

## (13) SPECIFICATION(S)

### 13.1 INTRODUCTION

The objective of this tender is to appoint telecommunication service providers with whom the City will be able to procure telecommunications services as specified in the following sections as and when needed.

The City expects to use this tender for the provisioning of telecommunications services on new sites and the maintenance/replacement of existing services where appropriate.

Service providers (voice and data) are invited to offer the services as specified in this Section.

### 13.2 TECHNICAL SPECIFICATIONS AND VENDOR RESPONSE GUIDELINES

#### 13.2.1 SCHEDULE A. SUPPLY OF SIP TRUNKING SERVICES

Service Providers are requested to provide SIP (Session Initiation Protocol) channels, voice trunking and interconnect from the tenderers network to the City's network, and (if applicable) to other operator networks (interconnect only).

The City wishes to use a single SIP Service Provider for both incoming and outgoing calls.

The SIP trunk interconnection provided must comply with the following minimum requirements:

- SIPv2 according to RFC3261
- SIP port 5060
- G.729 codec with no VAD
- 20-byte payload size (10ms packetization time)
- RTP/UDP ports between 16384 and 32767
- Send E.164 format all 10 digits for both called and calling number
- For DTMF to work, using in-band RFC2833 compliant method
- Fax codec - T38 and G711 fall-back
- Signalling transport protocol - UDP
- RTP Transport – UDP
- Early offer
- SIP OPTIONS

The primary service required is:

- Voice services – SIP interconnect voice trunking

#### 13.2.1.1 SCHEDULE A.1. - PRIMARY SIP TRUNKING SERVICE

The City has an internal VoIP network with two aggregation hubs, one at the Keller House Switching centre in the Cape Town CBD and the other Bellville Switching Centre (Bellville Civic Centre):

- Keller House, Corner of Loop and Wale Street Cape Town CBD (-33.922939, 18.417639)
- Bellville Civic Center, Corner Voortrekker and Oos Street, Bellville (-33.903429, 18.637654)

The service providers are required to provide alternative route fibre connectivity to the Bellville Civic Centre and Keller House (Cape Town) Voice hubs to the designated service provider's local exchange/switch. Connectivity will terminate on the City's Oracle Session Border Controllers via City's voice switch, which is installed at each of the voice hub.

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The capacity of the Primary SIP Trunk Service must be able to handle **at least 1500 concurrent** calls/sessions at any given time. The SIP channels may be upgraded or downgraded based on award and or usage trends observed over time.

The City expects to retain its current number range. It will therefore be expected that voice telephony service providers must be able to manage geographic number porting and manage the number range accordingly. The tenderer need to make sure that number porting is part of the SIP Voice Trunk Installation pricing.

Service providers must be able to assign and administer at least 1,000 consecutive numbers to the City, in blocks of 500. The City will take charge of its own number range, and allocate numbers on a departmental rather than geographic basis.

The service provider shall provide an SLA and business priority response times against the service that shall include:

- 99.5% uptime for incoming calls (for a given calendar month) of the SIP Trunk Service
- 99.0% uptime for outgoing calls (for a given calendar month) of the SIP Trunk Service
- The service provider to offer fraud detection, and alert the City of suspicious behavior
- Monthly service meetings with relevant city department

The City reserves the right to redirect its outgoing calls to the secondary service provider in the event of:

- Any SIP Trunk service outage or any other issues related to the service provider
- Business Continuity testing on an annual basis.

The SIP Trunk Service must offer geolocation failover between the two specified sites. The primary point of interconnection with the service provider will be at Keller House, whilst the Bellville Switching centre will act as the failover point:

- The responsibility lies on the Service Provider to manage, monitor and automatically execute failover in the event of a SIP trunk disruption
- From time to time the City may request a manual failover for the purposes of BCP testing and maintenance work.

The service to be provided includes installation, hardware, and maintenance of the trunking and interconnect service and any specialized equipment required; routing outgoing voice calls originating from the City’s network, and delivering incoming and accepting outgoing calls to and from numbers in the City’s number range to the voice aggregation hubs.

Note that some buildings that are part of the VoIP network may continue to make use of existing PRIs for incoming calls.

**RESPONSE AND RESOLUTION TIMES**

Call Priority definitions that the city expects tenderers to adhere to:

<b>Severity</b>	<b>Description</b>
<b>P1</b>	Total outage, no voice services or service, i.e. no incoming or outgoing calls
<b>P2</b>	Voice services or service degradation with severe impact, i.e. but not limited to dropped calls, voice quality, call routing failures, misconfigurations
<b>P3</b>	Voice services failure or degradation but no or little impact
<b>P4</b>	All other voice or service related queries
<b>Change Requests</b>	Internal change requests to city owned/rented infrastructure will follow the City’s Change Request process.

<b>Severity</b>	<b>Time to Respond</b>	<b>Time to Restore during business hours</b>	<b>Time to Restore after hours</b>

P1	10 Minutes	30 Minutes	30 Minutes
P2	30 Minutes	2 Hours	4 Hours
P3	1 Hour	24 Hours	NA
P4	24 Hours	36 Hours	NA

## SERVICE DELIVERY GUARANTEE

The city expects the primary service provider to provide a written guarantee after award but before the contract commencement date:

- To migrate the City's current SIP Trunk service/s within **3 calendar months** from date of contract commencement.
- Provide the City with a detailed plan outlining the migration process within 10 working days of submitting the guarantee.
- Manage the entire migration process, at no extra cost to the city other than the pricing that has been submitted, including but not limited to:
  - Number Porting
  - Call Routing Migration
- The tenderer with the City, will produce a testing plan that will determine the success of the migration
- The tenderer will provide the city with an architecture and/or design documentation for the City's reference.
- Ensure that the current SIP Trunk service/s remains uninterrupted from day 1 of contract commencement, at no extra cost to the city other than the pricing that has been submitted.
- Adhere to all other service performance criteria including the "Additional Contract Conditions (Special Conditions (7))"

### 13.2.1.2 SCHEDULE A.1 - SESSION BORDER CONTROLLER MANAGED SERVICE

The service must include:

- Installation of Managed Session Border Controllers at the City's Voice Hubs
- Management, including:
  - Hardware replacement, due to fault, end-of-life.
  - Configuration changes
  - Changes requested by city, i.e. trunk configuration changes, realms etc.
  - Interconnect configurations to other voice providers
  - Call Routing
  - Availability and uptime management
  - Frequent Vulnerability assessments
- The service must include at least a 99.0% uptime for a calendar month.
- Reporting:
  - Usage, Security, Audit finding reports.
- Penetration testing, fraud and suspicious activity testing detection,
- Troubleshooting
- The service must cater for voice and video calling (internal) – 15,000 VoIP phones
- The service must be compatible with the City's Broadsoft Voice Switch and telephone endpoints i.e. Yealink and Cisco
- If applicable the ability to export call records (CDR).
- Manage and configure SIP Trunks to other Voice service providers, both internally and externally.

