Polokwane Electronic Communication Facility Policy, 2019

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ACRONYMS

CAA - Civil Aviation Authority

DAS - Distributed Antenna Systems

ECA - Electronic Communications Act 2005 (Act No. 36 of 2005)

ECF- Electronic Communication Facility

ECNSL - Electronic Communication Network Service Licensee

EME - Electromagnetic Energy

EMR - Electromagnetic Radiation

ICASA - Independent Communication Association of South Africa

ICNIRP -International Commission on non-ionizing Radiation Protection.

NDOH- National Department of Health, Directorate Radiation Control

NEMA -National Environmental Management Act

RF- Radiofrequency

SABS- South African Bureau of Standards

DEFINITIONS

"Antenna" means any system of wires, poles, rods or devices used to receive or transmit electromagnetic waves (antenna) and the associated feeder cables between the mobile electronic communications equipment (equipment) and the antenna. The antenna can be mounted directly on the equipment or attached to a building or any other antenna support structure. It excludes domestic TV antennas less than 2m in diameter/ height and where the associated antennas mounting structure is less than 3m in length.

Areas of Environmental and Heritage significance includes environmental and heritage resources, including natural and cultural sites, scenic and tourist routes, which are of special value for the benefit of all, and need to be protected.

Polokwane SDF means the Spatial Development Framework approved by Council.

Council means the Municipal Council of Polokwane Municipality and includes anybody or persons empowered by it to assess and resolve on Electronic Communication Facility applications;

Distributed Antenna System (DAS) means a network of spatially separated antenna nodes connected to a common source via a transport medium that provides wireless service within a geographic area or structure. A distributed antenna system may be deployed indoors (an iDAS) or outdoors (an oDAS);

Electronic Communications means the emission, transmission or reception of information, including without limitation, voice, sound, data, text, video, animation, visual images, moving images and pictures, signals or a combination thereof by means of magnetism, radio or other electromagnetic waves, optical, electromagnetic systems or any agency of a like nature, whether with or without the aid of tangible conduct, but does not include content service;

Electronic Communications Facility includes but is not limited to any—

(a) wire, including wiring in multi-tenant buildings;

(b) cable (including undersea and land-based fibre optic cables);

(c) antenna;

(d) mast;

(e) satellite transponder;

(f) circuit;

(g) cable landing station;

(h) international gateway;

(i) earth station;

(j) radio apparatus;

(k) exchange buildings;

(l) data centres; and

(m) carrier neutral hotels,

or other thing, which can be used for, or in connection with, electronic communications, including, where applicable—

(i) collocation space;

(ii) monitoring equipment;

(iii) space on or within poles, ducts, cable trays, manholes, hand holds and conduits; and

(iv) associated support systems, sub-systems and services, ancillary to such electronic communications facilities or otherwise necessary for controlling connectivity of the various electronic communications facilities for proper functionality, control, integration and utilisation of such electronic communications facilities;

Electronic Communications Network (ECN) means any system of electronic communications facilities (excluding subscriber equipment), including without limitation —

(a) satellite systems;

(b) fixed systems (circuit- and packet-switched);

(c) mobile systems;

(d) fibre optic cables (undersea and land-based);

(e) electricity cable systems (to the extent used for electronic communications services); and

(f) other transmission systems, used for conveyance of electronic communications;

Electronic Communications Network Service (ECNS) means a service whereby a person makes available an electronic communications network, whether by sale, lease or otherwise—

(a) for that person's own use for the provision of an electronic communications service or broadcasting service;

(b) to another person for that other person's use in the provision of an electronic communications service or broadcasting service; or

(c) for resale to an electronic communications service licensee, broadcasting service licensee or any other service contemplated by Electronic Communication Act (Act No.36 of 2005) and "network services" is construed accordingly;

Electronic Communications Service Licensee' means a person whom an electronic communications services licence has been granted in terms of section 5(2) or 5(4) of the Electronic Communication Act (Act No.36 of 2005);

Electromagnetic energy (EME) is a term which includes electromagnetic radiation and applies to all Telecommunication Mast Infrastructure that transmits or receives electronic communication signals.

Environmental Management Plan (EMP) is a contractually binding guideline document for use with the implementation of the construction on a site to manage and mitigate environmental impacts associated with that construction.

Equipment room means a structure to house communication equipment associated with Telecommunication Mast Infrastructure. This can be a separate building or container used exclusively for the equipment or it can be a room within a building.

Habitable structure means any structure where people may reside.

Mast means any form of mast or any other structure intended for the use to transmit or receive electronic communication signals intended for cellular handsets and may or may not include a base station. It also means any solid or lattice structure longer than 5.7 metres (mast pole, monopole guyed tower, lattice tower, free- standing tower or other structure) designed and primarily used to support antenna.

MSA means Local Government Municipal Systems Act 2000 (Act No.32 of 2000)

Modification of Electronic Communications Facility means the modification to the physical structure or radio frequency emissions of Electronic Communications Facility.

NBR means the National Building Standards and Building Regulations Act 1977 (Act No. 103 of 1977);

Satellite dish means any device incorporating a reflective surface that is solid, open mesh, or bar configured that is shaped as a shallow dish, cone, horn or other and is used to transmit and/or receive electromagnetic signals;

Site Analysis Plan means a plan used to develop an understanding of the site and its context, and the resulting constraints and opportunities for development. It forms the basis for good site planning, retention of desirable landscape elements, establishing building footprints, determining building orientation, and protecting heritage fabric. It allows for a comprehensive view of the constraints and opportunities of the development site. It forms the basis for a designer to develop a proposal that utilises the positive aspects of the site and ameliorates the negative aspects;

Support structures means pole, monopole, guyed tower, lattice tower, freestanding tower or any other tall structure that is designed to accommodate antennas;

Unauthorized person means any person who is not employed by the operator of the infrastructure and who is not trained or conversant with the occupational exposure hazards and precautionary measures required to be taken so as to prevent exposure to Radio Frequency levels that could be harmful to health.

1. INTRODUCTION AND BACKGROUND

In 2004 the Council of Polokwane Municipality approved a Telecommunication Structure/Mast Policy. Due to the rapid change and growth within the electronic communication industry, it was evident that the policy was due for amendment or review. Over the years technology and legislative framework have introduced new perspectives and patterns of Electronic Communication Facility (ECF). The development and the erection of ECF has become an interest for society and government, with focus on public health.

