley                           | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.744425 | 24.778108 | 17604 |       |
| 28352  | 9/2/049/0120-002 | 56 Milner Street, Kimberley                         | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.75315  | 24.771497 | 17605 |       |
| 28353  | 9/2/049/0120-003 | 59 Milner Street, Kimberley                         | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.754014 | 24.771203 | 17606 |       |
| 28354  | 9/2/049/0102     | Shooting Box complex, Rooipoort, Kimberley district | Building   | National monument | Provincial Heritage Site | 12540     | 22/06/1990   | Northern Cape | -28.637798 | 24.279839 | 17599 |       |
| 28355  | 9/2/049/0105     | Glacial pavements, Nooitgedacht, Kimberley District | Geological | National monument | Provincial Heritage Site | 5622      | 03/02/1956   | Northern Cape | -28.600374 | 24.611463 | 17600 |       |
| 28356  | 9/2/049/0106     | Trinity Methodist Church, Chapel Street, Kimberley  | Building   | National monument | Provincial Heritage Site | 14048     | 19/06/1992   | Northern Cape | -28.739289 | 24.765379 | 17601 |       |
| 28357  | 9/2/049/0109     | Nazareth House, Cornwall Street, Kimberley          | Building   | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.748037 | 24.775233 | 17602 |       |

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| 28358  | 9/2/049/0098  | Magersfontein Battlefield, Kimberley District                               | Battlefield    | National monument | Provincial Heritage Site | 3013      | 12/03/1971   | Northern Cape | -28.969175 | 24.698281 | 17596 |       |
| 28359  | 9/2/049/0100  | Homestead, Secretarius, Kimberley District                                  | Building       | National monument | Provincial Heritage Site | 13693     | 27/12/1991   | Northern Cape | -28.708808 | 24.509465 | 17597 |       |
| 28360  | 9/2/049/0101  | Archaeological Site, Doornlaagte 97, Kimberley District                     | Archaeological | National monument | Provincial Heritage Site | 1034      | 19/02/1965   | Northern Cape | -28.72677  | 24.310225 | 17598 |       |
| 28361  | 9/2/049/0096  | Memorial to the Pioneers of Aviation, Alexandersfontein, Kimberley District | Building       | National monument | Provincial Heritage Site | 9128      | 16/03/1984   | Northern Cape | -28.812731 | 24.786287 | 17594 |       |
| 28362  | 9/2/049/0097  | Jack Hindon Officers' Club, Alexandersfontein, Kimberley District           | Building       | National monument | Provincial Heritage Site | 9210      | 04/05/1984   | Northern Cape | -28.819915 | 24.789832 | 17595 |       |
| 28363  | 9/2/049/0091  | Armagh, 40 Memorial Road, Kimberley   | Building       | National monument | Provincial Heritage Site | 13482     | 30/08/1991   | Northern Cape | -28.749111 | 24.771139 | 17590 |       |
| 28364  | 9/2/049/0092  | 5 Rendlesham Road, Kimberley  | Building       | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.747523 | 24.777554 | 17591 |       |
| 28365  | 9/2/049/0093  | Rugby House, 28 Roper Street, Kimberley                                     | Building       | National monument | Provincial Heritage Site | 14997     | 23/07/1993   | Northern Cape | -28.73601  | 24.766586 | 17592 |       |
| 28366  | 9/2/049/0095  | 14 West Circular Road, Kimberley  | Building       | National monument | Provincial Heritage Site | 12291     | 16/02/1990   | Northern Cape | -28.740163 | 24.754577 | 17593 |       |
| 28367  | 9/2/049/0085  | Rudd House, 5 Loch Road, Kimberley  | Building       | National monument | Provincial Heritage Site | 12291     | 16/02/1990   | Northern Cape | -28.745146 | 24.776017 | 17584 |       |
| 28368  | 9/2/049/0086  | 7 Lodge Road, Kimberley   | Building       | National monument | Provincial Heritage Site | 13380     | 05/07/1991   | Northern Cape | -28.746516 | 24.779068 | 17585 |       |
| 28369  | 9/2/049/0087  | 9 Lodge Road, Kimberley   | Building       | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.746553 | 24.779714 | 17586 |       |
| 28370  | 9/2/049/0088  | Dunluce, 10 Lodge Road, Kimberley   | Building       | National monument | Provincial Heritage Site | 8311      | 23/07/1982   | Northern Cape | -28.747221 | 24.779879 | 17587 |       |
| 28371  | 9/2/049/0089  | Lindow House, 11 Lodge Road, Kimberley                                      | Building       | National monument | Provincial Heritage Site | 12540     | 22/06/1990   | Northern Cape | -28.746746 | 24.779908 | 17588 |       |
| 28372  | 9/2/049/0090  | The Grange, 13 Lodge Road, Kimberley  | Building       | National monument | Provincial Heritage Site | 9759      | 30/05/1985   | Northern Cape | -28.746831 | 24.780472 | 17589 |       |
| 28373  | 9/2/049/0081  | Derrycreevy, 18 Elsmere Road, Kimberley                                     | Building       | National monument | Provincial Heritage Site | 8918      | 07/10/1983   | Northern Cape | -28.748172 | 24.777711 | 17580 |       |
| 28374  | 9/2/049/0082  | Toeka, 20 Elsmere Road, Kimberley   | Building       | National monument | Provincial Heritage Site | 8918      | 07/10/1983   | Northern Cape | -28.748201 | 24.778213 | 17581 |       |
| 28375  | 9/2/049/0083  | 22 Elsmere Road, Kimberley  | Building       | National monument | Provincial Heritage Site | 10047     | 27/12/1985   | Northern Cape | -28.748295 | 24.778487 | 17582 |       |
| 28376  | 9/2/049/0084  | 24 Elsmere Road, Kimberley  | Building       | National monument | Provincial Heritage Site | 8918      | 07/10/1983   | Northern Cape | -28.748328 | 24.778749 | 17583 |       |
| 28377  | 9/2/049/0077  | 215 Dutoitspan Road, Kimberley  | Building       | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.747684 | 24.776391 | 17578 |       |
| 28378  | 9/2/049/0078  | 217 Dutoitspan Road, Kimberley  | Building       | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.747533 | 24.77579  | 17579 |       |
| 28379  | 9/2/049/0074  | 209 Dutoitspan Road, Kimberley  | Building       | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.74774  | 24.775908 | 17576 |       |
| 28380  | 9/2/049/0076  | 213 Dutoitspan Road, Kimberley  | Building       | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.747373 | 24.775554 | 17577 |       |

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| 28381  | 9/2/049/0072     | 205 Dutoitspan Road, Kimberley  | Building               | Register                | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.746621 | 24.775082 | 17574 |        |
| 28382  | 9/2/049/0073     | 207 Du Toitspan Road, Kimberley   | Building               | Register                | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.746404 | 24.774073 | 17575 |        |
| 28383  | 9/2/049/0069     | 199 Dutoitspan Road, Kimberley  | Building               | Register                | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.744984 | 24.772416 | 17572 |        |
| 28384  | 9/2/049/0071     | 203 Dutoitspan Road, Kimberley  | Building               | Register                | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.746651 | 24.774685 | 17573 |        |
| 28385  | 9/2/049/0045     | Sol Plaatje Education Trust Library,<br>(Sol Plaatje House) 32 Angel Street,<br>Kimberley | Building               | National<br>monument    | Provincial Heritage<br>Site | 14048     | 19/06/1992   | Northern<br>Cape | -28.746108 | 24.763367 | 17567 |        |
| 28386  | 9/2/049/0046     | Old Residency, 4 Bennett Street,<br>Kimberley   | Building               | National<br>monument    | Provincial Heritage<br>Site | 12540     | 22/06/1990   | Northern<br>Cape | -28.731744 | 24.772989 | 17568 |        |
| 28387  | 9/2/049/0055     | Rockmount, 20 Carrington Road,<br>Kimberley   | Building               | National<br>monument    | Provincial Heritage<br>Site | 9759      | 30/05/1985   | Northern<br>Cape | -28.751335 | 24.775456 | 17569 |        |
| 28388  | 9/2/049/0060     | Cape Police Memorial, Lodge Road, &<br>Kimberley  | Monuments<br>Memorials | Register                | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.745869 | 24.777604 | 17570 |        |
| 28389  | 9/2/049/0067     | Kumo, 42 Carrington Road,<br>Kimberley  | Building               | National<br>monument    | Provincial Heritage<br>Site | 18040     | 06/06/1997   | Northern<br>Cape | -28.753996 | 24.772353 | 17571 |        |
| 28390  | 9/2/049/0041     | Old De Beers Mining Company<br>Offices, 4 Warren Street, Kimberley                        | Building               | National<br>monument    | Provincial Heritage<br>Site | 9759      | 30/05/1985   | Northern<br>Cape | -28.736269 | 24.773436 | 17565 |        |
| 28391  | 9/2/049/0042     | Old School of Mines, Hull Street,<br>Kimberley  | Building               | National<br>monument    | Provincial Heritage<br>Site | 5574      | 03/06/1977   | Northern<br>Cape | -28.72924  | 24.77214  | 17566 |        |
| 28392  | 9/2/049/0040     | St Alban's Church, 2 Takoon<br>Square, Kimberley  | Building               | National<br>monument    | Provincial Heritage<br>Site | 14251     | 04/09/1992   | Northern<br>Cape | -28.736162 | 24.770999 | 17564 |        |
| 28393  | 9/2/049/0035     | Old Undenominational School,<br>Lanyon Terrace, Kimberley                                 | Building               | National<br>monument    | Provincial Heritage<br>Site | 12814     | 02/11/1990   | Northern<br>Cape | -28.739931 | 24.770159 | 17562 |        |
| 28394  | 9/2/049/0039     | Oriental Building, 27 De Beers<br>Road, Kimberley   | Building               | Provisional<br>monument | Provisional<br>Protection   | 14147     | 10/07/1992   | Northern<br>Cape | -28.73744  | 24.76715  | 17563 | Lapsed |
| 28395  | 9/2/049/0030-003 | Memorial Library, Kimberley Boys'<br>High School, Memorial Road,<br>Kimberley             | Building               | Declared                | Provincial Heritage<br>Site | 12291     | 16/02/1990   | Northern<br>Cape | -28.749183 | 24.770147 | 17559 |        |
| 28396  | 9/2/049/0033     | Kimberley Regiment Drill Hall, 31<br>Park Road, Kimberley                                 | Building               | National<br>monument    | Provincial Heritage<br>Site | 12679     | 10/08/1990   | Northern<br>Cape | -28.742251 | 24.77155  | 17560 |        |
| 28397  | 9/2/049/0034     | Queens Park, Park Road, Kimberley   | Building               | Register                | Heritage Register           | 15925     | 26/08/1994   | Northern<br>Cape | -28.744178 | 24.773133 | 17561 |        |
| 28398  | 9/2/049/0030-001 | Main building, Kimberley Boys'<br>High School, Memorial Road,<br>Kimberley                | Building               | Declared                | Provincial Heritage<br>Site | 12291     | 16/02/1990   | Northern<br>Cape | -28.748893 | 24.769674 | 17557 |        |
| 28399  | 9/2/049/0030-002 | Sports pavilion, Kimberley Boys'<br>High School, Memorial Road,<br>Kimberley              | Building               | Declared                | Provincial Heritage<br>Site | 12291     | 16/02/1990   | Northern<br>Cape | -28.751663 | 24.766628 | 17558 |        |
| 28400  | 9/2/049/0028     | Union Masonic Temple, 4 Free<br>State Road, Kimberley                                     | Building               | National<br>monument    | Provincial Heritage<br>Site | 11728     | 10/03/1989   | Northern<br>Cape | -28.757065 | 24.787058 | 17554 |        |
| 28401  | 9/2/049/0029     | First Seventh Day Adventist<br>Church, Blacking Street, Kimberley                         | Building               | National<br>monument    | Provincial Heritage<br>Site | 1788      | 14/07/1967   | Northern<br>Cape | -28.755536 | 24.784155 | 17555 |        |



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| 28402  | 9/2/049/0030     | Kimberley Boys' High School, Memorial Road, Kimberley                           | Building | National monument | Provincial Heritage Site | 12291     | 16/02/1990   | Northern Cape | -28.748893 | 24.769674 | 17556 |       |
| 28403  | 9/2/049/0026     | Beaconsfield Post Office, Central Road, Kimberley                               | Building | National monument | Provincial Heritage Site | 7557      | 24/04/1981   | Northern Cape | -28.758179 | 24.785393 | 17552 |       |
| 28404  | 9/2/049/0027     | Beaconsfield Library, 34 Central Road, Kimberley                                | Building | National monument | Provincial Heritage Site | 12291     | 16/02/1990   | Northern Cape | -28.758206 | 24.784685 | 17553 |       |
| 28405  | 9/2/049/0023     | Duggan-Cronin Gallery, 12 Egerton Road, Kimberley                               | Building | National monument | Provincial Heritage Site | 9384      | 17/08/1984   | Northern Cape | -28.747723 | 24.781211 | 17549 |       |
| 28406  | 9/2/049/0024     | Kimberley Girls' High School, Rendlesham Road, Kimberley                        | Building | National monument | Provincial Heritage Site | 10047     | 27/12/1985   | Northern Cape | -28.747657 | 24.778161 | 17550 |       |
| 28407  | 9/2/049/0025     | Beit House, Edgerton Road, Kimberley  | Building | National monument | Provincial Heritage Site | 10047     | 27/12/1985   | Northern Cape | -28.746008 | 24.7805   | 17551 |       |
| 28408  | 9/2/049/0021-001 | Henrietta Stockdale Chapel, Kimberley Hospital, Dutoitspan Road, Kimberley      | Building | National monument | Provincial Heritage Site | 625       | 11/10/1963   | Northern Cape | -28.745888 | 24.772721 | 17547 |       |
| 28409  | 9/2/049/0022     | McGregor Museum, Atlas Street, Kimberley  | Building | National monument | Provincial Heritage Site | 8304      | 16/07/1982   | Northern Cape | -28.749685 | 24.780021 | 17548 |       |
| 28410  | 9/2/049/0019     | Kimberley Club, 70 Dutoitspan Road, Kimberley                                   | Building | National monument | Provincial Heritage Site | 9210      | 04/05/1984   | Northern Cape | -28.740855 | 24.765765 | 17545 |       |
| 28411  | 9/2/049/0020     | Kimberley Masonic Temple, 126-128 Dutoitspan Road, Kimberley                    | Building | National monument | Provincial Heritage Site | 12291     | 16/02/1990   | Northern Cape | -28.757095 | 24.787023 | 17546 |       |
| 28412  | 9/2/049/0016     | Alexander McGregor Memorial Museum, 10 Chapel Street, Kimberley                 | Building | National monument | Provincial Heritage Site | 8311      | 23/07/1982   | Northern Cape | -28.73981  | 24.765131 | 17542 |       |
| 28413  | 9/2/049/0017     | The Corner, Dutoitspan Road, Kimberley  | Building | National monument | Provincial Heritage Site | 14743     | 23/04/1993   | Northern Cape | -28.740298 | 24.765208 | 17543 |       |
| 28414  | 9/2/049/0018     | Kimberley Africana Library, Dutoitspan Road, Kimberley                          | Building | National monument | Provincial Heritage Site | 12291     | 16/02/1990   | Northern Cape | -28.740307 | 24.765462 | 17544 |       |
| 28415  | 9/2/049/0013     | Star of the West, North Circular Road, Kimberley                                | Building | National monument | Provincial Heritage Site | 12814     | 02/11/1990   | Northern Cape | -28.736393 | 24.754633 | 17540 |       |
| 28416  | 9/2/049/0015     | Dutch Reformed Mother Church, Newton, Kimberley                                 | Building | National monument | Provincial Heritage Site | 5328      | 05/11/1976   | Northern Cape | -28.744952 | 24.758862 | 17541 |       |
| 28417  | 9/2/049/0010     | Old stables, Stockdale Street, Kimberley  | Building | National monument | Provincial Heritage Site | 9759      | 30/05/1985   | Northern Cape | -28.73799  | 24.762139 | 17538 |       |
| 28418  | 9/2/049/0011     | Consolidated Building, Stockdale Street, Kimberley                              | Building | National monument | Provincial Heritage Site | 9759      | 30/05/1985   | Northern Cape | -28.739049 | 24.762112 | 17539 |       |
| 28419  | 9/2/049/0006     | Old High Court of Griqualand West, Southey Street, Kimberley                    | Building | National monument | Provincial Heritage Site | 12814     | 02/11/1990   | Northern Cape | -28.737092 | 24.763906 | 17535 |       |
| 28420  | 9/2/049/0008     | De Beers Consolidated Mines Limited Head Office, 36 Stockdale Street, Kimberley | Building | National monument | Provincial Heritage Site | 9759      | 30/05/1985   | Northern Cape | -28.737948 | 24.762461 | 17536 |       |
| 28421  | 9/2/049/0009     | De Beers Benefit Society Building, Stockdale Street, Kimberley                  | Building | National monument | Provincial Heritage Site | 9759      | 30/05/1985   | Northern Cape | -28.738428 | 24.762101 | 17537 |       |
| 28423  | 9/2/049/0005     | City Hall and Market Square, Kimberley  | Building | National monument | Provincial Heritage Site | 5405      | 18/02/1977   | Northern Cape | -28.738105 | 24.764147 | 17532 |       |
| 28424  | 9/2/049/0005/001 | Market Square, Kimberley  | Building | Declared          | Provincial Heritage Site | 5405      | 18/02/1977   | Northern Cape | -28.738235 | 24.763754 | 17533 |       |

| SiteID | SiteReference    | FullSiteName                                     | SiteType          | ArchiveStatus     | DeclarationType          | GazetteNo | Gazette Date | Province      | Latitude   | Longitude | Nid   | Notes |
|--------|------------------|--|-------------------|-------------------|--------------------------|-----------|--------------|---------------|------------|-----------|-------|-------|
| 28425  | 9/2/049/0003/003 | Milner Street/Memorial Road Conservation area    | Conservation Area | Conservation area | Heritage Area            | 16360     | 13/04/1995   | Northern Cape | -28.747087 | 24.773635 | 17530 |       |
| 28426  | 9/2/049/0004     | Honoured Dead Memorial, Memorial Road, Kimberley | Building          | National monument | Provincial Heritage Site | 10113     | 07/03/1986   | Northern Cape | -28.751312 | 24.769335 | 17531 |       |
| 28427  | 9/2/049/0003/001 | Carrington Road Conservation Area, Kimberley     | Conservation Area | Conservation area | Heritage Area            | 13911     | 10/04/1992   | Northern Cape | -28.751956 | 24.775211 | 17528 |       |
| 28428  | 9/2/049/0003/002 | Belgravia Conservation Area, Kimberley           | Conservation Area | Conservation area | Heritage Area            | 16360     | 13/04/1995   | Northern Cape | -28.745953 | 24.778107 | 17529 |       |
| 28429  | 9/2/049/0002-156 | 29 Tucker Street, Kimberley                      | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.737167 | 24.754311 | 17524 |       |
| 28430  | 9/2/049/0002-162 | Erf 1709, Stanley Street, Kimberley              | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.756192 | 24.785413 | 17525 |       |
| 28431  | 9/2/049/0002-259 | 120 Main Road, Kimberley                         | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.751847 | 24.779736 | 17526 |       |
| 28432  | 9/2/049/0002-263 | 33 Blacking Street, cnr Central Road, Kimberley  | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.756372 | 24.782767 | 17527 |       |
| 28433  | 9/2/049/0002-099 | Neale Street, Kimberley                          | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.754616 | 24.785753 | 17519 |       |
| 28434  | 9/2/049/0002-100 | 5 Neale Street, Kimberley                        | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.756583 | 24.783717 | 17520 |       |
| 28435  | 9/2/049/0002-120 | 62 Hercules Street, Kimberley                    | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.753311 | 24.784103 | 17521 |       |
| 28436  | 9/2/049/0002-138 | 28 Main Road, Kimberley                          | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.758117 | 24.786914 | 17522 |       |
| 28437  | 9/2/049/0002-139 | 30-30A Main Road, Kimberley                      | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.758653 | 24.787675 | 17523 |       |
| 28438  | 9/2/049/0002-068 | Erf 1858, Main Road, Kimberley                   | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.758895 | 24.788004 | 17515 |       |
| 28439  | 9/2/049/0002-082 | 61 Hercules Street, Kimberley                    | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.752694 | 24.783917 | 17516 |       |
| 28440  | 9/2/049/0002-094 | 97 Hercules Street, Kimberley                    | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.750414 | 24.785869 | 17517 |       |
| 28441  | 9/2/049/0002-096 | 101 Hercules Street, Kimberley                   | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.75005  | 24.786194 | 17518 |       |
| 28442  | 9/2/049/0002-066 | 81 Main Road, Kimberley                          | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.753339 | 24.780594 | 17514 |       |
| 28443  | 9/2/049/0002-045 | 97 Central Road, Kimberley                       | Building          | Register          | Heritage Register        | 19740     | 12/02/1999   | Northern Cape | -28.752897 | 24.776581 | 17512 |       |
| 28444  | 9/2/049/0002-046 | 41 Robinson Street, Kimberley                    | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.754011 | 24.783928 | 17513 |       |
| 28445  | 9/2/049/0002-032 | 95 Main Road, Kimberley                          | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.752178 | 24.779828 | 17508 |       |
| 28446  | 9/2/049/0002-033 | 97 Main Road, Kimberley                          | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.752017 | 24.779722 | 17509 |       |
| 28447  | 9/2/049/0002-035 | 31a Hercules Street, Kimberley                   | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.754375 | 24.782472 | 17510 |       |
| 28448  | 9/2/049/0002-040 | Tucker Street, Kimberley                         | Building          | Register          | Heritage Register        | 15925     | 26/08/1994   | Northern Cape | -28.737585 | 24.754595 | 17511 |       |

| SiteID | SiteReference    | FullSiteName                  | SiteType | ArchiveStatus | DeclarationType   | GazetteNo | Gazette Date | Province         | Latitude   | Longitude | Nid   | Notes |
|--------|------------------|-------------------------------|----------|---------------|-------------------|-----------|--------------|------------------|------------|-----------|-------|-------|
| 28449  | 9/2/049/0002-021 | 115 Main Road, Kimberley      | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.75035  | 24.778617 | 17503 |       |
| 28450  | 9/2/049/0002-025 | 35 Robinson Street, Kimberley | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.754389 | 24.783547 | 17504 |       |
| 28451  | 9/2/049/0002-026 | 117 Main Road, Kimberley      | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.750122 | 24.778453 | 17505 |       |
| 28452  | 9/2/049/0002-028 | 83 Main Road, Kimberley       | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.753164 | 24.780483 | 17506 |       |
| 28453  | 9/2/049/0002-029 | 85 Main Road, Kimberley       | Building | Register      | Heritage Register | 15925     | 26/08/1994   | Northern<br>Cape | -28.753003 | 24.780372 | 17507 |       |

## **ANNEXURE 5**

# **TREE PROTECTION GUIDELINE FOR CONSTRUCTION, EXCAVATION & TRENCHING FOR AERIAL AND UNDERGROUND FIBRE OPTIC CABLING**



# TREE PROTECTION GUIDELINE FOR CONSTRUCTION, EXCAVATION & TRENCHING FOR AERIAL AND UNDERGROUND FIBRE OPTIC CABLING

## 1. Introduction

Trees can be damaged or killed by a wide variety of construction activities. Such as broken or torn branches and root damage. Broken or torn branches can lead to diseases and insects inserting the trees through the open wounds.

Trees are never the same shape below ground as they are above, so it is difficult to predict the length or location of their roots. Typically, however, approximately 90-95 percent of a tree's root system is in the top 90--100 cm of soil 100 cm of soil, and more than half is in the top 30-50 cm. The part of this root system in which construction damage should be avoided is called the Root Protection Area (RPA).

One common method to identify the RPA is to define it as the "dripline"--the area directly below the branches/crown of the tree. However, many roots extend beyond the longest branches a distance equal to two or more times the height of the tree. For this reason, you should protect as much of the area beyond the dripline as possible.

On most construction or excavation sites space is limited and it is not possible to protect the entire canopy and root area. Just how close an activity can come without seriously threatening the survival of a tree depends on the species, the extent of damage, and the plant's health. Some healthy trees can survive after losing 50 percent of their roots. However, other species are extremely sensitive to root cutting, even outside the dripline. Most trees can survive significant canopy pruning but not all species respond with successful regrowth of a visually acceptable canopy.

This guideline is aimed at providing direction for approaching and executing canopy pruning and root zone excavations for the purposes of installing fibre optic cabling both above ground mounted on poles and below ground in trenches, whilst minimizing any negative impact on the health and visual integrity of existing street trees.

## **2. Minimising Impact of Construction & Excavation Activities**

### **2.1 Soil Damage and Compaction**

Tree roots need loose soil to grow, obtain oxygen, and absorb water and nutrients. Stockpiled building materials, heavy machinery, and excessive foot traffic all damage soil structure. Lacking good soil aeration, roots suffocate and tree health declines.

Prevent soil compaction by carefully selecting storage areas and traffic routes and installing protective fences and signs. If you can, reroute traffic, install root system bridges with steel plates suspended over railroad ties or spread a layer (15cm or more) of wood chips on the soil within the RPA. Trees that are pruned or removed during the construction process should be chipped on site and the chips used for soil preservation tactics such as this.

Improper handling or disposal of materials used during construction also can harm roots. All building debris and chemical wastes be hauled away for proper disposal, and not burned or buried on the site.

Avoid changes in soil pH (acidity). Increases in pH are particularly dangerous to many species. Alkaline clays or limestones should not be used for fill or paving, and concrete should be mixed on a thick plastic tarp or outside the site. Mixing trucks should never be rinsed out on the site.

### **2.2 Excavation**

Up to 40% of a tree's root system could be cut during the installation of a nearby utility line. This however, reduces water and nutrient uptake, and may compromise the stability of the tree. If it is not possible to relocate the utility line outside the tree's RPA, you can reduce root damage by as much as 25% by tunnelling under the tree's root system. When digging a trench near a tree, begin tunnelling when you encounter roots larger than 2,5cm in diameter. Drilling single holes or bridging critical areas as opposed to cutting deep trenches saves many critical roots.

For all digging operations, insist that exposed roots be cut cleanly to promote quick wound closure and regeneration. Hand

excavation, vibratory plows, chain trenchers, and hand tools are preferred than bulldozers and backhoes. Minimize damage by avoiding excavation during hot, dry weather; by keeping the trees well-watered before and after digging; and covering exposed roots with soil, mulch, or damp burlap/hessian as soon as possible.

## **2.3 Root Pruning**

Trenching and digging in the soil near trees can cut roots, and this can damage the tree resulting in tree decline or the tree falling over. Tree roots greater than about 2.5cm diameter should not be damaged. In some cases, roots of 2.5cm – 8cm diameter represent the major structural roots holding the tree upright. When roots greater than 2.5cm are exposed, a trained professional / arborist should be contacted.

## **3. Proposed additions/ amendments to Specifications**

With reference to the following documents:

Aerial fibre Working Specification, March 2020

Frogfoot FTTH Implementation Specification Rev 1.4

The following guidelines / specification are proposed to be added / incorporated into the above working documents to ensure that impacts on existing street trees in Kimberley are minimized:

- 3.1 Hand excavation only within the Root Protection Area (RPA) of any street trees
- 3.2 As per both documents, permission from the landowner (municipality or closest resident/ property owner) must be sought before any pruning of canopy or excavation within the Root Protection Area (RPA) is carried out.
- 3.3 Attempt to have a minimum 1meter setback from the root flare of the tree trunk for any trenches or excavations. A 2m setback is much preferred and if at all possible / reasonable, all cable routes and excavations should remain outside the dripline of the canopy completely.
- 3.4 Tunneling under roots is preferable to cutting through them. If a root 2,5cm or greater in diameter is encountered this must be protected and either bridged or tunnel under it.

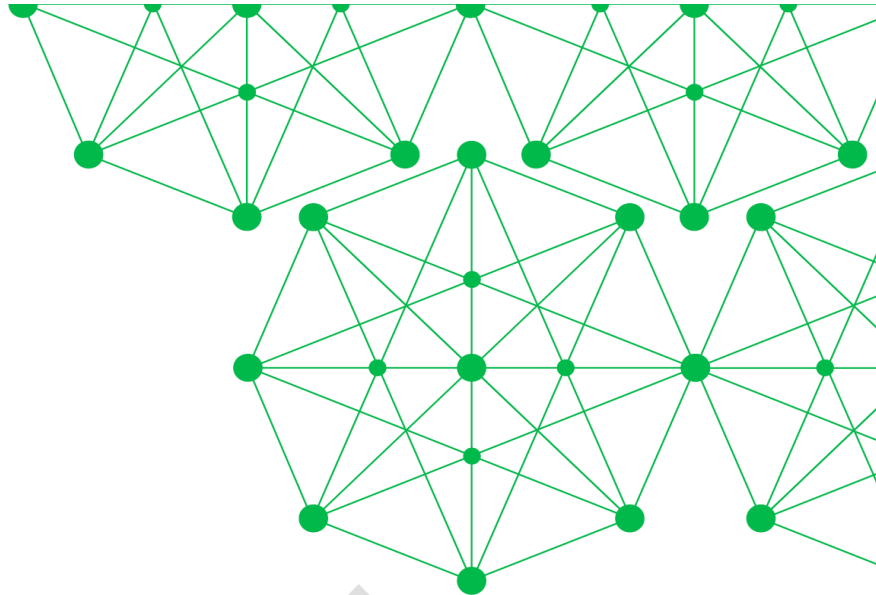
3.5 Cutting of roots must be made with tools that result in a clean sharp cut. No tearing. Any pruning of roots 2,5cm or larger must be undertaken by a knowledgeable person (arborist) and treated with the correct sealant product to avoid disease entering the tree tissue.

3.6 All pruning to tree canopies as per the Aerial Fibre Working Specification March 2020



## **ANNEXURE 6**

# **FROGFOOT FTTH AERIAL LINE CABLE SPECIFICATIONS**



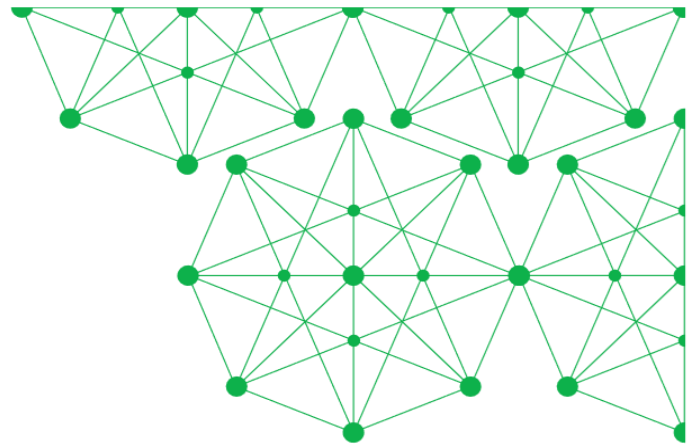
Document number  
Document category  
Author  
Approver (owner)  
Status  
Issue date  
Revision number

CMT-AER-P02  
Procedure  
FF  
HOD Planning  
Approved  
17 February 2021  
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|  |                   |            |       |
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| The signatures below certify that this Document has been reviewed and approved and demonstrates that the signatories are aware of all the requirements contained herein and are committed to ensuring their provision. |                   |            |       |
| <b>Document Owner</b>  |                   |            |       |
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| Position:  | HOD Planning      |            |       |
| Company:   | Frogfoot Networks |            |       |
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| Position:  |                   |            |       |
| Company:   |                   |            |       |
| Name:  |                   | Signature: | Date: |
| Position:  |                   |            |       |
| Company:   |                   |            |       |
| Authorized By:   |                   |            |       |
| Name:  |                   | Signature: | Date: |
| Position:  |                   |            |       |
| Company:   |                   |            |       |

#### Revision Table

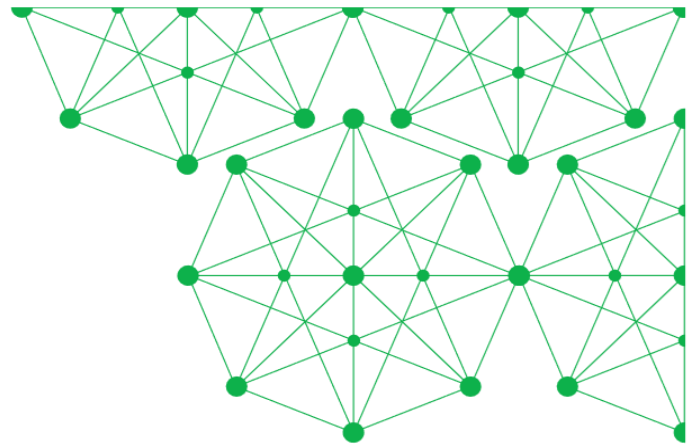
| Date:      | Revision | Author | Changes   |
|------------|----------|--------|---|
| 4/09/2020  | 0        | Johan  | First Draft                                       |
| 03/12/2020 | 1        | Brian  | Add in photos, pole installation, fibre work, EHS |
| 17/02/2021 | 2        | Johan  | Comment and updates on revisions                  |
|            |          |        |   |
|            |          |        |   |

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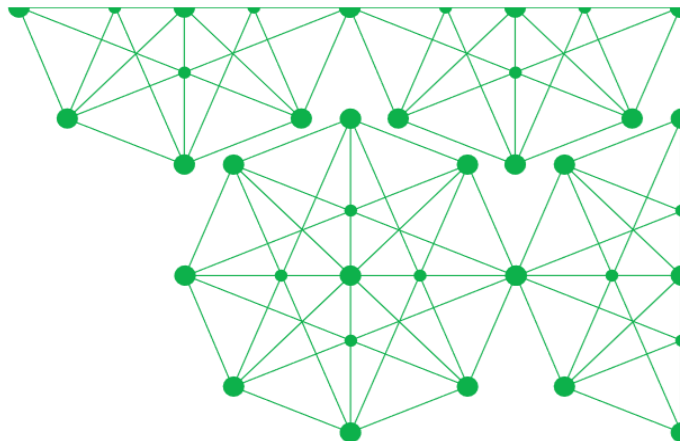


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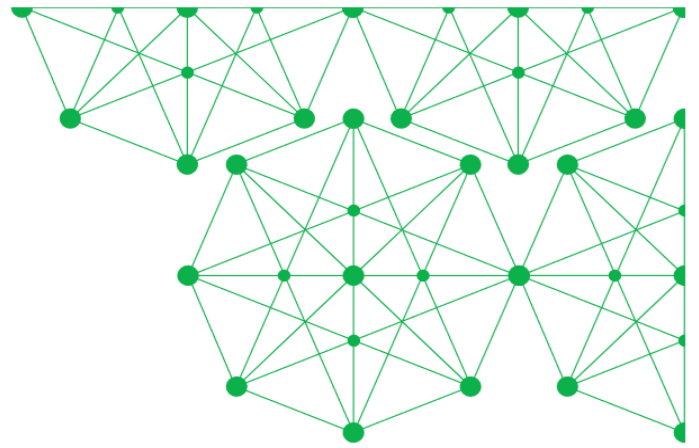


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## 1. Purpose

- 1.1 The purpose of this document is to provide a guideline for the deployment and connection of FTTH Aerial Line Cable projects on the Frogfoot network. It should be noted that this document is to serve as a guideline and not purport to address all best practices and techniques.
- 1.2 It is advised that this document be read in its entirety before commencement of any works to gain a clear and complete understanding of the requirements.
- 1.3 Whilst every step has been taken to ensure the accuracy and completeness of this information, it should be noted that recommended prescribed installation specifications should not be overlooked whilst using this document.