Design:

- The Management Service must isolate and protect the City's Broadsoft Switch from both internal (network) and external (internet, public and service provider) networks
- The service (devices) must protect the City's Primary Broadsoft Switch at Keller House and secondary switch Bellville Civic.
- The service must provide hardware failover (inter and intra site), limited to the infrastructure the city can provide.
- Ability to interconnect and protect the City from other Service Providers

### 13.2.7 SCHEDULE A.1.– SIP MANAGED SUPPORT SERVICE

The City of Cape Town runs a 24/7 Emergency Call Center commonly referred to as 107 or EPIC (Emergency Policing Incident Control). The call center is responsible for servicing and dispatching various emergency calls such incidents of fire, disaster, law enforcement and traffic, thus the availability of the call center is critical.

The city requires a separate highly available and redundant SIP trunking service, that is independent from its Corporate SIP trunk/s.

The City of Cape Town wishes to procure a managed service from a provider, that will:

- Implement and Manage the SIP Voice Service
- Support and maintenance of the service 24/7, which will include:
  - A 99.0% uptime for a calendar month.
  - Onsite and offsite call outs
  - Adhere to the same response times at the Primary SIP trunk service.
- Reporting and Monitoring
  - Monitor the service 24/7
  - Provide reporting not limited to:
    - Performance
    - Calling Statistics
    - Exported calling statistics and records, (CDR, excel, csv)
- Manage outages and issues with Voice Service providers
- Route all calls to 107 (107 short dialling number) from all Voice Providers (Mobile and fixed) within the City of Cape Town Boundaries to the City's Emergency Center VoIP Switch. It will be the responsibility of the appointed Managed Service Provider's to negotiate, implement and maintain this.
- Route a "Select for Fire Emergencies" option via 112 on Voice Providers (Mobile and fixed) within the City of Cape Town Boundaries to the City's Emergency Center VoIP Switch. It will be the responsibility of the appointed Managed Service Provider's to negotiate, implement and maintain this.
- Route all other emergency and non-emergency (geographic) numbers to the City's Emergency Center VoIP Switch.
  - Service could include porting the City's emergency and non-emergency (geographic) numbers to this service.
- The City's expects the service to handle 100 concurrent calls, but could scale to 200.
- Perform configuration and design changes to the service at no additional cost to the City.

The City of Cape Town boundaries for this service comprises of the 021 dialling code area, including Stellenbosch and Grabouw (107 Area of responsibility)

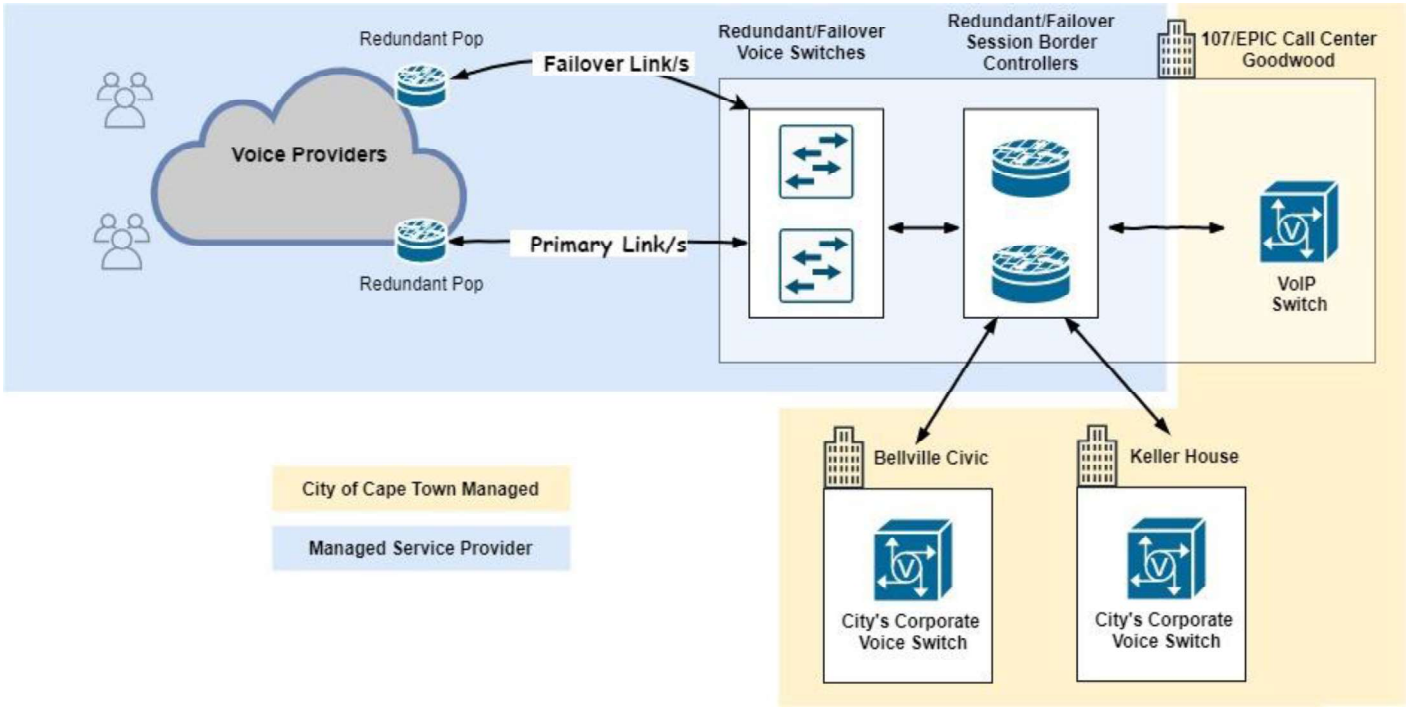
The city aims to provide a seamless experience by which the public can contact the city's emergency services regardless of which operator they are calling from.

Scope:

- Managed Service Provider will only be responsible for delivering the call from Voice Providers to the City's VoIP Switch, including the supply of all hardware required as part of the service.
- Implemented hardware will remain the property of the managed provider.
- The City will manage its own internal VoIP.

Design Reference:

Service providers are to use the following logical design as a **reference** only when submitting their own design and pricing.