The International Commission for Non Ionising Radiation Protection (ICNIRP) in conjunction with the World Health Organisation (WHO) has developed scientifically derived safety standards and guidelines in respect of Radio Frequency (RF) fields. The National Department of Health also endorses these RF safety guidelines and it is accepted by the WHO that RF fields emanating from base transceiver stations are below ICNIRP standards/guidelines in areas of public access, and therefore no potential health risk exist at all.

The revision of the existing Policy comes as result to update the provisions and guidelines on the possible impacts of this infrastructure, with special emphasis on risks of exposure to Electromagnetic Energy (EME). The revised policy will then provide upgraded guidelines for assessment of new applications, mitigating guidelines for reducing impacts created by the erection of the ECF and to monitor the current Electronic Communication Facilities. The amendment or revision will clarify the challenge surrounding the 1 kilometre radius in urban areas and 5 kilometre radius in rural areas as the determining factor when approving applications for the erection of ECF. Furthermore, to emphasise that this policy is limited to only two types of Electronic Communication Facility (i.e. mast and antennas).

There is an increasing importance of electronic communications to the growth of the economy, especially in Polokwane. Rapid expansion of the electronic communications industry in recent years has resulted in an increasing demand for electronic communication services, and new technologies in the electronic communication industry. With the evolution of technology in the electronic communication industry it must be accepted that the future need for ECF sites will increase in the short to long term.

2. PROBLEM STATEMENT AND CURRENT ISSUES

Due to improvements in electronic communication industry, the coverage that each mast is able to provide has shrunk. Thus there is continual need to provide more masts to overcome the coverage gap due to users per site versus data increase usage, currently applications for ECF are disapproved on the basis of 1 mast within a radius of 1 km in urban areas and 1 mast within 5 km radius in rural areas without clearly understanding factors such as the coverage each mast is able to provide and the population density within a particular area. It is against this backdrop that Polokwane Municipality saw it fit to review and amend the existing Telecommunication Mast Policy, 2004.

Owing to technological advancement within the electronic communication industry, ECF should be placed on structures such as street lights, flag poles, traffic lights, road

direction signage and camera poles as a mitigation measure to complement the existing mast such as lattice masts or mono poles. Structures such street lights, flag poles, traffic lights, road direction signage and camera poles are often found on Council land. There is currently no procedure or a guideline on how to approve installation of ECF on existing structures such as street lights which Council will lease out to service providers.

Electronic Communications Service Licensee' (ECSL) are having difficulty accessing suitable land as topography and demand tend to dictate the location of masts and antennas. The location, positioning and development of ECF continue to be an issue, of particular interest to local communities and local government.

3. INTENT OF THE POLICY

The intent of this policy is to ensure that land development and land use applications for the erection and use of ECF are submitted to the Municipality as the authority of first instance.

Electronic Communication Facility such as: Wire (including wiring in multi-tenant building); cable (including undersea and land-based fibre Optic cables); satellite transponder; circuit; cable landing station; international gateway; earth station; radio apparatus; exchange buildings; data centres and carrier neutral hotels are excluded from this Policy. An Electronic Communication Facility (ECF) in term of this policy refers to mast and antennas.

4. APPLICATION OF THE POLICY

Land development, land use or consent use applications for the erection and use of ECF must be considered in terms of this Policy and all information required must be submitted with such application. The objectives, guidelines and requirements laid down in this policy shall serve as a guideline for decision making by the Municipality which involve the construction or modification of ECF on any land within the jurisdiction of Polokwane Municipality. Each application for the erection ECF will be considered on its own merits and within the guidelines of this Policy.

5. POLICY OBJECTIVES AND GUIDELINES

Objective 1: To ensure that Electronic Communications Network (ECN) is comprehensive and accessible as possible and to acknowledge the advancing technology in the electronic communication industry.

Polokwane Municipality embraces the new technology within the electronic communications industry and the use thereof in the benefit of local economic development, general welfare and convenience of all its residents.

The ECN should be as comprehensive and accessible as possible. Communication is the root of all events, daily interaction, social affairs and anything that requires the purpose of human dealings. The use ECF allows residents to remain connected.

Polokwane also acknowledges that proper telecommunication systems contribute towards:

- reducing the need to travel;
- improving access to services;
- improving community health and safety;
- Supporting education;
- business operations/ job opportunities;
- Social networking;
- Ensuring proper and reliable communication channels.

Objective 2: To ensure that Electronic Communication Facility (ECF) is placed at the best location.

The coverage area that ECF can reach needs to be maximised while at the same time it must be ensured that the natural and the built environment is not adversely affected, and that negative visual impacts and impacts on human health and wellbeing are minimised. Well located ECF will reduce the mitigation measures that are needed.

Subject to all other relevant criteria ECF should preferably be located within areas where they have the least visual impact.

ECF should when developed within or abutting an area of environmental or heritage significance be located and positioned on the property where it will have the least impact on the surroundings.

All possible site location alternatives should be explored early in the planning process in order to minimize the impact of the ECF, rather than relying only on mitigation measures to reduce the impact.

In open areas, avoid placing ECF in visually sensitive zones see “Factors affecting visual sensitivity” on Schedule 2.

Using existing structures to accommodate ECF is encouraged (if this does not conflict with any other legislation), for example, on tall buildings, utility poles, light masts, billboards and existing tall structures.

Objective 3: To encourage the co-location or sharing of Electronic Communication Facility where possible.

Unnecessary duplication of erection of masts should be avoided as far as possible. Duplication and erection of several ECF in an area has a cumulative visual affect, which may impact negatively on the environment, amenity and character of the area.

Thus, ECF sharing is preferred and with every land development, land use application or consent use application for a new ECF, the Electronic Communications Network Service Licensee (ECNSL) must prove that ECF sharing is not a viable alternative. Proper planning is also necessary to determine the situation in advance and ensure that duplication could be eliminated.

Objective 4: To regulate, manage and control the placement or distribution of Electronic Communication Facility within Municipal area

ECF are part of the built environment and forms a key aspect for the development of the Polokwane Municipal area. Therefore ECF must be coordinated in a harmonious manner in such a way as most effectively tend to promote the health, safety, good order, amenity, convenience and general welfare of such area as well as efficiency and economy in the process of such development.

The Policy contains information which can assist applicants when preparing an application regarding the sitting and design of ECF and information required on submission. The Policy should be consulted by ECNSL in both the initial planning of their electronic communications networks and prior to submission of applications of ECF for planning approval. Attention to the Policy will reduce the prospect of ill conceived applications being submitted to the Municipality. It will also minimise delays involved in subsequent assessment and determination of applications.