## 2. Scope

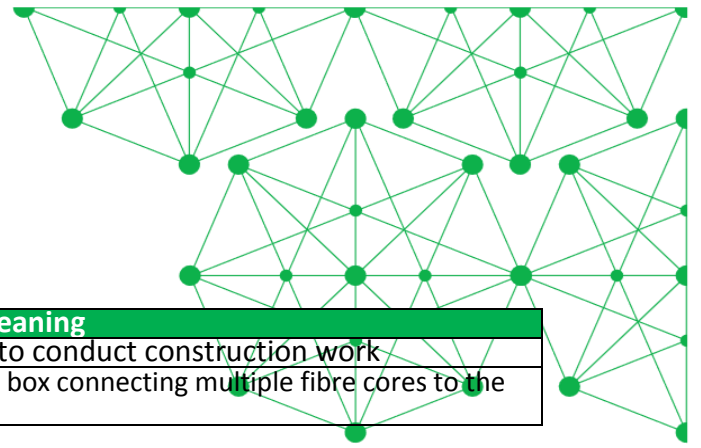
- 2.1 All elements and the proposed configurations for FTTH ALC are enclosed in this document.
- 2.2 This document will address the deployment of FTTH OSP, ACB installations and best practices as far as possible.

## 3. Reference documents

- 3.1 Frogfoot FTTH Civil Specifications
- 3.2 Frogfoot Micro Trenching Specification
- 3.3 Frogfoot Labelling Specification Guideline - Underground Networks
- 3.4 Frogfoot Traffic Management Plan rev 1
- 3.5 Frogfoot HSE Plan 12 April 2016 rev 0
- 3.6 Frogfoot Waste Management Plan rev 0
- 3.7 Frogfoot DIT Results
- 3.8 Frogfoot OTDR Results
- 3.9 OHS Act 85 of 1993
- 3.10 COIDA ACT 130 of 1993
- 3.11 NEMA Act 107 of 1998
- 3.12 Construction Regulations 2014
- 3.13 South African National Road Traffic Act.
- 3.14 South African Roads Traffic Signs Manual, Volume 2, Chapter 13.
- 3.15 Construction Regulations 2014.
- 3.16 Occupational Health and Safety Act 85 of 1993.



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| Definition           | Definition Precise Meaning  |
|----------------------|---|
| Contractor           | Company appointed to conduct construction work                                  |
| Wall Termination Box | In building termination box connecting multiple fibre cores to the main feeder. |

## 4. Definitions and Acronyms

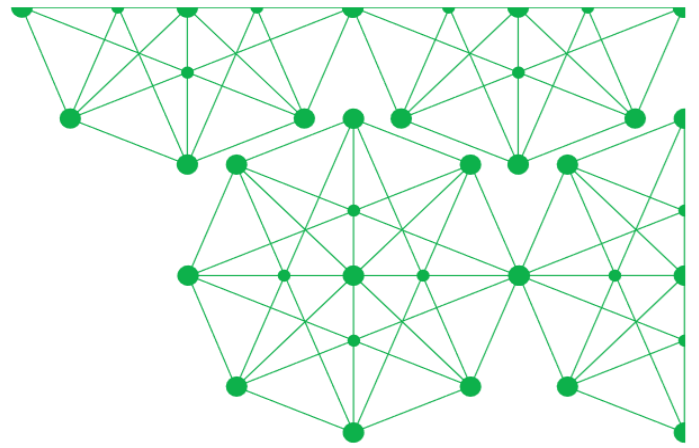
### 4.1 Definitions

### 4.2 Acronyms

| Acronym | Acronym in Full                 |
|---------|---------------------------------|
| e.g.    | exempli gratia "for example"    |
| mm      | Millimetre                      |
| GPON    | Gigabit Passive Optical Network |
| ONT     | Optical Network Terminal        |
| OLT     | Optical Line Terminal           |
| SDU     | Single Dwelling Unit            |
| MH      | Manhole                         |
| HH      | Hand Hole                       |
| ACB     | Access Build                    |
| FTTH    | Fibre to the Home               |
| OSP     | Outside Plant                   |
| BB      | Boundary Box                    |
| MDU     | Multi Dwelling Unit             |
| DIT     | Duct Integrity Test             |
| DCP     | Dynamic Cone Penetrometer       |
| ID      | Inside Diameter                 |
| OD      | Outside Diameter                |
| PON     | Passive Optical Networks        |
| ODF     | Optical Distribution Frame      |
| HDD     | Horizontal Directional Drilling |
| ALC     | Aerial Line Construction        |
| FJ      | Feeder Joint                    |
| DJ      | Distribution Joint              |
| AFC     | Aerial Feeder Cable             |
| ADC     | Aerial Distribution cable       |
| ALC     | Aerial Line Cable               |
|         |                                 |



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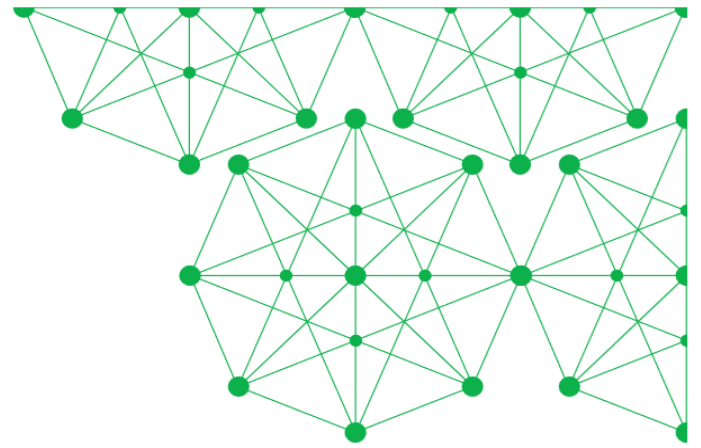
## 5. Introduction to Frogfoot FTTH

### 5.1 Introduction to Frogfoot FTTX

- A node will be hosted at a designated location as central to the project area as possible.
- This node will host the respective active and passive equipment. This will include but not be limited to:
  - OLT
  - EDFA's
  - ODF/'s
  - Patch Panels
  - 1:4 Splitter Cards
  - Slack Trays
  - Cable Guides
  - 42U Cabinet
  - Power and Backup Power Equipment
  - Active Monitoring and Security Equipment.
- The Network is designed with a cascading splitter configuration. 1:4 splitters in the node and 1:16 way splitters in the field. Refer to MDU specifications for variations of the above.
- For the successful deployment of an aerial network, there will be a requirement for conventional trenching particularly when there are more than two aerial cables used for the Core, Feeder or Distribution (only for multiple feeder cables) fibre. In this instance, direct buried ducts and micro cables are to be used.
- The suburb will be broken down into multiple sectors or projects with separate Core cables running to each. Should the design call for a conventional deployment of these routes, this will comprise of a 2 way 14/10mm, 4 way 14/10mm or a 7 14/10mm duct. Specification may differ based on the requirements. Refer to Figure 1.1 – Duct Sizes & FTTX Specification.
- Wherever possible, under the constraint of at most two core or feeder or a combination thereof, the routes will be run aerially.
- Road crossing are to be done overhead wherever possible and based on the wayleave conditions.
- The fibre will route from the aggregation node to a series of fibre splice closures situated on poles or within HHs along the various core, feeder and distribution routes.

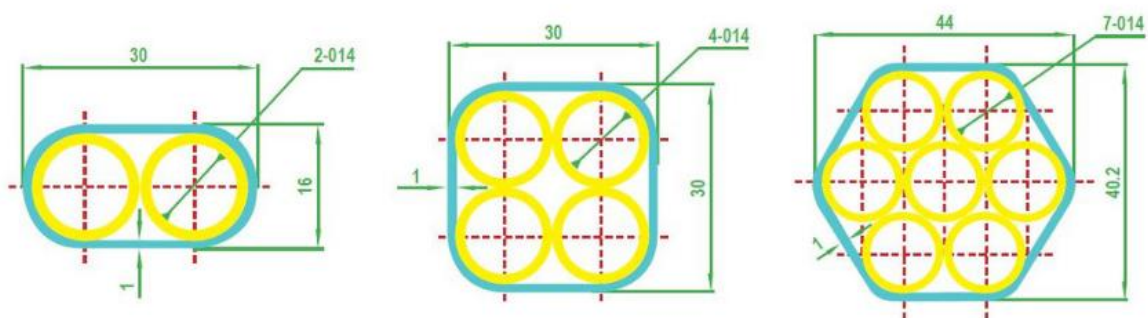


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- The deployment of an FTTX ACB installation will connect the residence to an OFDC- A4 Splice/Patch Closure which will be located on a pole in the road reserve and in line with the boundary between two properties. Refer to Figure 1.2 – OFDC-A4 Splice/Patch Closure Box
- Each OFDC-A4 Splice/Patch closure will serve four households, unless otherwise indicated on the drawings.
- The distribution aerial cable will loop through each OFDC-A4 Splice/Patch closure, and only the number of required fibres will be expressed and spliced onto pigtails.
- Whilst only 1 core per ACB will be spliced, the remaining cores will be reserved for future implementation.
- When standing at a pole that houses an OFDC-A4 Splice/Patch closure, facing the two properties, the residences on the left will be known as ACB1 and ACB2 and the ones on the right will be referred to as ACB3 and ACB4.
- In the case of an MDU, a distribution cable will be brought downwards along the pole by means of a PVC or galvanised pipe, floated in a 2 way 8/5mm duct, and expressed in an EBB by the entrance gate of the estate. In this scenario the ACB will be done from the EBB to the lead point within the estate. Refer to Figure 1.3 – Boundary Box
- The design for the routing of the cables may differ with each premises. A design will need to be made based on the notes, photographs and sketches made during the site survey.

*Figure 1.1 – Duct Sizes & FTTX Specification*

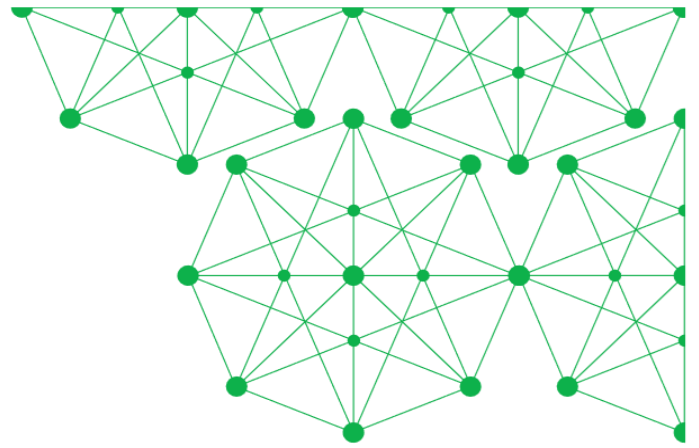


| Tube Colours (TIA/EIA Standards) |        |        |       |          |       |
|----------------------------------|--------|--------|-------|----------|-------|
| BLUE                             | ORANGE | GREEN  | BROWN | GREY     | WHITE |
| BLACK                            | YELLOW | VIOLET | PINK  | TURQUISE | RED   |





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• Figure 1.2 – OFDC-A4 Splice/Patch Closure



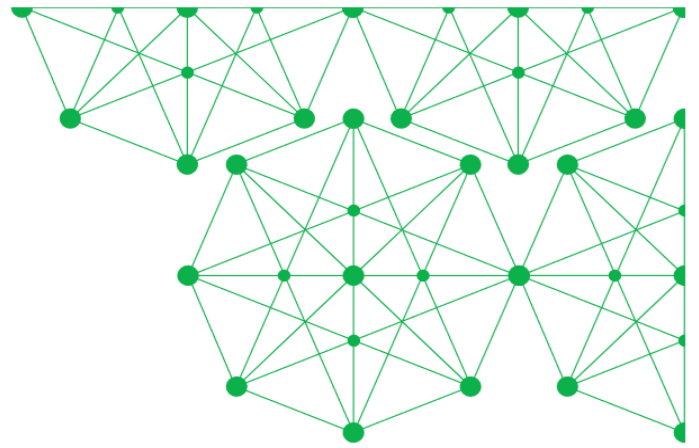
• Figure 1.3 – 320T Boundary Box



- - An ODF will be hosted at the nearest designated node feeding the GPON within the suburb.
  - The suburb will be broken down into multiple parts with separate feeder fibres running to each. The main feeder routes, with multiple feeder cables going in the same direction, will be done employing standard underground practices. Typically, this will comprise of 1 x 7-way (14/10) duct. Specification may differ based on the requirements. Also called the feeder duct bank
  - The fibre will route from the aggregation node to a series of distribution HH's



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situated along the various core and feeder routes. This will in turn feed fibre cores to the FJ's situated in HH's along the route and the FJ's on the terminal poles at the transition from underground to overhead deployment.

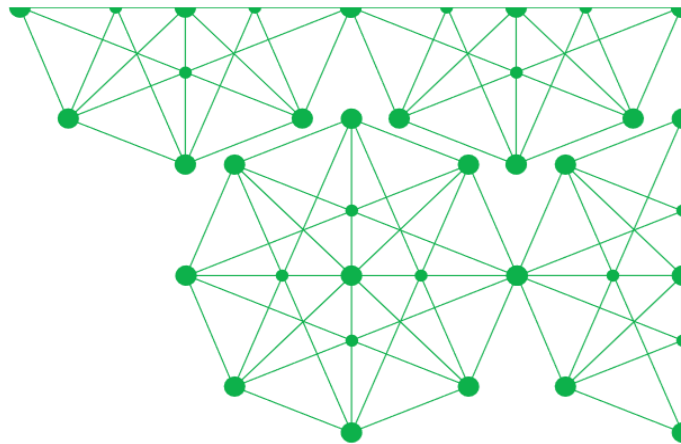
- The FJ's will house the splitters and serve as origin for the distribution cables feeding the DJ's.
- Each DJ will serve up to four households, unless otherwise indicated on the drawings.
- The deployment of an FTTH ACB installation will connect the residence to an DJ which will be located in the road reserve, in line with the boundary between two of the properties.
- The DJ will house a total of 6 cores (1 per residence with 2 spare cores).
- Whilst only 1 core per ACB will be spliced, the remaining cores will be reserved for future implementation.
- When standing at a DJ, facing the properties, the residence on the left - of a cluster of up to 4 residences, will be known as ACB1 and the one on the right will be referred to as ACB4.
- The design for the routing of the cables may differ with each premises. A design will need to be made based on the notes, photographs and sketches made during the site survey.

#### Demarcation of Work Area

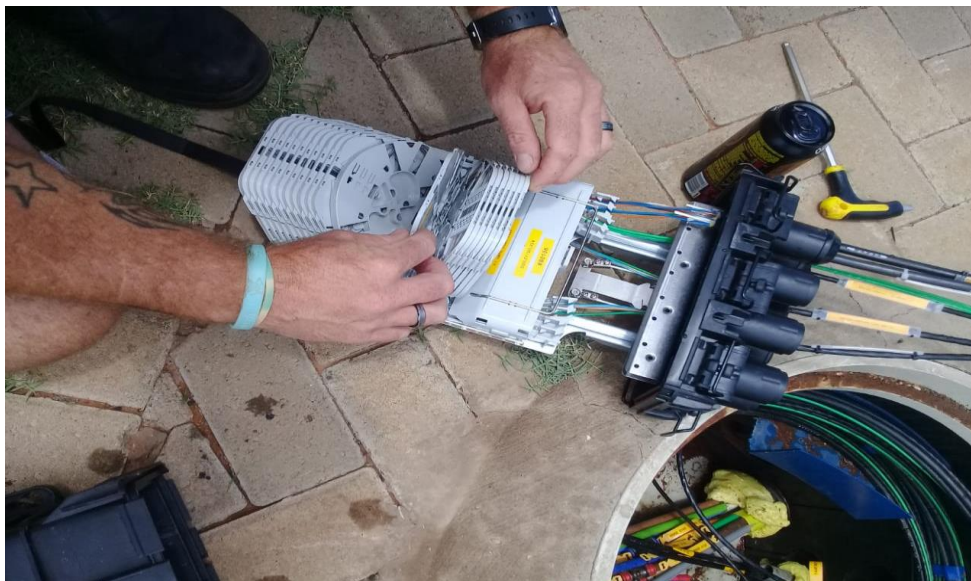
- Should any person be working on or have equipment on the sidewalk, the work area must be demarcated when excavation or planting of poles are in progress



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- If any person will be entering the road, the correct demarcations need to be established according to the Frogfoot Traffic Management Plan rev 1.



ACB – Fibre to the X

### 6.1 ACB Planning

- Listed below are the requirements which must be determined, planned and authorized by the relevant parties.
- The build requirements will be determined and noted during a site survey, paying particular attention to obstacles and existing third-party services along the way.
- Photos will be taken for future reference.
- The nearest OFDC-A4 Splice/Patch closure located on a distribution pole will be used with reference to the plan.
- The access route and an entry into the home through home ducting / cable routing to the termination point.
- Termination equipment to be used and the location thereof.
- Acquiring permission and an entry time into the home for deployment.
- An agreement between the contractor and the resident must be made to cover any additional cost that may occur.
- In the case where a pole cannot be planted at the boundary of two erfs, the access build drop fibre may not cross the erf of the neighbour and installation should be done as per figure 1.4.



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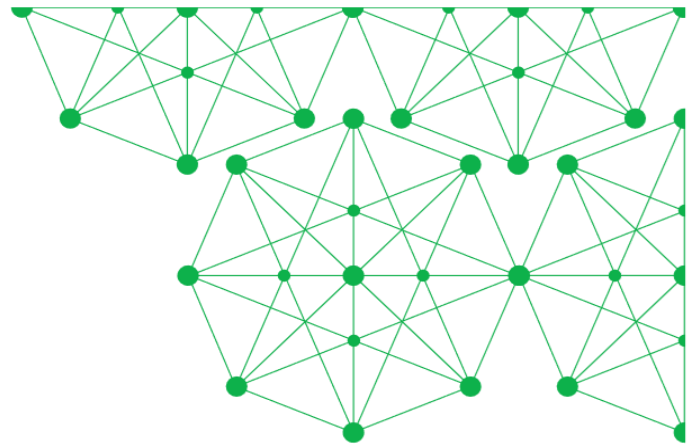
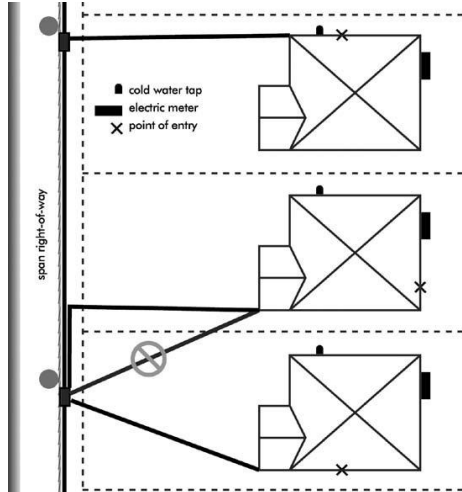
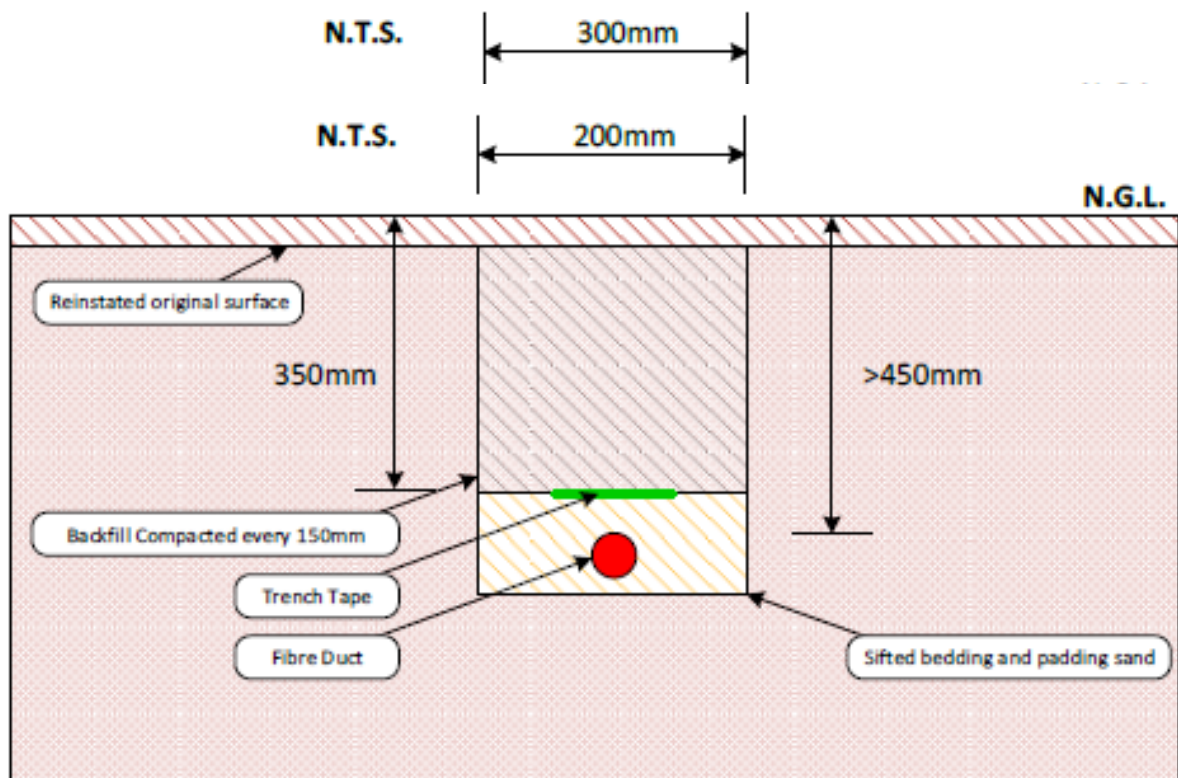


Figure 1.4



## 6. Civil Works

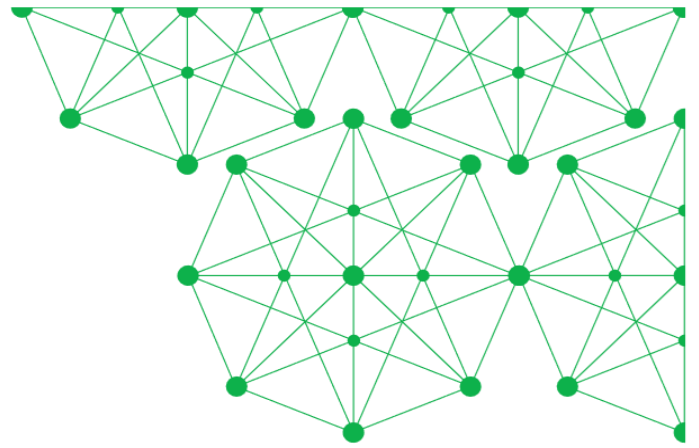
- A. Feeder Core Network | 600mm Duct coverage
- B. Distribution Network | 450mm Duct coverage
- C. Access Network | 450mm Duct coverage







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## 6.1 Pilot Holes

- 6.1.1 Pilot holes need to be excavated before any trenching work starts
- 6.1.2 The pilot holes should be excavated 30m apart to determine a trench line
- 6.1.3 Pilot holes also need to be excavated where there are other visible services that need to be crossed.
- 6.1.4 The size of the Pilot Holes needs to be 200mm deeper than the required trench depth
- 6.1.5 The Pilot Hole must be opened diagonally from the route, starting on the Boundary Wall up towards 1m from the Boundary wall.
- 6.1.6 If there is no space within the 1m to install the Frogfoot infrastructure the Pilot hole may be widened to a max width up to 300mm to the curb.
- 6.1.7 Great care needs to be taken when exposing other services not to damage them.

## 6.2 Scanning & Cable Locator

- 6.2.1 Ground penetrating scanning must be done on the section to be trenched before any trenching may commence
- 6.2.2 The scanning results need to be saved so that it can be verified later in the event of an incident.
- 6.2.3 Cable locators to be used on the day of the trenching, the electrical cables need to be marked so that the trenching team is aware where the service is.

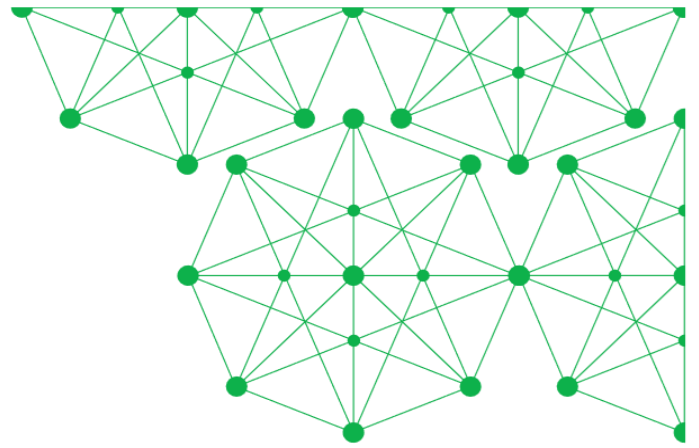
## 6.3 Trenching

- 6.3.1 Trenching shall be done by hand excavation only.
- 6.3.2 The trench line must be inside the 1m from the Boundary wall and follow as straight as possible a route.
- 6.3.3 All grass and general plantation requiring to be uprooted shall be removed and placed along the trench for easy reinstatement.
- 6.3.4 Any tree roots encountered during excavation will not be cut unless absolutely unavoidable.
- 6.3.5 The minimum depth to the bottom of the trench must be 650mm in areas where bedding isn't required. according to Wayleave conditions
- 6.3.6 Where services are encountered inside the trench line and not avoidable, the trench must be sloped so that the Frogfoot Infrastructure can be installed underneath the service being crossed. Clearance of 300mm
- 6.3.7 Crossing of services: refer to Service Wayleaves on the crossing method(s)/distances





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6.3.8 Trenching within the residential area will be done to a depth of 300mm and no deeper than 500mm. See Figures 2.1 and 2.2 below.

6.3.9 Trenching shall be done by hand excavation.

6.3.10 Any uprooting of trees, brush or shrubs will require consent in writing from the property owner.



6.3.11 No trench shall be left open overnight unless suitably demarcated, signage displayed, and arrangements are made with the client and residents.

6.3.12 When trenching across driveways/ pathways/ guttering or kerbs, will require proper support, and must be in place until the trenching is complete.

6.3.13 Where tunnelling beneath kerb is not possible, a cut using an angle grinder will be used to create a smooth uniform finish.

6.3.14 All backfill of the trench will be of the same compaction level or of a better standard than that prior to the excavation.

6.3.15 Caution will be exercised to ensure no large rocks are placed on top of the 20mm PVC conduit which may cause damage.

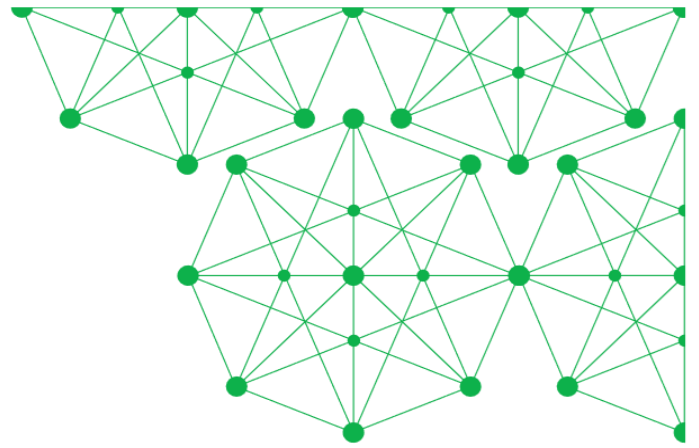
6.3.16 Where conduit is to be laid beneath pavers, the pavers are to be carefully removed for reuse. Upon reinstatement of the pavers, a bedding of river sand ~20mm deep is to be placed beneath the pavers.

6.3.17 The standard of reinstatement expected will be of the same or better quality prior to

*Figure 2.1 – Residential Trenching*



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excavation and must meet the client's expectations.

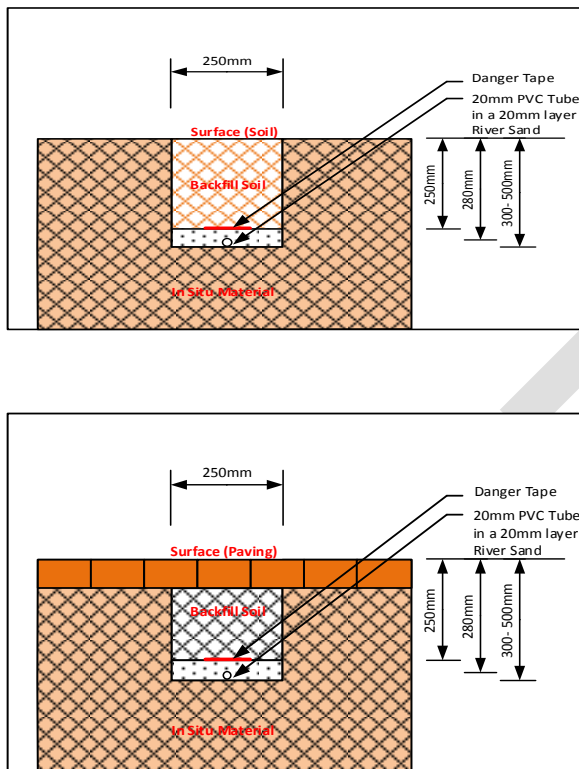


Figure 2.2 – Residential Trenching under pavement

### Definitions

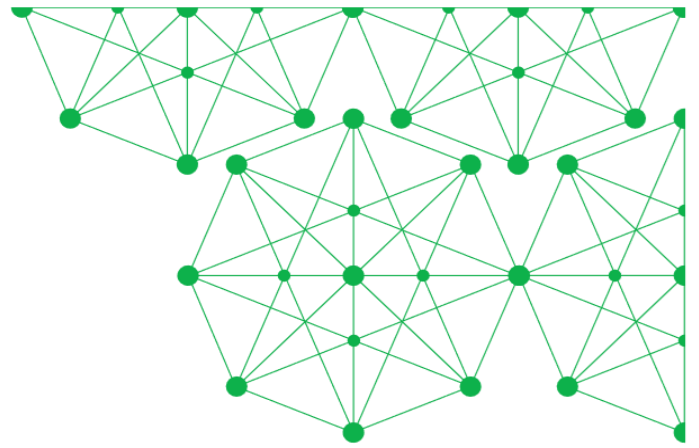
- Core: cables linking the FF node to the backhaul supplier's network entry point, and cables interconnecting different FF nodes.
- Feeder: cables feeding from the FF node - into the feeder area – to the feeder joints, housing the splitters.
- Distribution: cables feeding from the feeder joints into the blocks, feeding the distribution joints (aerial or in BB's), where the drops to the houses are terminated.

#### a. Core Route Trenching:

- i. Refer to *Figure 6.1 – Core Trench Diagram* below as reference.
- ii. The fibre core route trench will be dug to a depth of no less than 900mm and typical house a 110mm, a 4way 14/10mm and a 12 way 12/10mm ducts. Any variations hereof will be indicated on the drawing.



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- iii. Typically, this will be done by hand excavation unless otherwise stipulated by

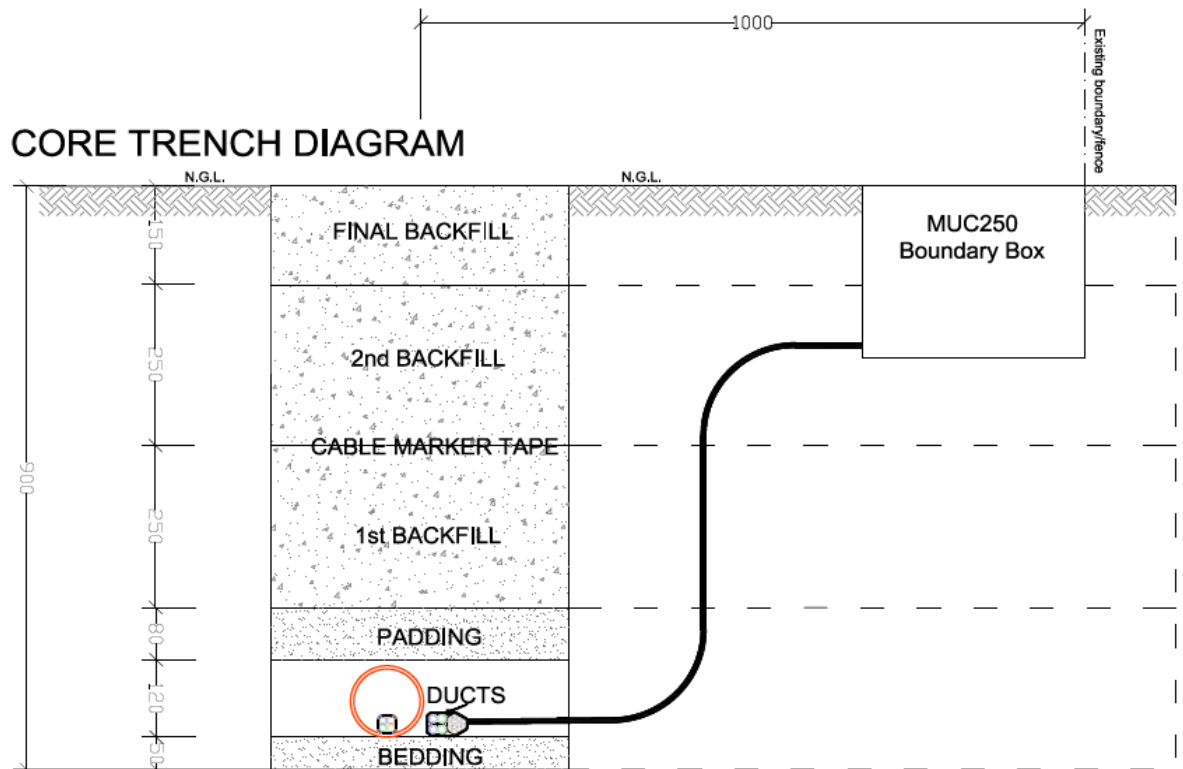


Figure 6.1 – Core Trench Diagram

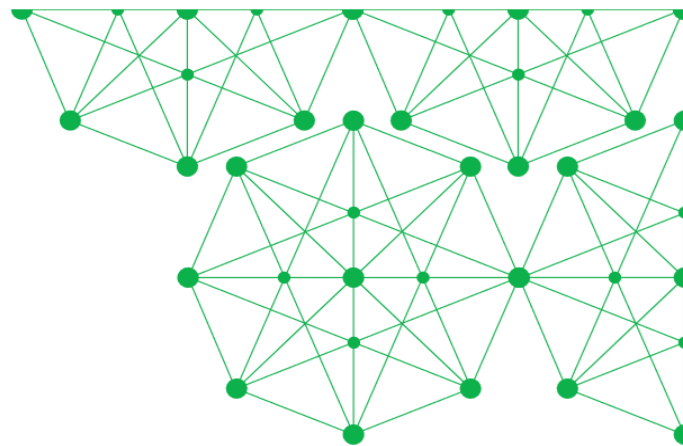
the client.

b. Feeder Trenching

- Refer to *Figure 6.2 – Feeder Trenching Diagram* below as reference.
- The fibre feeder route trench will be dug to a depth of no less than 600mm and typical house a 4way 14/10mm and/or a 12 way 12/10mm duct. Any variations hereof will be indicated on the drawing.



