

Technical Specifications

Key Site Locations and Requirements

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Internet Connection High Site

- Location: 24°19'20.0"S 29°59'41.1"E
- Current Infrastructure:
 - Comsol Radio relay equipment
 - Power implementation
- Suggested:
 - 360deg camera – High Site Specific
 - 4 x perimeter camera at power implementation
 - Automated AI Alarming systems
 - Automated pepper spray defence systems

Water Reservoir – Top Gate

- Location: 24°19'05.9"S 29°59'07.5"E
- No current infrastructure
- Suggested:
 - Gate Onen/Close Sensor
 - Cameras
 - Connection for sensors for water reservoir
 - Outdoor AP for continuous Wi-Fi
- Gate provides access to Internet connection high-site – key point.

Scrap Yard Area

- Location: 24°19'01.4"S 29°58'59.5"E

- Existing Infrastructure
 - Two standard cameras
 - 1 x PTZ
 - Radio uplinks (surveillance network)
 - Power connection
 - Switch / Mikrotik router
 - Outdoor AP for continuous Wi-Fi

Potable Water Reservoir

- Location: 24°19'01.8"S 29°58'55.0"E
- Existing Infrastructure:
 - None
- Suggested:
 - Cameras
 - Sensor and remote valve control
 - Outdoor AP for continuous Wi-Fi

Road PTZ

- Location: 24°18'56.6"S 29°58'50.2"E
- Existing Infrastructure:
 - PTZ camera
- Suggested:
 - Dedicated road cameras (2 x)
 - Camera facing the vehicle wash bay
 - Outdoor Ap for continuous Wi-Fi

Boiler Workshop

- Location: 24°18'55.4"S 29°58'51.1"E
- Existing infrastructure:
 - 3 cameras
 - Switch / power connection
 - Uplinked to Workshop offices
- Suggested:
 - Additional cameras for outer perimeter
 - Camera for small storeroom (northern side of building)
 - Outdoor Access Point(s) for Wifi

Workshop Diesel Tanks

- Location: 24°18'55.9"S 29°58'50.4"E
- Existing Infrastructure:
 - None
- Suggested:

- Interface for diesel monitoring system
- Dispensing Integration
- Networking to the equipment.

Workshop Office

- Location: 24°18'54.5"S 29°58'51.2"E
- Current Infrastructure:
 - Indoor Wi-Fi x 2
 - Cabinet
 - Mikrotik / switch
 - Radio Uplink to Weighbridge 01
- Suggested:
 - 2 x Camera to monitor Workshop parking area
 - Outdoor Ap for continuous Wifi

TMM Workshop

- Location: 24°18'54.5"S 29°58'49.8"E
- Current Infrastructure:
 - Power infrastructure
 - 3 x cameras
 - Radio uplink for surveillance network
- Suggested:
 - Cameras to include area to the rear of workshop
 - Cameras to monitor Workshop parking area
 - Outdoor AP for continuous Wi-Fi

Compressor Area

- Location: 24°18'59.7"S 29°58'49.2"E
- Existing Infrastructure:
 - 1 x camera
 - Radio uplink (surveillance network)
 - Power connection
- Suggested:
 - SCADA integration
 - System integration for Ingersoll Rand compressors to allow for remote monitoring
 - Increase surveillance and alarming integration
 - CO2 sensor integration
 - Outdoor AP for continuous Wi-Fi

Compressor Control Room

- Location: 24°18'59.4"S 29°58'48.0"E
- Current Infrastructure:
 - None
- Suggested:
 - Integration with SCADA systems
 - Access Control
 - Cameras internal and external
 - CO2 sensors
 - Outdoor AP for Continuous Wi-Fi

Eskom Power Infeed control room

- Location: 24°18'57.3"S 29°58'47.3"E
- Current Infrastructure:
 - None
- Suggested:
 - Camera internal and external
 - Thermal Cameras to monitor Eskom installation heat profile
 - Monitoring systems to integrate with SCADA
 - Outdoor AP for continuous Wi-Fi

Power Generator Area

- Location: 24°18'56.4"S 29°58'46.1"E
- Current Infrastructure:
 - Radio uplink
 - 2 x Cameras
 - Switch / Mikrotik
- Suggested:
 - Standard Perimeter cameras
 - Thermal Cameras to monitor substations/transformers
 - Thermal Cameras internal to generator container for monitoring and alarming
 - Power output monitoring systems
 - Integration with SCADA systems
 - CO2 monitoring internal to control room
 - Outdoor AP for continuous Wi-Fi

Diesel Tanks – Generator Area

- Location: 24°18'56.7"S 29°58'45.2"E
- Current Infrastructure:
 - None
- Suggested:
 - Fuel Quantity monitoring