**13.2.2 SCHEDULE B. SUPPLY OF VOICE SERVICES**

**13.2.2.1 Voice Services Rental and installation**

**ISDN SERVICES**

The service provider will be expected to provide the City with ISDN (Integrated Service Digital Network) Services including hardware, i.e. maintain existing and new services.

The service provider will be responsible to make sure that all existing 021 (10 digit geographic) numbers remains assigned to the individual lines, and that if any number porting or migration is required, this will be done at no cost to the City, and the process will not disrupt the line service.

The City may order new ISDN services. Service Provider must ensure that they provide ISDN services to the City's existing lines as listed in **Schedule 15 C – Existing ISDN Services**.

**FIXED LINE LOOK A LIKE SERVICES**

The service provider will be expected to provide the City with a Fixed line look alike Telephone Services including hardware, i.e. maintain existing and new services.

The service provider will be responsible to make sure that all existing 021 (10 digit geographic) numbers remains assigned to the individual lines, and that if any number porting or migration is required, this will be done at no cost to the City, and the process will not disrupt the line service.

The City may order new fixed line look a like telephone services, that may require the porting of an existing 021 (10 digit geographic) line/number or assigned a new number. Service Provider must ensure that they provide Fixed line look alike Telephone services to the City's existing lines as listed in **Schedule 15 C – Existing Fixed line look alike Telephone Services**.

**SERVICE DELIVERY GUARANTEE**

The city expects the primary service provider to a provide written guarantee after award but before contract commencement date:

- To migrate the City's current service/s within **3 calendar months**.
- Manage the entire migration process, at no extra cost to the city other than the pricing that has been

submitted, including but not limited to:

- Number Porting
- Call Routing Migration
- Ensure that the current service/s remains uninterrupted from day 1 of the contract commencement, at no extra cost to the city other than the pricing that has been submitted.

If the primary service provider is unable to provide such a guarantee or unable to deliver the service, the City will seek to award the schedule to a secondary service provider by requesting the secondary service provider to respond to the guarantee request.

#### **13.2.2.2 ADSL Installation and Rental (existing only)**

The service provider will be expected to provide the City with ADSL Services including hardware, i.e. for **existing lines only**.

The service provider will be responsible to make sure that all existing 021 (10 digit geographic) numbers remains assigned to the individual lines, and that if any number porting or migration is required, this will be done at no cost to the City, and the process will not disrupt the line service.

Service provider must ensure that they provide ADSL services to the City's existing lines as listed in **Schedule 15 B.3 – Existing ADSL Services**

#### **SERVICE DELIVERY**

The city expects the primary service provider to provide a written guarantee after award but before contract commencement date:

- To migrate the City's current service/s within **3 calendar months**.
- Manage the entire migration process, at no extra cost to the city other than the pricing that has been submitted.
- Ensure that the current service/s remains uninterrupted from day 1 of the contract commencement, at no extra cost to the city other than the pricing that has been submitted.

If the primary service provider is unable to provide such a guarantee or unable to deliver the service, the City will seek to award the schedule to a secondary service provider by requesting the secondary service provider to respond to the guarantee request.

#### **13.2.2.3 SMART ACCESS TELEPHONE SERVICES OR EQUIVALENT**

The service provider will be expected to provide the City with SmartAccess telephone services or equivalent.

The service provider will be responsible to make sure that all existing 080, 0860 and 0861 numbers remains active, and that if any number porting or migration is required, this will be done at no cost to the City, and the process will not disrupt the line service in anyway.

#### **SERVICE DELIVERY**

The city expects the primary service provider to provide a written guarantee after award but before the contract commencement date:

- To migrate the City's current service/s within 3 calendar months.
- Manage the entire migration process, at no extra cost to the city other than the pricing that has been submitted.
- Ensure that the current service/s remains uninterrupted from day 1 of the contract commencement, at no extra cost to the city other than the pricing that has been submitted.

If the primary service provider is unable to provide such a guarantee or unable to deliver the service, the City will seek to award the schedule to a secondary service provider by requesting the secondary tenderer to respond to the guarantee request.

#### **13.2.3 SCHEDULE C: THE SUPPLY OF EXISTING LEGACY VOICE AND DATA LINK SERVICES**

##### **PSTN and SpaceStream or equivalent Voice Services**

The service provider will be expected to provide the City with PSTN Telephone Services (Analog Telephone Land Lines), i.e. maintain existing and new lines.

The service provider will be responsible to make sure that all existing 021 (10 Digit Geographic) numbers remains assigned to the individual telephone lines, and that if any number porting or migration is required, this will be done at no cost to the City, and the process will not disrupt the line service.

The City may or may not order new PSTN telephone services. Tenderer must ensure that they provide PSTN services to the City's existing lines as listed in **Schedule 15 C – Existing PSTN Telephony Service**.

### **13.2.4 Voice Billing and Reporting**

The city expect the relevant service providers to implement per second billing.

#### **13.2.4.1 Voice Billing, reporting and service level management**

Appointed service provider/s for Schedules A - H voice services must provide the following information on a monthly basis for all services:

- Call detail record (CDR) in digital format that can be analyzed using Microsoft Excel. The CDR must contain the following information for all calls made:
  - Call made Date
  - Call Made Time
  - Duration (seconds)
  - Originating City of Cape Town Number
  - Terminated Number
  - Terminated Service Provider
- SIP Trunk utilization, availability and quality of service statistics and reports on demand.
- Data availability and quality of service statistics and reports on demand
- Monthly Account Consolidation Invoice that contains:
  - Vendor information
  - City of Cape Town Order Number
  - Previous month closing balance
  - Payments received
  - Month's expenditure
  - Closing Balance
- Monthly Service Rental Detail Invoice in PDF and Excel format that contains (list of all service):
  - Vendor Information
  - Account Number
  - Service Number
  - City of Cape Town agreement/item/line number for service (City of Cape Town will provide information per service awarded to vendor)
  - Service Type
  - Description of Service or data line speed
  - Distance Band (if applicable)
  - Monthly Rental
  - Discount on Rental (if applicable)

#### **13.2.4.2 Monthly Voice Service Usage Detail Invoice:**

The service providers should provide a monthly call report in the following format:

Terminating Service Provider	Charge / Min	Duration (s)	Cost (excl VAT)
On Net (local) - Peak			
On Net (local) – Off Peak			
On Net (national) - Peak			
On Net (national) – Off Peak			
Telkom (Local) - Peak			
Telkom (Local) – Off Peak			
Telkom (National) ) - Peak			
Telkom (National) – Off Peak			
Neotel/Liquid (Local) ) - Peak			
Neotel/Liquid (Local) – Off Peak			
Neotel/Liquid (National) ) - Peak			
Neotel/Liquid (National) – Off Peak			
Vodacom - Peak			
Vodacom – Off Peak			
MTN - Peak			
MTN – Off Peak			
Cell C - Peak			
Cell C – Off Peak			
Telkom Mobile - Peak			
Telkom Mobile – Off Peak			
MVNO Operators - Peak			
MVNO Operators – Off Peak			
ECN and USAL Terminations - Peak			
ECN and USAL Terminations – Off Peak			
Telkom Special Numbers - Peak			
Telkom Special Numbers – Off Peak			
International) - Peak			
International – Off Peak			
<b>TOTAL COST</b>			

### 13.2.4 SCHEDULE D - SUPPLY OF DATA LINK SERVICES

The city requires the use of a managed service provider link/s to interconnect city's buildings where the City does not have the Infrastructure in the area, when needed, the service provider will be requested to provide any or a combination of Layer-2, Point-to-Point (VPN), or a Point to multi Point (VPLS) on a Dark Fibre or Radio link (no Internet breakout) as infrastructure which will transport the following services :

- Voice Services (e.g. VOIP Traffic)
- Data Services (web, email, video etc)
- Video Conferencing

The purpose of this schedule is to invite licensed telecommunications service providers to provide data links that will carry the above telecommunication services for the City the Cape Town when required. Services can be supplied on Fibre or Radio infrastructure as long as the link will meet the link availability specified in Table-13-3. The evaluation of data services will be based on the following criteria:

Service providers must provide pricing for:

- Monthly bandwidth cost for a link service level availability of 99.00%.
- Once off link installation fee for a link with service level availability 99.00% (Installation cost must include (but not limited to) costs for supply, installation, site surveys, planning, hardware, labour and commissioning of all relevant infrastructure and hardware equipment necessary to bring up the requested service).

Services can be supplied on Fibre or Radio infrastructure as long as the link will meet the link availability specified in Table-13-3.

#### Peering Points of all Data Links

The city currently has two points of presence (POPs) which are Bellville switching Center and Keller House (more information can be supplied for these locations). These two locations will be used as the primary peering points for new and existing sites (that will be migrated).

Connectivity between the tenderer's PoP/s and City's PoP (Bellville or Keller House) primary peering location must be dual fibre (geographical redundancy) to location. This connectivity must be at no extra cost to the City other than pricing submitted in the price schedules.

Whichever option is agreed upon at no extra cost to the city, the tenderer is obligated to meet the link service level availability specified (Table 13-3).

The City at its own sole discretion will only allow a tenderer to terminate a data link at an "alternate" peering point other than the two primary peering points if:

- There are extreme and exceptional circumstances that necessitates it, to be handled at case by case basis at the City's discretion. The City has the right to decline any request.
- The request to use an alternate peering point was initiated by the tenderer and accepted by the City, the tenderer will:
  - Endeavour to eventually terminate the connection at a primary peering point within an agreed timeframe
  - There will be no installation/migration cost to the city for migrating the termination point.
- The alternate peering point is to be decommissioned or found to be no longer in the best interest of the City for whatever reason:
  - The City will inform the tenderer of this decision in advance.
  - If the request for the alternate peering point was initiated by the tenderer, there will be no installation/migration cost to the city for migrating the termination point to the primary peering point/s
  - If the request to use an alternate peering point was initiated by the city, tenderer may not charge the City any additional costs other than the installation/migration costs submitted as per the price schedule.
  - Should the termination of the data link not be possible at a primary peering point, the City and tenderer will agree an alternate peering point. However, the same installation/migration costs conditions will apply.

**13.2.4.1 Definitions:**

**“Business Day”** means a day which is not a Saturday, Sunday or South African public holiday

**“Business Hours”** means 08:00 to 17:00 on a Business Day

**“Calendar Day”** means the period of time that begins at 00.00.00 and ends 23:59:59 on any given day in a given month

**“Calendar Month”** means the period of time that begins at 00.00.00 on the first Calendar Day of any given month and shall consist of the number of Calendar Days in such month, ending at 23:59:59 on the last Calendar Day of the same month;

**“Change Management”** means a formal process used to ensure that all additions, configuration changes and decommissions that may affect network performance are handled so as to ensure that the potential negative impact of every change is minimised, and that network availability and performance are unaffected

**“the City”** means the City of Cape Town, a metropolitan municipality as contemplated in section 1 of the Local Government Municipal Structures Act 117 of 1998;

**“City Sites”** means the physical buildings or other facilities occupied by the City, that are physically connect to the Municipal Broadband Infrastructure and thereby part of the Metro Area Network

**“Critical Incident”** means an Incident resulting in the unavailability of service at one or more Sites

**“Telecoms Operating Center” (TOC)** means City of Cape Town Network Operating Center that monitors and responds to the telecommunications network incidents 24/7/365

**“Emergency Repairs”** means the urgent repair of Infrastructure that are either damaged or not operating optimally, sufficient so as to restore service as quickly as possible after an event that results in the unavailability of a Service

**“Incident”** means any unplanned interruption or reduction in quality of a Network Service;

**“Packet Loss”** means the measure of the reliability of packets of data sent across a network;

**“Incident Management”** means problem resolution processes and procedures by which normal operational service is restored as quickly as possible as determined by the city following a Critical Incident, with the minimum disruption to business operations, so that the highest possible levels of service availability and quality are maintained

**“Maintenance Window”** means a period of time when the City may carry out Routine Maintenance

**“Mean Time to Restore” (MTTR)** means mean the time taken to resolve an Incident.

**“Time to Restore” (TTR)** The time taken to Restore an Incident from the time it was reported/handed over by the TOC to the time when the incident was closed

**“Mean Time to Respond” (MTTR)** means the average Response Time, measured on a moving twelve-month basis. The Time to Respond (TTr) is the actual Response Time for a specific Incident;

**“Time to Respond” (TTr)** The time taken to respond to and take action in an effort to resolve the reported Incident by the TOC.

“**Routine Maintenance**” means preventative and corrective maintenance work undertaken on a planned basis on the Telecommunications Infrastructure, so as to maintain its optimal performance;

“**Resolution**” (or “Resolve”) means the delivery of a Service Request or service restoration after an Incident;

“**Resolver Group**” means the company, work team or similar resource, to whom an Incident alert is sent;

“**Restore Time**” means the elapsed period of time between detection of an Incident and the point in time when normal service is restored;

“**Service Availability**” amount of time that the service is available.

“**Service Request**” means either (1) a formal Request for Service made by the City for a service to be provided. or any Request for Service or Incident notification logged by the City’s TOC

“**Service Review Meeting**” means a formal monthly presentation of the performance metrics by the TOC and/or line department responsible for this tender.