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- iii. Typically, this will be done by hand excavation unless otherwise stipulated by

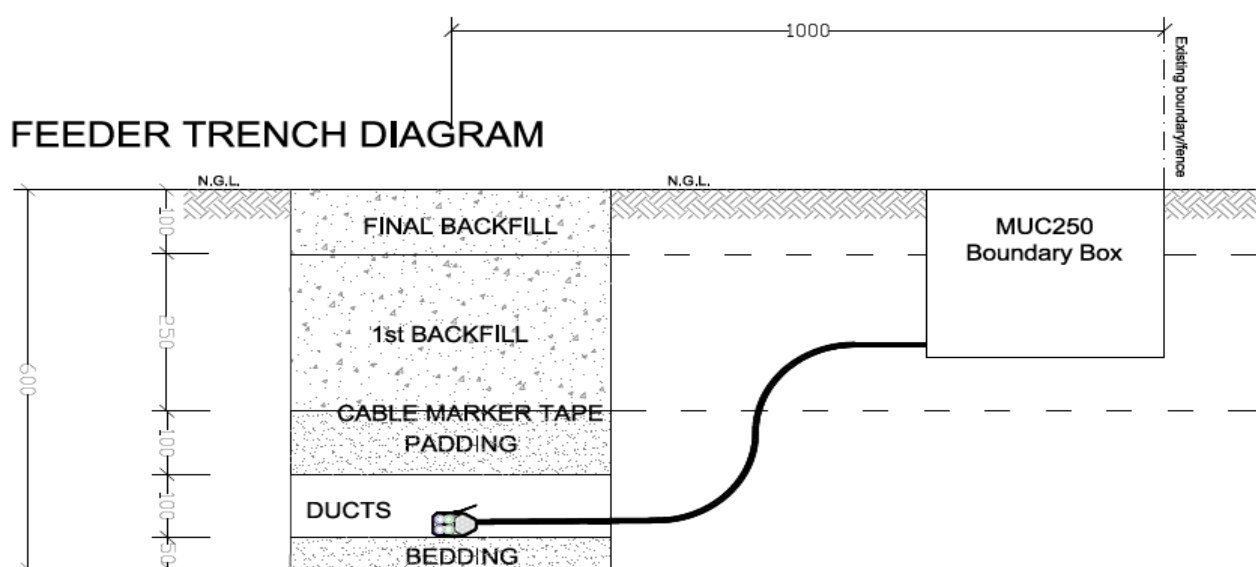


Figure 6.2 – Feeder Trenching Diagram

the client.

c. Distribution Route Trenching

- Use Figure 6.3 – Feeder Trenching Diagram below as reference.
- The fibre distribution route trench will be dug to a depth of no less than 450mm and typical house a 12 way 8/5mm duct. Any variations hereof will be indicated on the drawing.
- Typically, this will be done by hand excavation unless otherwise stipulated by the client.
- Micro-trenching may very well be used at the discretion of the client. This will be stipulated ahead of the commencement of the work.

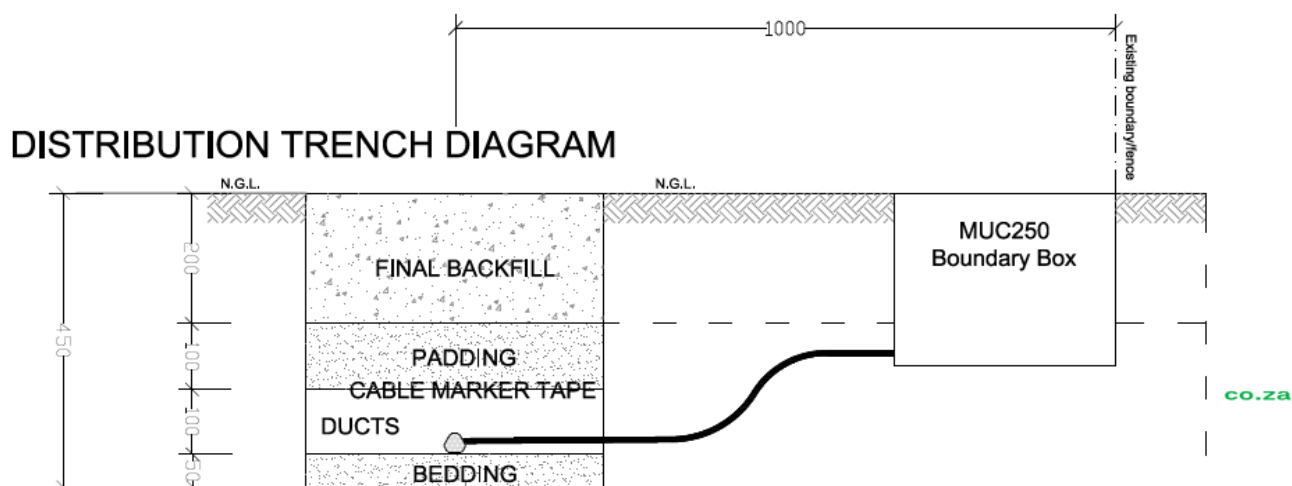
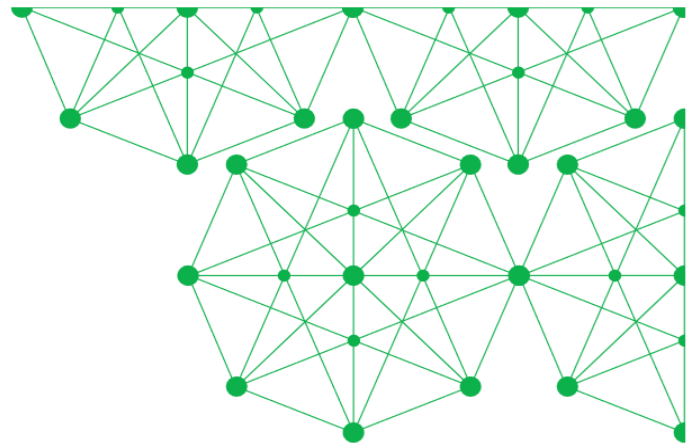


Figure 6.3 – Feeder Trenching Diagram



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d. Micro-Trenching

- i. Refer to *Figure 6.4 – Micro-Trenching Reinstatement Solution* below.
- ii. The use of micro-trenching will make use of Frogfoot's machinery unless otherwise stipulated by the client.
- iii. Every effort should be made to cut along existing road joints wherever possible.
- iv. Cut lines will have to be marked out on the roads surface before the commencement of work.
- v. When a bend is required, the cut radius should be no smaller than 3m.
- vi. A typical cut thickness of 35-40mm will be made to a depth of 350mm.

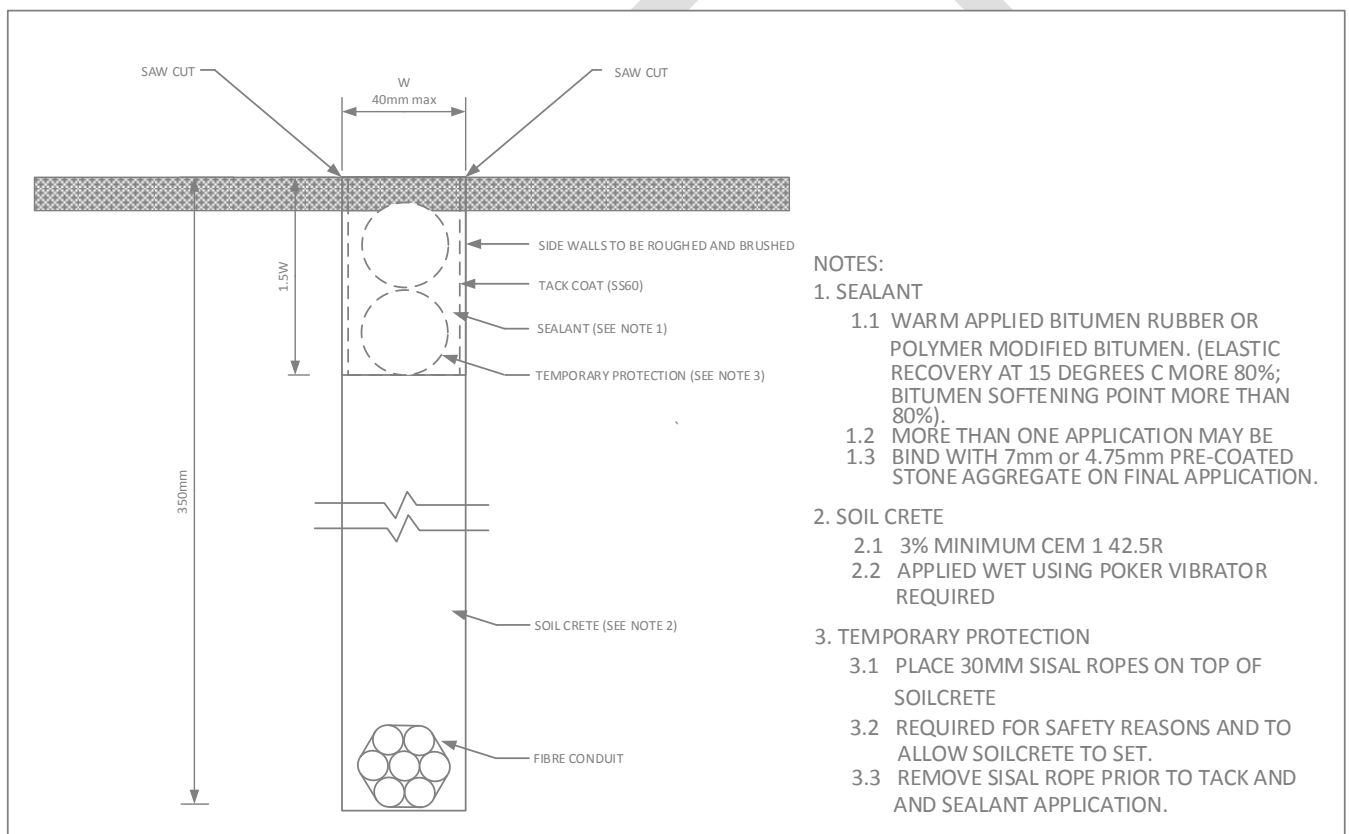


Figure 6.4 – Micro-Trenching Reinstatement Solution

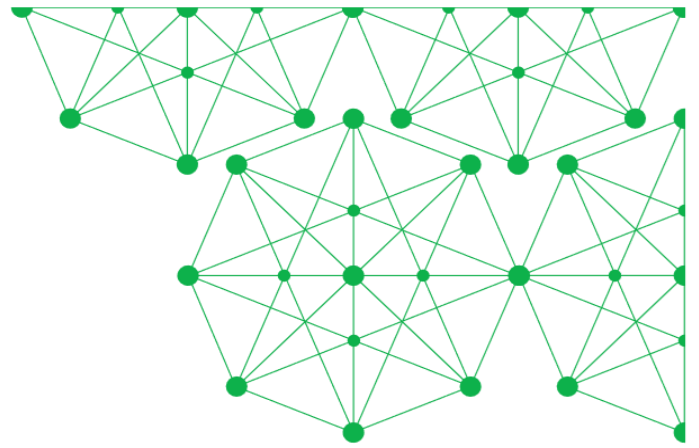
## 6.4 Bedding & Padding

- 6.4.1 Bedding material is only required where the trench bottom is not suitable to lay the duct(s) on directly.





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- 6.4.2 Bedding material must consist of fine aggregate that can pass a 13mm Diamond mesh sieve.
- 6.4.3 Bedding must be 30-50mm thick dependant on the bottom of the trench, the bedding is done to protect the duct from being damaged by sharp obstacles.

## 6.5 Duct Laying

- 6.5.1 All ducts must be de-coiled using a de-coiler.
- 6.5.2 Ducts must be de-coiled continuously from Hand Hole to Hand Hole
- 6.5.3 If there is any 8/5mm configuration in the same trench, the 8/5mm configuration must be installed nearest to the boundary wall.
- 6.5.4 Bending radius entering any sleeve/MH/HH/BB must be considered that the bend radius doesn't exceed the manufactures specification.

## 6.6 Backfilling

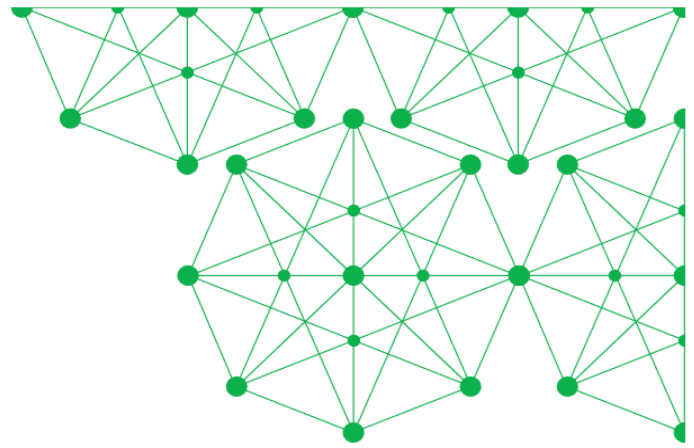
- 6.6.1 Backfilling must be done in layers of 150mm using a Rammer, the first compaction must be done at 250mm above the Duct bank.
- 6.6.2 The soil conditions must be suitable to be compacted, the test if it is compactable is to press a test sample in your hand and if it stays in the shape pressed it is suitable. If water peels out between your fingers it is too wet and if it collapses/crumbles it is too dry, add water during compaction.
- 6.6.3 Rocks greater than a fist size must be removed from the backfill material, only material containing some rocks may be used above layer 2.
- 6.6.4 Trench/Warning tape must be installed after the first layer of compaction



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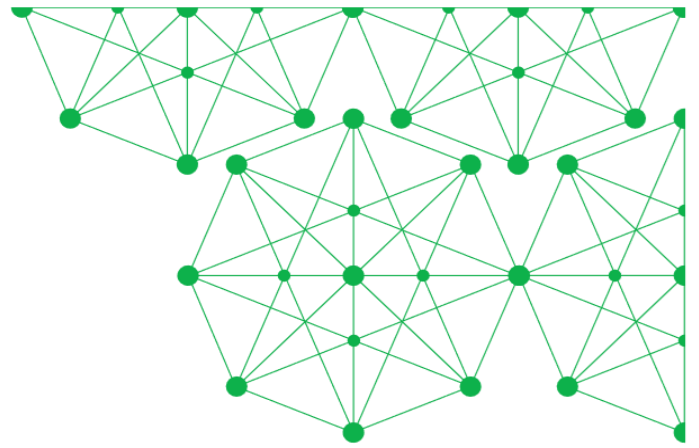
- 6.6.5 Compaction must be done up to the NGL.
- 6.6.6 The backfilling must be able to pass a DCP test.

## 6.7 Reinstatement

- 6.7.1 The standard of reinstatement expected will be of the same or better quality prior to excavation and must meet the client's expectations
- 6.7.2 Upon reinstatement of pavers, a bedding of river sand ~20mm deep is to be placed beneath the pavers
- 6.7.3 Asphalt reinstatement must be done to meet the Wayleave condition.
- 6.7.4 Only Hot Asphalt is allowed, Cold Asphalt may be used as a temporary Solution if it impacts the HSE of the site.
- 6.7.5 Factors to be kept in mind during the reinstatement process of all excavations.
- 6.7.6
- 6.7.7 All backfill of the trench will be of the same compaction level or of a better standard than that prior to the excavation.
- 6.7.8 Caution will be exercised to ensure no large rocks are placed on top of any ducting which may cause damage.
- 6.7.9 The standard of reinstatement expected will be of the same or better quality prior to excavation and must meet the client's expectations.
- 6.7.10 Reinstatement of conventional trenching.
  - After every layer of material between 200-300mm a suitable compaction effort will be applied.
  - A DCP test will need to be conducted every 125m or 8 times per km after all the filling has been done. A record must be kept of the results obtained.
  - Reinstatement of a bitumen layer must be placed and suitably compacted.
  - Reinstatement of concrete must be neatly smoothed over.
  - Upon reinstatement of pavers, a bedding of river sand ~20mm deep is to be placed beneath the pavers.
- 6.7.11 Reinstatement of micro-trenching
  - Where micro-trenching is used, the reinstatement applied will match that of the surrounding paving.
  - Reinstatement of bitumen layers
  - A bedding of porous concrete of thickness 50mm will be instituted before the conduit is laid within the trench.
  - Thereafter a mixture of 4Mpa concrete will be applied wet, using a vibratory



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poker up to a level 50mm below the final road paving.

The sides of the cut are to be cleaned using either a wire brush or compressed air.

Place a 30mm Sisal rope on top of the soilcrete to aid with the curing process and for safety reason.

A tack coat is to be applied by hand to the sides of the cut.

After heating the polymer modified bitumen crack sealant to 100°-160° Celsius, apply to the cut until it is just above the final road level.

Allow it to stand for 15min or until the ambient temperature is reached before allowing any vehicle to pass over it.

6.7.12 Reinstatement of Concrete

6.7.13 The concrete will be levelled to the existing level and neatly smoothed over.

6.7.14 Reinstatement of Pavers

6.7.15 The cement colour will be matched to the surrounding pavers.

6.7.16 The cement fill should be neatly matched to the surrounding pavers.

## 6.8 Manholes 900R

6.8.1 Manhole(s) need to be assembled before installation.

6.8.2 Determine an Area to be excavated in line with the route that the new duct bank won't be crossed by any other service provider to pass the Manhole.

6.8.3 Excavate a pit 300mm wider than the Manhole's Diameter and deep enough to install the Manhole flush with NG.

6.8.4 A drainage pit needs to be excavated in the MH pit, directly underneath the drainage hole, 300mm x 300mm x 200mm, this needs to be filled with 19mm Stone Chip.

6.8.5 Bottom entries need to be used.

6.8.6 The entry nearest to the Boundary Wall is reserved for the Distribution route (Breakout Routes, 8/5mm Duct), Access and Feeder (Backhaul) needs to be installed in the entry closest to the roadway.

6.8.7 Manholes need to be compacted in Layers of 150mm.

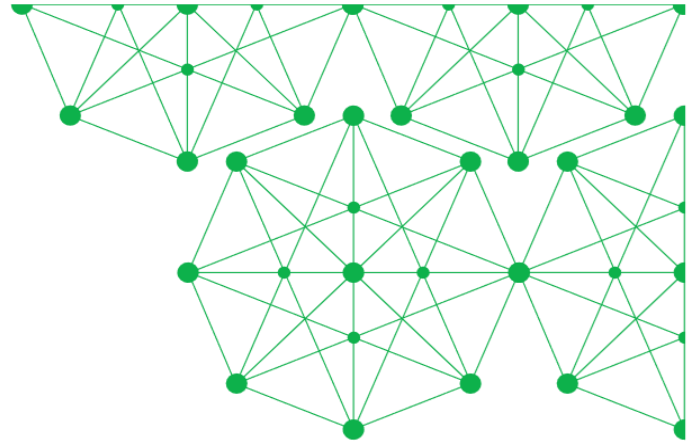
Ducting should be skinned back that 100mm is left, from the Manhole wall. The exposed duct should be left at a length of 100mm.

6.8.8 The entry holes that have been used must be sealed with expanding Foam.

6.8.9 Manholes must be left cleaned.



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Cape Town, South Africa

PO Box 12930  
Mowbray  
Cape Town  
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Frogfoot Networks (Pty) Ltd, Reg No. 2006/011693/07

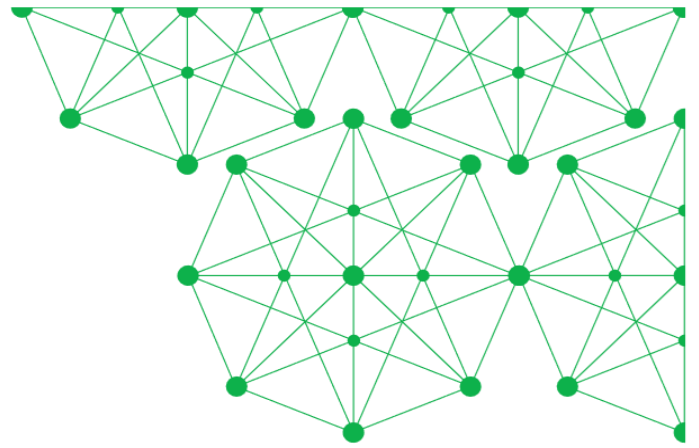
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Support: [support@frogfoot.com](mailto:support@frogfoot.com)

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## 6.9 Hand Hole 600R

- 6.9.1 Hand hole(s) need to be assembled before installation.
- 6.9.2 Determine an Area to be excavated in line with the route so that the new duct bank won't be crossed by any other service provider to pass the Manhole.
- 6.9.3 Excavate a pit 300mm wider than the Hand Hole's Diameter and deep enough to install the Hand Hole flush with NGL.
- 6.9.4 A drainage pit needs to be dug in the excavated pit, underneath the drainage hole, 300 x 300 x 200, this needs to be filled with 19mm Stone Chip.
- 6.9.5 Bottom entries needs to be utilized the one nearest to the Boundary Wall is reserved for the Distribution (Breakout routes) (8/5mm Duct), Access and Feeder (Backhaul) needs to be installed in the entry closest to the roadway.
- 6.9.6 Ducting should be skinned back so that 100mm is left, from the Hand Hole wall. The exposed duct should be left at a length of 100mm.
- 6.9.7 Hand Holes need to be compacted in Layers of 150mm.
- 6.9.8 The entry holes that have been used must be sealed with expanding Foam.
- 6.9.9 Manholes must be left cleaned.

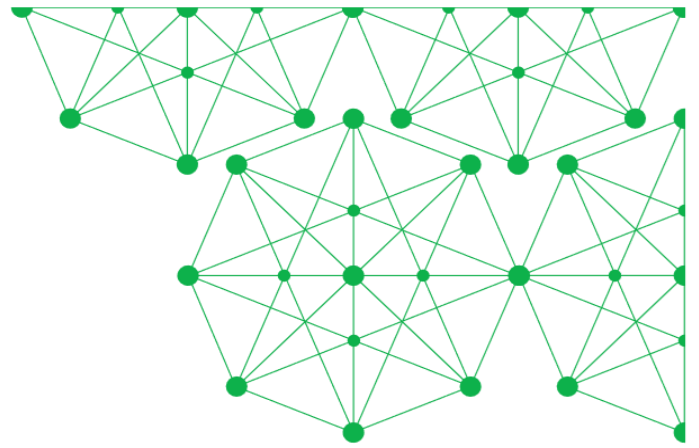
## 6.10 Boundary Box

- 6.10.1 The BB needs to be installed close as possible to the boundary wall.





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- 6.10.2 A drainage pit needs to be dug in the excavated pit, underneath the drainage hole, 100 x 100 x 100, this needs to be filled with 19mm Stone Chip.
- 6.10.3 The entry duct needs to be left at a length of 100mm inside the Boundary Box
- 6.10.4 The BB needs to be installed at the point where the two Boundaries meet.
- 6.10.5 Two 8/5mm single ducts need to be installed to the Boundary wall where the logical entry point to the ERF's will be.
- 6.10.6 The ducts should be installed at least 300mm in depth from the boundary box to the property boundary so that the HDC will be able to avoid trenching into the municipal servitude
- 6.10.7 Boundary box must be left cleaned and locked.

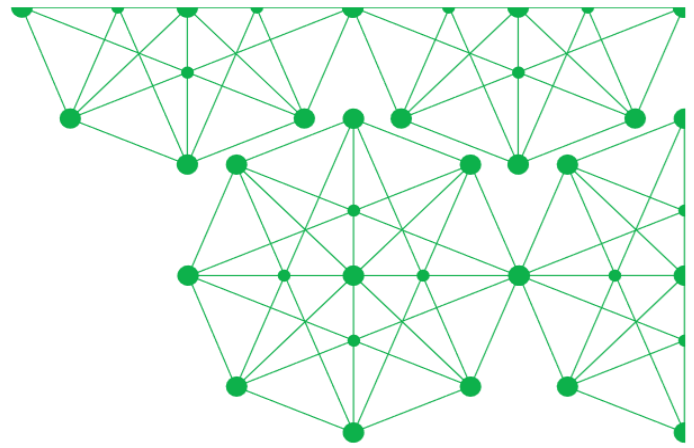


## 6.11 Horizontal Directional Drilling

- 6.11.1 Drill Plans need to be submitted and approved before drilling may start.
- 6.11.2 The correct Bentonite ratio must be used while drilling.
- 6.11.3 Drill pits should be excavated to expose services but may not be closer than 300mm from the roadway. No tunnelling is allowed underneath the 300mm toward the Roadway.
- 6.11.4 Permission to use any Municipal water outside of the Drilling Company premises must be granted and written permission to be available on request.
- 6.11.5 110mm or 160mm Sleeves of Class 8 or higher must be used.



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- 6.11.6 Only Butt Welding is allowed to join two lengths of 160mm sleeves
- 6.11.7 All newly installed sleeves need to be taped at both ends to ensure the sleeve is free from debris.

## 6.12 Impact Moling

- 6.12.1 Impact Moling is the preferred method to cross Driveways so that the least amount of disruption is done to the resident.
- 6.12.2 Launch pits should be excavated next to the driveway but should be done in a manner that the Surface of the Driveway won't sink in after the Launch Pit has been reinstated.
- 6.12.3 The sleeve size to be used must be decided beforehand from the planning document so that the duct(s) can be hauled freely.
- 6.12.4 Only soil conditions where it is possible to achieve a straight line from Launch Pit to Exit Pit are allowed to attempt by Moling.

## 6.13 Hauling of Ducts

- 6.13.1 Hauling of ducts through HDD Sleeves and Road Cut Sleeves needs to be foamed after installing the Ducting.
- 6.13.2 Care should be taken when hauling the ducts through sleeves so that the ducts do not kink.
- 6.13.3 Ducts should not be hauled in a manner that damages the outer sheath, shaving will occur, but this should be controlled to a minimum.

## 6.14 Pulling the fibre SDU/MDU

- a. Using a suction hand pump fitted to the EBB end of the 20mm PVC Conduit, and 20mm sponge attached to a draw string/wire will need to be sucked the length of the tube.
- b. By attaching the draw string to the Kevlar strength members of the pre-terminated 4 core fibre, it can be pulled from the PVC terminal box to the EBB.
- c. At this point the fibre cores will need to be rolled up and neatly packed away before closing up the boundary box.

## 6.15 DIT

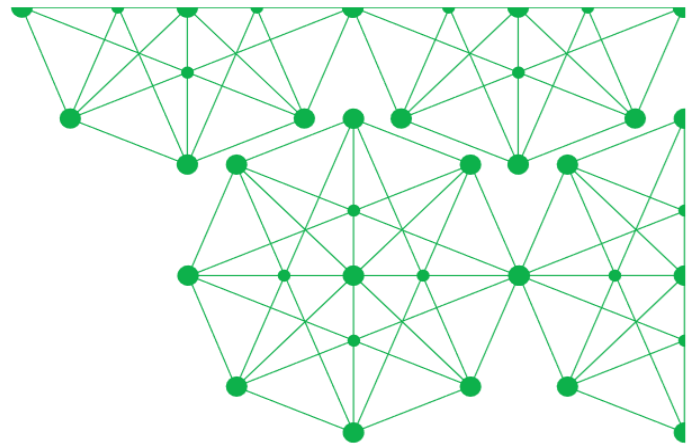
DIT test to be conducted as per 8(a)

## 6.16 Blowing of Fibre

- a. Blowing of Fibre will commence once there are an adequate number of sub sections where the ducts are completely installed, and reinstatement is completed.



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- b. This is done to allow the floating and splicing to run without interruptions or hold ups.
- c. These teams can be moved between sub sections at the client's discretion.
- d. Clear instruction will be given by Frogfoot in the form of detailed drawings for floating and splicing of cables.
- e. The contractor will be liable to ensure that cables are neatly packed away and adequately labelled.

### 6.17 Splicing

- a. Referring to *Figure 5 – Illustration of Splicing (HH-ACB)* below.
- b. Core 1 of ACB1 will be spliced to core 1 of the 8F cable which will be connected to point 1 on the splitter
- c. Core 1 of ACB2 will be spliced to core 5 of the 8F cable which will be connected to point 2 on the splitter
- d. Cores 2, 3 and 4 of the 8F cable will be reserved for ACB1 when additional splitters are later to be installed in the EBB.
- e. As stated in point d, cores 6, 7 and 8 of the 8F cable will be reserved for ACB2.



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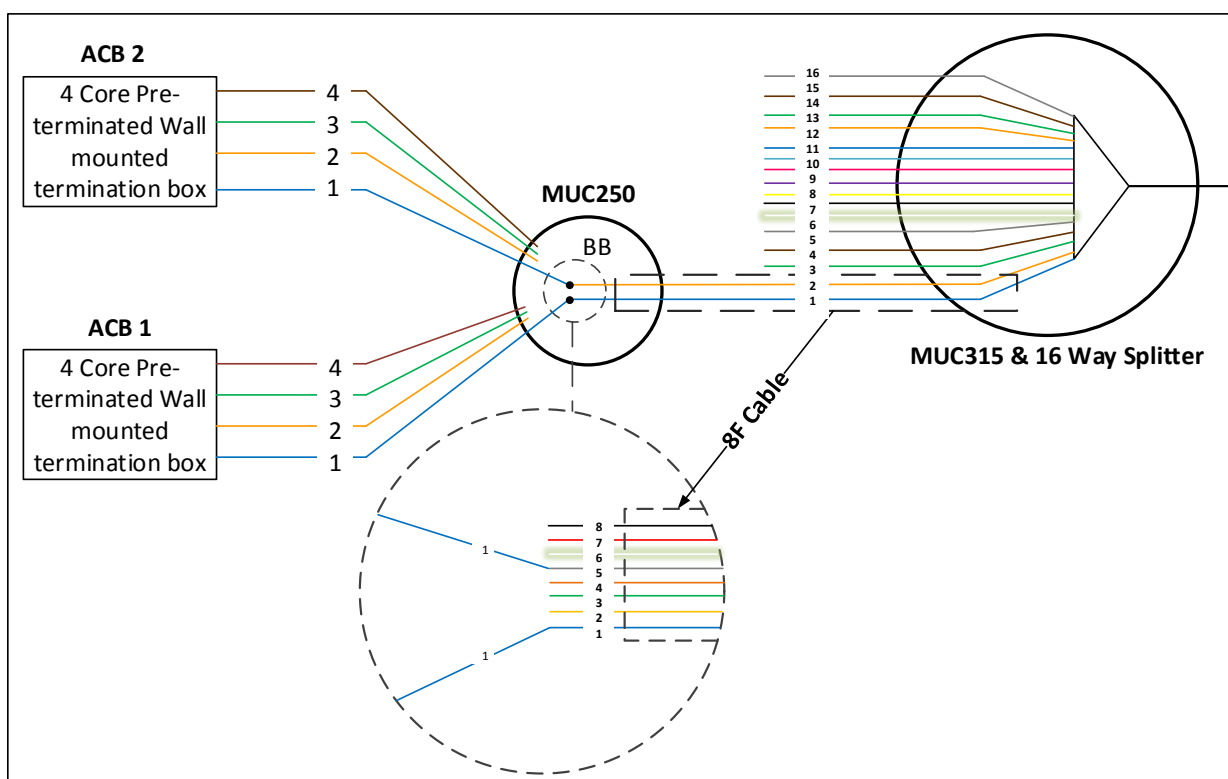
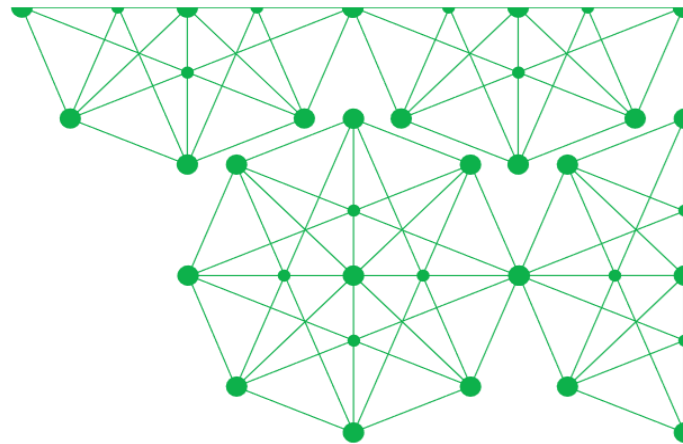


Figure 5 – Illustration of Splicing (HH-ACB)

## 7. OSP - Fibre to the Home (FTTX)

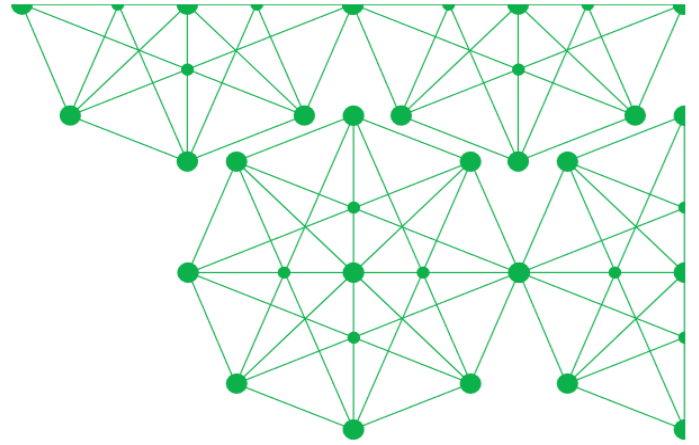
- a. The section below describes the project requirements in terms of planning and the design solution for OSP for Frogfoot FTTX network expansion.

### 7.1 OSP Planning

- a. Listed below are the requirements which must be determined, planned and authorized by all the relevant parties.
  - i. After a designated area and node placement is selected, the proposed routes are to be designed and drawn by the relevant planners.
  - ii. The closest connection to a back-haul fibre must be used.
  - iii. The proposals are to be scrutinized during a site survey. Paying particular attention to obstacles and existing services along the way.
  - iv. Photos are to be taken for future reference.



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- v. All existing services should be noted. Existing services should be used as far as possible, granted that they fall within regulation to do so
- vi. Any complications or alterations are to be amended on the proposed drawings until an all-inclusive final drawing is attained.
- vii. Termination, aggregation and distribution equipment to be used and location thereof.
- viii. Once all relevant information is gathered, scoping of a node room can begin.
- ix. Establishment of a schedule in order to notify residents of potential traffic related obstructions at least 7 days before they occur.
- x. Future maintenance of all links, special requirements and network upgrades should be kept in mind throughout the planning process.
- i. Any implications encountered during installation will be forwarded to the client, who shall then advise on the required solution.



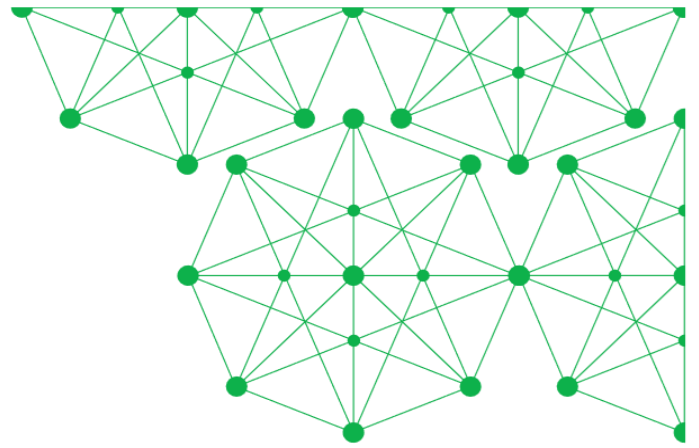
## 7.2 Labelling

- 7.2.1 All newly installed infrastructure needs to be labelled correctly. Refer to the FTTH Labelling Specification.