Objective 5: To protect and preserve areas of environmental or heritage significance.

The construction of ECF with adverse impacts on the environmental or heritage resource should be avoided as far as possible, in areas of environmental or heritage significance mitigation measures should be employed to ensure that the ECF cannot be viewed to or from the site. If this is unavoidable for network and technical reasons, the "requirements for submission" must be satisfied.

Environmentally sensitive construction methods must be employed in the construction of an ECF site so that the natural habitat is not disturbed. Any disturbance to the natural habitat must be rehabilitated.

In heritage areas, ECF should be in keeping with the character of the area.

Objective 6: To protect the health, safety and wellbeing of inhabitants of Polokwane.

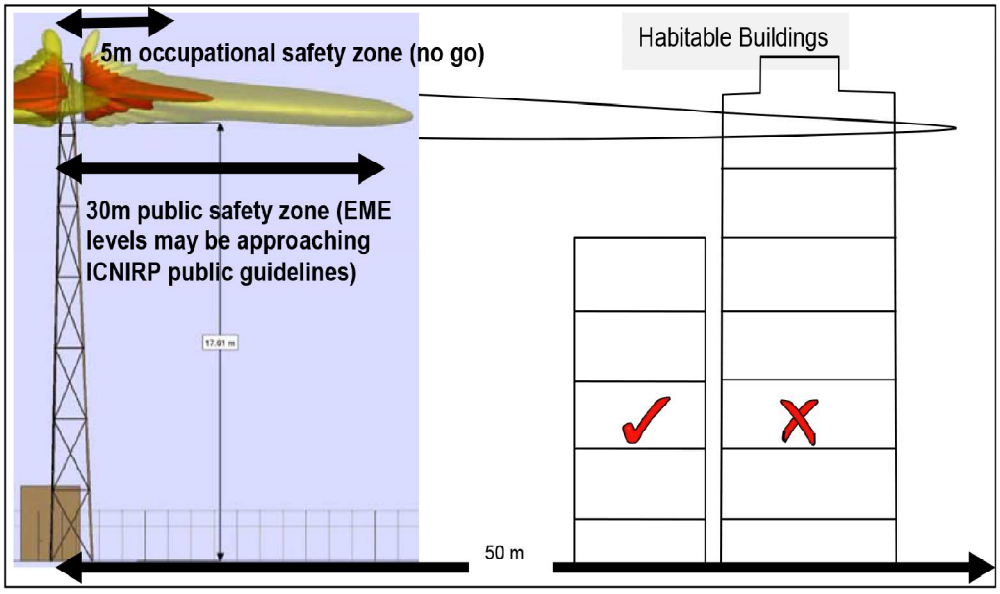
The health, safety and wellbeing of the population has to be prioritised with regard to permissible EME levels as well as making sure that the security is sufficient so that no unauthorised entries that could lead to people being injured can occur.

Public access to ECF installations must be restricted in an appropriate manner (e.g. fence, wall, locked gate or door) together with warning signage to the satisfaction of the Municipality. Care shall be exercised by the ECNSL to ensure that such security measures do not inhibit emergency exit procedures (e.g. fire escape) for ECF sites.

Antennas should be located and positioned so that no habitable structures are within a zone of 50m directly in front of the antennas at the same height.

No ECF or combination of such facilities may at any time cause the public to be exposed to RF levels that exceed the ICNIRP public exposure guideline in any occupied space or location to which the public reasonably has access. This is endorsed by the NDOH.

No public or unauthorised person shall be able to gain access to rooftop antennas and should not come within 5m in front of antennas.



50m public safety zone (EME readings must be below ICNIRP public exposure guideline)

Objective 7: To encourage the use of modern mitigation measures to reduce visual impact

The ECF should be placed and designed to respond appropriately to the surrounding landscape. Mitigation measures should be appropriate to each particular site and incorporated into the design.

Design and positioning of ECF should be integrated as far as possible with the building or support structure to which it relates. ECF should not merely be hung off the side of a building, or be attached so as to protrude above the top of the roof/apex of a roof, but should form an integral part of the building as a design element. For heritage areas, buildings older than 60 years and other heritage sites, the integrity of the heritage must prevail in the design and positioning of ECF.

Techniques which may be used to minimise adverse visual impacts for ECF include: adjustment to the overall size (height and scale); colour/cladding to match adjacent walls that is complementing facade treatment so as to maintain visual balance; creating an architectural feature such as a spire, column, finial and screening to minimise visibility of the facility from adjacent areas.

In the case of a base station, design measures to mitigate visual impact are in some cases the same as those referred to above, and include: adjustment to the overall size (height and dimension); colour coding to match the predominant background (e.g. sky, vegetation); designing the infrastructure as a work of urban art/as another structure (e.g. flagpole, lamp post, signpost, tree); picking up on a fencing style/type of roof pitch and repeat this for the equipment room; if there are boulder on site use stone cladding for the equipment room.

The base station should be walled or fenced as appropriate in the context (metal, stone, wood or brick) or housed in a specially designed building to match other buildings on the site.

ECF support structures should preferably be located where vegetation (trees), landforms or other features of a site will adequately screen or reduce the impact of the ECF from public areas and reduce the visual impact. Landscaping/tree planting and maintenance thereof can be requested by Council as a measure to reduce the visual impact of ECF, even if only to screen the base of any towers and ancillary structures, and to draw attention away from the structure.

Measures such as concealment, colour and appropriate finishes and camouflage should be used, where appropriate, to minimise the visual impact.

Objective 8: To encourage Electronic Communication Facility to be placed on other structures such as lamp posts, traffic lights, road signs, and camera poles and flag poles.

New technology has allowed small panels to be placed on normal street utility poles; although they need to be placed on a number of poles, there is no additional visual impact.

ECF lines and cables should be located within existing underground conduits or ducts.

If a base station is needed, it should be sensitively sited with little impact on its surroundings. All mechanical equipment should be placed within the base station.

Electronic Communication Facility to be placed on other structures such as lamp posts, traffic lights, road signs, and camera poles and flag poles, will ~~not~~ be considered a land use activity, therefore required to undergo normal consent use/town planning application procedure.

6. LEGISLATIVE FRAMEWORK

During the compilation of this policy, it was imperative to align it with relevant national legislations that govern telecommunications, environment and planning and development.