“**Network Equipment**” means routers, switches, firewalls and other telecommunications equipment in the city’s telecommunications network.

“**Telecommunications Network Service**” means “Electronic Communications Network Service” as defined in Section 1 of the Electronic Communications Act, 2005 (Act No. 36 of 2005);

**Availability** means a period of time in a Calendar Month during which a service that is provided is fully functional and able to provide required services to the user

$$\text{Hardware Availability} = \left( \frac{\text{Number of minutes in a Calendar Month when a hardware device is not functional}}{\text{Number of minutes in a Calendar Month}} \right) \times \frac{100}{1}$$

$$\text{Service Availability} = \left( \frac{\text{Number of minutes in a Calendar Month when a Service is not available}}{\text{Number of minutes in a Calendar Month}} \right) \times \frac{100}{1}$$

**Calendar Day** means the period of time that begins at 00.00.00 and ends 23:59:59 on any given day in any given Calendar Month

**Calendar Month** means any one of twelve named periods into which a year is divided in accordance with the Gregorian calendar

**Calendar Week** means a period of seven consecutive Calendar Days

**City** means the City of Cape Town, a metropolitan municipality as contemplated in Section 1 of the Local Government: Municipal Structures Act, 117 of 1998

<b>P0</b>	○ Total network outage (highest network impact)
<b>P1</b>	○ Major network failure or failure of a critical site that causes severe service degradation or impact on the City’s critical service e.g. fire rescuer, emergency services etc.
<b>P2</b>	○ Major network failure with lesser severity than a P1, however with significant service impact
<b>P3</b>	○ A network failure with lesser impact than P0-2 but where there is service degradation

### 13.2.4.2 EXISTING DATA LINKS

The City currently uses data links from various service providers to connect City buildings to its network. These links provide VPLS services that interconnect edge sites. On tender award, these links will need to be migrated to the new service provider network infrastructure.

The successful service provider/s must migrate the awarded site/s **within 6-months from the date of order** to their network infrastructure.

After award but before the contract commencement date, the city will request that the service provider for each item/site (see existing site table 13-1) provide written guarantee within **10 Working Days** that:

- The service provider will ensure continued service to the site at no additional cost to the city other than the rental cost submitted for that site,
- That there shall be no service interruption.
- The awarded service provider must migrate the service to their network infrastructure/network within **6 (six) Calendar Months** of the commencement date of the contract.
- Provide the City with a detailed plan outlining the migration process of all the existing sites the tenderer has provided a guarantee for.

### EXISTING SITES

At the time of compiling this tender the below is a list of the known sites for information only. Table 13-1 shows a list of existing sites, it is highly possible that by the date of award, more sites would have been added/removed as the city's network is continuously changing.

City Site Name	Street	Suburb	Latitude	Longitude	Bandwidth
Wynberg Library	c/o Maynard and Main Rds	Wynberg	-34.005229°	18.467605°	20Mbps
Plumstead Library	Yudelmans lane	Plumstead	-34.020833°	18.467872°	20Mbps
Sacks Circle Roads Depot	Sacks Circle	Bellville South	-33.930289°	18.653296°	20Mbps
Rondebosch Library	c/o St Andrews+Hall Rds	Rondebosch	-33.961461°	18.471896°	20Mbps
Kuilsriver Library	Carinus Street	Kuilsriver	-33.927088°	18.678224°	20Mbps
Table View Library	Pentz Drive	Table View	-33.827769°	18.488156°	20Mbps
Beacon Valley Housing	Rambler Street	Mitchells Plain	-34.045875°	18.623725°	20Mbps
Kloof Street Library	Kloof Street	Cape Town	-33.934909°	18.406509°	20Mbps
Tokai Library	Tokai Road	Tokai	-34.063229°	18.438780°	20Mbps
Woodstock Library	Aberdeen Road	Woodstock	-33.928836°	18.450289°	20Mbps
Pinelands Library	Howard Centre, Sheldon Way	Pinelands	-33.934410°	18.511611°	20Mbps
Claremont Library	c/o Bath + Main Rds	Claremont	-33.985386°	18.467413°	20Mbps
Claremont Cash Office	Bath Road	Claremont	-33.985442°	18.466603°	10Mbps
Atlantis Wesfleur Mun + Library	Wesfleur Crescent	Wesfleur	-33.564624°	18.493701°	20Mbps
Atlantis Avondale Library	Gothenburg Road	Avondale	-33.570675°	18.485913°	20Mbps

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Parow Museum	Smith street	Parow	-33.904749°	18.586448°	10Mbps
Somerset West DLTC	Victoria road	Somerset West	-34.091497°	18.838203°	20Mbps
Maitland Library	Voortrekker Road	Maitland	-33.923600°	18.486970°	20Mbps
Maitland Cemetary	Voortrekker Road	Maitland	-33.920045°	18.506296°	10Mbps
Heideveld Library	Heideveld Road	Heideveld	-33.964897°	18.553611°	20Mbps
Refuse Transfer Station	Service Road Off Bhunga Avenue	Athlone	-33.948850°	18.512836°	20Mbps
DeTijger Business Park,	Bloemhof Street	DeTijger Business Park	-33.892476°	18.587471°	20Mbps
Hanover Park Solid Waste Depot	Downberg Road	Hanover Park	-34.000454°	18.528770°	20Mbps
Jan Burger Sports Complex - Facilities Maintenance and PMO Office	Bloemhof Street	Parow	-33.892806°	18.584175°	20Mbps
Langa : Guga S'thebe Cultural Centre	Cnr Lerotholi & Washington Streets Langa	Langa	-33.944366°	18.524526°	20Mbps
Atlantis Recreation Sub-area office	Arion Drive and Wesfleur Circle, Saxonsea	Atlantis	-33.560801°	18.491824°	20Mbps
Mfuleni Cash Office	Main Road	Mfuleni	-34.003760°	18.681430°	20Mbps
200 on Main, Claremont	Main Road	Claremont	-33.984449°	18.465547°	20Mbps
Pump House, Albion Springs Close, Rondebosch	Albion Springs Close	Rondebosch	-33.9669623	18.4674528	20Mbps
Westlake Conservation Centre	Corner of Steenberg Road and Ou Kaapseweg (Entrance off Steenberg)	Westlake	-34.081539°	18.430070°	20Mbps
Masiphumelele Fire Station	Cnr of Kommetjie and Wood Roads, Capri	Masiphumelele	-34.134478°	18.378561°	20Mbps
Mitchells Plain : Woodlands Law Enforcement Court Section	34 Ajax Way Mitchells Plain	Mitchells Plain	-34.029896°	18.592760°	20Mbps
Ravensmead Library	Edgar Bullock Street	Ravensmead	-33.922544°	18.603342°	20Mbps
Masiphumelele Library	MOTHOPENG RD	SUNNYDALE	-34.128500°	18.378280°	10Mbps
Gordon's Bay Library	WATT ST	GORDONS BAY	-34.157031°	18.870197°	10Mbps
Athlone Housing	DR ABDURAHMAN AV	ATHLONE	-33.959173°	18.516549°	4Mbps
Suiderstrand Cash Office	GORDONS BAY RD	STRAND	-34.127956°	18.841481°	4Mbps
Muizenberg / Lakeside Cleansing	MAIN RD	MUIZENBERG	-34.097055°	18.466715°	4Mbps
Grassy Park Cash Office 1	LINDA RD	GRASSY PARK	-34.033800°	18.508870°	4Mbps
Grassy Park Cash Office 2	FIFTH AV	GRASSY PARK	-34.049600°	18.496140°	4Mbps
Ocean View Housing Maintenance	CALLISTO RD	KOMMETJIE	-34.151245°	18.355596°	4Mbps