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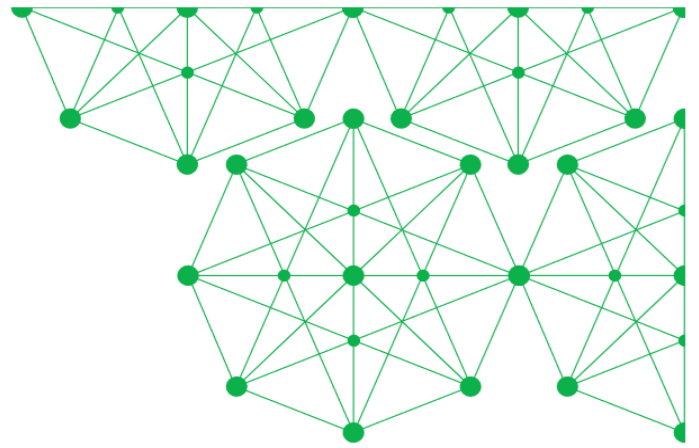


## 8. Testing Methods Tests

- a. DIT testing should be conducted before and after reinstatement is completed. Mentioned below are the steps which constitute the full test. Please refer to the Frogfoot DIT Procedure.
  - i. Foam Sponge Test (Repeat if dirt is still coming out. Sponge to be 2x ID)
  - ii. Air Tightness Test (Blowing compressed air for 1 min to remove dirt and debris)
  - iii. Dart/Mandrill Test (OD to be 85% of Duct ID)
  - iv. Pressure Test (Pressurize to 10Bar. Losing 1Bar over 5min is acceptable)
    - i. DIT testing should be conducted before reinstatement is completed, this will ensure that the reinstated area doesn't need to be opened up again if there is a fault. Mentioned below are the steps which constitute the full test.
    - ii. Foam Sponge Test (Repeat if dirt is still coming out. Sponge to be 2x ID)
    - iii. Air Tightness Test (Blowing compressed air for 1 min to remove dirt



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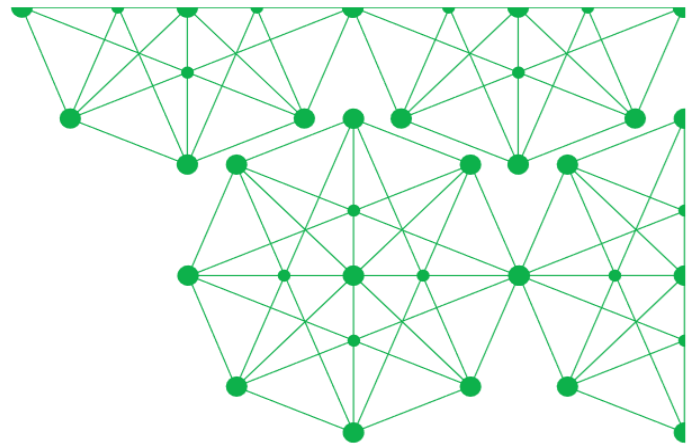
- and debris)
  - iv. Dart 3m long (Dart OD to be 80% of Duct ID)
  - v. Pressure Test (Pressurize to 10Bar. Losing 1Bar over 5min is acceptable)
  - vi. Total time to be tested per Duct is 5min
  - vii. Pressure tests on 14/10mm Duct to be tested for 5min
  - viii. Pressure tests on 8/5mm Duct to be tested for 1min
- v.
- b. DCP Testing should be conducted once the trenches are filled and compacted with their respective graded material.
- i. A DCP test should be done ever 100m – 125m or 8 times for every 1km.
  - ii. The DCP test results and the exact coordinates will be recorded.
  - iii. The DCP test will be done to the distance 0.5m below that of the trench depth but no less than 1m from the surface.
  - iv. 4 DCP test should be done around every EBB, MH and HH.
    - i. DCP Testing should be conducted once the trenches are filled and compacted with their respective graded material.
    - ii. The DCP test results and the exact coordinates will be recorded in WGS84 standard
    - iii. The DCP test will be done to a maximum depth of 200mm above the uppermost duct, e.g. Trench depth 600mm, duct bank uppermost 500mm test will be done up to a maximum depth of 300mm.
    - iv. First compare trench vs virgin. If it fails:
    - v. Then check average of 14mm/blow, or 70mm per 5 blows.
    - vi. Measurement per blow must be equal or smaller than 14mm per blow.
- c. Before cable installation begins, the cable reels should be carefully inspected for any imperfections such as nails, broken flanges, cable crossovers, or anything else that might cause damage to the cable as it is played out. Precautions should be taken to protect stored reels from possible damage by vandals or other sources while left unattended. The thermal protective covering that is provided on each reel of fibre optic cable should always remain in place when storing reels.

#### **Pre-construction Fibre Measurements**

The cable on all reels need to be inspected for damage as they are received. As a precaution and to avoid costly extra cable removal operations, all fibres should be measured on the reel using an OTDR. Measurements on single-mode fibre cables should be



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made at user-specified wavelengths or both 1550 nm and 1300 nm.

1. Optical continuity in all fibres.
2. Length of each fibre.
3. The optical attenuation coefficient of each fibre at user-specified wavelengths.
  - d. **Post-construction measurements** provide assurance that cable placing, splicing, and link construction activities have been completed that will enable the intended transmission system to function properly and to provide support for any future maintenance activities on the link.

**The most common post-construction measurements include the following:**

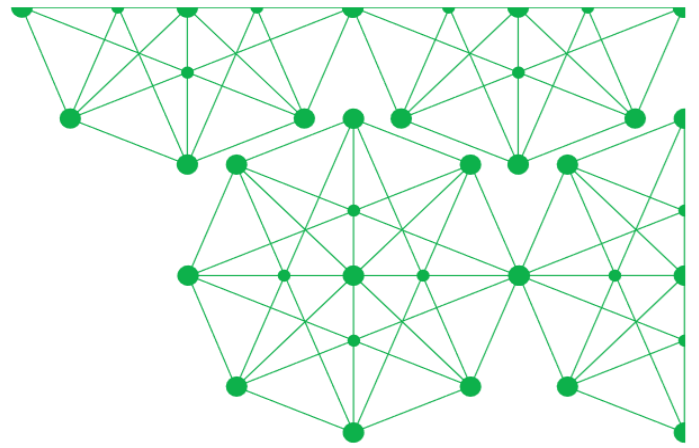
- Length of the fibre link
  - Attenuation for fibre link
  - Splice losses
  - Optical return loss
  - Reflectance or high loss in link
- e. OTDR testing must be done from the point of termination back to node. A few key properties which need to be tested and recorded are below. Please refer to the Frogfoot OTDR Results document.
    - i. Project Name.
    - ii. Phase, sector and sub-sector reference.
    - iii. Link reference.
    - iv. Termination box number.
    - v. Fibre cable used.
    - vi. Measured Optical Length.
    - vii. Attenuation at:
      - i. 1310nm (db.).
      - ii. 1550nm (db.).
      - iii. 1625nm (db.).
    - viii. Attach a copy of the test results.
    - ix. Person conducting the test, the date, and relevant signatures.
    - x. Serial number of the machine used.

## 8.1 Troxler Testing

8.1.1 Troxler to be done as per the Wayleave conditions.



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## 9. Aerial Line Construction.

### Survey - Gather Route Information

- The information on this route must accurately indicate distances.
- Take photos of all obstacles on the route (existing services, bridge crossings, rocky areas, buildings, built-up areas, paved/tarred areas, wetlands, overhead obstacles, etc.).
- Identify all obvious landmarks where the route changes direction (take photos).
- Note down any road repair work necessary - record distances and GPS coordinates.
- Provide for a series of DCP test readings along the route and document the exact positions.
- Description of the topography along the route (sloping, edge of cliff, adjacent to lake, forest surroundings, rivers, swampy areas, etc.) - record distances and GPS coordinates.
- Description of the ground condition along the route and distances (rocky, sandy, grassy, clay, etc.) - record distances and GPS coordinates.
- Contractor is responsible to locate possible warehouse/camp sites where material can safely be stored.
- Indicate the availability of hospitals / clinics / police stations along the route - in case required during operational activities.
- Plan the route to allow for projected road or rail deviations.
- Double-check recorded details on the return journey.

### Pre-Install Meeting

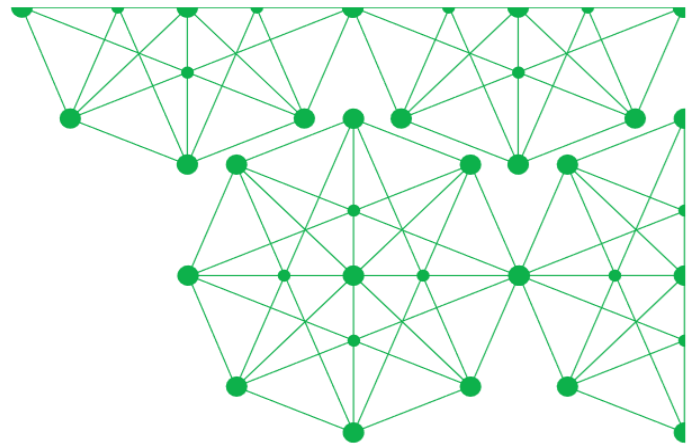
A pre-install meeting or meetings must be held to discuss the survey results, the optimum pulling sites, span lengths, installation equipment and hardware requirements, logistics, splice locations, terrain, and other vital installation topics.

Checks to be undertaken prior to commencing with the planned aerial work

- Does the contractor have approved aerial route drawings, signed by the client?
- Do the drawings show the alignment of the aerial route within the wayleave specification?
- Are the wayleaves in place? (must always be kept on site).
- Contractor must scan for the locations of existing services.



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- Are the aerial route drawings being marked indicated on which side of existing road/pathway to stay?
- Has the accessibility of poles to splicing vehicles been considered?
- Does the cable have a UV resistant cable jacket?

## 9.1 Tree/Bush Cutting

### 9.1.1 Public Streets and Thoroughfare.

- 9.1.1.1 The local authority should perform the cutting or trimming of trees in public streets and thoroughfares whenever satisfactory arrangements can be made.
- 9.1.1.2 Standing written agreements should be arranged whenever possible.
- 9.1.1.3 Traffic regulations and road signs must be strictly adhered to.



## 9.2 Pole Planting

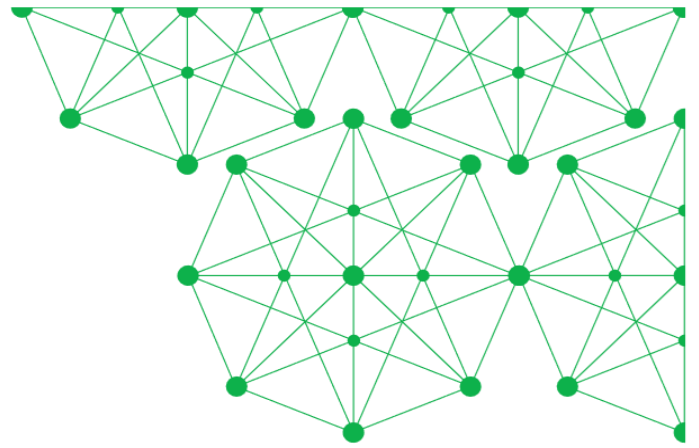
- 9.2.1 It is desirable to maintain a uniform length of span and depart from it only when this is rendered necessary by such conditions as uneven ground or sharp bends, or to avoid dangerous positions for poles or stays. Preferred span length of 50m must be adhered to.

### 9.2.2 Selection of pole and stay positions





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#### Survey

- Survey rods must be planted in line at selected pole positions so that, when erected, the poles will be in a straight line.
- A spirit level must be used to verify that there is no lean to the rods.
- As the survey advances, the rear rods used for lining up - will be withdrawn and survey pegs driven into the ground in the exact position previously occupied by the survey rod.
- The location of the poles to be erected along roads shall be in accordance with the way leave drawings and conditions stipulated by the authorities concerned.
- Square wooden pegs shall be used to mark the position of every pole, stay or strut.
- The numbering (or other details) and marking of the wooden pegs shall be done as agreed upon by both the client and contractor.
- The tops of pegs that show the positions of angle poles must be marked with blue lumber crayon crosses.
- A survey peg for a strut position must show the approximate spread of the strut.

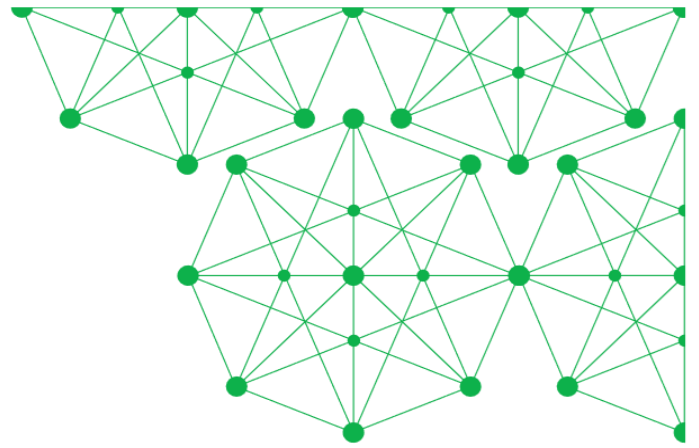
In selecting the positions for poles, stays, and struts, the planner should comply with the following requirements:

Obtain the necessary ground clearance at the least cost.

- 9.2.2.1 Avoid dongas, culverts, drains and other water channels.
- 9.2.2.2 Avoid obstructing private roads and entrances.
- 9.2.2.3 Reduce road crossings to a minimum and avoid long oblique crossings.
- 9.2.2.4 Avoid trees. Where this is impossible, select a position that will result in minimum interference from trees and the minimum of tree cutting even if construction costs are increased slightly by the action taken.
- 9.2.2.5 Plan the route to allow for projected road deviations.
- 9.2.2.6 Keep the route as far away as practical from power lines. To add general requirement
- 9.2.2.7 Select stay positions that will result in the most efficient spread/height ratio (due regard being paid to clearance between wires or projected wires and the stay wire and the least exposure to danger from traffic
- 9.2.2.8 The principle to be followed in all cases is that neither stays nor poles are to be planted where they are likely to cause obstruction or to be dangerous to users of the road or pedestrians.



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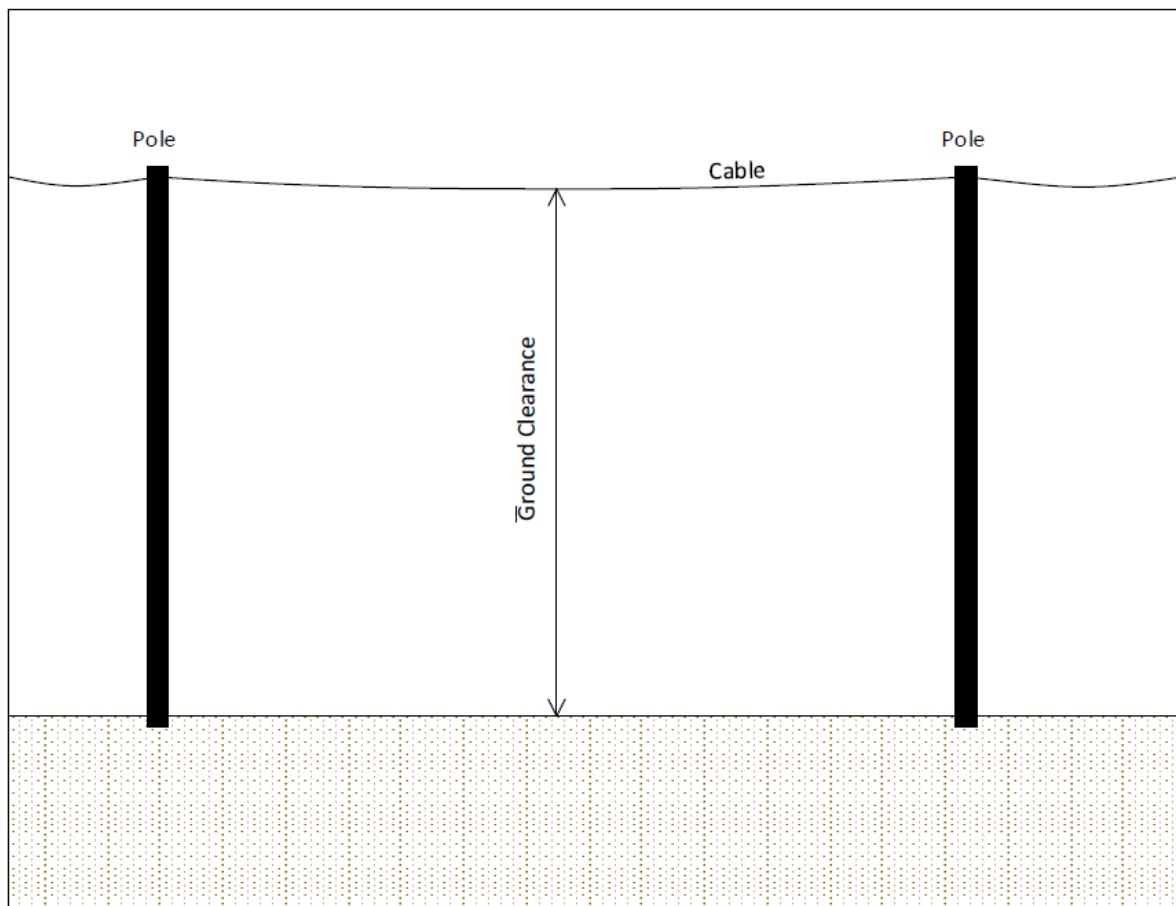


### Vertical Clearance

9.2.3 Routes should be so designed that when they are loaded to their maximum capacity and at a conductor temperature of 50 C, the lowest cables (whether open or covered) will have the minimum vertical clearance at the point of least clearance.

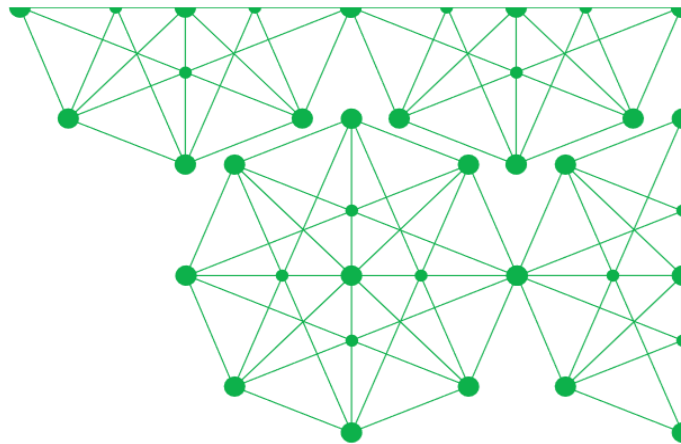
### 9.2.4 Ground clearance of routes

Ground Clearance: The distance between the cable and ground level, measured at any point between 2 poles in a span.





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| Location of route  | Clearance (m) |
|--|---------------|
| 1. Across any national road  | 6.5           |
| 2. Across abnormal provincial roads  | 7.0           |
| 3. Across other provincial roads.  | 6.1           |
| 4. Across other public roads.  | 6.1           |
| 5. Across street roads other than (2) (3) or (4) above.                                      | 5.0           |
| 6. Along streets (including midblock), roads or privately-owned railway lines or near towns. | 3.7           |



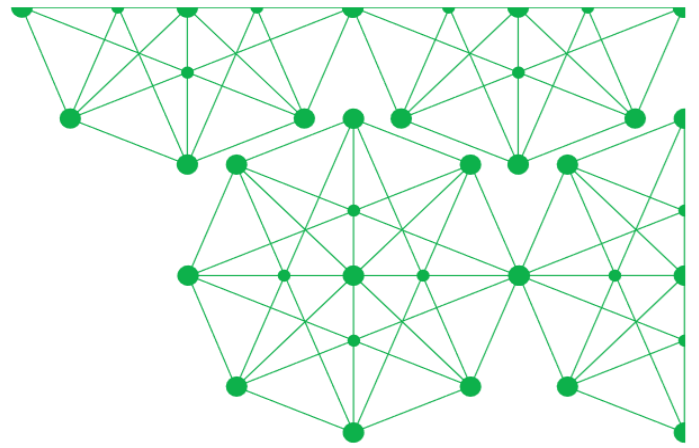
### 9.2.5 Cables round a curve

Care must be taken to prevent cables round a curve from hanging over a road. Where this is unavoidable, clearance must be provided as stated in the table.

### 9.2.6 Double termination.



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Cables must be double terminated at the following points.

9.2.6.1 At all angles in the route where the angle in the line exceeds 15°.

9.2.6.2 At all changes in gradient where the vertical angles exceed 8°.

9.2.6.3 At all road crossings (excluding minor roads)

9.2.7 Stays and struts

Stays are of great importance to the stability of a route and their positions should be selected with care. They should generally be provided as follows:

9.2.7.1 On all poles where cables terminate (terminal stays).

9.2.7.2 At all changes in direction of a route (angle stays)

9.2.7.3 Struts should only be used where any kind of stay or unstayed poles set in concrete cannot be provided.



### 9.3 Excavation of pole holes and the erection of poles

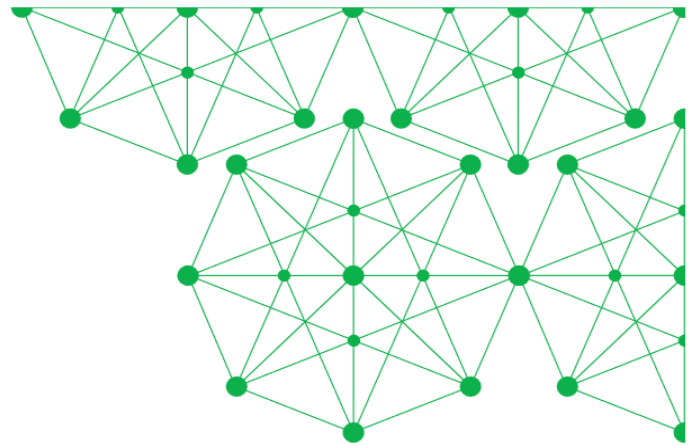
#### 9.3.1 Tools to be used

9.3.1.1 The tools provided for hole-digging include picks, shovels, earth augers, earth scoops and crowbars, and particularly where blasting is required, compressors, drills, and sledgehammers. The tools to be used for any particular work are determined largely by soil conditions but are also influenced by other considerations.

9.3.1.2 On large works, wherever ground conditions permit, full use could be made



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of boring machines. (Earth auger) In residential areas only hand digging is permitted.

### 9.3.2 Excavations

- 9.3.2.1 Where the ground is very rocky, holes may need to be prepared with the aid of compressors, drills, and sledgehammers.
- 9.3.2.2 Where the ground is soft, earth augers or earth scoops and crowbars are suitable for digging. These are more economical than picks and shovels and have the advantage of disturbing the ground less. Picks and shovels must be used if baseplates are to be fitted to poles.
- 9.3.2.3 Pole holes excavated by pick and shovel should normally be oblong in shape with the longer sides in the direction of the route, except at terminal poles, where the longer sides should be at right angles to the route. The holes should not be made wider or longer than is convenient for digging. If the holes are too large, the ground will be unnecessarily disturbed and the stresses on the poles will not be withstood by solid earth.
- 9.3.2.4 When augers or earth scoops are used, care must be taken to ensure that the holes are dug in their correct positions. Greater accuracy is necessary than with the pick and shovel method, as the size of the hole is smaller and there is less scope for the adjustment of pole positions during alignment.

### 9.3.3 Planting Depth

The depths to which poles must be planted are as follows:

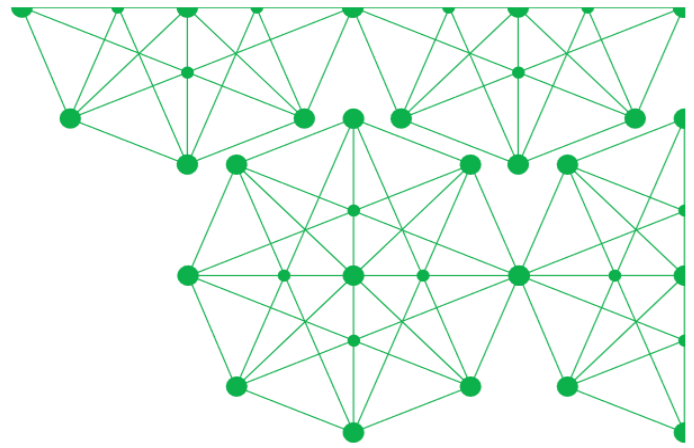
| TYPE OF POLE | DEPTH |
|--------------|-------|
| 6 m pole     | 0.9 m |
| 7m/ 8m pole  | 1.2 m |
| 9m and more  | 1.5 m |

- 9.3.3.1 When a pole is to be planted in sloping ground, the depth of the hole should be measured from the lowest point on the ground surface.





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Measuring of hole depth

- 9.3.3.2 Where the ground is very soft, poles may be planted 300mm deeper than shown above, but only if the necessary vertical clearance will still be within limits.
- 9.3.3.3 Where poles are planted in soil that is difficult to compact, such as sand, the pole should be cast in concrete. The concrete should be cast so that it has a minimum radius of 400mm around the centre of the pole and to a depth of 800mm
- 9.3.3.4 In all other cases, and where clearances will be inadequate, additional wind stays should be fitted and the pole planted to the normal depth.
- 9.3.3.5 Care must be exercised after excavation to prevent loose earth from falling into a hole before the pole is erected in position. Before backfilling a hole, a final check must be made to ensure that the planting depth of the pole is correct. In case of wooden poles, a ready check is provided by the metal discs, which are affixed by the suppliers. These discs are located 3.5 meter from the butt end in respect of poles up to 9.15 meters in length.
- 9.3.3.6 Ramming of poles - To stabilize pole in loose soil, the filling must be done in three stages and for every stage the soil must be rammed with a pole rammer from the bottom to the top. Backfilling and ramming should take place in 300 mm, 600mm and 300mm intervals respectively.

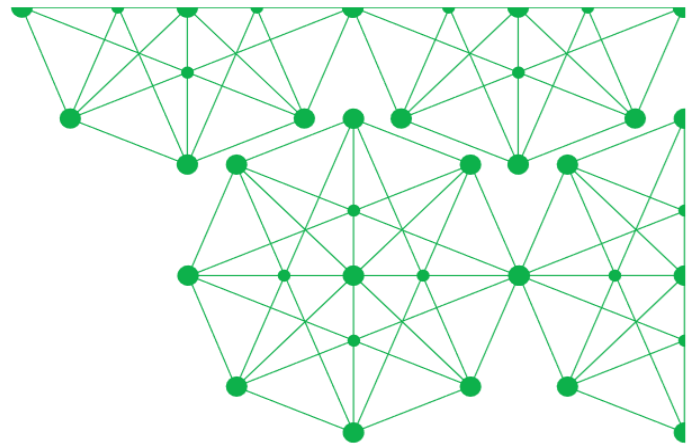
#### 9.3.4 Erection of poles

Wooden pole inspection (prior to installation)

- Correct type of pole supplied? (length and thickness)
- Excessively bent or cracked poles should never be used. Horizontal cracks perpendicular to the grain of the wood may weaken the pole. One large knot



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or several smaller ones at the same height on the pole may be evidence of a weak point on the pole.

- Inspect the pole for evidence of termites or ants.
- Ensure that all poles are fitted with 'end plates' and strapping at both ends.
- The poles should never be off loaded and stacked on the ground for long periods as this could cause damage to the poles as well as the environment.
- Hammer Test (existing poles): Rap the pole sharply with a hammer weighing about 1kg, starting near the ground line – then continue upwards around the pole to a height of approximately 1.5m. The hammer will produce a clear sound and rebound sharply when striking sound wood. Decayed areas will be indicated by a dull sound or a less pronounced hammer rebound.

- 9.3.4.1 A wooden pole should be erected by laying it on the ground in such a position that by raising the top section, the base should slide into the hole.
- 9.3.4.2 The side of the hole away from the pole should be protected by a crowbar or steel plate placed vertically so that the pole base bears against it during erection.
- 9.3.4.3 Lightly loaded wooden poles should have all fittings attached before they are erected.

## 9.4 Pole Holes

Poles must be buried sufficiently deep for stability. The depth depends on the height of the pole. Check with local authorities to confirm these dimensions.

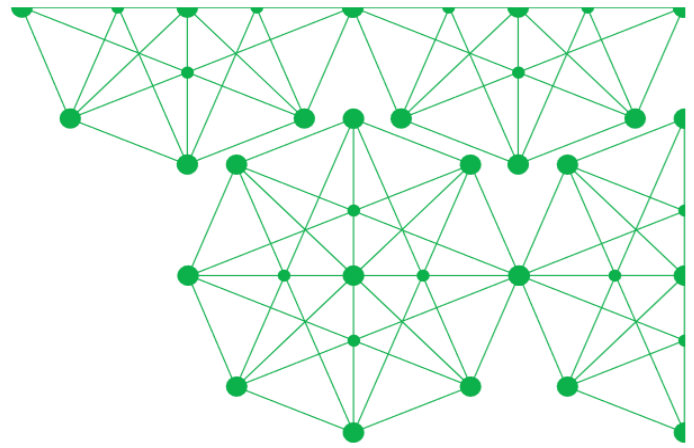
| Length of pole         | Plant depth    |
|------------------------|----------------|
| < 6 m (20 feet)        | 0.9 m (3 feet) |
| 7 – 8 m (23 – 26 feet) | 1.2 m (4 feet) |
| >9 m (30 feet)         | 1.5 m (5 feet) |

All excavations for pole holes will be such that the survey peg indicates the centre of the hole. If the holes are too large, the soil will be unnecessarily disturbed, and the poles will not be supported by solid earth. (A diameter of approximately 400mm (16 inches) is recommended). Where a hole is dug on sloping ground, the depth of the hole shall be measured from the lowest point on the ground surface. In extreme rocky conditions where holes cannot be excavated to the specified depth, an arrangement between contractor and client can be reached for poles to be set in concrete.

## 9.5 Pole Spacing



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It is advisable to maintain a uniform span length and depart from this only when it is rendered necessary by conditions such as: (1) uneven ground (2) sharp bends (3) or to avoid dangerous positions. This may necessitate the planting of additional poles or omitting of poles. Steel measuring wires for standard span lengths should be made up locally. When the length of span has been chosen the appropriate wire should be used to determine the distance between successive poles. A steel tape measure should be used for checking the length of the measuring wire daily during the survey.

- 9.5.1.1 Poles must be set to a plumb line, a spirit level being used for the purpose, and they must be aligned correctly. As wooden poles may not be quite straight, extra care should be taken when setting and aligning them. If necessary, a survey rod and spirit level should be used to ensure that there is no leaning in any direction.
- 9.5.1.2 Angle poles which are not stayed or strutted should be set back slightly against the angle so that they assume a vertical position when the cables are strained. If necessary, a hole must be packed with stones on that side of the pole where the ground must withstand the pull of the cables.



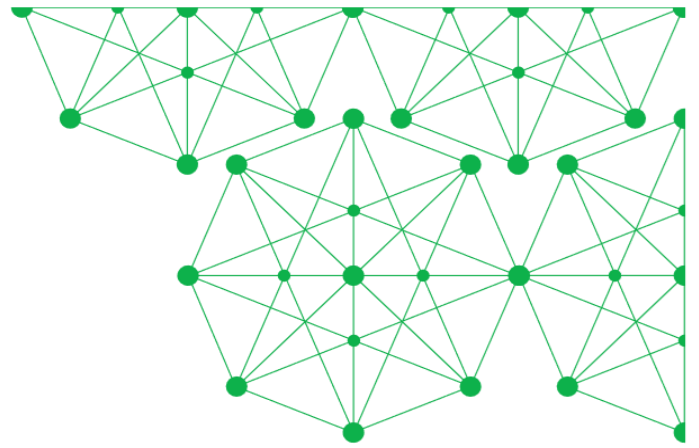
Pole in hole – before backfilling.

- 9.5.1.3 For ALL poles erected in normal conditions: The backfill material must be mixed with 5kg of cement per pole and well compacted as a dry mix in layers as follows:
- 9.5.1.4 Mix half of the soil that has been dug out with 5kg of dry cement.





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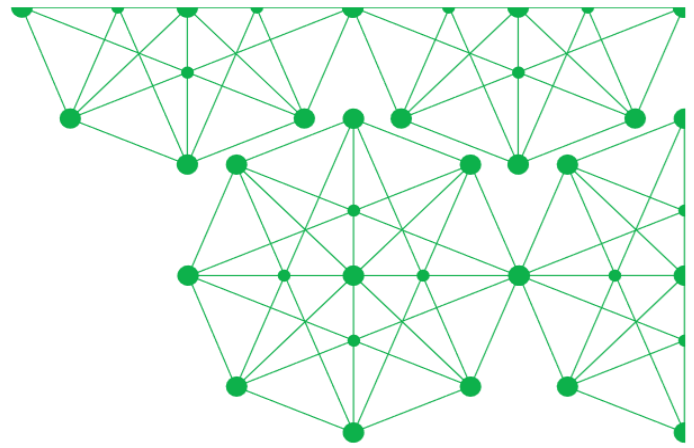
Preparation of Dry mix

- 9.5.1.4.1 Divide the mixture into two equal portions.
- 9.5.1.4.2 Use one part of the mixture for a (300 mm) first backfill layer. Compact with a pole rammer.
- 9.5.1.4.3 Use ordinary soil for (600 mm) backfill. Compact with a pole rammer. (Can be compacted every 300mm).
- 9.5.1.4.4 Use the remaining mixture as the (300 mm) final layer. Compact with a pole rammer.





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Compacting of soil and dry mix completed

- 9.5.1.5 In very dry & sandy areas - where the soil moisture is very low to zero, some water may be added to moisten the soil before mixing with the cement. Using a dry mixture ensures that 'a permeable crust' is eventually formed around the pole that allows moisture to dissipate and prevent the pole from rotting.
- 9.5.1.6 'Abnormal conditions' where special procedures apply is with soil in:
- 9.5.1.6.1 Very sandy conditions (where poles are e.g. cemented in).
- 9.5.1.6.2 Rocky conditions.
- 9.5.1.6.3 Very wet or clay conditions.
- 9.5.1.7 The placing of cement in a dry mix for backfill **MUST** be adhered to in order to ensure that Safety, Stability and Longevity of the infrastructure is not compromised and may result in future claims against the company and/or installer.