6.1 The Constitution of Republic of South Africa

In terms of Section 24 of the constitution under the Bill of Rights, states that everyone has the right to an environment which is not harmful to their health and wellbeing, and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures. This includes secure of ecological resources while promoting justifiable economic and social development.

Section 152 of the Constitution under Chapter 7, objects of Local Government is to provide the specific objects of local government, one of which is to promote a safe and healthy environment.

The municipality will ensure that the development of ECF will have positive impact on the communities, advance the use of technology, improving the lives of the people and prioritising and promoting safety of its inhabitants and protecting the environment.

6.2 Spatial Planning and Land Use Management Act (Act No.16 of 2013)

SPLUMA recognizes the Municipality as the authority of first instance. Section 33 of Act, states that except as provided in the Act, all land development applications must be submitted to the municipality, this includes consent use or land development application for the erection of ECF.

Development principles as set out in Chapter 2 of SPLUMA must be applied or considered on spatial planning, land development and land use management and this is not limited to the erection of ECF.

6.3 National Environmental Management Act (Act No.107 of 1998)

A listed activity is defined as an activity identified in terms of Section 24(2) and 24 (d) of NEMA, as one which may not commence without as environmental authorization from a competent authority and in respect of which the investigation, assessment and communication of potential impact activities must follow the procedure as described in the Regulations 26 to 35 of the Environmental Impact Assessment Regulations.

In terms of Government Gazette 38282, issued on 4 December 2014, Section 24(2) and 24(d) of NEMA, the installation of cellular networks is a listed activity:

The development of masts or tower of any material or type used for telecommunication broadcasting or radio transmission purposes where the masts or tower—

(a) is to be placed on a site not previously used for this purpose; and

(b) will exceed 15 metres in height but excluding attachments to existing buildings and masts on rooftops

6.4 National Building Standards and Building Regulations Act (Act No.103 of 1977)

Section 7 of the National Building Standards and Building regulations Act 103 of 1977 and the regulations states that *"Council must be satisfied that buildings or structures are not dangerous to life or property".* All building plans or structures must be submitted to the Municipality for consideration and approval. No structure of ECF will be built without the approval of the Municipality.

6.5 Electronic Communications Act (Act No. 36 of 2005)

The Electronic Communications Act (Act No. 36 of 2005) "ECA", as amended provide for the regulation of electronic communications networks and electronic communications facilities under Chapter 4. ICASA regulate all forms of ECF and the issue of approvals and licences. Documentation must be provided showing that transmitting power levels are in compliance with ICASA licence conditions. The design and operation of ECF should be in accordance with the licensing requirements of ICASA, with physical isolation and control of public access to public exposure hazard zones and use of minimum power levels consistent with quality services.

6.6 Hazardous Substances Act (Act No. 15 of 1973)

The National Department of Health (NDOH), has the mandate and the responsibility to administer the provisions of the Hazardous Substances Act (Act No.15 of 1973) with respect to Group III (electronic products) and Group IV (radionuclide) hazardous substances. Devices and facilities which produce non-ionizing radiation and which are included in the Schedule of Listed Electronic Products as contained in Regulation R1302 (14 June 1991), are regarded as having been declared Group III hazardous substances, and as such all the relevant provisions of the Hazardous Substances Act apply to them. The NDOH is the legally mandated national authority for the regulation of public exposure to radiation and related matters and endorses the safety standards for public exposure as set by ICNIRP.

6.7 Electronic Communications Facilities Leasing Regulations (Regulation No. 468 of 2010)

The sharing and co-location of electronic communication facility between ECNS licensees is administered through the Electronic Communications Facilities Leasing Regulations. Further, in terms of section 45(1) of ECA, ICASA must be made aware of such facilities agreement and the charges therein when it exists.

6.8 National Heritage Resources Act (Act 25 of 1999)

Section 34 of the National Heritage Resources Act (Act 25 of 1999) requires a permit for any alteration or new addition to a building older than 60 years, Section 27 requires a permit for provincial heritage sites, including former national monuments and Section 38 requires a permit for development which would change the character of certain classes of sites.

6.9 Polokwane Municipal Planning By-Law, 2017

The purpose of the Municipal Planning By-Law is to give effect to “Municipal Planning” as contemplated in the Constitution of the Republic of South Africa, 1996, and in so doing to lay down and consolidate processes and procedures, to facilitate and make arrangements for the implementation of land development and land development applications, spatial planning and land use management scheme within the area of Polokwane Municipality, in line with the Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013), to provide for the processes and procedures of a Municipal Planning and Appeals Tribunal and to provide for matters incidental thereto. Therefore, applications for the installation of ECF must be lodged in terms of the provisions of the By-Law.

6.10 Polokwane/Perskebult Town Planning Scheme/LUS (Municipality)

The Polokwane/Perskebult Town Planning Scheme, 2016 permits Telecommunication Structure (i.e. ECF) as a secondary right in all use zones. Consent use approval for the erection of ECF may be obtained in terms of the provisions of the said scheme. The necessary planning processes and procedures must be complied with. No building plans will be approved before a site development plan has been approved.

7. ROLE PLAYERS AND STAKEHOLDERS

The Electronic Communication Facility Policy has been written for Electronic Communication Network Service Licensee (ECNSL), built environment professionals and Municipal officials involved in the design, assessment and implementation of development proposals. It will be used primarily by Polokwane Municipality's City Planning and Property Management Unit to facilitate their statutory development control functions.

The Electronic Communication Industry is a key role player and they not only need to continue developing new technology, but also need the legislative framework in which to operate within the law.

The South African Civil Aviation Authority (SACAA) is also a key role player as it is responsible for enforcement of relevant legislation pertaining to aviation safety aspects. One such aspect which impacts on aviation safety is the heights of buildings and structures, such as ECF. The Municipality is not the authorized authority to deal with aviation safety and thus the approach is that all requirements of the CAA should be met and necessary approvals must be obtained by Electronic Communication Network Service Licensee (ECNSL) and persons erecting ECF.

The Independent Communication Authority of South Africa (ICASA) as a major stakeholder regulates all forms of ECF and the issue of approvals and licences. Documentation must be provided showing that transmitting power levels are in compliance with ICASA licence conditions. The design and operation of ECF should be in accordance with the licensing requirements of ICASA, with physical isolation and control of public access to public exposure hazard zones and use of minimum power levels consistent with quality services.

Environmental Authorization (EIA) must be obtained and submitted to the Municipality together with the application for the installation of ECF. All the condition stipulated on the environmental authorization letter must be adhered to. ECF such as lamp posts, traffic lights, road signs, and camera poles and flag poles which do not exceed 15 metre in height are exempted from obtaining and submitting environmental authorisation.