- Networking for equipment

Underground water supply

- Location: 24°18'54.6"S 29°58'43.3"E
- Current Infrastructure:
 - None
- Suggested:
 - Cameras
 - Sensor and remote valve control
 - Outdoor AP for continuous Wi-Fi

PTZ – Belt area

- Location: 24°18'53.4"S 29°58'39.2"E
- Current Infrastructure:
 - PTZ camera
 - Radio uplink
 - Power connection
- Suggested:
 - Fixed cameras to monitor road
 - Fixed cameras to monitor conveyor belt
 - Outdoor AP for continuous Wi-Fi

Road PTZ – new

- Location: 24°18'53.2"S 29°58'42.1"E
- Current Infrastructure:
 - None
- Suggested:
 - Fixed road facing cameras x2
 - Cameras to monitor explosives area x 2
 - PTZ camera
 - Outdoor AP for continuous Wi-Fi

Conveyor Control

- Location: 24°18'52.0"S 29°58'38.6"E
- Current Infrastructure:
 - 2 x cameras
 - Radio uplink
- Suggested:
 - Cameras to monitor the full conveyor belt
 - Integration of conveyor belt to the SCADA system
 - Indoor camera to control room
 - Outdoor AP for continuous Wi-Fi

Mining Passage

- Location: 24°18'52.9"S 29°58'37.1"E
- Current Infrastructure:
 - 2 x cameras
- Suggested:
 - Cameras with facial recognition every 20m
 - Thermal camera at each entry point – health monitoring.
 - Outdoor AP ever 60m for continuous Wi-Fi

Main Control Room

- Location: 24°18'53.2"S 29°58'35.7"E
- Current Infrastructure:
 - Indoor Wi-Fi
 - 3 x Hikvision NVR
 - 2 x Switches
 - Outdoor camera
 - Radio uplink for production and surveillance networks
 - Surveillance control room equipment
 - Production control room equipment
- Suggested:
 - Update surveillance systems to include AI system to include the following:
 - Individual tracking
 - Vehicle tracking
 - Vehicle counting
 - Alarming based on predefined incident identification
 - Camera to view admin block parking area
 - Indoor camera for each key area
 - Access control for entry and exit for key areas
 - Outdoor AP for continuous Wi-Fi

Medical Room

- Location: 24°18'53.2"S 29°58'34.7"E
- Current Infrastructure:
 - Indoor AP's
 - 1 x camera
 - Network cabinet
 - MikroTik / Switch
 - Radio Uplink to Admin block
- Suggested:
 - Camera to monitor entry of medical room
 - Camera for passage in medical room
 - Outdoor AP for continuous Wi-Fi

Lamp House

- Location: 24°18'53.0"S 29°58'34.1"E
- Current Infrastructure:
 - 4 x cameras
 - Network cabinet
 - MikroTik / switch
- Suggested:
 - Facial recognition update
 - Outdoor AP for continuous Wi-Fi

Entry to Admin Area

- Location: 24°18'52.95"S 29°58'33.71"E
- Current Infrastructure:
 - 1 x camera
 - Access Control system
- Suggested:
 - Facial recognition
 - Outdoor AP for continuous Wi-Fi

Production Office

- Location: 24°18'52.06"S 29°58'32.87"E
- Current Infrastructure:
 - 5 x Access Points
 - Network cabinet
 - MikroTik / Switch
 - Radio uplink
- Suggested:
 - 4 x Perimeter cameras
 - Facial recognition cameras at entrance
 - Camera in passage in office
 - 2 x Outdoor AP for continuous Wi-Fi

Main Office

- Location: 24°18'52.12"S 29°58'31.82"E
- Current Infrastructure:
 - 11 x Access Points
 - Server Room – no access control
 - 45U cabinet
 - Eaton UPS
 - Dell Pedestal server
 - Uplink to Weighbridge
 - VOX Satellite connection

- Firewall – Sophos
- Access Control
- Suggested:
 - In-wall AP's in each office
 - Outdoor AP for continuous Wi-Fi
 - 5 x Perimeter cameras
 - 2 x facial recognition cameras for entrance

Admin Area PTZ

- Location: 24°18'52.29"S 29°58'30.06"E
- Current Infrastructure:
 - PTZ camera
 - Radio uplink
- Suggested:
 - Uplink to Main Office

Road PTZ – new 2

- Location: 24°18'49.9"S 29°58'32.0"E
- Current Infrastructure:
 - None
- Suggested:
 - PTZ Camera x 1
 - 2 x fixed road facing cameras
 - Outdoor AP for continuous Wi-Fi