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Retreat Housing Maintenance	CRADOCK RD	RETREAT	-34.070934°	18.477104°	4Mbps
Alice Street Goodwood Metals Theft Unit	ALICE ST	GOODWOOD	-33.893650°	18.545978°	4Mbps
Sea Point Pavilion Law Enforcement	BEACH RD	SEA POINT	-33.918665°	18.384437°	4Mbps
Observatory Library	STATION RD	SALT RIVER	-33.937998°	18.470503°	10Mbps
Strandfontein Library	DENNEGEUR AV	STRANDFONTEIN	-34.072100°	18.554480°	10Mbps
Athlone Library	DOBSON RD	ATHLONE	-33.960600°	18.504770°	10Mbps
Rylands Library	BALU PARKER BLV	ATHLONE	-33.970600°	18.534390°	10Mbps
Sir Lowrys Pass Library	BRINKHUIS RD	SIR LOWRYS PASS	-34.119606°	18.907872°	10Mbps
Suiderstrand Library	GORDONS BAY RD	STRAND	-34.127956°	18.841481°	20Mbps
Langa Cash Office	LEROTHOLI AV	LANGA	-33.944597°	18.525856°	4Mbps
Khayelitsha Municipal Court	STEVE BIKO RD	KHAYELITSHA	-34.047886°	18.675742°	4Mbps
Strandfontein Cash Office/MVR	DENNEGEUR AV	STRANDFONTEIN	-34.069900°	18.569480°	4Mbps
Sacks Circle Parks Depot	SACKS CR	BELLVILLE	-33.931233°	18.659106°	4Mbps
Mouille Point Parks	BEACH RD	CAPE TOWN	-33.900746°	18.407907°	4Mbps
Athlone Parks (Bridgetown)	LOERIE RD	ATHLONE	-33.959100°	18.528650°	4Mbps
Strand Parks	PRETORIUS ST	STRAND	-34.109161°	18.838633°	4Mbps
Blue Downs Courts	EERSTERIVIER WA	BLUE DOWNS	-33.979592°	18.686503°	4Mbps
Tafelsig Parks	HAZELDENE AV	MITCHELLS PLAIN	-34.051017°	18.610497°	4Mbps
Promenade Mall Cash Office and MVR	MORGENSTER RD	MITCHELLS PLAIN	-34.040217°	18.616292°	10Mbps
Merrydale Parks and Recreation	MELKBOS RD	MITCHELLS PLAIN	-34.033045°	18.608834°	10Mbps
Vygieskraal Stadium	JOHNSTON RD	ATHLONE	-33.969500°	18.523750°	4Mbps
Belhar Sports Centre	PROTON RD	BELHAR	-33.938103°	18.633878°	4Mbps
Voortrekker Park	HOFMEYER RD	STRAND	-34.124349°	18.835715°	4Mbps
Hendon Park	FAURE MARINE DR	GORDONS BAY	-34.151883°	18.861772°	4Mbps
Scottsdene Depot	FIRST AV	KRAAIFONTEIN	-33.861108°	18.718408°	10Mbps
Brackenfell Disaster Management and Medical Store	JEANETTE ST	BRACKENFELL	-33.878167°	18.684144°	4Mbps
Wynberg Reservoir	KLAASENS RD	WYNBERG	-33.999100°	18.449410°	4Mbps
Koeberg Disaster Management	4TH AV	MELKBOSSTRAND	-33.689996°	18.442999°	4Mbps
Kommetjie Library	SOMERSET WA	KOMMETJIE	-34.141100°	18.324150°	10Mbps
Hangberg Library	BAY VIEW RD	HOUT BAY	-34.053484°	18.341917°	10Mbps
Hout Bay Library	MELKHOUT CT	HOUT BAY	-34.044300°	18.358040°	10Mbps