8. POLICY GUIDELINES AND REQUIREMENTS FOR THE ERECTION OF ELECTRONIC COMMUNICATION FACILITY (ECF)

8.1 CLASSIFICATION & TYPES OF MASTS AND ANTENNAS

8.1.1 Types of electronic communication facility (i.e. masts and antennas)

(i) Type A: Freestanding masts:

- Type A1: Mono pole or sectional pole (It may include the "ROCLA-mast" concrete pole);
- Type A2: Lattice masts;

(ii) Type B: Concrete towers

- Type B1: Concrete tower (excluding mono pole);
- Type B2: Concrete tower with lattice masts on top (excluding mono pole).

(iii) Type C: Camouflaged masts:

- Type C1: Masts camouflaged as trees;
- Type C2: Masts designed to fit in with architecture of building.
- Type C3:Mast camouflage as street lights (lamp posts)

(iv) Type D: Rooftop antennas & antennas attached to buildings or structures:

- Type D1: Rooftop antenna;
- Type D2: Antenna attached to building or existing structure;
- Type D3: Antennas disguised to fit in with architecture, shape or appearance of other structures such as bridges;

(v) Type E: Dish antennas:

(vi) Type F: Multi functional use antennas and structures:

- Type F1: Masts specifically designed to serve as land mark;
- Type F2: Masts which incorporates and/or accommodate advertising;
- Type F3: Advertising boards which incorporates and/or accommodate antennas;
- Type F4: Masts which accommodates street lighting and street light poles which accommodates antennas (traffic lights, road signs, and camera poles and flag poles).

(vii) Type G: Mast farms:

(viii) Type H: Masts and antennas incidental to the enjoyment of a dwelling unit:

- Type H1: Television (TV) masts & antennas;
- Type H2: Satellite dish antennas;
- Type H3: Radio Amateur masts, poles, antennas & dish antennas;
- Type H4: Short wave & FM radio antennas;
- Type H5: Masts & antennas for purposes of safety & security systems and communication radios/systems of the dwelling unit;

(ix) Type J: Antennas added on existing electronic communications mast for sharing and co-location:

- Antennas added to existing electronic communication mast or tower classified under Types A, B, C1, D1, F1, G and H above.

8.1.2 Classification of impact types of ECF (masts and antennas)

The following classification of ECF is provided for purposes of control which is based on the impact these facilities may have on the environment, land use and aesthetics (i.e. visual amenities).

The purpose of this classification is to determine which type of ECF can be regarded as to have an extensive impact or becomes predominant and therefore requires municipal consent and is subjected to land development and land use application procedure, and on the other hand also to indicate which type of ECF may be exempted or be subjected to a shortened land development and land use application procedure.

(i) Class 1: Very high impact ECF (masts and antennas)

- Freestanding masts (Type A) (including antennas & lightning protectors) taller than 55m in height;
- Freestanding masts (Type A) with a footprint area/coverage of structures greater than 20m² (excluding containers and buildings);
- Concrete towers (Type B) higher than 28m;
- Dish antennas (Type E) larger than 5m in diameter;
- Containers and electronic communication facility larger than 24m² and/or higher than 3m in height;
- Rooftop antennas (Type D1) adding more than 15m to the height of the building.

(ii) Class 2: High impact ECF (masts and antennas)

- Freestanding masts (Type A) (including antennas & lightning protectors) between 28m – 55m in height;
- Concrete towers (Type B) not higher than 28m;
- Rooftop antennas (Type D1) adding more than 3m to the height of the building but not exceeding 15m and which does not exceed any height restriction stipulated in any zoning/town planning scheme and/or conditions in the Title Deed;
- Dish antennas (Type E) between 2m – 5m in diameter;
- Containers and telecommunication equipment buildings between 12m² - 24m² and less than 3m in height;
- Masts farms (Type G).

(iii) Class 3: Medium impact ECF (masts and antennas)

- Freestanding masts (Type A) (including antennas & lightning protectors) between 18m – 28m in height;
- Masts camouflaged as trees (Type C1);
- Masts (camouflaged) designed to fit in with architecture of building (Type C2);
- Rooftop antennas (Type D1) adding not more than 3m to the height of the building and which does not exceed any height restriction stipulated in any zoning/town planning scheme and/or conditions in the Title Deed;
- Dish antennas (Type E) between 1m – 2m in diameter;
- Containers and telecommunication equipment buildings smaller than 12m² and less than 3m in height;
- Masts specifically designed to serve as land mark (Type F1) exceeding a height of 15m and footprint/coverage of structures of 24m².
- Masts which incorporate and/or accommodates advertising (Type F2) and advertising boards which incorporates and/or accommodate antennas (Type F 3).

(iv) Class 4: Low impact ECF (masts and antennas)

- Freestanding masts (Type A) (including antennas & lightning protectors) less than 15m in height;
- Rooftop antennas (Type D1) which does not add to the height of any building;
- Antennas attached to buildings and/or other existing structures (Types D2, D3);
- Dish antennas (Type E) less than 1m diameter;
- Masts specifically designed to serve as land mark (Type F1) less than 15m in height and not exceeding footprint/coverage of structures of 24m²;
- Mast camouflage as street lights (lamp posts) and flag poles . (Type C3);
- Masts, poles, antennas and dish antennas incidental to the enjoyment of a dwelling unit (Type H) not exceeding 3m in height and dish antennas not exceeding 2m in diameter;
- Containers and electronic communication facility housed within buildings (new or existing);
- Containers and electronic communication facilities located underground;
- Antennas (Type J) added to any existing electronic communication facility where the footprint/coverage area of the structure does not exceed the specified maximum for that specific type.

(iv) Class 5: Very Low impact ECF (masts and antennas) [1]

- Masts which accommodates street lighting and street light poles which accommodates antennas (traffic lights, road signs, and camera poles). (Type F4);
- Masts, poles, antennas and dish antennas incidental to the enjoyment of a dwelling unit (Type H) not exceeding 3m in height (without navigation lights, red & white band colouring and camouflage) and dish antennas not exceeding 2m in diameter;
- Antennas (Type J) added to any existing electronic communication facility where the footprint/coverage area of the structure does not exceed the specified maximum for that specific type.

8.2 CONTROL ZONES

Control zones will tend to indicate and provide zones of control in order to facilitate and control ECF types in an efficient and relevant manner necessary.