Laundry and Bath Houses

- Location: 24°18'51.3"S 29°58'25.8"E
- Current Infrastructure:
 - Camera x 8
 - Network cabinet
 - MikroTik / Switch
 - Radio uplink to Stores Office
 - Power implementation
- Suggested:
 - Outdoor AP for continuous Wi-Fi

Stores / Stores Office

- Location: 24°18'49.0"S 29°58'25.6"E
- Current Infrastructure:
 - Cameras x 7
 - Network Cabinet
 - MikroTik / Switch

- Rodio uplink to Weighbridge
- Indoor AP
- Suggested:
 - Facial recognition camera at entrance
 - 4 x perimeter cameras
 - Increase cameras in stores to remove blind spots
 - Outdoor AP for continuous Wi-Fi (3 units)

Scrap Yard 2 PTZ

- Location: 24°18'43.5"S 29°58'25.3"E
- Current Infrastructure:
 - PTZ camera
 - Radio Uplink
 - Power box
- Suggested:
 - Link to main network
 - Outdoor AP for continuous Wi-Fi (3 units)

Gate 3

- Location: 24°18'45.2"S 29°58'21.9"E
- Current Infrastructure:
 - Cameras x 4
 - PTZ camera
 - Server cabinet
 - NVR
 - MikroTik / Switch
 - Radio Uplink
 - Access Points x 4
 - Access Control
- Suggested:
 - Fixed camera for parking area
 - Perimeter cameras
 - Facial recognition at entrance and exit
 - Number plate recognition cameras
 - Thermal Camera – Health monitoring
 - Outdoor AP for continuous Wi-Fi (2 units)

Training Centre

- Location: 24°18'43.25"S 29°58'23.05"E
- Current Infrastructure:
 - Network cabinet
 - MikroTik / Switch
 - Radio Uplink
 - Indoor AP's x 2

- Power box
- Suggested:
 - Perimeters cameras
 - Thermal Camera – Health Monitor
 - Outdoor AP for continuous Wi-Fi

Cable Yard

- Location: 24°18'41.8"S 29°58'21.8"E
- Current Infrastructure:
 - Cameras x 2
 - Power / Cable box
 - MikroTik / Switch
 - Radio uplink
- Suggested:
 - Outdoor AP for continuous Wi-Fi

Sewage Plant

- Location: 24°18'38.4"S 29°58'24.6"E
- Current Infrastructure:
 - Cameras x 3
 - Power Box / Network unit
 - Radio uplink
- Suggested:
 - Sensors integration
 - Monitoring System Integration
 - Outdoor AP for continuous Wi-Fi

Infeed Weighbridge

- Location: 24°18'39.5"S 29°58'28.4"E
- Current Infrastructure:
 - Access Point
 - Network cabinet
 - MikroTik / Switch
 - Radio Uplink
 - Weighbridge equipment
- Suggested:
 - Cameras – weighbridge
 - PTZ pole mounted
 - Outdoor AP for continuous Wi-Fi

Primary Weighbridge

- Location: 24°18'30.1"S 29°58'32.4"E

- Current Infrastructure:
 - Main Comsol Internet uplink to Internet Connection High Site
 - Multiple uplinks to other sites at high level
 - Comsol Connectivity cabinet
 - Networking cabinet
 - Weighbridge equipment
 - Multiple Switches
 - Indoor Ap
- Suggested:
 - Segregated network for weighbridge network
 - Outdoor AP for continuous Wi-Fi

Weighbridge PTZ

- Location: 24°18'29.2"S 29°58'32.0"E
- Current Infrastructure:
 - PTZ camera
 - Power / network box
 - Uplink radio
- Suggested:
 - Outdoor AP for continuous Wi-Fi

Weighbridge Entrance/Exit Gate

- Location: 24°18'28.4"S 29°58'32.8"E
- Current Infrastructure:
 - Weighbridge access control
- Suggested:
 - Uplink to Primary Weighbridge
 - Outdoor AP for continuous Wi-Fi

Gate 2

- Location: 24°18'27.6"S 29°58'31.8"E
- Current Infrastructure:
 - Radio uplink to Weighbridge 1
 - 6 Cameras
 - 9 U Indoor cabinet
 - Switch / MikroTik router
 - Access Control
 - Outdoor AP for continuous Wi-Fi

Gate 1

- Location: 24°18'3.64"S, 29°58'55.52"E
- Current Infrastructure:

- Radio uplink to Admin Block
- 6 Cameras
 - 1 x PTZ
 - 4 x Bullet Cameras
 - 1 x Dome indoor
- 9 U Indoor cabinet
- Switch/Mikrotik Router
- Suggested:
 - Outdoor AP for continuous Wi-Fi
- Inverter Power Backup

Planned Connection model

Main Site locations are planned to be connected via multi-core fibre