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Grassy Park Library	LIBRARY LN	GRASSY PARK	-34.049100°	18.495630°	10Mbps
Simonstown Library	Z..ST GEORGES ST	SIMONS TOWN	-34.193817°	18.436780°	10Mbps
Ocean View Library	POLLUX RD	KOMMETJIE	-34.148515°	18.351630°	20Mbps
Woodlands Law Enforcement	AJAX WA	MITCHELLS PLAIN	-34.009200°	18.467680°	4Mbps
Meadowridge Library	HOWARD DR	MEADOW RIDGE	-34.039200°	18.454120°	10Mbps
Groenvallei Environmental Health Office	MIDMAR RD	BELLVILLE	-33.891644°	18.667044°	4Mbps
Gordons Bay Traffic Drivers Licence Testing Centre	MANSFIELD CT	GORDONS BAY	-34.152344°	18.886681°	4Mbps
Elsies River Drivers Licence Testing Centre	OASIS ST	ELSIES RIVER	-33.913576°	18.565669°	4Mbps
Macassar Roads Depot	ALBATROSS RD	MACASSAR	-34.063145°	18.757819°	4Mbps
PD Pause Library	RIETVLEI RD	KUILSRIVIER	-33.931689°	18.671750°	10Mbps
Tygerberg Nursery, Hoheizen	OERDER RD	BELLVILLE	-33.885129°	18.619095°	4Mbps
Edith Stevens Wetland Park	GOVAN MBEKI RD	PHILIPPI	-34.001542°	18.552203°	4Mbps
Bellville South Risk Management, Internal Investigations	OOP ST	BELLVILLE	-33.920269°	18.636283°	4Mbps
Big Bay Law Enforcement	OTTO DU PLESSIS DR	BLOUBERGSTRAND	-33.792807°	18.458987°	4Mbps
Bloubergstrand Library	ANDREW FOSTER ST	BLOUBERGSTRAND	-33.801042°	18.460126°	10Mbps
Koeberg Library	MERCHANT WL	MELKBOSSTRAND	-33.693113°	18.446017°	10Mbps
Mamre Cash Office and Library	WESFLEUR CR	ATLANTIS	-33.513479°	18.476634°	20Mbps
Bellville Parks [Old Oak Street	OLD OAK RD	BELLVILLE	-33.873651°	18.643625°	4Mbps
Heathfield Parks	PRINCESSVLEI RD	SOUTHFIELD	-34.043800°	18.484890°	4Mbps
Muizenberg Pavilion	MAIN RD	MUIZENBERG	-34.106900°	18.472310°	4Mbps
SareptaTraffic	GOOD HOPE ST	KUILSRIVIER	-33.935769°	18.664726°	4Mbps
Bellville South Cash Office, Library and Kasselsvlei Clinic, ECD Centre, Community Hall	KASSELSVLEI RD	BELLVILLE SOUTH	-33.915450°	18.643161°	20Mbps
TMC Goodwood	HUGO STREET	GOODWOOD	-33.896331°	18.561850°	4Mbps
Eikendal Library	SIXTH AV	KRAAIFONTEIN	-33.852569°	18.721939°	10Mbps
Bridgetown Public Library	CORNFLOWER ST	ATHLONE	-33.954400°	18.527530°	10Mbps
Newlands Control Centre	KEURBOOM RD	RONDEBOSCH	-33.975100°	18.479910°	4Mbps
Plumstead Disaster Management (Mobile Unit)	VICTORIA RD	PLUMSTEAD	-34.024098°	18.470064°	4Mbps

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Hout Bay Fire Station Link moved from Houtbay Parks (building demolished)		HOUT BAY	-34.031192°	18.356999°	4Mbps
Retreat Public Library	JOE MARKS BLV	RETREAT	-34.062900°	18.476220°	10Mbps
Eastridge DLTC (Mitchells Plain DLTC)	FOURTH AV	MITCHELLS PLAIN	-34.051350°	18.624181°	4Mbps
Bellville DLTC (Bellrail)	BELRAIL RD	BELLVILLE	-33.905992°	18.646775°	4Mbps
Sea Point Fire Station	KLOOF RD	SEA POINT	-33.919212°	18.386892°	4Mbps
Atlantis Saxon Sea City Police (new: Counsellor Offices), Clinic & Hall	HERMES AV	ATLANTIS	-33.550704°	18.487076°	10Mbps
Wildevoevlei WWTP	WILDEVOELVLEI RD	KOMMETJIE	-34.135349°	18.366229°	4Mbps
Simonstown Water & Sanitation (Simonstown Waste Water and Pump Station)	Main Road	SIMONS TOWN	-34.178900°	18.424330°	4Mbps
Sarepta Sport and Rec	MISSION RD	KUILSRIVIER	-33.929444°	18.666231°	4Mbps
Airport IRT Bus Station	Cape Town International Airport	Airport	-33.969523°	18.595841°	4Mbps
Hout Bay Main Road Clinic	Main Road	Hout Bay	-34.029200°	18.357240°	10Mbps
Masiphumelele Clinic	Pokela Rd	Masiphumelele	-34.129000°	18.379100°	10Mbps
Melkbos Law Enforcement (old Fire Station)	Beach Road	Melkbosstrand	-33.731576°	18.436833°	4Mbps
Melkbosstrand Clinic	Robben Road	Melkbosstrand	-33.717116°	18.447656°	10Mbps
Strandfontein Clinic	Welgelegen Road	Strandfontein	-34.072100°	18.554480°	10Mbps
Cash Office-Table Bay Mall	Table Bay Mall	Table Bay	-33.786805°	18.477773°	20Mbps
Bellville South Swimming Pool	50 Hercules Road	Bellville South	-33.915775°	18.639775°	20Mbps
Blue Waters Law Enforcement	c/o Links & Llukanondrives	Strandfontein	-34.080300°	18.576520°	20Mbps
Blue waters Resort	c/o Links & Llukanondrives	Strandfontein	-34.080300°	18.576520°	20Mbps
Constantia Nek Water Treatment Plant	Houtbay Road	Constantia	-34.009226°	18.399341°	20Mbps
Delft Law Enforcement	153 Delft Main Road	Delft	-33.962617°	18.647044°	20Mbps
Fish Hoek Clinic	Central Circle	Fish Hoek	-34.137401°	18.427440°	20Mbps
Fish Hoek Law Enforcement	Beach Road	Fish Hoek	-34.139965°	18.432203°	20Mbps
Fish Hoek Resort(caravan park)	Beach Road	Fish Hoek	-34.135732°	18.433930°	20Mbps
Hanover Park Housing Maintenance	76 Downberg Road	Hanover Park	-33.999400°	18.526770°	20Mbps

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Rondebosch Horticultural D municipal Offices	59 Palm boom Road	Newlands	-33.973900°	18.459610°	20Mbps
Kogel Bay Nature Resort	R44	Helderberg Rural	-34.234926°	18.851731°	20Mbps
Noordhoek Parks	2 Avondrust Circle	Chapmans Peak	-34.097800°	18.372110°	20Mbps
OR Tambo Sports Centre	Jeff Masemalo Road	Khayelitsha	-34.015156°	18.680450°	20Mbps
Portland Parks and Mitchell's Plain Sports and Rec	c/o Hazeldene & Salisbury Way	Mithells Plain	-34.042981°	18.590007°	20Mbps
Sir Lowry's Pass Clinic	c/o Brinkhuis & Sir Lowry's Pass Roads	Sir Lowry's Pass	-34.119272°	18.908403°	20Mbps
Soetwater Resort	Lighthouse Road	Kommetjie	-34.159202°	18.329145°	20Mbps
Somerset West Clinic	28 Church Srreet	Somerset West	-34.085839°	18.848172°	20Mbps
Swartklip Indoor Sports Centre	24 Therese Street	Tafelsig	-34.051791°	18.641821°	20Mbps
Table Bay Mall Cash Office	Table Bay Mall	Table Bay	-33.786805°	18.477773°	20Mbps
Theo Marais Sport & Recreation	Koeberg Road	Milnerton	-33.848529°	18.518020°	20Mbps
Wynberg Law Enforcement	18 Wellington Road	Wynberg	-34.009200°	18.467680°	20Mbps
Zandvlei Resort	85352 Windermere Road	Wynberg	-34.098600°	18.472350°	20Mbps
Andile Msizi Recreational Centre	Bangiso Drive	Khayelitsha	-34.021593°	18.655551°	20Mbps

Table 13-1

**13.3 PERFORMANCE LEVEL REQUIREMENTS (PLR) – FOR DATA LINKS**

The section explains the minimum expected services levels that the City of Cape Town requires from the service provider.