The purpose of the control zones is to determine zones where types of ECF need to be managed in order to reduce negative impacts and therefore requires municipal consent and follow land development and land use application procedure, and on the other hand also to indicate zones less affected by certain types of ECF which may be exempted or be subjected to a shortened land development and land use application procedure.

The criteria which determined the delineation of the control zones are:

- Land use types/patterns;

[1] *Note: Class 5 (Very Low impact ECF), are exempted from the provisions of this policy or exempted from following land development and land use application procedure.*

- Natural features;
- Man made features (e.g. buildings)

The focus is thus to identify, in advance, the zones really significant for proper control or management. This will not only assist the municipality in the management, but also indicate to Electronic Communications Network Service Licensee required measures and procedures applicable to each area and type of structure.

8.2.1 Low (minimum) control zone

This zone consists of the following areas, namely:

- The Polokwane Central Business District (CBD);
- Industrial Townships;
- Business nodes (shopping centres; office nodes);
- Activity corridors (as set out in the Polokwane Spatial Development Framework)
- Railway stations;
- Airports;
- Municipal or other government property where other bulk infrastructure services such as water reservoirs occur.

8.2.2 Partial (medium) control zone

This zone consists of the following areas, namely:

- Residential townships (high population density);
- Agricultural or small holdings with limited agricultural potential;
- Smaller farms surrounding or within urban areas with little agricultural or farming potential or any potential for tourism related activities;
- Schools and other educational facilities;
- Religious buildings (churches);
- Sport fields and stadiums;
- Municipal property.

8.2.3 High control zone

This zone consists of the following areas, namely:

- All rural villages as set out in the Polokwane Spatial Development Framework;
- Agricultural or small holdings with high agricultural potential;
- Farms with high agricultural or farming potential and potential for tourism related activities;
- Zoned public open space (parks) or areas indicated as parks in a layout plan, general plan or any other spatial framework plan;
- Natural vacant open space;
- Cemeteries;
- Ridges, koppies and mountains.

8.2.4 Maximum control zone

This zone consists of the following areas including a 200m buffer zone around such area, namely:

- Areas of cultural importance, heritage sites and archaeological sites;
- Historical sites and buildings proclaimed in terms of National Monuments Act and/or National Heritage Resources Act
- Nature conservation areas, botanical gardens, conservancies, birds sanctuaries;
- Wetlands, dams and pans;
- Areas where Red Data species are known to occur.

(For easy reference, the municipality may introduce a map indicating different control zones).

8.3 DISTANCE BETWEEN ELECTRONIC COMMUNICATION FACILITIES

The following types of mast and antennas will be allowed within a distance of 200m from each other within low control zone and 500m from each other within Partial Control Zone and High Control Zone, within a maximum control zone the facility will be allowed outside a buffer of 200m around such area and must be 500m away from any existing facility[2]:

3.1.1.1. Type A: Freestanding masts:

3.1.1.2. Type B: Concrete towers

3.1.1.3. Type C: Camouflaged masts

The following electronic communication facility type's mast will be allowed within a distance of 1m – 50m from each other within all Control Zones:

3.1.1.4. Type D: Rooftop antennas & antennas attached to buildings or structures

3.1.1.5. Type E: Dish antennas and transmission dishes

3.1.1.6 Type F: Multi functional use antennas and structures

Distance will not be applicable within all Control Zones with regard to the following types of ECF:

3.1.1.7. Type H: Masts and antennas incidental to the enjoyment of a dwelling unit

8.4 PLANNING APPROVAL PROCEDURE.

All land development and land use applications for ECF shall be made in accordance with the requirements of the Polokwane Municipal Planning By-Law, 2017, National Building Regulations and Standards Act No. 103 of 1977 and the provisions of Polokwane/Perskebult Town Planning Scheme, 2016 or Polokwane Land Use Scheme as amended from time to time. The submission of an application shall be preceded by consultation between the applicant or its agent with City Planning and Property Management in order to facilitate the processing of the application in an efficient and effective manner.

[2] NB: Only different networks can be supported within the said radius with support of the network coverage Map or analyses plan.

8.4.1 Requirements for submission

All land development and land use applications for ECF must be accompanied by a Site Analysis Plan which clearly illustrates the proposal in the context of the existing landscape and receiving environment and drawn to an appropriate scale. Accompanying the Site Analysis Plan must be a Report detailing the motivation for the selected site, detailing how the sitting and design of the facility has responded to the site analysis and satisfactorily demonstrating to Municipality that all alternatives on the site itself have been explored.

A Zoning and Land Use Map to a scale of 1:2000 (A4) indicating zoning and land use must be submitted. Indicate on such map all areas of environmental and heritage significance, if applicable and any habitable structure that is within a 50m zone directly in front of the mast or antennas at the same height (refer to fig 1). A Report and Map that demonstrates how the proposed site relates to the existing and proposed Electronic Communication Network (ECN) and ECF and confirming that the applicant has looked at all possible existing options for co-location. A radius of 1 kilometre around the site must be shown, showing existing or proposed ECF and other possible support structures. If no available alternative is possible, this fact must be motivated in the report to the satisfaction of the Municipality. The Report must detail possible sharing opportunities with other Electronic Communications Network Service Licensee (ECNSL) in the future. This may include making provision in the design of the ECF so that it can physically cope with accommodating infrastructure of all other ECNSL or that the building that is to accommodate the equipment room should be constructed so as to be able to contain additional ECNSL containers in the future.

8.4.2 Information to be submitted with the application.

The following plans or documents may be required when applying for consent use for the erection of ECF —

8.4.2.1 Site Analysis Plan

(Scale 1:2000) with accompanying Report

A Site Analysis should include a Map and Report that provides sufficient information relating to the site and its surroundings to assist in the assessment of ECF proposals. This is to ensure that it is designed and located in the best possible manner so as to minimise visual impact and any concerns over RF EME exposure levels.