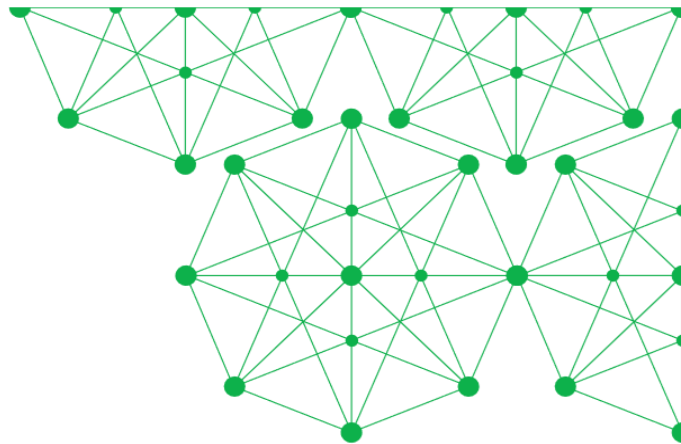
## 9.6 Suggested Pole Planting Work Practices

- Avoid dongas, culverts, drains or water channels.
- Avoid obstructing private roads and entrances.
- Restrict road crossings to a bare minimum, and if possible, stick to the same side of the road throughout.
- Avoid trees and where not possible, select a position which will minimise interference from trees – even at the expense of construction costs being increased slightly by this action.
- Along national and other proclaimed roads the poles and stays should be located in the position agreed to by the Road Authority and as indicated on the wayleave.
- Keep the route as far away as practically possible from power lines.
- Where the ground is very soft, poles may be planted 300 mm (12 in) deeper than specified, but only if the necessary vertical clearance is maintained.
- Ensure that all holes necessary for pole dressing are drilled prior to erection.
- Maintain a distance of at least 1m from trig beacons and stations.
- The principle to be followed in all cases is that neither stays nor poles are to be planted where they are likely to cause obstruction or to be dangerous to users of the road, or where they are likely to interfere with ordinary road maintenance such as the clearing and trimming of the edges of the road or the cutting of drains, gutters, etc.
- In railway reserves, the poles should be located as close as possible to the





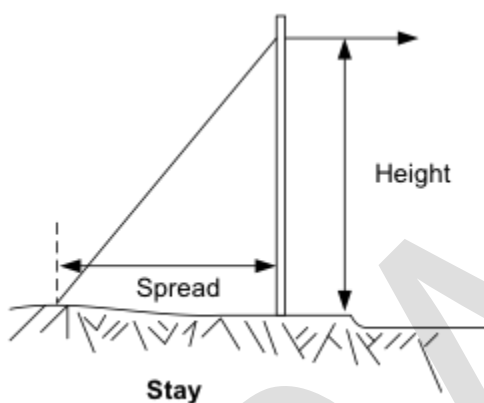
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boundary fence.

### 9.7 Spread/Height Ratio

The spread is the distance from the foot of the pole to the point to where the stay enters the ground.



The height is the distance from the ground to the pole attachment.

Wind stays shall have a spread/height ratio of 0.6:1

Terminal and line stays has a spread/height ratio of 1:1

### 9.8 The fitting of stays and struts

A stay wire should be terminated on a pole in the positions shown below – 4.2m above ground level

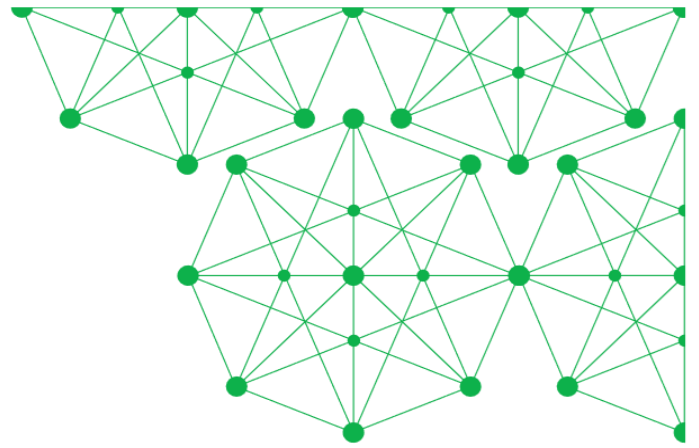
#### End pole with a stay wire

Pole configuration:

- 6m wooden pole (8m wooden pole at road crossings)
- Stay wire set:



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- Double wrap guy grip (top make-off),
- 5 x 38mm staples (to secure top make-off to pole),
- Stay wire (same length as pole),
- Guy marker (to ensure visibility of stay wire)
- Thimble grip (bottom make-off)
- Adjustable stay rod
- Base plate.
- Stay guard
- Cable hanger with bandit strap clamps
- Cable anchoring clamp – AC10 260
- 5m UV resistant conduit or bosal pipe (25mm for 1 cable, 50mm for 2 cables), secured to pole with 3 x bandit straps (bottom, middle and top)
- PVC sleeve to route cable/s from pole to hand hole



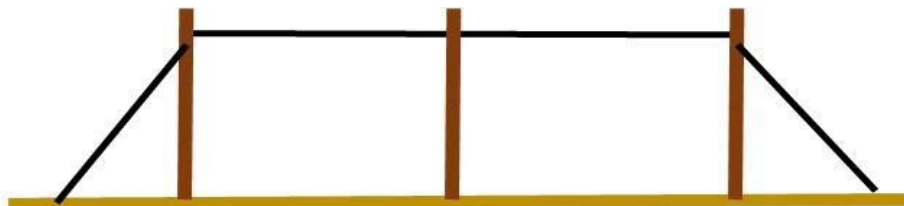
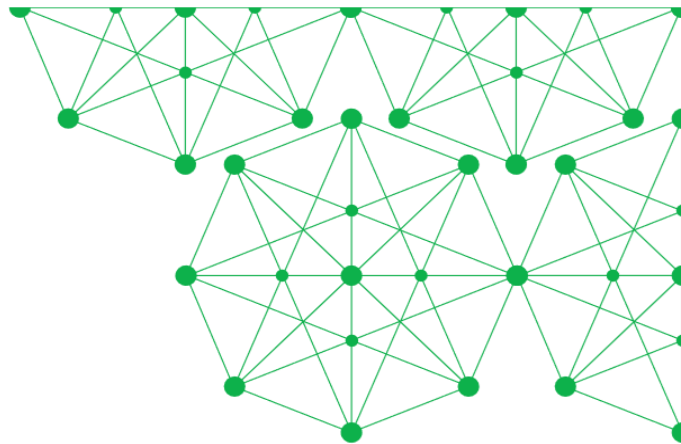
## 9.9 Types of Stays

### 8.9.1 Terminal stays

Provided where the route starts and ends. This stay must be on the side of the pole opposite to the direction of the cable route.

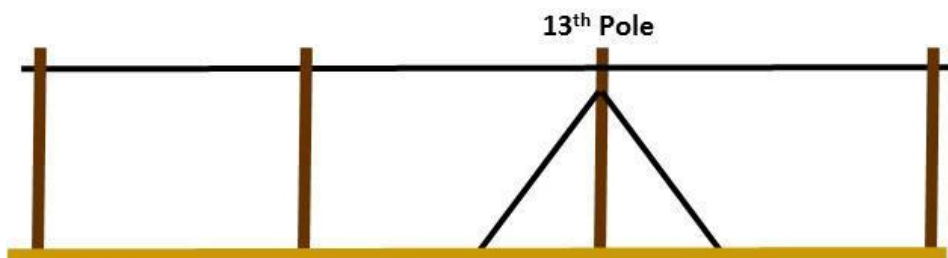


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### 8.9.2 Line stays

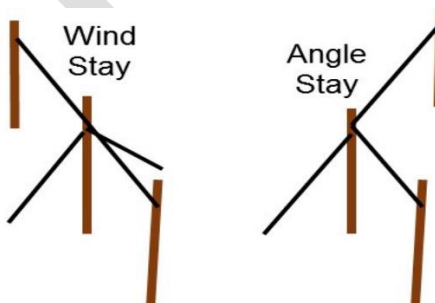
Installed at every 13th pole along the route or spaced alternatively as per specification. Line stays must be installed on poles either side of rivers and road crossings where normal span lengths are exceeded.



### 8.9.3 Wind stays & Angle stays

Wind stays are used to stabilize a cable route against wind. Fitted at 90° against the direction of the cable route and on either side of a pole.

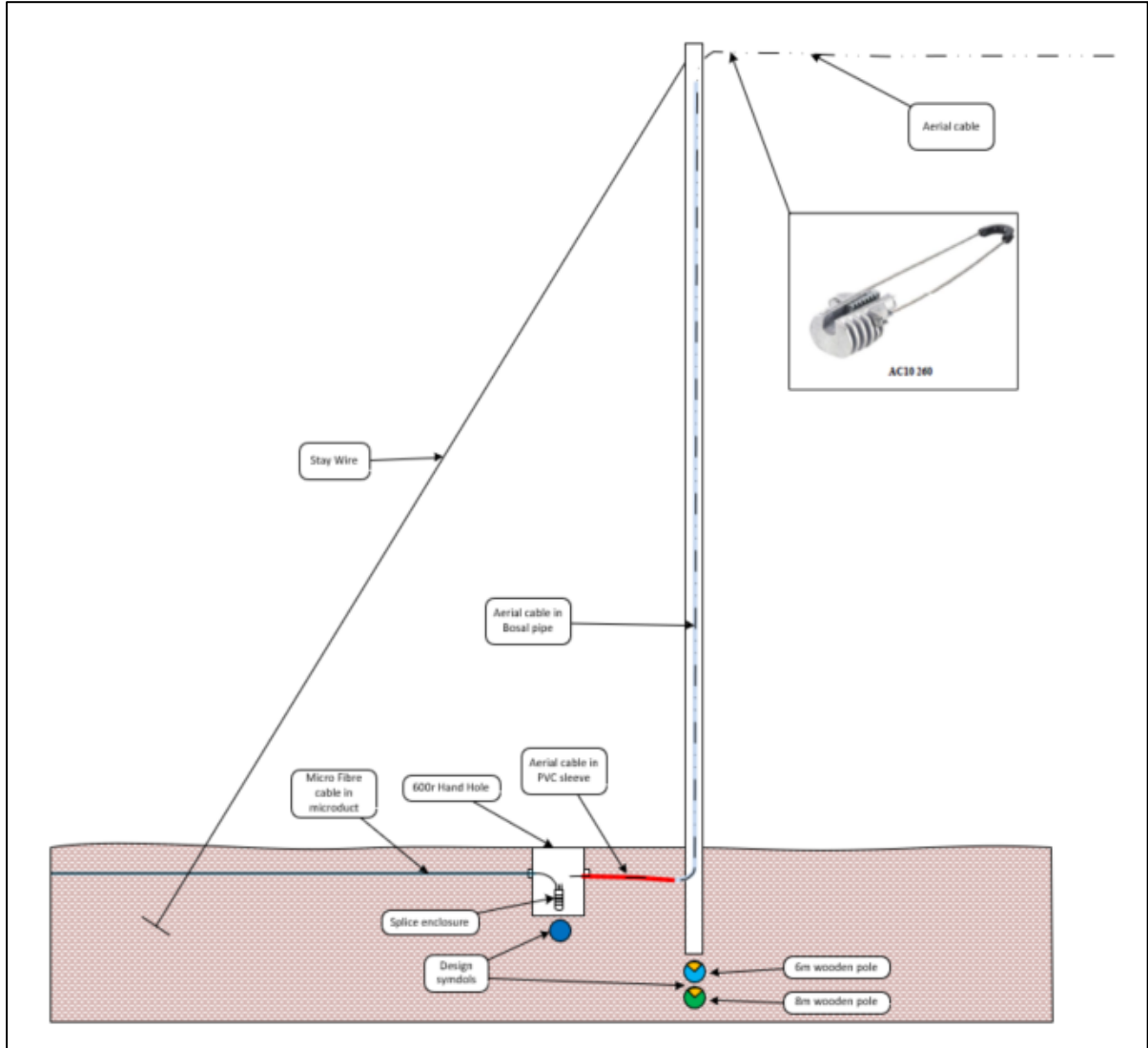
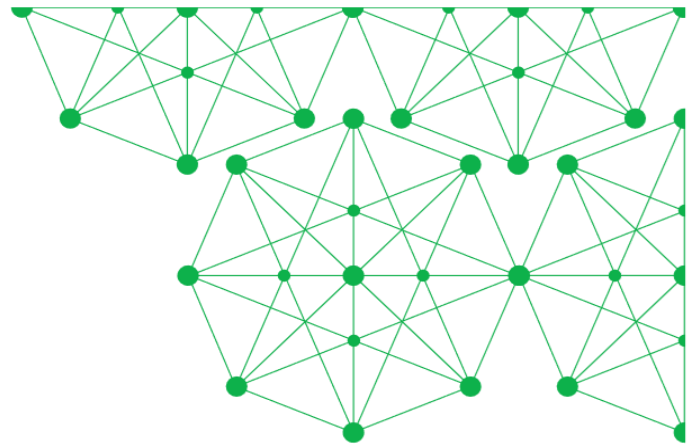
Angle stays are used to counter-act a change in direction of the cable route by more than 15° or as per client specs.





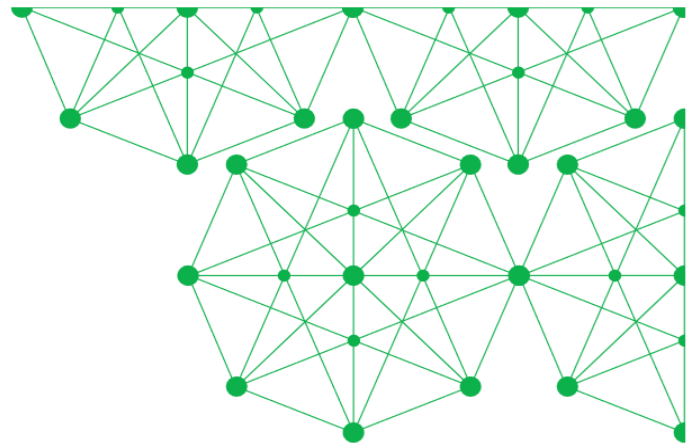
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9.9.1 On wooden poles, five 8mm G.S. staple should be used to secure the stay wire.

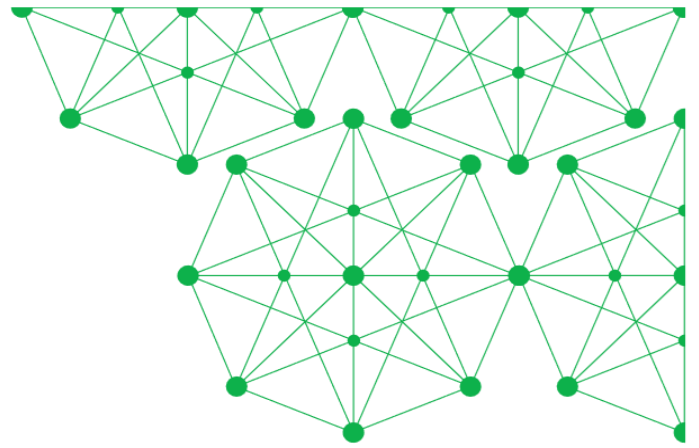
### 9.9.2 Stay holes

- 9.9.2.1 The stay hole should be marked out behind the pole and the hole dug so that the plate bears against undisturbed earth as far as possible. The cross-section of the hole should be confined to the smallest size necessary for ease of excavation and the depth should be such that the unthreaded portion of the rod protrudes 100 mm from ground level (various stay rod lengths)
- 9.9.2.2 A slot must be cut for the stay rod, which should protrude from the ground and be in line with the pole route in the case of a line stay. It should bisect the angle in the case of an angle stay. The stay should be buried to within 100mm of its threaded end unless ground conditions are exceptionally difficult. The rod must not be bent.



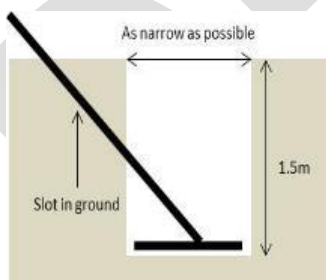


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- 9.9.2.3 The ground with a dry mix must be well rammed as it is returned in layers of 300mm into the hole. Where difficulty in consolidating the ground is anticipated, stones should be included with the initial replacements of earth. In exceptional cases may the stays be concreted.

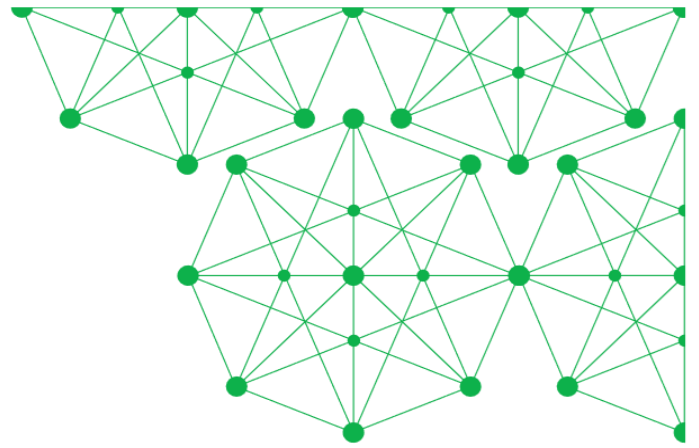
The cross-section of the hole shall be confined to the smallest size necessary to accommodate a stay plate.



The depth of stay holes shall be 1.5 (5 feet) meters or at such a depth where the unthreaded portion of the stay rod protrudes by no more than 25mm (1 in) above ground level. Stay rods without plates may be used where solid rock is encountered. The stay rod is now inserted in a hole drilled into the rock and secured with a chemical anchor. In difficult to dig ground conditions shallower holes are allowed subject to approval and shall then be backfilled using concrete.



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## 9.10 Support pole with a boundary box

### Pole configuration:

- 6m wooden pole
- A UV-resistant drop tube will be used to route the 8f drop cable
- The drop tube will be routed in a UV resistant PVC conduit or a bosal pipe – strapped to the pole – for additional protection.

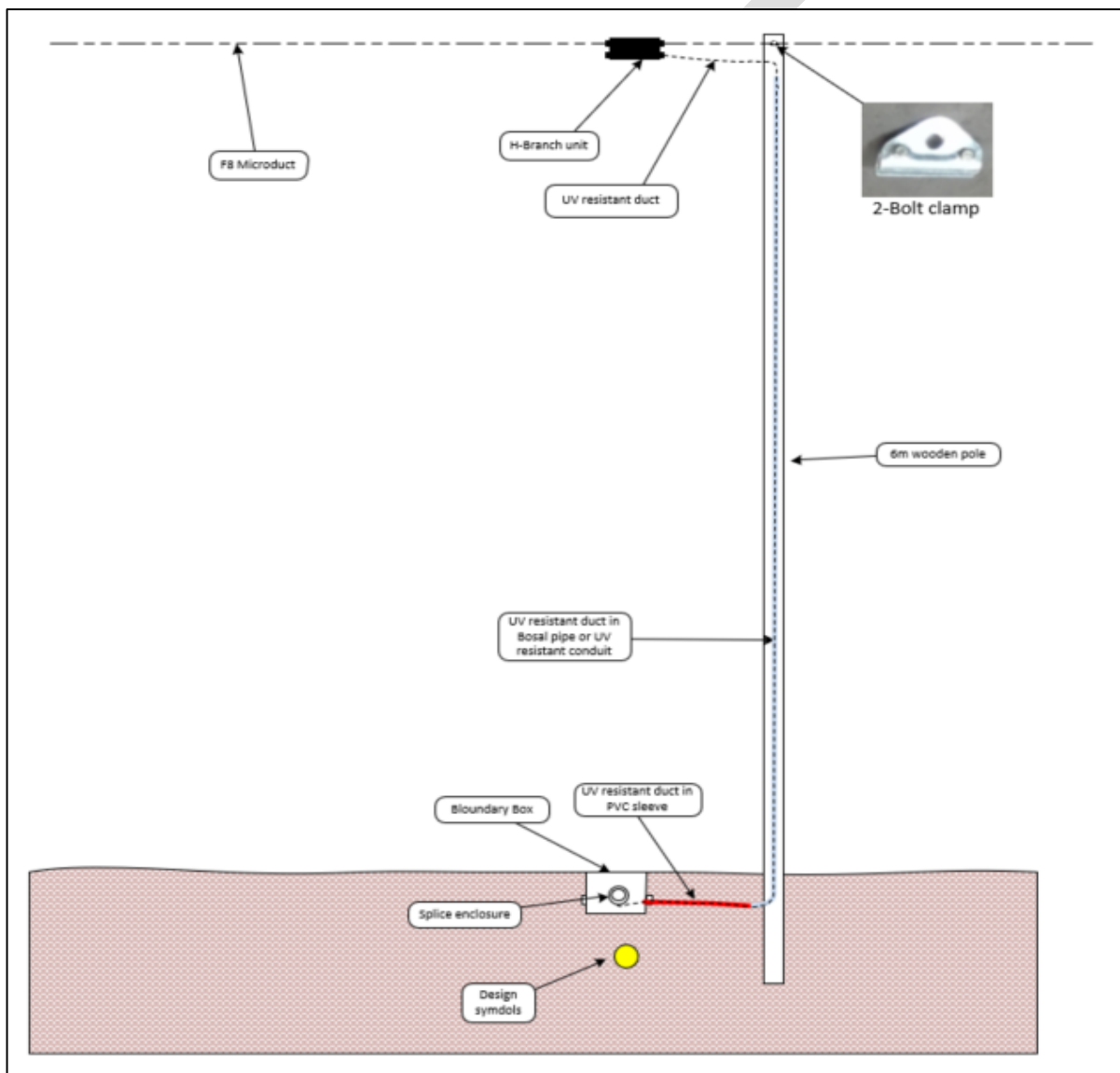
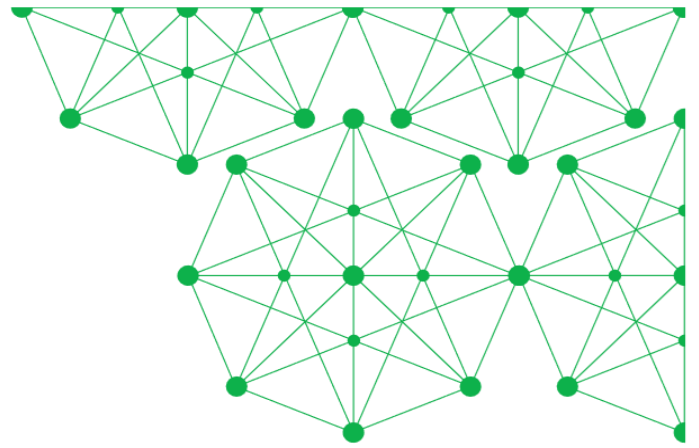


Figure 7: Support pole with boundary box



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9.10.1.1 Stay rods without plates may be used where solid rock is encountered. The stay rod should be inserted in a hole drilled into the rock in the line of the stay and secured by chemical anchor. When filling in the hole it is important that the mixture be tamped thoroughly.

### **9.10.2 Stay guards**

9.10.2.1 Stay guards must be fitted on all stays, which are exposed to vehicular or pedestrian traffic.

9.10.2.2 The stay guard must be fitted just above the crosshead to ensure greatest visibility, especially at night.

### **9.10.3 Termination of stay wire.**

9.10.3.1 Top and bottom end make-off must always be used.

9.10.3.2 Use top preformed make off and staple it around the pole with ends meeting together.

9.10.3.3 Twist top preformed make-off around suspension wire, cut a length of suspension wire same as the length of the pole.

9.10.3.4 Place bottom preformed make-off's around the crosshead.

9.10.3.5 Pull tight and cut the suspension wire in line with the crosshead and twist the bottom preformed make-off.

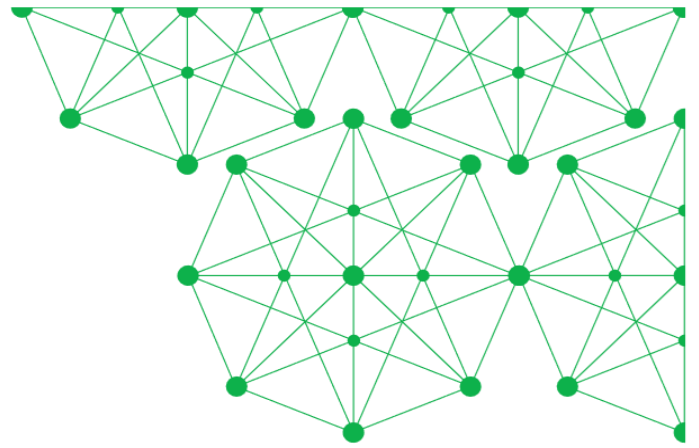
### **9.10.4 Tightening stay after terminating**

9.10.4.1 After the stay wire has been terminated, it should be tightened by means of a stay key – The top end of the stay rod must be flush with the stay rod nut. In order that scope may be left for further tightening of the stay, it is desirable to put tension on the stay wire by means of a draw vice before terminating at the crosshead





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### 9.10.5 Struts

9.10.5.1 The length of a strut pole should be such that a terminal should have a spread of 1:1 and that, the butt is buried to a vertical depth of at least, 900mm. Some 1m to 1,1m of strut will then be buried in the ground.

9.10.5.2 For a wooden pole, a strut bracket must be used to attach the top end of the strut pole to the pole.

End pole with a strut

## 9.11 Strut Accessories configuration:

### 9.11.1 Poles

6m wooden pole (8m wooden pole at road crossings)

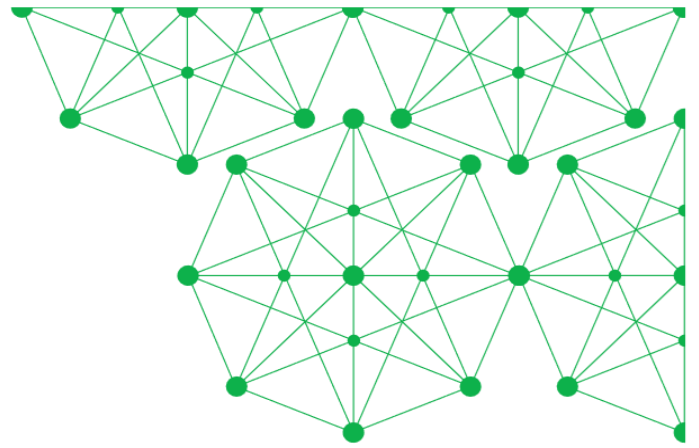
### 9.11.2 Accessories

- Stay wire set
- Double wrap guy grip (top make-off),
- x 38mm staples (to secure top make-off to pole),
- stay wire (same length as pole),
- guy marker (to ensure visibility of stay wire)
- Thimble grip (bottom make-off)
- Adjustable stay rod

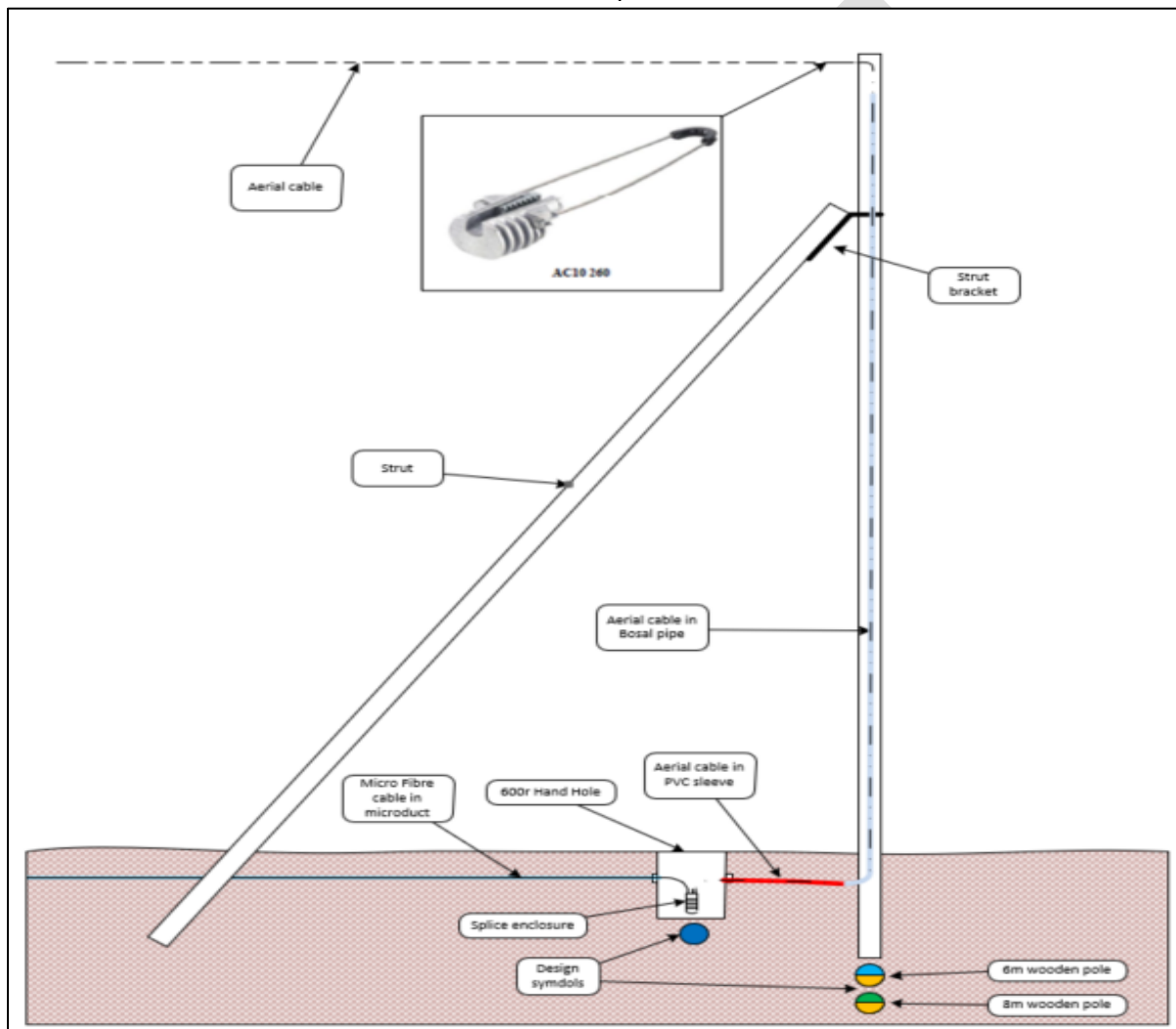


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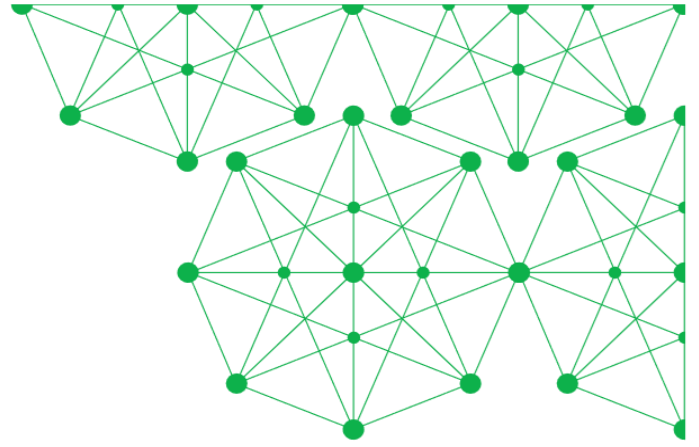
- Base plate.
- Cable hanger with 180mm bolt
- Cable anchoring clamp – AC10 260
- 5m UV resistant conduit or bosal pipe (25mm for 1 cable, 50mm for 2 cables), secured to pole with 3 x bandit straps (bottom, middle and top)
- PVC sleeve to route cable/s from pole to hand hole







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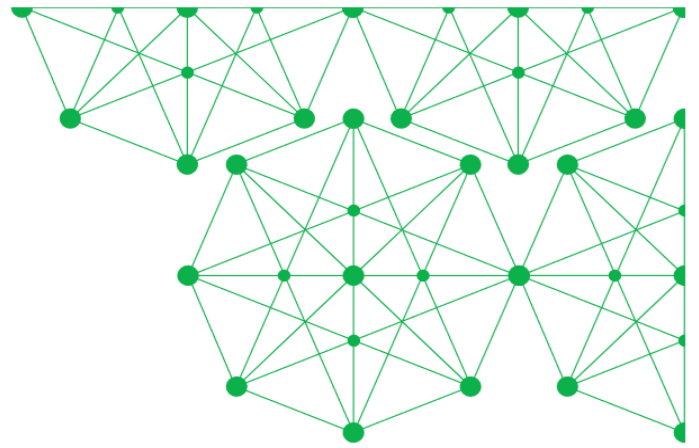
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## 9.12 Construction of overhead routes with wooden poles

### 9.12.1 Safety

Aerial cable installation can be hazardous as personnel may be working at a considerable height above the ground on ladders, bucket trucks or even climbing poles and near electrical transmission wires. All workers should have proper training and personal protective equipment before being allowed to work on aerial installations.

### 9.12.2 Pole Handling Personal Protection Equipment (PPE)

- Safety boots with steel caps.
- Protective clothing with long sleeves.
- Shoulder pads.
- Gloves.
- Hardhat.

### 9.12.3 Climbing Ladders

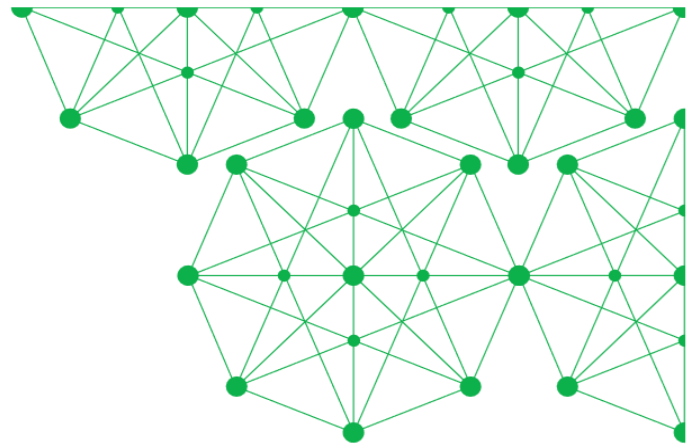
- Keep hands free of tools or materials when climbing or descending a pole or ladder.
- Workers climbing up or down ladders must always face the ladder and maintain a 3-point contact. This effectively means that 2-hands and 1-foot or 2-feet and 1-hand must always be on the ladder.
- Ladder must be positioned correctly (1-4 ratio).
- Ladder must be properly secured (lashed and held).
- Ladder must be in a good condition.
- Pole ladder must be used.
- A worker must be correctly positioned on the ladder.
- A safety harness must be worn and secured to the pole once the working position is reached.
- Never climb any pole if the span they support is being placed under tension.

### 9.12.4 Transportation of Poles

Poles must never exceed the 0.5m vehicle overhang and must have a red flag secured on the overhanging end. Poles that are loaded onto a truck must be purpose built for carrying poles, poles must be secured to ensure that the cargo does not



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move while it is in transit.

#### 9.12.5 Pole Off-Loading Procedure

Ensure that the removal of any one pole will not cause shifting or rolling of any of the remaining poles.

Step 1: Unfasten the poles.

Step 2: Slide one pole at a time towards the rear end of the vehicle.

Step 3: When the pole reaches its equilibrium point, the persons on the vehicle must raise their end slowly.

Step 4: The persons on the ground slowly pull the pole until 1m of it is left on the back of the vehicle bed.

Step 5: The persons on the ground receive the pole and gently place it on the ground.

A pole must never be dropped on the ground, as this could damage the pole and/or cause injury to team members.

#### 9.13 Pole Handling Ratios

Smaller poles may be handled manually with sufficient personnel available but larger poles require proper mechanical aids.

7m pole = 4 people

8m pole = 6 people

9m pole = 8 people or a mechanical aid

10m pole = mechanical aid.

11m + pole = mechanical aid

##### 9.13.1 Lengths of Poles

Wooden poles are available in – 6, 7, 8, 9, 10 and 11m lengths and are classified as light duty and heavy duty.