Performance level requirements in tables 13-2 and 13-3 shall commence on the effective date of tender award. These PLRs maybe subject to review as may be determined by the city and where necessary there will be discussions with the service provider so as to address the need.

Severity	Time to Respond	Time to Restore during business hours	Time to Restore after hours
P0	10-mins	1HR	2HRS
P1	30-minutes	2HRS	4HRS
P2	1-Hours	4HRS	6HRS
P3	1-HRS	8HRS	10-HRS

TABLE- 13.2 Network outage classification and repair times

**13.3.2 DATA LINK PERFORMANCE REQUIREMENTS**

Service	Availability	Maximum Downtime per 1-Calendar Month
Service Availability	99.00	8-HOURS

TABLE- 13.3 Network service availability

A monthly meeting with service provider will be held to discuss and monitor service availability.

**13.3.3 SERVICE FULFILMENT MONTHLY TARGETS**

Time to confirm whether a service request can be supplied/honoured starting from the 1st business day of request	10 working days
Time to deliver a new service link starting from the 1 <sup>st</sup> business day of request	3 Calendar months
Time to migrate an existing services starting from the 1st business day of request	6 Calendar months

**13.4 MINIMUM FUNCTIONAL AND BUSINESS REQUIREMENTS FOR ALL SCHEDULES**

All service providers submitting pricing for any schedule will adhere to the minimum functional and business requirements

<p><b>Account and Service Manager/s</b></p> <p>The vendor must provide, at the vendor’s own cost, at least one Account and Service Manager/s to service the City’s account based at the office location mentioned previously. This position is responsible to report on all outstanding orders and to resolve any service effecting issues.</p>
<p><b>Operations Center</b></p> <p>The vendor must be fully capable of supporting high availability Services. The vendor must have the following:</p> <ul style="list-style-type: none"> <li>• Network Operating Centre or Network Monitoring Centre</li> <li>• Call center</li> <li>• Governance and escalation procedures</li> <li>• Provider a 24HR service failure escalation line</li> </ul>
<p><b>Sufficient Network Infrastructure</b></p> <p>The vendor must have at sufficient network infrastructure and coverage within the boundaries of the City of Cape Town (Cape Metropolitan Area) to support the services offered.</p>

Supply details of network infrastructure within the boundaries of the City of Cape Town. Include infrastructure maps and coverage maps. The following should be included:

- Fibre or copper
- PoPs or exchanges
- Data centers

**ONLINE MANAGEMENT AND REPORTING TOOL**

The vendor will provide an online management and reporting tool that will allow the City to report and track faults, progress with applications and customer and service information. The portal must provide reports on at least, but not limited to, the following elements:

- Status of applications
- Outages
- Planned maintenance
- Fault logging and tracking

Provide information and documentation to substantiate your answer.

**SERVICE ORDER MANAGEMENT**

The vendor has an acceptable service order management process. Compliance with eToM processes is desirable.

Provide a description of your new service order procedure. Also provide estimate(s) of the general lead-time for the implementation of a new service. Diagrams to support your information are encouraged.

**Service Monitoring and Fault reporting**

The vendor has an acceptable service monitoring and fault report procedure.

- Provide a description of your service monitoring procedure
- Provide a description of the process by which the City will be informed of service degradation or failure
- Provide a description of the process to be used by the City to log faults

**BILLING**

The vendor has an acceptable service billing procedure that will produce the required City of Cape Town invoice formats.

Provide the following:

- A description of your billing procedure and billing cycle,
- The level of detail provided in invoices and the format(s) in which invoices are presented (examples are encouraged)
- A description of procedure to resolve billing errors

**Reports to the City**

The Service Provider must prepare a Summary Report providing an overview of the relevant statistics and analytics each month for the previous Calendar Month, and make this available to the City for each Calendar Month during the seven days after the last day of each Calendar Month.

- The Service Provider may be requested to provide detailed information about a particular account. Upon receipt of a written request from the City of Cape Town, the Service Provider must deliver requested information within five Working Days.
- Reports must include but not limited to:
  - Availability per service (i.e. data link, voice service)
  - Bandwidth Utilization, Errors, Discards where possible
  - SIP Trunk statistics; number of calls, dropped calls, duration, SIP error code statistics.
  - Fault statistic for the month
  - Service Providers must notify the City's TOC in advance of any changes that will occur on the providers infrastructure that may impact the City's services.
  - Installation and migration progress of services and/or sites

The Equipment Vendor is advised to track its performance regarding adherence to procurement, ordering, delivery and payment process, and adherence to the Fault Handling Process, in case it is required to verify this.

### **Attend Service Review Meetings**

The City will arrange and schedule Service Provider Service Review Meetings, which must be attended by the Service Provider's Key Contact Person, or a substitute. Such meeting will be scheduled to occur regularly, but not more than one each month. At least two Calendar Weeks' notice of each meeting will be given.

The Agenda will cover the Vendor's order management and delivery performance, and may cover the performance or compliance to specification of delivered Equipment or Service

### **City's Telecommunication Operations Center (TOC) Onboarding Process**

The City will have to "onboard" the tenderer on to the City's TOC Systems and processes. This will require the tenderer/s to attend one or more sessions to:

- Familiarize the tenderer with City processes and vice versa
- Align and Document Standard Operating Procedures

## **13.5 TRADE NAMES OR PROPRIETARY PRODUCTS**

Bid specifications may not make any reference to any particular trade mark, name, patent, design, type, specific origin or producer, unless there is no other sufficiently precise or intelligible way of describing the characteristics of the work, in which case such reference must be accompanied by the words "or equivalent".

## **13.6 EMPLOYMENT OF SECURITY PERSONNEL**

All security staff employed by the supplier on behalf of the CCT or at any CCT property must be registered with Private Security Industry Regulatory Authority (PSiRA). Proof of such registration must be made available to the CCT's agent upon request.

## **13.7 FORMS FOR CONTRACT ADMINISTRATION**

The supplier shall complete, sign and submit with each invoice, the following:

- a) Monthly Project Labour Report ( **Annex 3**).
- b) B-BBEE Sub-Contract Expenditure Report ( **Annex 4**).