When applying for an ECF (mast) the Municipality may require the following information to be included in the submission —

- zoning, site boundaries and dimensions
- confirmation letter from ECNSL who will be making use of the facility
- location and height of the TMI
- The South African Civil Aviation Authority (CAA) approval and conditions should be obtained and complied with;
- surrounding land uses to a radius of 200m;
- surrounding areas of environmental & heritage significance;
- a copy of the Record of Decision or a letter of exemption relating to the application site from LEDET;

- numerical simulations of predicted RF EME levels (*If there is habitable structure within the 50m zone at the same height and in front of the mast with panel antennas*);
- Prescribed approval or exemption in terms of Environmental Laws and Regulations should be obtained and any condition be adhered to;
- a letter of consent from the registered owner of the property granting consent for the application to be submitted to the Municipality;
- a radio plan indicating the coverage achieved of all of the ECNSL
- a map indicating all existing ECF within a 1 km radius of the proposed site;
- proximity to adjacent or nearby buildings or other tall structures
- proximity of ECF to other existing ECF sites.
- other information as required by the Municipality

When applying for an Electronic Communication Facility (antenna) on an existing building or structures, the Municipality may require the following information to be included in the submission —

- site boundaries and dimensions;
- confirmation letter from ECNSL who will make use of the facility;
- location and height of the TMI;
- The South African Civil Aviation Authority (CAA) approval and conditions should be obtained and complied with;
- proximity to adjacent or nearby buildings and use of such buildings;
- use of the building and position of such building relative to electronic communication facility;
- proximity of electronic communication facility (mast or antenna) to other electronic communication facility (mast or antenna) and other possible support structures;
- photographic illustrations of the proposal within its setting;
- a letter of consent from the registered owner of the property granting consent for the application to be submitted to the Municipality;
- a radio plan indicating the coverage achieved of all of the ECNSL;
- a map indicating all existing ECF within a 1 km radius of the proposed site;
- a copy of the Record of Decision or a letter of exemption relating to the application site from LEDET
- numerical simulations of predicted RF EME levels (*If there is habitable structure within the 50m zone at the same height and in front of the mast with panel antennas*);
- a community resolution facilitated by Department Rural Development and Land Reform *(applicable on Tribal land)*
- any other information requested by the Municipality

8.4.2.2 Electronic Communication Facility Plan

(scale 1:1000 as well as a reduced A4)

The following information is required with an application for ECF—

- dimensioned plans showing detail of the ECF;

- graphic illustrations including photographs of similar facilities or computer generated simulations showing the type of facility and its relationship with adjacent development;
- elevations showing the extent, height and appearance of the proposed facility as viewed from any adjacent street, public place and adjacent property;
- proposed materials and colour of the facility, and proposed arrangements for maintenance and future modifications in response to changes to any adjacent buildings or structure;
- any screening or fencing proposed in conjunction with the facility, including arrangements for maintenance;
- how the proposed facility relates to the existing and proposed electronic communication network and electronic communication facilities, and what, if any, additional facilities are known by the applicant to be under consideration to meet projected future increases in demand.

8.5 STANDARDIZED CONDITIONS OF APPROVAL FOR ECF

An approval of a site for ECF, the following conditions may apply:[3]

8.5.1 General

- If the site is decommissioned, the applicant must remove all site infrastructures and the site must be rehabilitated, within one month, to an acceptable state or to a condition that is in line with the land use and character of the area at the time, as required by the Municipality.
- Conditions of approval must be made known to any new owner of the site and are binding on the successor in title.
- The combined or weighted RF exposure of a person may not exceed the public exposure guideline as set by the ICNIRP.
- The applicant shall grant the Municipality access at all reasonable times to the installation, for the purpose of monitoring inspection and compliance certification.
- No unauthorized person should be able to come within 5m in front of the panel antennas. Clearly marked warning signs, must define this no go zone.
- Should any further research link electromagnetic radiation to health issues, the Municipality may impose further conditions to keep it in line with CNIRP.
- The finishing and colour of the panel antennas for rooftop sites must be in keeping with the building to which it is attached.
- This approval does not exempt the applicant from any other By-laws or Regulations that may be applicable including any lease/way leave approval that may be required for location in a Council road reserve or on other Council owned property.
- The mast or equipment room should not be utilised for outdoor advertising purposes.

8.5.2 Visual impact, landscaping and public amenities

- Paintwork, materials and finishes used for the fencing, posts, antennas and equipment container must be in accordance with the specifications on the approved plans, and also maintained as such.
- The equipment room for rooftop sites must be set back as far as possible from the edges of the roof.

[3] During formulating conditions of approval, any further site specific issues or conditions which are not dealt with in the general conditions must also be included as conditions of approval.

- Any lighting of structures shall be shielded from adjacent properties (tilted downwards), and should avoid upward light pollution.

8.5.3 Impact on existing services and utilities

- Rooftop Installations should be situated in such a manner that they do not interfere with other utility functions.
- In the event that interference occurs with Council's services, this shall be rectified by the facility owner and at the cost of the operator, within the timeframe stipulated by Council.

8.5.4 Public health, safety and security

- If access to the rooftop is prevented, for example, by a locked door, ensure that this conforms with fire escape procedures.
- Access to the antennas and or mast and equipment room must be strictly controlled by means of a fence or wall with locked gate and adequate warning signs in the official languages must be displayed on the gate.

8.5.5 Lease[4]

- The application for temporary departure may become effective upon the approval of the lease application for a part of the property for the erection of ECF.
- If for any reason, any condition of the lease agreement is breached or the lease ceases to exist, the temporary departure shall expire.
- Prior to approval of building plans, the applicant must provide the Municipality with an indemnity form, indemnifying the Municipality against any possible public claim arising from the erection or use of this installation.

8.5.6 Special conditions

- Any special conditions relevant to a particular site (e.g. mitigating factors such as landscaping required), should be added under this section.
- Council may require a master plan to be approved that indicates the grid network of existing and proposed ECF for each ECSL to manage the integration of ECF into existing services within Councils road reserves.

9 GENERAL PROVISIONS

9.1 The Independent Communication Authority of South Africa (ICASA)

ICASA advises Polokwane Municipality to take note of the developments highlighted by the Minister of Telecommunications and Postal Services in his 2018/2019 Budget Speech: "the Minister indicated that the Department of Telecommunications and Postal Services (DTPS) has put into operation the National Rapid Deployment Coordinating Centre (the Centre), which comprises of representatives from all spheres of government and industry. The Centre will amongst others, establish a common automated way-leaves application system and create a geographic mapping information database of all fibre and other electronic communications network facility deployments.

In addition, the DTPS plans to submit the ECA Amendment Bill to Parliament in the second quarter of 2018, which amongst others, aims to institutionalise enabling

[4] *Note: section 8.5.5 is applicable on Municipal owned properties*

provisions for rapid rollout of electronic communications networks and electronic communications facilities.

9.2 Public health and safety

If a habitable structure is within the 50m zone at the same height and in front of the mast or antennas; this being typical mast with panel antennas, at an approximate 60 degree angle, or any other type of installation numerical simulations of predicted RF EME levels must be submitted to Manager Community Health Services, for verification and assessment, prior to approval of the site.