##### 9.13.2 Erecting poles

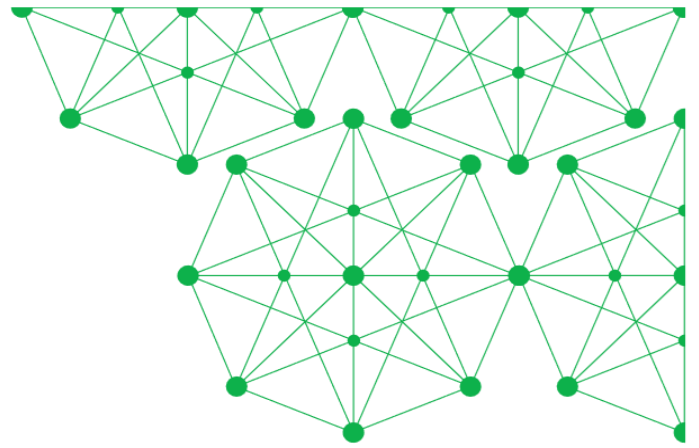
9.13.2.1 Poles should be erected as described. The S-hooks should be fitted before erection wherever possible. As wooden poles might not be quite straight, care should be taken when setting and aligning them. To aid in checking the depth of planting, wooden poles are supplied with discs affixed 3.5m from the butt end in respect of poles up to 9.1m in length and 3.5m from the butt end for special longer poles.

9.13.2.2 The heavier poles available in a consignment should be used at angle positions,





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particularly where stays will be attached below resultant positions on the poles. Poles which appear too light for the job should be put aside for use where suitable, e.g. for drop wire support.

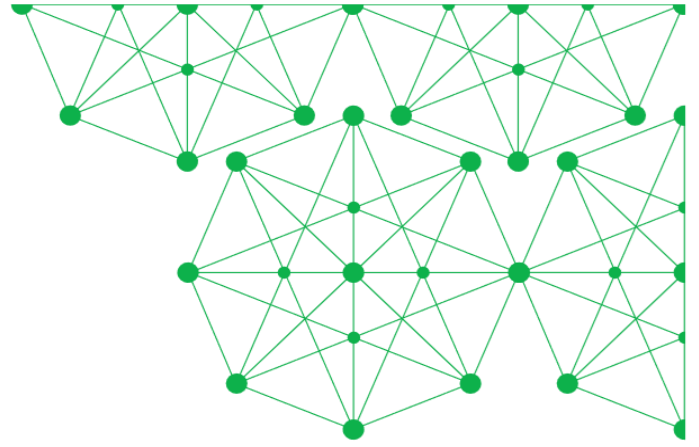
- 9.13.2.3 Wooden angle poles which are not stayed, should be set back slightly so that they assume a vertical position when the line wires are strained. When filling in a pole hole in such cases, the backfill must be firmly rammed with a pole rammer and if necessary, the hole packed with stones on that side of the pole where the ground will have to withstand the pull of the wires.
- 9.13.2.4 Where angle poles are not stayed and are not set in concrete, their positions should be selected so that staying will be possible later if rendered necessary by the erection of additional wires.







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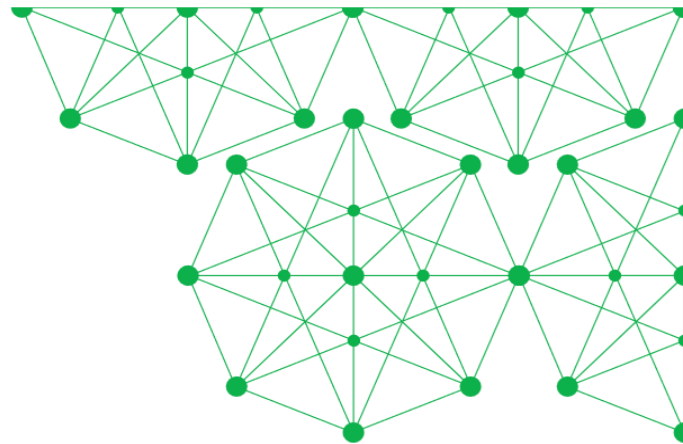
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9.13.2.5 Wherever it is necessary to drill or cut wooden poles for the attachment of fittings, the exposed wood must be treated liberally with creosote to protect it from rotting. The butt end of a wooden pole must never be cut.

#### **9.13.3 Clearance**

At points where there will be inadequate ground clearance with the normal poles, longer poles must be used.

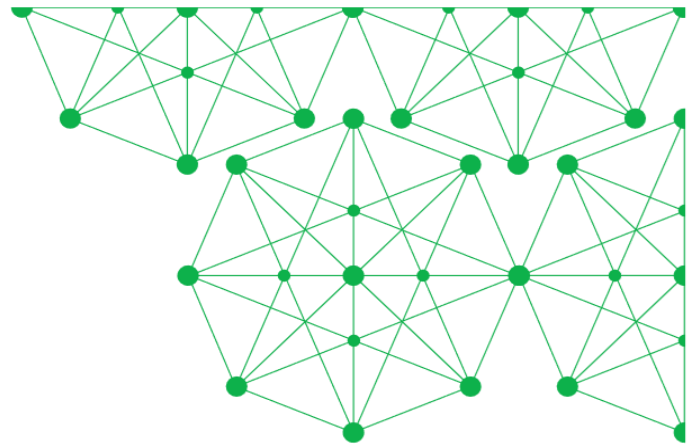
#### **9.13.4 The use of wooden poles set in concrete**

Wooden poles (up to and including 8.0 meters) set in concrete should only be used in the following cases.

- On routes where the planting of stays at small angles, may be difficult or give rise to objections from property owners.
- For distribution purposes in blocks, where the nature of the soil is such



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that an unstayed pole would lean when two or more drop wires are erected.

- In extreme rocky conditions where the minimum required planting depth cannot be achieved

9.13.4.1 The following table indicates the minimum depth required casting a pole in concrete.

| Length of pole | Minimum depth |
|----------------|---------------|
| 7m             | 600mm         |
| 8m             | 800mm         |
|                |               |

9.13.4.2 Only new wooden poles may be set in concrete. Recovered or existing wooden poles must not be concreted, as much of the preservative will have leached away.

9.13.5 The use of unstayed concreted wooden poles at angles is limited by the following factors:

- Pole size.
- Size of angle.
- Methods of planting poles in concrete

#### 9.13.5.1 Pole Holes

The hole for a pole, which is to be concreted, should be circular in shape. The diameter should be kept to a minimum but must be sufficient to ensure that there will be a radius of 400mm of concrete between the sides of the pole and the undisturbed ground. The hole for an angle pole must be dug so that the pole when planted will be on the correct position.

#### 9.13.5.2 Concrete Mixture

The concrete to be used must be made from a mixture of 1-part cement, two parts sand and five parts crushed stone.

#### 9.13.5.3 Pole Setting

The pole complete with fittings is been put in position and lined-up in the normal manner.

#### 9.13.5.4 Angle Pole

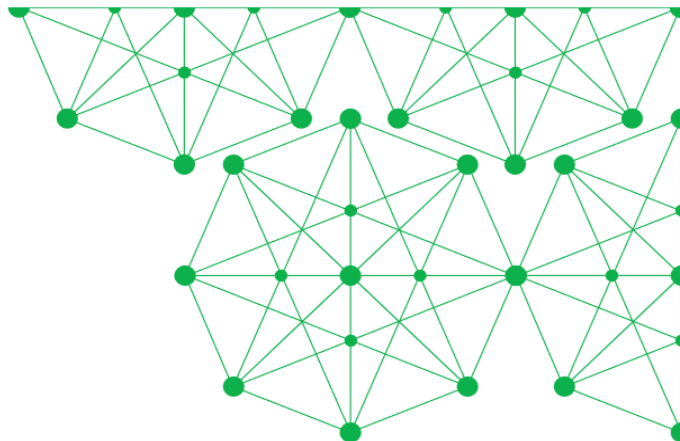
9.13.5.4.1 An angle pole must then be tilted, with a rake of 1 in 26, towards the position where the angle stay would normally be planned.

9.13.5.4.2 The various lengths of poles, planted to correct depth with a rake of 1 in 26, will be set out of the vertical at the top by the following approximate amounts:

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| LENGTH OF POLE | SET AT TOP |
|----------------|------------|
| 7,9 meters     | 250mm      |
| 7,3 meters     | 225mm      |
| 6,0 meters     | 175mm      |
| 5,4 meters     | 150mm      |

#### 9.13.5.5 Filling of Hole

When the pole has been set correctly, it must be firmly held. Concrete is then poured into the hole to fill it to ground level. The concrete must not be rammed but should be worked around the pole with a light stick.

#### 9.13.5.6 Props

Props, as required, are then placed against the pole to maintain its correct setting. The pole must then be left undisturbed for at least 24 hours, to allow the concrete to set.

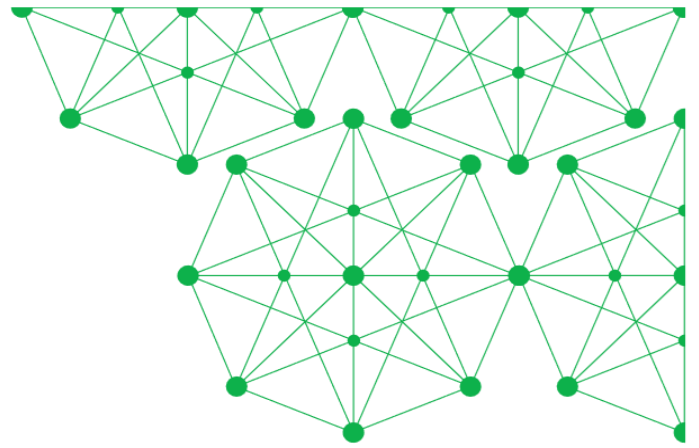
#### 9.13.6 To clamp a pipe/U channel to a pole.

- 9.13.6.1 For new installations, galvanised steel pipe must be used to protect the cables
- 9.13.6.2 The pipe must extend to 350mm below ground level to protect the cable.
- 9.13.6.3 Unroll a length of tape enough to fit round the pipe and the pole, slip a buckle over the one side of the tape.
- 9.13.6.4 Pass the tape around the pipe and pole and pass the loose end of the tape through the buckle on the pole side of the long part of the tape.
- 9.13.6.5 Bend the end of the tape back and move the buckle along the tape so as to engage with the bent end.
- 9.13.6.6 Pull the tape tight by hand, place it in the groove in the nose of the tool and grip it between the jaws of the sliding grip.
- 9.13.6.7 Protect the bare cable on the top of the pole with pieces of cable sheathing to prevent damage to the cable by the steel tape.
- 9.13.6.8 Tension the tape further by turning the tensioning handle, taking care not to over-tension the tape.
- 9.13.6.9 Bend the tool back over the buckle to bend the tape at the joint. Release the tension on the handle while bending the tool back to prevent the tape from breaking.
- 9.13.6.10 Cut the tape by using the build-in cutter on the clamping tool.
- 9.13.6.11 Remove the tool and hammer the end of the tape and securing clamps on the buckle down to secure the tape end.
- 9.13.6.12 There must be 3 straps per pole.





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- 9.13.6.13 The buckle must be positioned directly away from the natural position where the ladder will rest against the pole.



## 9.14 Hauling of overhead optical fibre cable

### 9.14.1 Preparation of route

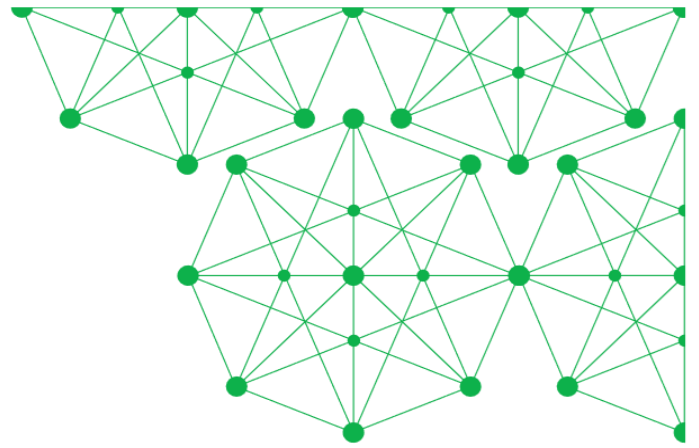
Route preparation – planting of poles, with the correct S-hooks fitted and bush cutting – should be completed before starting with the hauling activities.

### 9.14.2 Installation process - Conventional Method

- 9.14.2.1 Fit specially designed pulleys for the erection of Optical Fibre Aerial Cable to every pole on the route for the length of cable to be erected.
- 9.14.2.2 Feed the hauling rope through the pulleys.
- 9.14.2.3 Make a hauling eye at the end of the cable by removing a piece of the cable sheath (250-300mm), after which the Kevlar of the cable is then wound around the cable and attached to the cable with a 300mm 25/8 heat shrink sleeve.
- 9.14.2.4 Place the drum with cable at least one span length or 50 metres away from the pole where the cable will go through the first pulley. This would prevent the cable from bending too much while being hauled. Ensure Cable is decoiled in

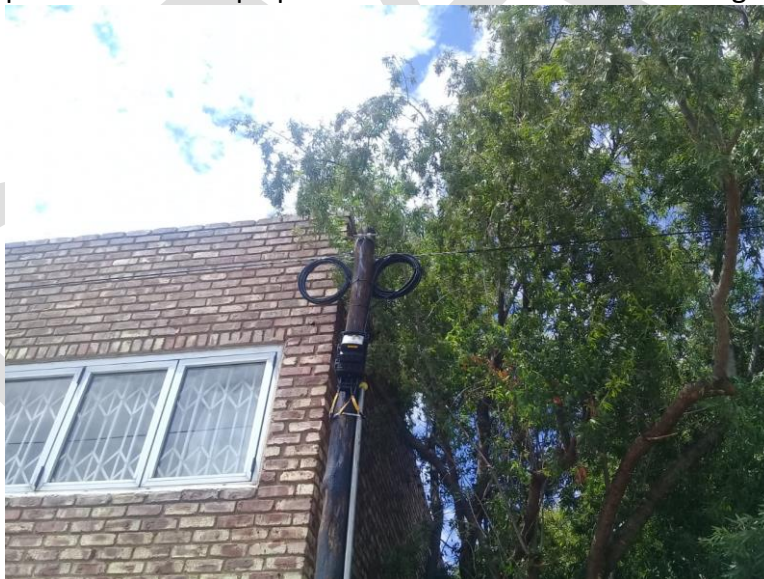


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correct direction, indicated on the cable drum. Under no circumstances should the cable be bent.

- 9.14.2.5 Hook the mechanical fuse to the end of the hauling rope and to the hauling eye of the cable. Hauling can now begin.
- 9.14.2.6 Cable lengths of up to 5000 m can be erected with one haul if the terrain allows it (flat, straight terrain).
- 9.14.2.7 Radio Communication between persons at the drum, alongside the cable-end and the hauling gang must be maintained.
- 9.14.2.8 If a short hauling rope is used, haul the rope through the next lot of pulleys as the rope becomes available during the hauling process.
- 9.14.2.9 The hauling gang must haul the cable evenly to prevent jerking. The person(s) at the cable drum must "feed" the cable off the drum according to the speed with which the cable is hauled. There must be no strain on the cable between the drum and the first pulley.
- 9.14.2.10 When hauling the cable, a person with a two-way radio must walk alongside the cable-end to ensure that the cable is not twisting with the rope, especially at angle-poles where the possibility of twisting is greater.
- 9.14.2.11 Sticking of the mechanical fuse and swivels must be avoided. When the cable starts twisting, hauling must be stopped immediately. The cause of the problem must be pinpointed and rectified before hauling can continue.

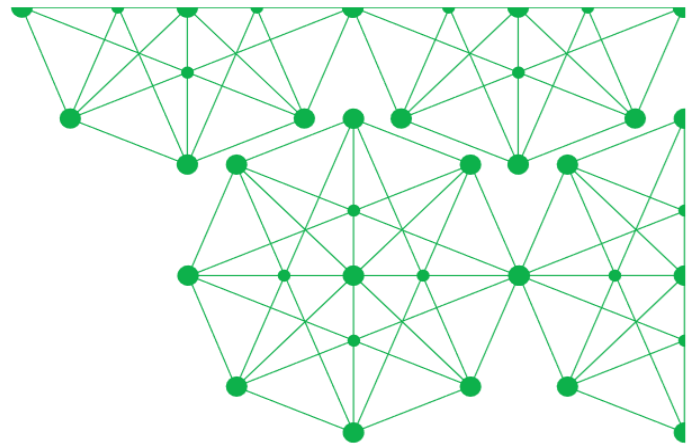


### 9.14.3 Installation process – Figure 8 Method

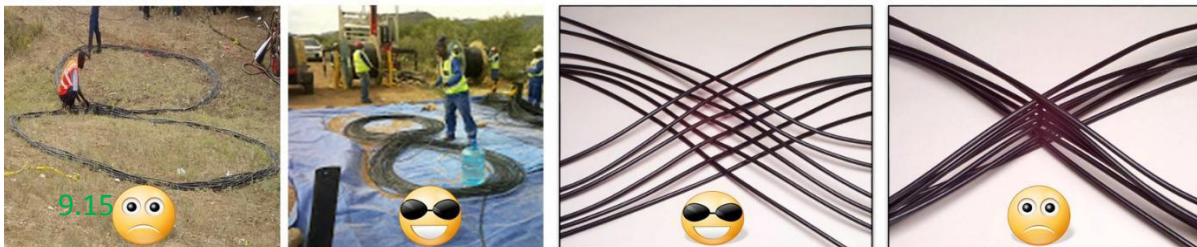
- 9.14.3.1 Place the drum approximately halfway along a long hauling section to reduce the strain on the cable.
- 9.14.3.2 Follow steps (1) to (5) as in paragraph 8.7.2.



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- 9.14.3.3 The one half of the cable length is hauled in the one direction.  
9.14.3.4 The balance of the cable is then completely run off the drum into a figure 8 on a tarpaulin after which it is then hauled in the opposite direction.



- 9.15.1.1 Radio Communication between persons at the drum, alongside the cable-end and the hauling gang must be maintained.  
9.15.1.2 This method should be used when the terrain is such that the conventional method cannot be used.  
9.15.1.3 The figure 8 method should not be used for cables longer than 2500 metres as it becomes risky to manage a bigger coil than 1250 meters of optic fibre cable without damaging the cable.  
9.15.1.4 It is recommended that an additional splice should rather be introduced at every 2500 meters if the conventional method cannot be used.



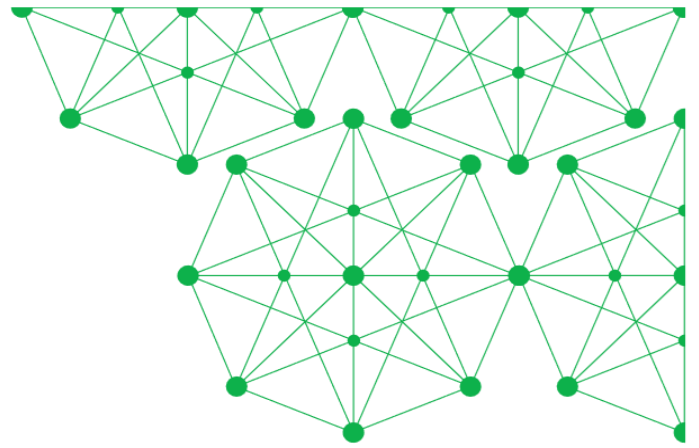
## 9.15.2 Securing of cable to poles

- 9.15.2.1 Termination  
9.15.2.1.1 A DYNAMOMETER or sag gauge, (tension meter), 0- 1000 KG (0- 10KN), must be used to obtain the correct tension (sag) on the cable.  
9.15.2.1.2 To terminate the cable at a terminal pole (beginning or end of route), a preformed, galvanised steel thimble type dead-end, is wrapped around the cable and hooked onto a suspension hook.





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- 9.15.2.1.3 Terminate cable with correct size dead-end at 1st terminating pole, leaves 20-meter slack for jointing purpose.
- 9.15.2.1.4 The jointing slack is then coiled in a 500 mm coil and secured to the pole as high as possible from the ground. Starts coiling by rolling the slack cable like a wheel. This will ensure that no twists are put in the slack, which will result in the fibres being damaged.



- 9.15.2.1.5 When a route deviates with an angle greater than 10°, the cable must be



terminated as follows:

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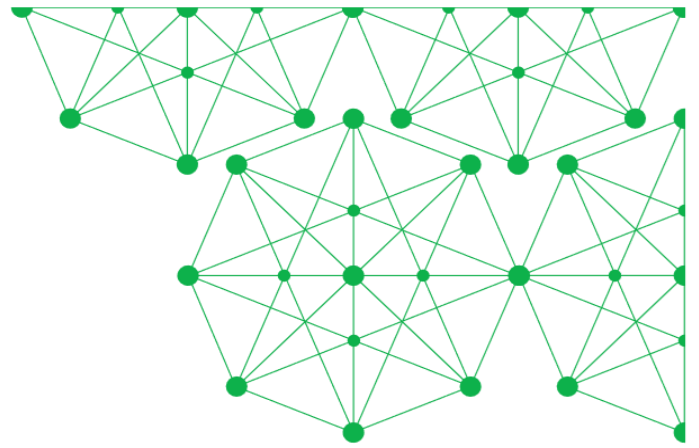
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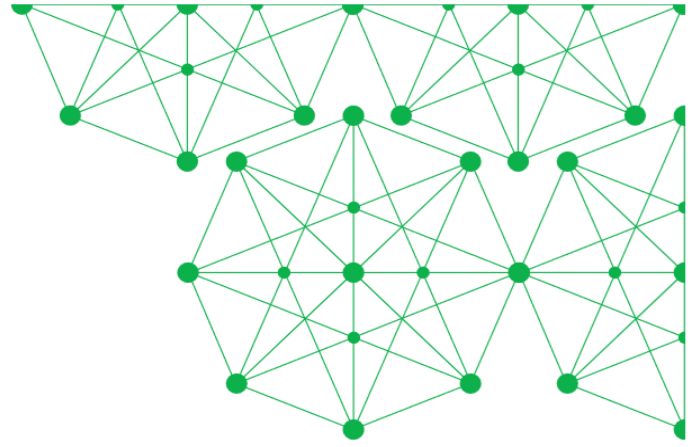
- 9.15.2.1.5.1 Fit a triple S-hook on the angle-pole
- 9.15.2.1.5.2 Wrap a temporary dead-end around the cable beyond the angle-pole.
- 9.15.2.1.5.3 Hook the one end of the Dynamometer into the thimble of the dead-end and a rope to the other end.
- 9.15.2.1.5.4 A number of workers must then pull on the rope until the desired tension is obtained.
- 9.15.2.1.5.5 While the tension is held steady, a person on top of the pole then wraps a dead-end around the cable and hooks it onto the termination hook.



- 9.15.2.1.5.6 After the cable is terminated, wait for a while plus/minus 10 minutes to allow the cable to stabilise before clamping the cable in the support clamp for intermediate support.
- 9.15.2.1.5.7 Remove the temporary dead-end from cable.
- 9.15.2.1.5.8 A dead-end is then wrapped around the cable in the opposite direction and hooked onto the termination hook. See point (8.7.4.1.7) for the loop of the piece of cable between the two dead-ends.
- 9.15.2.1.6 The same procedure is used where the drum is placed halfway along a hauling section.
- 9.15.2.1.7 Where a cable is terminated without the termination point being a joint, the loop of the piece of cable between the two dead-ends shall be at least 50mm away



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from any structure but not more than 70mm.

9.15.2.1.8 To terminate the cable at the far end, follow the same process as described in 8.7.4.1.5.1 to 8.7.4.1.5.5.

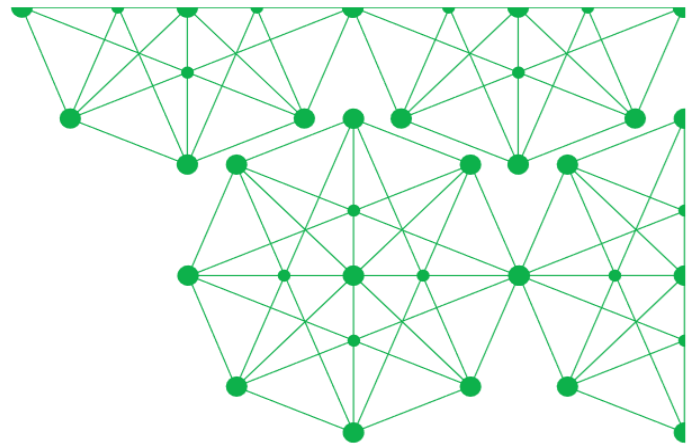
### **9.15.3 Supporting of cable**

9.15.3.1 To support the cable at intermediate poles, suspension hooks or triple suspension hooks are fitted to the poles. A tangent support is then wrapped around the cable and hooked onto the suspension hooks.





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## 10 Related Documents

| Document Ref. | Document Title |
|---------------|----------------|
|               |                |
|               |                |

## 11 Forms

| Form No. | Form Title | Rev No. |
|----------|------------|---------|
|          |            |         |

## 12 Notes and Attachments

DIT, link results,

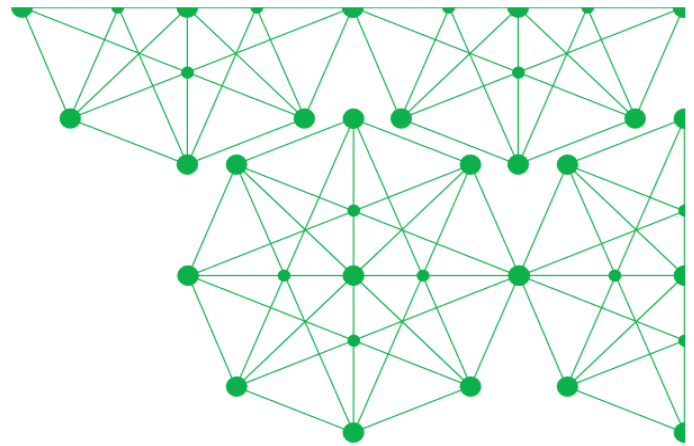
## 13 Safety, Health and Environmental Management (SHE)

### 9.1 Relevant Documentation

- a. Before commencement of any works, the contractor will make themselves familiar with the health and safety requirements of the client (Refer to Frogfoot HSE Plan 12 April 2016 rev 0).
- b. All health and safety specifications set out by the client will be read in conjunction with the relevant acts and regulations of occupational safety and environmental compliance, in order of the statutory and regulatory compliance of the contractor during execution of the works. These include, but are not limited:
  - i. OHS Act 85 of 1993
  - ii. COIDA ACT 130 of 1993
  - iii. NEMA Act 107 of 1998
  - iv. Construction Regulations 2014
  - v. Frogfoot Waste Management Plan rev0



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### 10.5 Frogfoot DIT Results

|                 |  |                    |  |
|-----------------|--|--------------------|--|
| <b>Project:</b> |  | <b>Contractor:</b> |  |
| <b>Region:</b>  |  | <b>Date:</b>       |  |

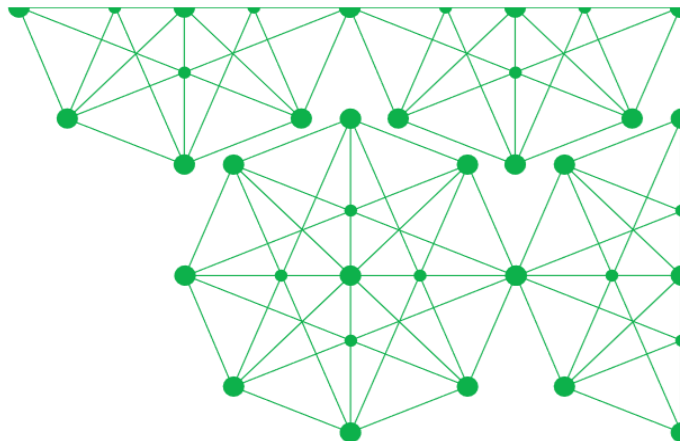
All testing should be done in accordance the Frogfoot DIT Procedure.

|   |                       |    |                              |                                |     |               |  |                  |  |  |
|---|-----------------------|----|------------------------------|--------------------------------|-----|---------------|--|------------------|--|--|
| <b>Street Name If Applicable:</b>   |                       |    |                              |                                |     |               |  |                  |  |  |
| <b>Starting Point (HH/MH Nr):</b>   |                       |    | <b>End Point (HH/MH Nr):</b> |                                |     |               |  | <b>Distance:</b> |  |  |
| <b>Duct Size (mm):</b>  | 14/10                 |    | 12/10                        |                                | 8/5 |               |  |                  |  |  |
| <b>Test Type</b>  | <b>Test Performed</b> |    |                              | <b>Number of ducts tested:</b> |     | <b>Notes:</b> |  |                  |  |  |
| <b>Confirmation:</b><br>Are the MH/HH and Ducts clearly labelled and neatly packed?<br>Was this duct cleaned using a sponge and lubricant?                          | Yes                   | No | N/A                          |                                |     |               |  |                  |  |  |
| <b>Air Pressure:</b><br>The duct will need to pass 10Bar worth of pressure. Did the successfully pass the 10min mark losing no more than 1Bar of pressure per 5min? | Yes                   | No | N/A                          |                                |     |               |  |                  |  |  |
| <b>Obstruction &amp; Blockages:</b> The duct will need to be pressurized to 5 Bar. For a 14/10 or a 12/10mm duct, the 5m dart should be used. For an 8/5mm duct, a  | Yes                   | No | N/A                          |                                |     |               |  |                  |  |  |





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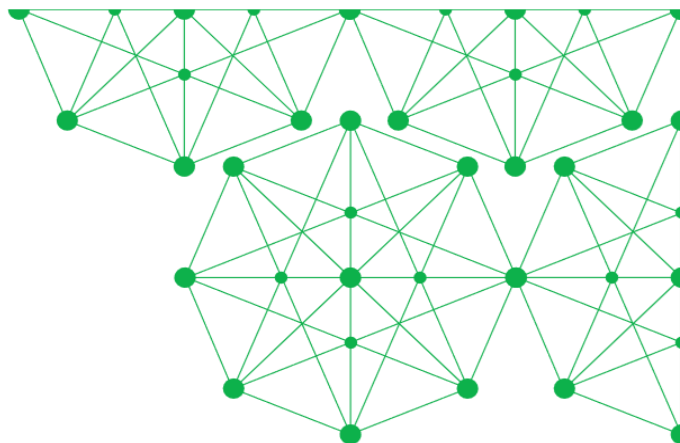


|  |  |  |  |  |  |
|--|--|--|--|--|--|
| 4.2mm ball bearing will need to be used. Did the dart/ bearing make it the other end free of obstructions? |  |  |  |  |  |
|--|--|--|--|--|--|

|   |                       |    |                              |                                |                  |
|---|-----------------------|----|------------------------------|--------------------------------|------------------|
| <b>Street Name If Applicable:</b>   |                       |    |                              |                                |                  |
| <b>Starting Point (HH/MH Nr):</b>   |                       |    | <b>End Point (HH/MH Nr):</b> |                                | <b>Distance:</b> |
| <b>Duct Size (mm):</b>  | 14/10                 |    | 12/10                        | 8/5                            |                  |
| <b>Test Type</b>  | <b>Test Performed</b> |    |                              | <b>Number of ducts tested:</b> | <b>Notes:</b>    |
| <b>Confirmation:</b><br>Are the MH/HH and Ducts clearly labelled and neatly packed?<br>Was this duct cleaned using a sponge and lubricant?                          | Yes                   | No | N/A                          |                                |                  |
| <b>Air Pressure:</b><br>The duct will need to pass 10Bar worth of pressure. Did the successfully pass the 10min mark losing no more than 1Bar of pressure per 5min? | Yes                   | No | N/A                          |                                |                  |
| <b>Obstruction &amp; Blockages:</b> The duct will need to be pressurized to 5 Bar. For a 14/10 or a 12/10mm duct, the 5m dart should be used. For an 8/5mm duct, a  | Yes                   | No | N/A                          |                                |                  |



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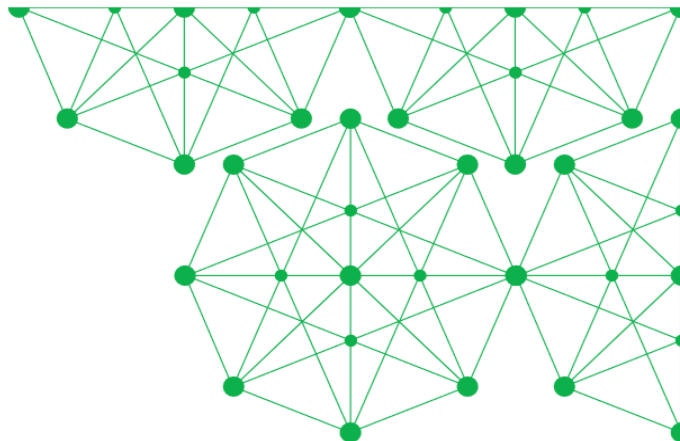
|  |  |                   |  |  |  |
|--|--|-------------------|--|--|--|
| 4.2mm ball bearing will need to be used. Did the dart/ bearing make it the other end free of obstructions? |  |                   |  |  |  |
| <b>Date:</b>   |  | <b>Signature:</b> |  |  |  |
| <b>Contractor Representative:</b>  |  |                   |  |  |  |
| <b>Date:</b>   |  | <b>Signature:</b> |  |  |  |
| <b>Frogfoot Representative:</b>  |  |                   |  |  |  |

## 10.6 Frogfoot Fibre Handover

| FROGFOOT LINK HANDOVER                      |  |   |  |
|---|--|---|--|
| Client & Access Site Particulars            |  | Source Particulars                        |  |
| <b>Project Number:</b>                      |  | <b>Access Circuit:</b>                    |  |
| <b>Client / Company Name:</b>               |  | <b>Source Name:</b>                       |  |
| <b>Office Park &amp; Building Number:</b>   |  | <b>Office Park &amp; Building Number:</b> |  |
| <b>Floor (if Applicable):</b>               |  | <b>Floor (if Applicable):</b>             |  |
| <b>Street Address:</b>                      |  | <b>Street Address:</b>                    |  |
| <b>Region:</b>                              |  | <b>Region:</b>                            |  |
| <b>Link Termination (e.g. Server Room):</b> |  | <b>Location of POP (e.g. Basement):</b>   |  |
| <b>Number of Fibres:</b>                    |  | <b>Ports:</b>                             |  |
| <b>Ports:</b>                               |  | <b>Row:</b>                               |  |
| <b>Termination Box</b>                      |  | <b>Tray:</b>                              |  |



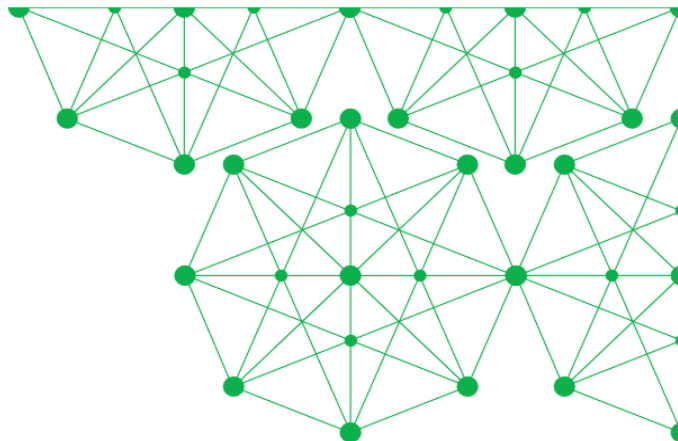
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|   |                      |   |               |                        |
|---|----------------------|---|---------------|------------------------|
| <b>Number:</b>                              |                      |   |               |                        |
| <b>Mid-Couplers Type<br/>(e.g. PC/APC):</b> |                      | <b>ODU Number:</b>                            |               |                        |
| <b>Landlord Approval:</b>                   |                      | <b>Mid-Couplers Type<br/>(e.g. PC/APC):</b>   |               |                        |
| <b>Backhaul Ordered:</b>                    |                      | <b>Type of Node (e.g. Passive, AE, GPON):</b> |               |                        |
| <b>Materials Ordered:</b>                   |                      | <b>Wayleaves:</b>                             | <b>Yes/No</b> | <b>Expiration Date</b> |
|   |                      | <b>Electrical department:</b>                 |               |                        |
|   |                      | <b>Roads and storm water:</b>                 |               |                        |
|   |                      | <b>DFA:</b>                                   |               |                        |
|   |                      | <b>Eskom:</b>                                 |               |                        |
|   |                      | <b>Telkom:</b>                                |               |                        |
|   |                      | <b>Neotel:</b>                                |               |                        |
|   |                      | <b>Citi Telecoms:</b>                         |               |                        |
|   |                      | <b>Bulk water:</b>                            |               |                        |
|   |                      | <b>Water Sanitation:</b>                      |               |                        |
|   | <b>High Voltage:</b> |   |               |                        |
| <b>PMO ACCEPTANCE</b>                       |                      |   |               |                        |
| <b>Frogfoot Representative:</b>             |                      | <b>Date:</b>                                  |               |                        |
| <b>Designation:</b>                         |                      | <b>Signature:</b>                             |               |                        |
| <b>Contact Number:</b>                      |                      |   |               |                        |
| <b>OTDR TEST RESULTS</b>                    |                      |   |               |                        |
| <b>Fibre 1</b>                              |                      | <b>Fibre 2</b>                                |               |                        |
| <b>Measured Optical Length (km):</b>        |                      | <b>Measured Optical Length (km):</b>          |               |                        |
| <b>Attenuation at 1310nm (db):</b>          |                      | <b>Attenuation at 1310nm (db):</b>            |               |                        |
| <b>Attenuation at 1550nm (db):</b>          |                      | <b>Attenuation at 1550nm (db):</b>            |               |                        |
| <b>Attenuation at</b>                       |                      | <b>Attenuation at</b>                         |               |                        |



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|                                 |  |                               |  |
|---------------------------------|--|-------------------------------|--|
| 1625nm (db):                    |  | 1625nm (db):                  |  |
| Fibre 3                         |  | Fibre 4                       |  |
| Measured Optical Length (km):   |  | Measured Optical Length (km): |  |
| Attenuation at 1310nm (db):     |  | Attenuation at 1310nm (db):   |  |
| Attenuation at 1550nm (db):     |  | Attenuation at 1550nm (db):   |  |
| Attenuation at 1625nm (db):     |  | Attenuation at 1625nm (db):   |  |
| Person Conducting Test:         |  | Date of Test:                 |  |
| Serial Number of OTDR:          |  | Results Attached (YES/NO)     |  |
| PROVISIONING MANAGER ACCEPTANCE |  |                               |  |
| Frogfoot Representative:        |  | Date:                         |  |
| Designation:                    |  | Signature:                    |  |
| Contact Number:                 |  |                               |  |



## **ANNEXURE 7**

### **PROOF OF PUBLIC PARTICIPATION PROCESS**

## NOTICE

### APPLICATION IN TERMS OF THE NATIONAL HERITAGE RESOURCES ACT, 1999, ACT 25 OF 1999 (THE NHRA)

Please note that an application is being made in terms of Sections 34 and 38 of the NHRA for:

#### THE FOLLOWING AREAS WITHIN THE SOL PLAATJE MUNICIPAL AREA

- NEW PARK
- CATERS GLEN
- HEUWELSIG
- CASSANDRA
- KLISSER
- SOUTH RIDGE/MINERVA GARDENS
- BELGRAVIA
- VERWOERD PARK/RIVIERA/DIAMOND PARK

Short Description of the work to be done:

#### THE DEPLOYMENT OF A FIBRE NETWORK BY FROGFOOT NETWORKS WITHIN THE ABOVE AREAS IN THE SOL PLAATJE MUNICIPAL AREA

**An electronic copy of the application (Heritage Impact Assessment) can be obtained from:**

**Name:** Christine Havenga (Christine Havenga & Associates)

**e-mail:** christine.havenga@firstplan.co.za

**Telephone:** 073 1951 040

**A notice in this regard is also available of the Heritage Portal:** <http://www.theheritageportal.co.za/>

Any person wishing to object or comment **on heritage grounds** to the application must make such comment /objection in writing to the above address on or before **7 April 2021**.

**Kindly note that objections or comments that are not made on heritage grounds will not be considered**

**NOTICE IN HERITAGE PORTAL**

**From:** James Ball [mailto:jamesball01@gmail.com]

**Sent:** 08 March 2021 02:16 PM

**To:** Christine.havenga@firstplan.co.za

**Subject:** Re: Frogfoot Heritage Impact Assessment for the deployment of a Fibre Network within certain areas in the Sol Plaatje Municipal Area

Hi Christine

Here it is... <http://www.theheritageportal.co.za/notice/notice-section-34-and-38-applications-various-areas-sol-plaatje-municipal-area>

Any changes including the title? Had to tweak it a touch to be a bit more specific. I didn't mention the We Transfer link in the notice itself.

All the best

James

--



**NOTICE IN LOCAL NEWSPAPER**

**From:** Jana Grobbelaar [mailto:jana@find-it.co.za]

**Sent:** 08 March 2021 12:25 PM

**To:** Christine.havenga@firstplan.co.za

**Subject:** Re: FW: Frogfoot Heritage Impact Assessment for the deployment of a Fibre Network within certain areas in the Sol Plaatje Municipal Area: Notice in newspaper

Hallo Christine

Gedoen. Sien hier:

Frogfoot completed its heritage assessment for areas New Park, Carters Glen, Heuwelsig, Cassandra, Klisserville, South Ridge, Minerva Gardens, Belgravia, Verwoerd Park, Riviera and Diamond Park.

Please find the assessment at the link below.

Any person wishing to object or comment on heritage grounds to the application must make such comment/objection in writing to the address [christine.havenga@firstplan.co.za](mailto:christine.havenga@firstplan.co.za) before or on 7 April.

<https://find-it.co.za/2021/03/08/notice-for-public-participation-deployment-of-fibre-by-frogfoot-in-heritage-areas/>

Groete

Jana Grobbelaar | Redakteur

[jana@find-it.co.za](mailto:jana@find-it.co.za)

<http://www.find-it.co.za>

c. 0761633746





## **NOTICE TO LOCAL HERITAGE GROUP**

**From:** Christine.havenga@firstplan.co.za [mailto:christine.havenga@firstplan.co.za]

**Sent:** 08 March 2021 12:01 PM

**To:** alidamarisapps@gmail.com; jacomostert@gmail.com; jacomoster@gmail.com; 'David Morris'

**Cc:** 'Christine.havenga@firstplan.co.za'

**Subject:** Frogfoot Heritage Impact Assessment for the deployment of a Fibre Network within certain areas in the Sol Plaatje Municipal Area

Dear Sir/Madam

The intention of this e-mail is to notify you as being involved or being a member of the official local heritage group within the Sol Plaatje Municipal area about a Heritage Impact Assessment which has been prepared in terms of Section 34 and 38 of the National Heritage Resources Act, 1999 resulting from Frogfoot Network's deployment of a fibre network within certain areas within the municipal area of the Sol Plaatje Municipality, namely.

- **NEW PARK**
- **CATERS GLEN**
- **HEUWELSIG**
- **CASSANDRA**
- **KLISSER**
- **SOUTH RIDGE/MINERVA GARDENS**
- **BELGRAVIA**
- **VERWOERD PARK/RIVIERA/DIAMOND PARK**

Please see the attached notice in this regard which would be published in the local online *Find It* newspaper as well as on the website of the online Heritage Portal. I will also send a notice to representatives of the local ward councillors as well as the relevant officials at the Sol Plaatje Municipality (Engineering Department who deals with the Wayleave Approvals and also requested a public participation process).

Underneath is a We Transfer link to the document as it is too large to e-mail and the quality of the photographs and other images are very bad if I compress it further. Please note that it is only valid for a few days. You can then again request it from me if necessary.

<https://we.tl/t-0hEjtkxO4M>

Any comments on the document needs to be send to me at this e-mail address. Please note that the closing date for comments is 7 April 2021. The document with the comments and our response thereto would then be sent to the Northern Cape Heritage Authority for approval. Mr Ratha Timothy of the NCHA is aware of this public participation process.

I cannot find any contact details or name of the local heritage group on the internet and am working with names on the attendance list of a meeting with Frogfoot in September 2020. If you know about more representatives of the official heritage group please let me know and I would also notify them individually.

Kind regards

Christine



**Christine Havenga**

**Professional Planner and Heritage Practitioner**

Prof Reg no: A/945/1997

**Cell:** 073 195 1040

**Tel:** (021) 975 6266

**Fax:** (021) 957 1247

**Email:** christine.havenga@absamail.co.za

**From:** David Morris [<mailto:dmorriskby@gmail.com>]

**Sent:** 08 March 2021 01:40 PM

**To:** [Christine.havenga@firstplan.co.za](mailto:Christine.havenga@firstplan.co.za)

**Subject:** Re: Frogfoot Heritage Impact Assessment

Dear Christine,

Apologies for the delay in responding - I have lost a staff member and another has been on leave for a month, and working from home plus gearing up for the academic year I have been busier than ever!

\* The heritage organisation is The Historical Society of Kimberley and the Northern Cape (I thought I had mentioned this before). I am the contact person!

\* "Find it" is a newish online outfit, probably quite widely read. There is also the *Diamond Fields Advertiser* (DFA on Facebook - Independent newspapers) and *Noordkaap Bulletin* (netwerk24): they probably have wider readership.

\* Kimberley Public Library (CBD) may be open again - try 053 830 6242.

All the best  
David

Dr David Morris  
Head of Archaeology, McGregor Museum &  
Extraordinary Professor, School of Humanities, Sol Plaatje University, Kimberley,  
P.O. Box 316, Kimberley, 8300, South Africa.  
Mobile +27-(0)82-2224777; landline +27-(0)53-8392707 or 053-8328355 (h)

## **NOTICE TO LOCAL WARD COUNCILLORS**

**From:** Christine.havenga@firstplan.co.za [mailto:christine.havenga@firstplan.co.za]

**Sent:** 08 March 2021 11:38 AM

**To:** ofourie4@gmail.com; cngoma12@gmail.com; carolpearce1710@gmail.com; wezvanrooyen@gmail.com; george.joseph080559@gmail.com

**Cc:** 'Christine.havenga@firstplan.co.za'

**Subject:** Frogfoot Heritage Impact Assessment for the deployment of a Fibre Network within certain areas in the Sol Plaatje Municipal Area

Dear Sir/Madam

The intention of this e-mail is to notify you as a local ward councillor in one of the underneath areas about a Heritage Impact Assessment which has been prepared in terms of Section 34 and 38 of the National Heritage Resources Act, 1999 resulting from Frogfoot Network's deployment of a fibre network within certain areas within the municipal area of the Sol Plaatje Municipality, namely.

- **NEW PARK**
- **CATERS GLEN**
- **HEUWELSIG**
- **CASSANDRA**
- **KLISSER**
- **SOUTH RIDGE/MINERVA GARDENS**
- **BELGRAVIA**
- **VERWOERD PARK/RIVIERA/DIAMOND PARK**

Please see the attached notice in this regard which would be published in the local online *Find It* newspaper as well as on the website of the online Heritage Portal. I will also send a notice to representatives of the local heritage group as well as the relevant officials at the Sol Plaatje Municipality (Engineering Department who deals with the Wayleave Approvals and also requested a public participation process).

Underneath is a We Transfer link to the document as it is too large to e-mail and the quality of the photographs and other images are very bad if I compress it further. Please note that it is only valid for a few days. You can then again request it from me if necessary.

<https://we.tl/t-0hEjtkxO4M>

Any comments on the document needs to be send to me at this e-mail address. Please note that the closing date for comments is 7 April 2021. The document with the comments and our response thereto would then be sent to the Northern Cape Heritage Authority for approval. Mr Ratha Timothy of the NCHA is aware of this public participation process.

If you have any further queries, please do not hesitate to contact me. I am working with the on-line list of Councillors as it appears on the Municipality's website. If you see that I have missed somebody I would really appreciate it if you can please notify me. There is for instance not an e-mail address for Mr Hendrik Jacobus van der Berg the Ward Councillor for Rhodesdene, Hillcrest and Carters Glen.

Kind regards

Christine



## Christine Havenga

**Professional Planner and Heritage Practitioner**

Prof Reg no: A/945/1997

**Cell:** 073 195 1040

**Tel:** (021) 975 6266

**Fax:** (021) 957 1247

**Email:** christine.havenga@absamail.co.za



## **NOTICE TO OFFICIALS AT SOL PLAATJE MUNICIPALITY**

**From:** Christine.havenga@firstplan.co.za [mailto:christine.havenga@firstplan.co.za]

**Sent:** 08 March 2021 11:51 AM

**To:** mMKleinsmith@solplaatje.org.za; myburgh@solplaatje.org.za; MAbrahams@solplaatje.org.za; RBosman@solplaatje.org.za; Istevens@solplaatje.org.za; faysen@solplaatje.org.za; OGroenewaldt@solplaatje.org.za; NZwane@solplaatje.org.za

**Cc:** 'Trudi Steyn'; 'Fritz Boshoff'; 'Shawn van Heerden'; 'Michael Petersen'; 'Renier Meyer'; 'Ian Hendrikse'; 'Llewelyn Hofmeyr'; 'Christine.havenga@firstplan.co.za'

**Subject:** FW: Frogfoot Heritage Impact Assessment for the deployment of a Fibre Network within certain areas in the Sol Plaatje Municipal Area

Dear Sir/Madam

The intention of this e-mail is to notify you as an official regarding the public participation process for the Heritage Impact Assessment which has been prepared in terms of Section 34 and 38 of the National Heritage Resources Act, 1999 resulting from Frogfoot Network's deployment of a fibre network within certain areas within the municipal area of the Sol Plaatje Municipality, namely.

- **NEW PARK**
- **CATERS GLEN**
- **HEUWELSIG**
- **CASSANDRA**
- **KLISSER**
- **SOUTH RIDGE/MINERVA GARDENS**
- **BELGRAVIA**
- **VERWOERD PARK/RIVIERA/DIAMOND PARK**

Please see the attached notice in this regard which would be published in the local online *Find It* newspaper today as well as on the website of the online Heritage Portal. Notices have also been sent to representatives of the local heritage group as well as the relevant ward councillors for these areas.

Underneath is a We Transfer link to the document as it is too large to e-mail and the quality of the photographs and other images are very bad if I compress it further. Please note that it is only valid for a few days. You can then again request it from me if necessary.

<https://we.tl/t-0hEjtkxO4M>

Any comments on the document needs to be send to me at this e-mail address. Please note that the closing date for comments is 7 April 2021. The document with the comments and our response thereto would then be sent to the Northern Cape Heritage Authority for approval. Mr Ratha Timothy of the NCHA is aware of this public participation process.

If you have any further queries, please do not hesitate to contact me. If you see that I have missed one of the officials at the municipality, especially those dealing with the approval of Wayleave applications I would really appreciate it if you can please notify me.

Kind regards

Christine



## Christine Havenga

**Professional Planner and Heritage Practitioner**

Prof Reg no: A/945/1997

**Cell:** 073 195 1040

**Tel:** (021) 975 6266

**Fax:** (021) 957 1247

**Email:** christine.havenga@absamail.co.za

## **ANNEXURE 8**

### **COMMENTS RECEIVED DURING PUBLIC PARTICIPATION**

**From:** Jana Grobbelaar [mailto:jana@find-it.co.za]  
**Sent:** 06 April 2021 04:08 PM  
**To:** Christine.havenga@firstplan.co.za  
**Subject:** Comments on the deployment of fibre network within Sol Plaatje municipality

For attention: Christine Havenga

RE **Comments on the deployment of a fibre network by Frogfoot Networks within Sol Plaatje municipal area (As advertised on: <http://www.theheritageportal.co.za/>).**

The comments are made in reference to the invite that was published as per above.

The comments are as follow:

1. It is noted that in the advert it was stated that “Kindly note that objections or comments that are not made on heritage grounds will not be considered”. However, it is clearly stated in section 38(3) and 38 (4) of the NHRI that permission must first be obtained before any construction / or development may proceed. Frogfoot faulted on this clear legal instruction and to correct the situation acknowledged the breaking of law by removing the installed tar poles and fibre in certain areas within Kimberley;
2. Based on the above mentioned this HIA is flawed and biased to tar poles as extensive expenditure already occurred illegally in terms of the NHRI. The conclusion of the HIA is that the overhead infrastructure should remain with some mitigation proposals. This a clear admission of a total ignorance of the NHRI and section 51 of the Act should be initiated;
3. It must be noted that the illegal installation of tar poles and fibre network throughout the Sol Plaatje municipal area failed the NHRI process and it was not done in the spirit of the Act. The approval of the Sol Plaatje municipality without a Standard / or proper bylaw on the wayleave management system that caters for fibre trenching raises serious concerns. Section 1 (page 1) indicates that Sol Plaatje will not consider micro trenching as there is it is not allowed. The question arises as to how other municipalities have catered for it successfully by trenching. However, the HIA indicates that conventional trenching will be done in the protected areas, the question arises whether Sol Plaatje has a standard for this method? surely micro trenching will be more acceptable and the HIA should have highlighted this method as an alternative? The HIA might have come to a different conclusion if the municipality had a proper bylaw on wayleave management in place / or at least made some recommendations thereof as an alternative. It is also noted that various other service providers already made use of different trenching methods and in some cases the tar poles planted by Frogfoot had to be moved?
4. Frogfoot acknowledges that conventional trenching is more desired in the heritage areas but there are also serious risks regarding the older trees. The HIA should provide guidance on e.g micro trenching;

5. Page 3 – *“Recommendations were made to assist the heritage authority with their decision to allow the activities associated”* This resonates with the issues raised in paragraph 4 above – the HIA aims to justify the erection of the “illegal” tar poles, illegal in terms of the NHRI;
6. Page 5 - the statement of independence is acknowledged. However, it must be stressed that this HIA consider only one service provider (Frogfoot). If these illegal activities are condoned, then Kimberley will be at risk for other services providers to follow. Frogfoot will not share the tar poles and other tar poles will also be planted. The aesthetic impact of this was not considered;
7. Page 12 – *“The option of micro-trenching was also investigated and discussed with the Engineering Department of the Sol Plaatje Municipality. The municipality, however, confirmed that no micro trenching in the road reserve is allowed as the SANS 1200 Regulations (Standardised Specification for Civil Engineering Construction) do not make provision for it.”* It’s noted that other municipalities within South Africa allow various types of trenching and this statement needs to be reviewed; It is also stated that in certain areas conventional trenching will be done (Does Sol Plaatje have a standard for this method?). The argument that certain areas cannot be trenched due to soil conditions need to be investigated - the question arises as to how did other service providers install their services? Why did Frogfoot not proceed with conventional trenching throughout the project area and in accordance with the NHRI?
8. Page 15 – the justification of aerial is questioned as all the areas in Sol Plaatje have a variety of services trenched. The HIA should indicate what would be the most non-intrusive way of installing services e.g micro trenching;
9. Page 22 – Sol Plaatje Wayleave approval makes provision for conventional trenching. It is expected that time delays resulted in the installation of aerial networks. This seems as unfair practice towards other service providers that had to trench;
10. Page 24 – no reference to the approved 2008 Spatial development Framework?
11. Page 28 – *“Due to the scope of the study area and the nature of the project it was not possible to do a detailed heritage audit for all individual heritage resources within the study area which is the responsibility of the relevant heritage authorities”* – was this because of the specific appointment by Frogfoot?
12. Page 39 – *“Aerial fibre has already been installed in certain areas within these sectors”*. A clear breach of the NHRI. The use of tar poles and overhead lines cannot be condoned. This will pave the wave for competing service providers to do the same. The HIA is only considering one service provider and others will follow. This will result in “visual clutter” and will impact negatively on the character of any suburb / central business district;
13. Page 49 – on mitigation proposals – Tree / bush cutting guidelines will not assist. The trees in Sol Plaatje need to be protected as the City is situated in an arid region and trees play a vital role. The “deforming” of especially mature/ historic protected trees is not acceptable. The question on future maintenance can also be raised. Is micro trenching not an acceptable mitigation method?
14. Page 52 – *“Aerial fibre has already been installed in certain areas within these sectors”* acknowledgement of breach of NHRI.
15. The mitigation measures for the erection of the poles by Frogfoot does not address security to properties as most of the poles are erected 30 cm from erf fences;



16. Page 68 – “cover the areas where aerial fibre is proposed” and “Frogfoot Networks decided to not go ahead with aerial fibre deployment within Belgravia, Memorial Road area and Klisserville” – did Frogfoot act on behalf of the NHRI? Is it the intention of Frogfoot to dictate the Act and its decision-making structures?
17. Page 70 – the visual survey is biased towards Frogfoot infrastructure. What will the impact be of 5 or 10 additional service providers installing an aerial network?
18. Page 72 - “Although heritage resources within these areas will be identified as part of the HIA study it was, due to the scope of the study area, not possible to provide detailed descriptions regarding the heritage significance of individual heritage resources” – limitation as the appointment of the HIA was done by Frogfoot and the scope of work was limited;
19. Page 94 - The visual impact was only considered in a few areas throughout the City. If the overhead construction of infrastructure is approved there is no stop for the roll out of infrastructure on a bigger scale. The visual impact on a City-wide scale would require a broader study to be undertaken. The “older” existing infrastructure was ad hoc and cannot be compared with the scale of roll-out of this project or similar future projects.

General:

- Although it was indicated in the advert that only comments on heritage grounds will be considered it is expected that the full content with the Heritage Practitioner responses to all the comments will accompany the application in order to inform decision making;
- It must be noted that the installation of fibre networks and healthy competition between optic fibre service providers are supported which are installed in accordance with a proper wayleave management system and the NHRI requirements in Sol Plaatje. The municipality need to adopt a proper wayleave management system and draft a standard to guide this (other local municipalities in South Africa have done it successfully). The HIA should make a recommendation on this.
- Frogfoot is in breach of the NHRI and by the completion of this HIA acknowledges an unfair advantage on an already installed overhead network. Currently already marketing and selling contracts on illegal infrastructure.

Kind regards

Jana Grobbelaar  
Resident

c. 0761633746

**From:** Johan Harmse [mailto:johanharmse2019@gmail.com]  
**Sent:** 06 April 2021 03:02 PM  
**To:** christine.havenga@firstplan.co.za  
**Subject:** OBJECTION-THE DEPLOYMENT OF FIBRE NETWORKS

To whom it may concern

During the end of 2020 at the request of the Sol Plaatje Mayor a meeting was held at Sol Plaatje Municipality. I attended the meeting along with three other persons residing in the heritage area. Sol Plaatje was represented by the Mayor, Municipal Manager, Speaker and various other Executive Heads of Departments and Frogfoot had representatives in attendance.

I wish to highlight two important issues that were raised and dealt with during the meeting.

I posed the question to the Frogfoot and Sol Plaatje representatives whether other potential service suppliers would be able to use the poles planted by Frogfoot. The answer was that only Frogfoot cables would be allowed on the poles. The implications of this are far reaching as it would mean that every future service supplier would have to plant their own poles, resulting in a multitude of poles on our sidewalks or that no other service suppliers will be allowed to enter into the market. The first option from a heritage area perspective is clearly completely unacceptable and the second option would result in the residents of Kimberley being saddled with only one service supplier for the foreseeable future. I raise this issue because it is the duty of the person assessing the impact on the heritage area to consider all the ramifications of the proposed activities of Frogfoot in the future. Frogfoot and Sol Plaatje have, by admitting that no other service suppliers will be allowed to place their cables on Frogfoot's poles, given clear indication that other service suppliers will have to plant their own poles. The person assessing the heritage impact assessment can therefore not only look at the poles of Frogfoot but must consider the impact of numerous other service suppliers planting poles on the sidewalks, because this is exactly what will happen if Frogfoot is allowed to continue. It is evident that this has not been done and therefore the assessment is flawed.

During the meeting mentioned above Frogfoot stated that they preferred the method of micro-trenching instead of planting poles. All the parties agreed that micro-trenching would resolve the concerns of all the parties. The Mayor and Municipal Manager proposed that a Standard Operating Procedure (SOP) be compiled by one of the acting heads of department for micro-trenching and that this SOP will be presented for approval to the appropriate decision making body after which Frogfoot would conduct micro trenching. It is not clear from the assessment why Sol Plaatje has decided not to pursue micro-trenching after undertaking to do so. The statement is made in the assessment document that micro-trenching was not considered because it was not allowed. The reason why it was not allowed according to Sol Plaatje was that no SOP was in place, something the Mayor and his team undertook to remedy. The premise of the assessment that micro-trenching is not possible and therefore the only other option is poles, is clearly incorrect. I am convinced that the conclusion of the assessment would be materially different if micro-trenching was a possibility.

It is my opinion that all relevant factors were not considered in assessing the impact of poles planted on our sidewalks.

Regards  
Johan Harmse

**From:** Gerhard de Bruin [mailto:gdebruin97@gmail.com]  
**Sent:** 06 April 2021 02:15 PM  
**To:** christine.havenga@firstplan.co.za  
**Subject:** Comments on the deployment of fibre network within Sol Plaatje municipality

For attention: Christine Havenga

RE **Comments on the deployment of a fibre network by Frogfoot Networks within Sol Plaatje municipal area (As advertised on: <http://www.theheritageportal.co.za/>).**

The comments are made in reference to the invite that was published as per above.

The comments are as follow:

1. It is noted that in the advert it was stated that “Kindly note that objections or comments that are not made on heritage grounds will not be considered”. However, it is clearly stated in section 38(3) and 38 (4) of the NHRI that permission must first be obtained before any construction / or development may proceed. Frogfoot faulted on this clear legal instruction and to correct the situation acknowledged the breaking of law by removing the installed tar poles and fibre in certain areas within Kimberley;
2. Based on the above mentioned this HIA is flawed and biased to tar poles as extensive expenditure already occurred illegally in terms of the NHRI. The conclusion of the HIA is that the overhead infrastructure should remain with some mitigation proposals. This a clear admission of a total ignorance of the NHRI and section 51 of the Act should be initiated;
3. It must be noted that the illegal installation of tar poles and fibre network throughout the Sol Plaatje municipal area failed the NHRI process and it was not done in the spirit of the Act. The approval of the Sol Plaatje municipality without a Standard / or proper bylaw on the wayleave management system that caters for fibre trenching raises serious concerns. Section 1 (page 1) indicates that Sol Plaatje will not consider micro trenching as there is it is not allowed. The question arises as to how other municipalities have catered for it successfully by trenching. However, the HIA indicates that conventional trenching will be done in the protected areas, the question arises whether Sol Plaatje has a standard for this method? surely micro trenching will be more acceptable and the HIA should have highlighted this method as an alternative? The HIA might have come to a different conclusion if the municipality had a proper bylaw on wayleave management in place / or at least made some recommendations thereof as an alternative. It is also noted that various other service providers already made use of different trenching methods and in some cases the tar poles planted by Frogfoot had to be moved?
4. Frogfoot acknowledges that conventional trenching is more desired in the heritage areas but there are also serious risks regarding the older trees. The HIA should provide guidance on e.g micro trenching;

5. Page 3 – *“Recommendations were made to assist the heritage authority with their decision to allow the activities associated”* This resonates with the issues raised in paragraph 4 above – the HIA aims to justify the erection of the “illegal” tar poles, illegal in terms of the NHRI;
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General:

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- It must be noted that the installation of fibre networks and healthy competition between optic fibre service providers are supported which are installed in accordance with a proper wayleave management system and the NHRI requirements in Sol Plaatje. The municipality need to adopt a proper wayleave management system and draft a standard to guide this (other local municipalities in South Africa have done it successfully). The HIA should make a recommendation on this.
- Frogfoot is in breach of the NHRI and by the completion of this HIA acknowledges an unfair advantage on an already installed overhead network. Currently already marketing and selling contracts on illegal infrastructure.

If clarity is needed on the comments provided please do not hesitate to contact me.

Regards

Gerhard de Bruin

082 8276264

**From:** Jaco Mostert [mailto:jac.mostert@gmail.com]  
**Sent:** 08 March 2021 06:22 PM  
**To:** Christine.havenga@firstplan.co.za  
**Subject:** Frogfoot Kimberley Heritage Assessment

I hereby object to large portions of the report that was presented as the heritage site assessment for Frogfoot operations in Kimberley.

I will address certain points in the presented study and request feedback on these problems.

(ii) "it was not possible to identify individual heritage resources due to the scope of the area"

Comment: This is unacceptable. Nowhere in the National Heritage Resources Act 25 1999 is scale listed as an exclusion criteria. This decision is wrong and illegal. The same laws laid out in the act applies to all the areas as described by the act.

(ii) "The wayleave does not mention micro trenching and this is thus not considered"

- 1) The wayleave has expired and a new wayleave has to be applied for in any case
- 2) The previous wayleave was obtained in an illegal sense so is per definition null and void
  - no public participation process was followed
  - no heritage study was done as is required
  - the needed ecological studies that are required were not done

This paragraph in the report is indicative of a backdoor the company is trying to use to normalise the illegal operations it was already partaking in. This paragraph is not accepted,

(iii) "Fibre deployment by means of conventional trenching is thus considered the more desired option in these areas. As the mature trees in this area are also considered an important heritage resource"

1) By who is this considered a more desired option? Micro trenching does less damage to infrastructure and trees and would be the more desired option.

(iii) These mature trees and tree lanes assist to a great extent to conceal/absorb the impact of aerial fibre infrastructure (wooden poles and cables).

1) This statement damns itself. Frogfoot said in the public indaba that these are the very trees that will be cut down/damages as to not interfere with aerial fibre. Frogfoot had even engaged with the municipality in terms of staff to specifically damage these trees to safeguard their operations.

The study failed to investigate trees with special historical significance (for example trees that were planted and maintained by key historical figures such as Cecil John Rhodes).

**This problem has to be taken into conjunction with** National Forests Act 1998 (Act No. 84 OF 1998) : Such protected trees may not be "...cut, disturbed or damaged and their products may not be possessed, sold or transported without a licence..."

Many trees in Kimberley carry a combined status as Historical and Champion.

Frogfoot is clearly not aware of either of these groups as it has already damaged Champion and Historical trees.

An example is Belgravia: the area was developed in the 1880s - many of the old trees in this area were planted in that era; especially by famous people in the diamond rush.

The referred Act further states:

"Both indigenous and non-indigenous trees are eligible.

Certain non-indigenous trees have strong cultural and historical links to South African heritage. "

This act thus includes trees of historical value which should have been listed in a heritage study.

(1) Again referred to the wayleave granted 30 January 2020. This wayleave has expired and was obtained through illegal means so cannot be used as a point of leverage,

(3) "Two Notices of Intent to Develop (NID) in terms of Section 38(1) of the NHRA were submitted to the Northern Cape Heritage Resources

Authority on 1 October 2020 (for Sectors 1, 2, 3, 4, 7, 8 and 9) and 15 January 2021 (Sector 10)"

The work and damage thus far done was illegal as this study did not accompany the original application. The application for

wayleave was thus illegal and should be reapplied for, following standard legal channels with participation from public. The previously applied for and granted wayleave cannot be taken into consideration for any debate.

(4) "It should be noted that no alterations would be made to the historical curb stones."

Irreparable damage was already done during their first attempt.

(7) "All individual heritage resources within the study area could not be surveyed in its entirety due to the scale of the study."

The act does not list this as an exclusion criteria. If the committee could not fully conclude its work due to time constraints the ethical decision would be to lengthen the study or appoint extra practitioners.

(12) "The option of micro-trenching was also investigated and discussed with the Engineering Department of the Sol Plaatje Municipality."

This is an incomplete statement. As residents we want to see the full report and who authorised the findings.

(15) "An assessment of the soil conditions, e.g. if a terrain is very rocky and accordingly difficult to trench."

This assessment was done with no independent professional opinion. Frogfoot made a statement that they cannot trench due to the rocky conditions, the largest manmade hole in the world is here, homeowners have been able to dig.

For this statement to be considered I would need:

- 1) Independent assessment
- 2) Processes and scales used for independent assessment

The fact is ground here can be trenched; they opt not to do this as poles are cheaper and faster for them.

(19) "Without limiting the generality of subsections (1) and (2), a place or object is to be considered part of the national estate if it has cultural significance or other special value because of—

(a) its importance in the community, or pattern of South Africa's history;"

Public participation was not done by Frogfoot; this can thus not be commented on.

(23) *Inclusive Growth*: To harness urban dynamism for inclusive, sustainable economic growth and development.

This was clearly not adhered to as the fibre is only installed in areas that would exclude the largest part of the black population of Kimberley

(23) *Good Governance*: To enhance the capacity of the state and its citizens to work together to achieve spatial and social integration.

No public participation or notification done by Sol Plaatjie municipality; they refused to respond to over 20 emails I had sent to them with regards to the project. This principle was not adhered to.

(48) "place poles so that it can be absorbed by mature trees, put poles on erf corners not directly in front of dwelling houses or other structures."

Frogfoot has already demonstrated by

1) cutting of trees

2) negotiating with municipality for tree cutters

that the plan is to cut the trees in between the aerial fibres. Many residents are upset how their trees were already damaged. The damaged trees include protected species and historically significant species.



As a community member I do not consent to this suggestion.

(50) "erect poles on erf boundaries and not directly in front of dwelling houses or other structures."

This is equally as intrusive from a visual perspective.

(55) "streets abutting the railway line is characterised several pole like structures, e.g. overhead electric lines, high mast lightning and overhead telephone poles."

Adding more poles to this will give a very large population of poles and dramatically worsen the aesthetics.

(64) "is recommended that an alternative type of pole is used at intersections, as"

The area mentioned has large uncovered sidewalks. Trenches can be dug here with minimal interruption for pedestrians.

(72) "were identified as potential visual receptors,"

This fails to mention tourism which is a big economic contributor in Kimberley,.

(75) "Existing poles have in general been positioned on erf boundaries which contribute to lessening the visual impact thereof on individual buildings and the streetscape. Consultation in this regard took place with land owners to ensure that the position of these poles is in general acceptable to them."

This is not true. Provide evidence for this statement. I just got back from work one day to find my trees destroyed and poles erected in front of my house (not even on erf boundaries as they state). My experience was the norm from several meetings we had with residents. In my case when I complained Frogfoot refused to cooperate until I took out the illegal infrastructure myself.

I want to hear a professional opinion on what the poles would do to valuation of houses.

(87) "The wooden poles can, however, be considered to be a type of "rural" element and is thus not considered to be totally out of character with this urban landscape."

It should be added in the report that this is definitely not consensus.

It should also be noted whether these residents want rural elements in their area.

(94) "argument is often made is that it is necessary to make some sacrifices for the economic advantages"

This argument fails to acknowledge that other companies have done trenching successfully in Kimberley, You make the mistake of a dichotomous argument when there is proof of other options by other companies.