Community Health Services SBU may request further information or verification from the applicant, which may include numerical simulations of predicted RF EME levels done by an independent certified institution. These readings must be submitted with reference to compliance with the latest public exposure limits, i.e. what percentage it is of the ICNIRP guidelines.

Once a site is operational, the Municipality may request a test report to be carried out by an independent certified institution providing the results of measurements showing the actual RF EME levels from that site, with necessary detail as determined at that time. The cost of carrying out such tests shall be borne by the applicant.

9.3 Installation of antennas on street light

Installation of antennas on Masts which accommodate street lighting (less than 15m) and street light poles which accommodate antennas will be decided by municipal Council by signing Memorandum of Understanding/Lease Agreement with interested Electronic Communications Service Licensee'. The installation of antennas on street light is not regarded as a land use and as a result once the lease agreement is signed the ECSL will start with the installation.

10. IMPLEMENTATION

This Policy will be effective from the date it is approved by Council and will be retrospectively applied to applications that are already in the system.

The Policy will be applied within the Municipality's existing development application process and will need to be considered by officials in the assessment of development applications.

It is the applicant's responsibility to ensure that where parallel processes are required, in terms of other legislation, that these are integrated as far as possible and to ensure that design considerations are considered in order to streamline all levels of approvals and minimise risk.

Prospective applicants who are considering projects to which the policy would apply are welcome to engage the Municipality in pre-submission consultation.

11. MONITORING, EVALUATION AND REVIEW

Council must ensure that conditions of approval are complied with.

11.1 Monitoring

The Municipality can request a Network Plan from each respective Electronic Communications Network Service Licensee (ECNSL). This would enable Council to see all existing and planned sites for Polokwane Municipality and how the different networks' sites relate to each other.

At any time the Municipality may request monitoring by an independent certified expert in the field, to verify any issue relating to the location and operation of ECF, as put forward by the ECNSL, at the expense of the ECNSL. In this way, compliance monitoring, to check that RF EME levels are within standards set for public exposure limits, can be verified at any time. Alternatively the Municipality may take its own readings.

The ECNSL should at all times comply with the requirements of the NDOH and the ICNIRP on non-ionizing radiation protection with respect to safety standards.

11.2 Evaluation

Any ECF which is erected in contravention of an approval given by council may be required to be rectified in terms of a notice served on the land owner or ECNSL, as deemed necessary.

11.3 Review

This Policy will be reviewed every five years. The ECNSL as a primary stakeholder must play an active role in the monitoring and evaluation of this policy. The effectiveness of the policy in facilitating decision making process will be ongoing.

Schedule 1

MITIGATION GUIDELINES

Site or property characteristics	**Mitigation guidelines**
Existing fences with a common style or predominant colour that are a positive feature in the landscape.	The fence around the base station site must match the style and colour of the other fences.
Walls as a positive feature in the environment.	The wall around the base station site must match the style and colour of the surrounding walls.
Existing buildings have an architectural theme.	Any structures built must respond to this theme.
Open or exposed locations where the background is mostly sky.	Any structures should be left unpainted in a galvanized finish.
Existing buildings with one or two predominant colours or design elements. (e.g. a brick building with a pitched roof).	Any structures should be painted from the same palette of colours. If the equipment room cannot be housed within an existing building, then it's architecture must respond to the predominant design elements.
An open space or natural area	If possible equipment container and mast must be camouflaged physically within the environment- camouflage structures (trees, rocks) or painted a suitable natural colour.
Residential areas where trees are an important landscape feature	Camouflage support structures as trees that are appropriately part of the local landscape.
Residential areas with few trees	Place ECF on existing street features such as light poles.
Urban areas	Incorporate ECF into existing buildings wherever possible.

Schedule 2

DISGUISED ECF

One way to reduce the impact of ECF on its surroundings is to disguise them. One of the most popular methods is to construct a false tree - these tend only to be successful if they are at roughly the same height as other trees (as in the palms shown here) or in a forested area. They also need to be very well designed and constructed to be effective. Sculptures and towers can be built to be ECF, and these tend to be more successful in urban and suburban settings.

The false rock below is a good example of an unobtrusive ECF, with good landscaping around it.

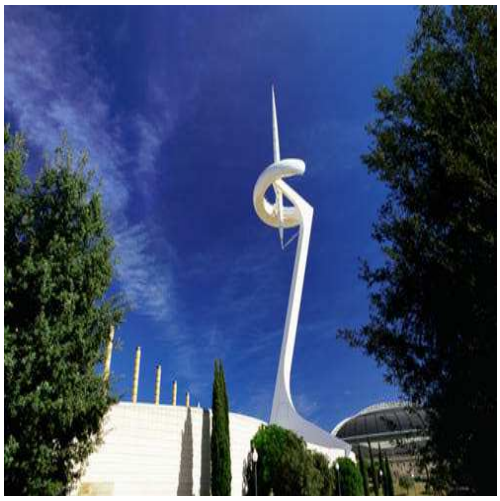
ECF designed as an architectural feature

Mosaic Tower

For a more urban setting, Mosaic tower is a beautiful landmark. ECF, nowadays hugely interacting with urban landscape, can no longer be considered as a simple technological element. They are becoming a contemporary symbol, connected and intertwining with material and immaterial networks.

Montjuic Communications Tower

Calatrava's beautiful and original communications tower was built for Telefónica in the heart of the 1992 Olympic site, to carry coverage of the Games. Aside from its distinctive structural form, the tower is innovative in enclosing the circular platform of microwave dishes, replacing the normal clutter with a serene white arc. As a result the 130 meter structure becomes a welcome feature in the Olympic park.

ECF placed on other structures including utility structures

As long as it's not too obtrusive, it is ideal to place TMI on existing structures.

It is far better to use lightpoles, flagpoles etc. to carry the transmitters than to build obtrusive towers, even if more transmitters are needed.


Types of mast

Type A1: Monopole or sectional pole


Type A2: Lattice masts


Type B1: Concrete tower and concrete tower with lattice masts on top

Type C1: Camouflaged masts

Type D: Rooftop antennas and antennas attached to buildings or structure

Antenna attached to structure: Street light mast

Type E: Dish antennas

Type H: Masts and antennas incidental to the enjoyment of a dwelling unit

<u>Type J: Antennas added on existing telecommunication structure for mast sharing</u>.