(97) "These mature trees and tree lanes assist to a great extent to conceal/absorb the impact of aerial fibre infrastructure (wooden poles and cables)."

I do not agree with this statement.

We have a history of Frogfoot damaging our mature trees when they have gone this route and they do have the intention, as previously stated, to damage these trees further,

I do not support this option.

Comments on Frogfoot report

6.3.10 Any uprooting of trees, brush or shrubs will require consent in writing from the property owner.

=> This has never happened with their previous attempts

6.3.11 No trench shall be left open overnight unless suitably demarcated, signage displayed, and arrangements are made with the client and residents.

=> they have failed to this in multiple areas in Kimberley where weeks were the norm for trenches to be left open

Conclusion:

This study ordered in rush by Frogfoot after their illegal actions does not address the issues the community has. They have failed to take into consideration our trees, aesthetics, house values, personal choices, safety, heritage or any other matter as no consultation process was done.

The majority of residents do now want any poles from Frogfoot and we never gave permission for these abominations to be erected in our neighbourhoods.

The preferred method from my community consultation process is microtrenching,

Frogfoot has a pungent reputation in this town and is colloquially referred to as Vrotvoet (rotten foot) by residents due to their poor communication with residents, destruction of residents property, destruction of essential services such as water pipes and electricity lines and flimsy attempts to cover these up (some of the examples I have seen is pipes being destroyed with a few rocks and sand placed on top to cover it up leading to community members having to arrange to have it fixed), lies and threats to residents.

Frogfoot's wayleave that they verbigerate on is illegal for reasons given previously in the writing. Any respectful company would re apply for a legal wayleave with the normal channels a company would take.

Disgruntled resident,

Dr J Mostert

Belgravia

**From:** Tom Seaward [mailto:boje3160@gmail.com]  
**Sent:** 08 March 2021 05:44 PM  
**To:** christine.havenga@firstplan.co.za  
**Subject:** Fibre

Good day

I stay at 7 Pratley street Klisserville and have no objection to what ever way you choose to deploy fibre. As long as we can get it.

In Klisserville most houses have lanes at the back of the properties and in our case there is a lane that services Pratley, Soloman, part of Central and Du Toitspan road. Our one is accessible to all residents and no area is closed off. Could the fibre not be deployed in the lane by trench or airial

Thanks

Tom Seaward  
Boje IPad

## **ANNEXURE 9**

### **RESPONSE TO COMMENTS**





For Attention: Ms Natasha Higgitt  
South African Heritage Resources Agency  
111 Harrington Street  
Cape Town

Date: 3 May 2021

Dear Madam

**HERITAGE IMPACT ASSESSMENT (HIA) FOR DEPLOYMENT OF A FIBRE NETWORK WITHIN THE SOL PLAATJE MUNICIPAL AREA BY FROGFOOT NETWORKS**

**COMMENTS AND RESPONSE REPORT: RESPONSE TO HIA PUBLIC PARTICIPATION PROCESS**

1. This Heritage Impact Assessment has been discussed with Ms Natasha Higgitt of the South African Heritage Resources Agency. Please see the attached **E-mail correspondence, Annexure A**. Frogfoot Networks started with the deployment of a fibre network within certain areas in the Sol Plaatje Municipal Area in 2020. The deployment is done by means of a

Deployment of a fibre network system within certain areas within the Sol Plaatje Municipal Area

combination of conventional trenching on the sidewalks (verges) of roads or by means of aerial fibre (tar poles and overhead cables) in certain areas.

A few residents complained to the Northern Cape Heritage Authority about specifically the deployment of aerial fibre within some of the declared conservations areas. Frogfoot Networks then received a letter from the Northern Cape Heritage Authority on 6 July 2020, stating that they need to submit a Notice of Intent to Develop to them as the activities associated with the deployment of the fibre network trigger the following listed activities in Section 38 of the National Heritage Resources Act, 1999.

Section 38(1)(a): *The construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;*

Section 38(1)(c): *Any development or other activity which will change the character of a site—  
(i) exceeding 5 000 m<sup>2</sup> in extent.*

Frogfoot Networks then appointed our firm, Christine Havenga & Associates to submit a NID to the Northern Cape Heritage Authority. We liaised with the relevant officials of this authority and they indicated that the NID needs to be submitted to Mr Ratha Andrew Timothy of their office. A NID was submitted to them on 1 October 2020 for Sectors 1, 2, 3, 4, 7, 8 and 9 (please see locality plans in the HIA). A response to this NID was received on 13 November 2020. It was indicated that a Heritage Impact Assessment needs to be submitted addressing all areas older than 60 years within the sectors where Frogfoot Networks would deploy fibre within the Sol Plaatje Municipal area. Underneath is the response received and the further heritage studies required:

- *NHCRA will require further studies in areas protected under Section 34 of the National Heritage Resources Act.*

- *A visual impact study, cultural landscape as well as mapping of heritage resources, particularly the historic structures, to inform contextual impacts.*
- *Since there is reason to believe that heritage resources, especially of local significance, will be impacted upon, NCHRA required a Heritage Impact Assessment in terms of Section 38(3) of the NHRA assessing the impacts of the development on the heritage resources which it has identified; visual impact, cultural landscape and historic structures.*
- *A HIA is required consisting of Visual Impact Assessment, a Cultural Landscape Study (the essential character of an area) and a Built Environment study consisting of mapping the historic structures in the affected area as well as any other historic resources.*
- *Application to fell, lop or radically prune a tree in a heritage area, or in the vicinity of a historic building or area which deemed to have historic value should be submitted to the Northern Cape Heritage Resources Authority. The authority can advise on significant trees even outside of the heritage area. Trees affected by such applications are assessed on the basis of their impact on the landscape species, size, health, vitality and cultural significance.*
- *The results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources in the affected area.*
- *Decisions on conventional or micro trenching within the road reserve on evidence of any significant archaeological material in the area must be made by the South African Heritage Resources Agency (SAHRA).*

A second NID was submitted as Frogfoot Networks decided to expand the footprint of the area of deployment to also include some further areas within the Sol Plaatje Municipal Area. A response to the second NID for Sector 10 was received on 5 March 2021 with similar requirements to the first NID.

2. A Heritage Impact Assessment was hence done in accordance with these requirements and a public participation process was followed for the period 7 March 2021 till 7 April 2021 involving the following processes:
  - A notice in a local newspaper “*Find It*” which provided an on-link for people to access the document during the public participation process.
  - A notice on the heritage portal which which also provided an on-link for people to access the document during the public participation process.
  - Notification to the Northern Cape Heritage Authority
  - The relevant officials of the Sol Plaatje Municipality were informed via an e-mail.
  - Local Ward Councillors for the different sectors where fibre deployment were informed via an e-mail.
  - The local Kimberley Heritage Group (David Morris) was informed via an e-mail
3. When contacting Ms Nattasha Higgit of SAHRA to confirm their involvement with the HIA process and uploading the document on SAHRIS, we were informed that the Northern Cape Heritage Authority does not have the authority to deal with

Section 38 applications. She then liaised with SAHRA's legal advisor and it was indicated in an e-mail dated 16 March 2021 that:

- *Once the Public Participation Process (PPP) has been completed, all documents regarding the application to SAHRA should be uploaded via SAHRIS including a Comments and Response Report with the results of the PPP;*
  - *SAHRA will provide comments on the application and co-ordinate comments from the NCPHRA regarding the assessment of the significance and impact assessment to Section 34 resources, including the recommended mitigation measures for these heritage resources;*
  - *An Integrated comment from SAHRA and NCPHRA will be issued for the development; and*
  - *SAHRA will inform the PHRA of the way forward for this application.*
4. A total of 5 valid comments were received resulting from the public participation process of the HIA.

One letter of support was received and four letters of objection of which two are similar in contents.

Due to the long periods it took to obtain any responses from the Northern Cape Heritage Authority Frogfoot's Wayleave Approvals obtained from the municipality to do work in the road reserves (sidewalks/verges) have since lapsed. A new application has since been submitted and Frogfoot Networks have had several meetings with the Engineering Department of the Sol Plaatje Municipality in this regard. This Department has requested a public participation process for the Wayleave Approval application. They agreed that the public participation process for the HIA can serve this purpose. Some supporting



comments were received for the Wayleave Approval process, but these comments cannot strictly be considered as comments on the formal HIA notifications.

The responses received will be addressed in paragraph 5 underneath and this response also forms part of **Section 10** of the HIA.

## **5. Response to comments**

The objections/comments (4 e-mails) received during the public participation process of the HIA are attached as part of **Annexure 8** and can be summarised as follows:

### **5.1 Expired Wayleaves Approval**

- Wayleaves have expired and have been unlawfully obtained
- No public participation process during wayleave approval process

#### **Response**

Although not directly related to the heritage process, the nature of the Wayleave Approvals does determine the manner in which the fibre is allowed to be deployed within the road reserves of the municipal area.

The application for Wayleave Approvals to the Engineering Department of the Sol Plaatje Municipality to enable Frogfoot Networks to do work in the road reserves (sidewalks/verges) has been submitted in the normal manner and there were no unlawful processes. The municipality did not require any heritage approvals for their initial approval of the wayleaves.

As indicated above, due to the long periods it took to obtain any responses from the Northern Cape Heritage Authority, Frogfoot's Wayleave Approvals obtained from the municipality have since lapsed. A new application has since been submitted and Frogfoot Networks have had several meetings with the Engineering Department of the Sol Plaatje Municipality in this regard. This Department has requested a public participation process for the Wayleave Approval application. They agreed that the public participation process for the HIA can serve this purpose.

There is no national standard for the Wayleave Approval process at municipalities and each municipality has its own requirements. A public participation process is not normally required for Wayleave Approvals, but some municipalities By-Laws allows for it to be requested. There is no such requirement in the relevant By-Laws of the Sol Plaatje Municipal Area.

## **5.2 Micro-trenching should be the preferred option of fibre deployment**

- Micro-trenching should be the preferred option
- Frogfoot should pursue this with the municipality
- HIA should recommend micro-trenching

### **Response**

Micro-trenching would be the most desirable option to deploy fibre to lessen the impact on any heritage resources within the Sol Plaatje Municipal Area and is stated as such in the HIA.

Micro-trenching is a fibre-laying technique that uses specialised machines to cut a narrow and shallow trench into a road's surface, alongside the pavement where the curb and the tarmac meet, rather than traditional fibre laying techniques which require much larger trenches to be dug.

The benefits of micro-trenching are:

- Less disruption of roads and sidewalks
- Faster deployment
- More cost effective trenching

This is also the preferred method of implementation for Frogfoot and they have used it in other municipalities as can be seen on their website. (<https://www.frogfootfibre.com/frogfoot/myaccount/home/news/post.jsp?postId=12>) This method of trenching is used extensively in Europe and the USA, but has yet to become widely accepted by municipalities here in SA. Frogfoot is in the process of setting up a Proof of Concept projects with both Tshwane and Cape Town municipalities.

Frogfoot Networks, however, had several discussions in this regard with the Sol Plaatje Municipality's Engineering Department and they are not willing to support micro-trenching as they are of the opinion that it would pose a threat to the structural integrity of their roads. The issue was again discussed with them as a result of these comments and the following

e-mail, dated 29 April 2021, was sent to Renier Meyer of Frogfoot Networks by Moghamad Abrahams of the Directorate Roads and Stormwater of the municipality:

*“There is currently no National Standard for the provision of micro trenching currently in existence (in compliance with the Standards Act). The only current standard for the provision of telecom ducting is SANS 1200LC, which makes provision for conventional trenching methods. The methodology employed in micro trenching is a machined one which rely on scanning technology which has serious limitation when dealing with older services which tend to have densities beyond the parameters of such devices (scanners). As the Sol Plaatje Municipality we are constantly exposed to these devices and thus, we are in a position to comment on the effectiveness of these devises. Currently, there is a place for these scanners. However, when using these scanners as a means of foresight for a blind mechanised method it would present an infinite risk to our infrastructure.”* (Please see **Annexure 10** of the HIA for a copy of this e-mail.)

Although micro-trenching would have been the preferred method of deployment from a heritage perspective, it is a municipal council prerogative to allow micro-trenching or not and some municipalities allow it while other refuse it such as in this case.

### **5.3 The necessary heritage and environmental processes were not followed before construction started**

As indicated earlier, certain of the activities associated with the allowed manner of deployment of the fibre network system within the Sol Plaatje Municipal Area are subject to Sections 34 and 38 of the National Heritage Resources Act (Act 25 of 1999) (NHRA). As soon as Frogfoot Networks has been notified regarding the required heritage processes, they appointed heritage consultants to assist them with the required processes as set out in the Act as explained in paragraph 1 of this letter. They stopped work and also removed the aerial fibre from the declared conservation areas.

#### 5.4 Harm to trees during the deployment of aerial fibre

- Champion trees need to be identified
- Trees have been harmed
- Frogfoot negotiated with the municipality for tree cutters
- Local residents have not been involved in the pruning of trees as prescribed in tree protocol of Frogfoot

#### **Response**

The importance of the heritage significance of individual trees and tree lanes on the sidewalks within the Sol Plaatje Municipal Area, and specifically within the declared heritage areas such as Belgravia and the Memorial Road area, but also as an important streetscape component elsewhere in the city, is clearly described and acknowledged in the HIA. Most of these trees are mature old trees and some of the trees within the historical areas are associated with historic figures who lived in these areas in the past, hence several of them being considered as “champion trees”. For this reason, a landscape architect was involved to provide an expert input for the HIA and developed a tree protocol (*Tree Protection Guideline for Construction, Excavation & Trenching for Aerial And Underground Fibre Optic Cabling, attached as Annexure 5 to HIA*) to limit any damage to these “champion trees” as well as trees in general within the study area.

Frogfoot Networks also amended their *Draft FTTH Aerial Line Cable Specifications*, attached as Annexure to the HIA, to reflect the recommendations in the tree protocol prepared for the HIA.



It is considered unfortunate if some of these trees have been harmed by the activities of Frogfoot Networks during the deployment of fibre earlier. It appears if there is much more sensitivity in this regard and more interaction with individual land owners and it should be noted that only four (4) people complained about harm to some trees within the study area.

As these trees are located on municipal land, Frogfoot Networks were not allowed to prune any of these trees or appoint their own contractors. In terms of their Wayleave Approvals the municipality provided them with municipal contracted tree pruners/cutters whom they were required to use. Pruning was thus done by these municipal contractors. These contractors have been sensitised about the tree protocols and it would be recommended that some training be done with them regarding the requirements of the tree protocols.

## **5.5 Damage to curb stones in historical areas**

- The objectors claim that the trenching causes some damage to curb stones in the historical areas.

### **Response**

It is not clear where this damage was done as no proof in this regard was submitted. It is a specific requirement of the HIA that these curb stones should be protected. Frogfoot Networks indicated that no trenching was yet done in the declared conservation areas where these curb stones are found – fibre has been deployed by means of aerial fibre in these areas which has since been removed and all work in these areas has stopped pending the outcome of the HIA.

As stated in the HIA, none of the historical curb stones (older than 60 years) will be removed during the conventional trenching activities. Where road cuts are done, the contractors should tunnel/trench underneath these curb stones.

## 5.6 Trenches being left open for long times

- It has been claimed that trenches have been left open for long periods of time.

### **Response**

Although this issue are not related to the HIA as such, Frogfoot Networks have certain protocols with regard to closing up trenches. The general rule is that in normal circumstances the maximum period for it to be not enclosed is five (5) days and on private driveways no longer than half a day. These trenches should also be securely barricaded for public safety reasons.

In some exceptional circumstances, e.g. where they hit rock, it would take longer to enclose these trenches as it sometimes needs to be filled with concrete which first need to set before the trench can be enclosed.

## 5.7 Need geological proof why it is difficult to trench in Sol Plaatje Municipal Area

- The objectors require geological proof why is is difficult to trench within the Sol Plaatje municipal area as various other companies have been able to do it while deploying some type of underground services.

### **Response**

The geological conditions depend on the specific area within the municipal area. For example, dolomite deposits are found in the areas adjacent to the CBD which makes trenching difficult – these are the areas where Frogfoot Networks will deploy

most of their fibre network. In some of the other areas within the City this is not the case, e.g. the areas where some other contractors of e.g. Vodacom is trenching at the moment.

## 5.8 Trenching should be done on street corners

- The objectors pointed out the negative visual impact of aerial fibre structures on street corners.

### **Response**

The negative visual impact of the poles associated with the aerial fibre has on street corners/intersection has been clearly pointed out in the HIA and certain mitigating measures have been proposed. There are, however, some practical implications which need to be considered, e.g. the structural integrity of the structures. Other options such as for example the use of stay wires have been investigated by Frogfoot, but these wires would not be clearly visible in the evening which can have some safety implications for pedestrians. . Frogfoot Networks will have to address this issue in accordance with the heritage indicators in the HIA.

The HIA recommends the following mitigating measures in Chapter 11 with regard to the positioning of the poles on the street corners/intersections:

*“It is recommended that an alternative type of pole is used at intersections, which does not require bracing and multiple poles. A stronger steel structure with a single base / anchor point should be investigated. The actual visual bulk of the structure must be reduced and if possible two poles placed at the corners of the splays rather than a single one placed within the splay should be considered. The structures on the corners cannot be hidden and thus require greater aesthetic*

*consideration. The poles should be in lighter shades and neutral colours that blend better with the general background. The aim is to reduce the visual clutter and physical barriers presented by the multiple timber poles on the street corners.”*

It should be noted that no aerial fibre would be allowed within the conservations areas. No objections were received from any residents within the areas where aerial fibre has already been deployed.

## **5.9 Cumulative impact**

- The HIA only addresses the study area and concern was expressed regarding the possible cumulative impact should other companies also decide to use aerial fibre to deploy their fibre networks.

### **Response**

Should any other company decide to deploy aerial fibre within the Sectors where it is proposed by Frogfoot Networks or within other areas the same processes need to be followed in terms of the NHRA and should it be considered necessary further streetscape and visual impact assessments will have to be done to determine the impact and desirability thereof. It is, however, highly unlikely that another fibre network company would deploy fibre within the same area as another company as this would not be a financially feasible option for them.

## **5.10 Poles near erf boundaries cause a security risk**

- One of the objectors claim that the poles being erected very close to their erf boundaries would pose a security risk to them.

**Response**

The poles in the area where this objector is residing have all been removed and there would be no aerial fibre. It is not precisely clear why these poles would cause a security risk to land owners. Notwithstanding, all poles close to erf boundary walls elsewhere have been removed and would be at least a metre to a metre and a half away from it. The optimal position of the poles is discussed with individual land owners. It should, however, be noted that the position of the poles are also determined by where the municipal services are located within the road reserve (sidewalk) and there are often no other options available. In this regard it should also be noted that only one objection in this regard has been received.

**5.11 Fibre to be deployed in limited areas**

- It was stated that although it is claimed that the deployment of fibre would have economic advantages for the City, this would not be available to everybody as fibre would be deployed within limited areas.

**Response**

Fibre is generally deployed in areas where residents are interested to connect to it and there needs to be a return in investment for the specific fibre firm. Should there be interest in other areas, the fibre network would be expanded to include these areas.



### 5.12 Using of lanes behind dwelling houses

- The option of using some existing lanes behind dwelling houses in some of the residential areas should be considered as aerial fibre would have less of a visual impact in these lanes.

#### **Response**

This option was investigated. These lanes belong to either the municipality or Telkom and it is a very difficult and time consuming process to lease public lanes for the purpose of deploying fibre. Many portions of these lanes have been subdivided and consolidated with the adjacent residential erven and are thus now private property where it would not be possible to deploy fibre. Access to the lanes in certain areas are also not possible as a result hereof.

### 5.13 No reference to the approved 2008 Spatial Development Framework

- It is stated that the HIA does not refer to the approved 2008 Spatial Development Framework

#### **Response**

The 2008 SDF was studied. The HIA, however, refers to the Sol Plaatje Local Municipality Draft Spatial Development Framework 2018-2023 as this document addresses conservation and heritage resources in the municipal area in much more detail than the 2008 document and was thus considered more relevant for the purposes of this study.

#### **10.14 The study did not identify all the individual heritage resources within the study area**

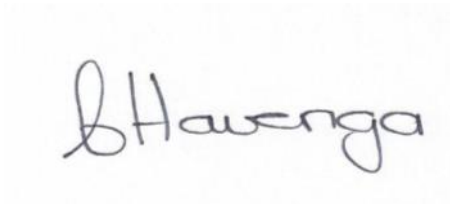
It was indicated that Frogfoot Networks should have expanded the scope of the study so that all individual heritage resources within the municipal area could have been identified.

##### **Response**

As indicated in the HIA, it was due to the extent of the study area not possible to determine the heritage significance of all individual heritage (e.g. for the individual buildings older than 60 years) resources in the area. It is the responsibility of the relevant heritage authority to do a detailed heritage audit of the municipal area and prepare a heritage register. The main heritage resources which would be impacted on by the activities of the fibre deployment have been identified, mapped and described in the HIA.

6. The relevant committee of SAHRA is hereby requested to consider this HIA for approval and to inform the Northern Cape Heritage Authority in this regard so that they can also issue the necessary Section 34 permits. Should you require any further information, please do not hesitate to contact us.

Kind regards

A handwritten signature in dark ink, reading 'CHavenga', is centered on a light-colored rectangular background.

**Christine Havenga**

**CHRISTINE HAVENGA & ASSOCIATES**

*47 Lapala Crescent • Clara Anna Fontein • Durbanville • 7550 • P O Box 1290 • Sanlamhof • 7532  
Telephone number 073 1951 040 • E-mail [christine.havenga@absamail.co.za](mailto:christine.havenga@absamail.co.za)*

**Annexure A**

**E-MAIL CORRESPONDENCE WITH SAHRA**

**From:** Natasha Higgitt [mailto:nhiggitt@sahra.org.za]  
**Sent:** 17 March 2021 10:41 AM  
**To:** Christine Havenga  
**Cc:** Phillip Hine; Simphiwe Mome  
**Subject:** RE: HIA's in the Northern Cape and Eastern Cape  
**Importance:** Low

Good morning,

Yes, however the NCPHRA would still need to be satisfied with the assessment of section 34 structures and the recommended mitigation measures in the HIA. Should we approve of the development and permits in terms of section 34 are required for mitigation measures, the permits would be processed by the NCPHRA.

Kind regards,  
**Natasha Higgitt**  
 Heritage Officer: Archaeology, Palaeontology and Meteorites Unit

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**From:** Christine Havenga <Christine.Havenga@absamail.co.za>  
**Sent:** 16 March 2021 16:35  
**To:** Natasha Higgitt <nhiggitt@sahra.org.za>  
**Cc:** Phillip Hine <phine@sahra.org.za>; Simphiwe Mome <smome@sahra.org.za>  
**Subject:** RE: HIA's in the Northern Cape and Eastern Cape

Hallo Natasha



Thank you for your trouble and assistance in this regard. We will do so.

Can I then just confirm - would SAHRA approve the HIA and the Northern Cape Heritage Authority the Section 34 application?

Kind regards  
Christine



**Christine Havenga**  
Professional Planner and Heritage Practitioner  
Prof Reg no: A/945/1997  
**Cell:** 073 195 1040  
**Tel:** (021) 975 6266  
**Fax:** (021) 957 1247  
**Email:** christine.havenga@absamail.co.za

**From:** Natasha Higgitt [<mailto:nhiggitt@sahra.org.za>]  
**Sent:** 16 March 2021 04:12 PM  
**To:** Christine Havenga  
**Cc:** Phillip Hine; Simphiwe Mome  
**Subject:** RE: HIA's in the Northern Cape and Eastern Cape  
**Importance:** Low

Good afternoon,

Thank you for the information. I have spoken with my legal advisor and the following advice for your application has reference:

- Once the Public Participation Process (PPP) has been completed, please upload all documents regarding the application to SAHRA via SAHRIS including a Comments and Response Report with the results of the PPP;
- SAHRA will provide comments on the application and co-ordinate comments from the NCPHRA regarding the assessment of the significance and impact assessment to section 34 resources, including the recommended mitigation measures for these heritage resources;

- An Integrated comment from SAHRA and NCPHRA will be issued for the development.

We will inform the PHRA of the way forward for this application.

**Natasha Higgitt**

Heritage Officer: Archaeology, Palaeontology and Meteorites Unit

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**From:** Christine Havenga <[Christine.Havenga@absamail.co.za](mailto:Christine.Havenga@absamail.co.za)>

**Sent:** 16 March 2021 15:50

**To:** Natasha Higgitt <[nhiggitt@sahra.org.za](mailto:nhiggitt@sahra.org.za)>

**Subject:** RE: HIA's in the Northern Cape and Eastern Cape

Hallo Natasha

Yes it has been completed in accordance with the requirements of the two NID responses received from the Northern Cape Heritage Authority and it is currently in the process of public participation.

Kind regards

Christine

**From:** Natasha Higgitt [<mailto:nhiggitt@sahra.org.za>]

**Sent:** 16 March 2021 03:38 PM

**To:** Christine Havenga

**Subject:** RE: HIA's in the Northern Cape and Eastern Cape

**Importance:** Low

Good afternoon,

Please indicate whether an HIA has been completed for the application. I am currently meeting with my legal advisor.

**Natasha Higgitt**

**Heritage Officer: Archaeology, Palaeontology and Meteorites Unit**

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**From:** Christine Havenga <[Christine.Havenga@absamail.co.za](mailto:Christine.Havenga@absamail.co.za)>

**Sent:** 15 March 2021 15:10

**To:** Natasha Higgitt <[nhiggitt@sahra.org.za](mailto:nhiggitt@sahra.org.za)>

**Subject:** RE: HIA's in the Northern Cape and Eastern Cape

Hi Natasha

Thank you for coming back. The wayleaves for the majority of the study area expire the end of March. There is also a section for which they at a later stage applied for wayleaves and there the municipality indicated that the HIA first need to go through the public participation process before they would consider this wayleave application.

Thank you very much for your trouble.

Kind regards

Christine



**Christine Havenga**

**Professional Planner and Heritage Practitioner**

Prof Reg no: A/945/1997

**Cell:** 073 195 1040

**Tel:** (021) 975 6266

**Fax:** (021) 957 1247

**Email:** [christine.havenga@absamail.co.za](mailto:christine.havenga@absamail.co.za)

**From:** Natasha Higgitt [<mailto:nhiggitt@sahra.org.za>]  
**Sent:** 15 March 2021 02:40 PM  
**To:** Christine Havenga  
**Cc:** Phillip Hine; Leomile Mofutsanyana  
**Subject:** RE: HIA's in the Northern Cape and Eastern Cape  
**Importance:** Low

Good afternoon,

My apologies. Our legal advisor is quite preoccupied with the end-of-financial year process. I am pressing for a meeting as soon as possible.

Please indicate when the way leave expires.

Additionally, please contact Leomile Mofutsanyana regarding any SAHRIS issues.

**Natasha Higgitt**

Heritage Officer: Archaeology, Palaeontology and Meteorites Unit

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**From:** Christine Havenga <[Christine.Havenga@absamail.co.za](mailto:Christine.Havenga@absamail.co.za)>

**Sent:** 15 March 2021 09:45

**To:** Natasha Higgitt <[nhiggitt@sahra.org.za](mailto:nhiggitt@sahra.org.za)>

**Subject:** RE: HIA's in the Northern Cape and Eastern Cape

Good morning Natasha

Apologies for being a nuisance. Have you perhaps got an opportunity to speak to your legal advisor?

I am very concerned about this HIA. As indicated it is in the public participation process and Frogfoot have been waiting for nearly 6 months to obtain responses from the Northern Cape Heritage Authority and their wayleaves at the municipality will soon expire. I am also struggling to register on SAHRIS to upload the document. The admin section is not giving me the clearance for registering and uploading. I did follow up with them.

Kind regards  
Christine



**Christine Havenga**  
Professional Planner and Heritage Practitioner  
Prof Reg no: A/945/1997  
**Cell:** 073 195 1040  
**Tel:** (021) 975 6266  
**Fax:** (021) 957 1247  
**Email:** christine.havenga@absamail.co.za

**From:** Natasha Higgitt [<mailto:nhiggitt@sahra.org.za>]  
**Sent:** 09 March 2021 03:46 PM  
**To:** Christine Havenga  
**Subject:** RE: HIA's in the Northern Cape and Eastern Cape  
**Importance:** Low

Good afternoon,

I will meet with our legal advisor as soon as possible to understand the way forward. In the meantime, please confirm whether the Fibre development is undergoing a NEMA application? If not, under which other legislation is the application being undertaken in terms of?

Kind regards,  
**Natasha Higgitt**  
Heritage Officer: Archaeology, Palaeontology and Meteorites Unit

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Deployment of a fibre network system within certain areas within the Sol Plaatje Municipal Area



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**From:** Christine Havenga <[Christine.Havenga@absamail.co.za](mailto:Christine.Havenga@absamail.co.za)>

**Sent:** 09 March 2021 15:26

**To:** Natasha Higgitt <[nhiggitt@sahra.org.za](mailto:nhiggitt@sahra.org.za)>

**Subject:** RE: HIA's in the Northern Cape and Eastern Cape

Hi Natasha

Thank you very much for coming back.

I am now really concerned about the Northern Cape issue. We had several meetings and discussions with them and they indicated that we need to submit the NID's to them. The NID's were triggered by the deployment of a fibre network (trenching as well as aerial fibre by means of poles and cables) by Frogfoot Networks within the Sol Plaatje Municipal Area. It was confirmed with them that a NID in terms of Section 38 should be submitted to them due to the fact that:

Section 38(1)(a):           The construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;

Section 38(1)(c):           Any development or other activity which will change the character of a site—

(i)           exceeding 5 000 m<sup>2</sup> in extent.

They also requested a Section 34 application as some of the sidewalks where the trenching would take place are older than 60 years.

We in fact submitted two NID's as Frogfoot later decided to also include an additional area.

Please see the attached two NID ROD's we received from the Northern Cape Heritage Authority on their letterhead requesting a full HIA with a lot of requirements. We completed the HIA and it is currently in the advertising process in line with what we confirmed with them. I tried to determine if SAHRA would be a commenting party, but for the last month or so it is impossible to get hold of Ratha Andrew Timothy there as they do not answer the telephones or e-mails and since about two weeks ago all the e-mails are just bouncing back.

So if you can please confirm what we need to do now. I can submit the HIA through SAHRA, but it seems if you were not involved with the NID process. It has serious implications for my client as their Wayleave approvals (which also took them nearly a year to obtain from the municipality will soon expire) and it took about two months to get a response for each NID submission.

If possible can I perhaps please give you a call to discuss this.

Kind regards

Christine



**Christine Havenga**

**Professional Planner and Heritage Practitioner**

Prof Reg no: A/945/1997

**Cell:** 073 195 1040

**Tel:** (021) 975 6266

**Fax:** (021) 957 1247

**Email:** christine.havenga@absamail.co.za

**From:** Natasha Higgitt [<mailto:nhiggitt@sahra.org.za>]

**Sent:** 09 March 2021 09:05 AM

**To:** Christine Havenga

**Subject:** RE: HIA's in the Northern Cape and Eastern Cape

**Importance:** Low

Good morning,

Please note that all section 38 development applications in the Northern Cape are under the jurisdiction of SAHRA, not the Northern Cape Provincial Authority. They are not competent to perform those functions. Please provide the NID ROD mentioned below so that I may examine it and follow up.

Deployment of a fibre network system within certain areas within the Sol Plaatje Municipal Area

Please follow the normal submission procedure on SAHRIS for development applications. The NC PHRA only has the jurisdiction to process section 34 permit applications.

The ECPHRA is competent to process section 38 applications. Please contact Sello Mokhanya (081 551 0969) [selmok1@gmail.com](mailto:selmok1@gmail.com) for information in this regard.

**Natasha Higgitt**

Heritage Officer: Archaeology, Palaeontology and Meteorites Unit

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Kind regards,

**From:** Christine Havenga <[Christine.Havenga@absamail.co.za](mailto:Christine.Havenga@absamail.co.za)>

**Sent:** 08 March 2021 22:15

**To:** Natasha Higgitt <[nhiggitt@sahra.org.za](mailto:nhiggitt@sahra.org.za)>

**Subject:** HIA's in the Northern Cape and Eastern Cape

Dear Natasha

I got your name from Waseefa Dhansay at HWC.

If you can please just give me some guidance with regard to the following issues I would really appreciate it.

1. We have done a HIA in the Sol Plaatje Municipal area (formerly Kimberley) and the process was through the Northern Cape Heritage Authority, but we have a lot of trouble to get hold of somebody there or them

responding to our e-mails. I assume they themselves would approved the HIA as they issued the NID ROD. Do we also need to send the HIA to SAHRA for comment?

2. We will now also be involved with a possible HIA in Grahamstown, but Waseefa indicated that the Eastern Cape Heritage Authority is not active – although I see they have a website, but it seems if they are only a commenting party. How does it work in this case. Would a NID be submitted to SAHRA directly as well as a possible HIA and the Northern Cape Heritage Authority only comments?

We have not done work before in these Provinces and your guidance in this regard would be greatly appreciated.

Kind regards  
**Christine**



**Christine Havenga**

**Professional Planner and Heritage Practitioner**

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## **ANNEXURE 10**

# **CONFIRMATION FROM SOL PLAATJE MUNICIPALITY REGARDING MICRO-TRENCHING**



**From:** Moghamad Abrahams <[MAbrahams@solplaatje.org.za](mailto:MAbrahams@solplaatje.org.za)>  
**Sent:** Thursday, 29 April 2021 15:24  
**To:** Renier Meyer <[renier@frogfoot.com](mailto:renier@frogfoot.com)>  
**Cc:** Zughdi Adikary <[ZAdikary@solplaatje.org.za](mailto:ZAdikary@solplaatje.org.za)>; Dean Appels <[DAppels@solplaatje.org.za](mailto:DAppels@solplaatje.org.za)>  
**Subject:** RE: Micro Trenching Kimberley

Good day Renier

As I have explained prior to the telecommunication sector. There is currently no National Standard for the provision of micro trenching currently in existence (in compliance with the Standards Act). The only current standard for the provision of telecom ducting is SANS 1200LC, which makes provision for conventional trenching methods. The methodology employed in micro trenching is a machined one which rely on scanning technology which has serious limitation when dealing with older services which tend to have densities beyond the parameters of such devices (scanners). As the Sol Plaatje Municipality we are constantly exposed to these devices and thus, we are in a position to comment on the effectiveness of these devises. Currently, there is a place for these scanners. However, when using these scanners as a means of foresight for a blind mechanised method it would present an infinite risk to our infrastructure.

Hope you find all in order.

Kind regards

Moghamad-N Abrahams  
Roads and Stormwater  
Sol Plaatje Municipality

 (053) 8306309

 (053) 8316308

 [MAbrahams@solplaatje.org.za](mailto:MAbrahams@solplaatje.org.za)

**From:** Renier Meyer [<mailto:renier@frogfoot.com>]  
**Sent:** 29 April 2021 08:01 AM  
**To:** Moghamad Abrahams <[MAbrahams@solplaatje.org.za](mailto:MAbrahams@solplaatje.org.za)>  
**Subject:** Micro Trenching Kimberley

Good morning Moghamad.

Trust you are well. My apologies for once again asking for your input.

Can you please send a email giving your reasons for not allowing micro trenching in Kimberley?

Christine the Heritage Practitioner wants to add it to the HIA and submit it to Kimberley Heritage. We all know why you do not allow it, this will just be to allow others to see and understand it as well.

Kind regards

**Renier Meyer** | Site Manager  
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