DESIGN CONCEPTS FOR
ACCESS CONTROL, CCTV
AND ELECTRIC FENCE
FOR
WILLOW PARK MANOR X65 ESTATE

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Access Control- & CCTV Systems, Electric Perimeter Fence and Related Electrical Works

1. Access Control System

Vehicle access to and egress from the premises will be controlled at the two entrance gates located one each on the eastern and western side of Mokwa street. Pedestrians entry and exit will be controlled by full-height turnstiles installed next to the guard houses.

Registered users (vehicle or pedestrians) will only be allowed automatic access once their fingerprint has been verified by the automatic access control system. Biometric fingerprint readers will therefore be installed at all entry and exit points. Fingerprint verification ensures the best balance between a high level of security and cost effectively currently available in the security industry.

To further enhance the security, vehicle entry and exit will be via spike booms. Retractable spikes located directly below the booms arm prevents any unauthorised access without serious damage to the vehicle tyres.

Another enhancement of the access control system is that all entry and egress transactions will be recorded via CCTV cameras located at the fingerprint readers. For vehicle entry/egress a frontal view of the vehicle containing numberplate data will also be captured. These images will be stored with the transaction data thus making it easy to visually track entry and exit actions.

2. Electric Fence Alarm System

The 3m high boundary wall and palisade fence will be enhanced with an electric fence with detection capabilities. On the boundary wall a wall-top section will be erected protruding at least 750mm above the top of the wall. Next to the palisade wall section a 3.6m high full-height electric fence will be erected. The type of energisers used will be of extremely high quality manufactured and supplied by Grintek Ewation. These energisers will all be located in the guard house and will allow for zoning of the fence. Zoning allows the fence to be divided into zones of approximately 50m each. Software will indicate the alarm graphically thus aiding in alarm and fault finding.

3. Perimeter CCTV system

A perimeter CCTV system consisting of low light colour camera will be installed and mounted on the light poles every 50m along side the entire perimeter. This system will aid in the tracking and identifying of electric fence alarms.

All cameras send their images back to the control room via an optical fibre network. Images are recorded on a series on Digital Video Recorders (DVR's) and video management software allows for the editing and viewing of these images. A couple of area cameras are also allowed for around the guard house area.

Provision is also made, though not installed now, to enhance the perimeter cameras with pan, tilt, zoom (PTZ) cameras. These PTZ cameras can be controlled manually from the control room by the camera operator and will provide the capability to view other areas of the premises.

4. Electrical Services

All along the perimeter wall, at 50m intervals, area lighting will be provided. This measure will provide adequate visibility at night not only for the cameras but also for security personnel reacting to fence alarms. Adequate lighting will also be provided in and around the guard houses.

Standby generators of adequate size will be supplied and installed at each guard house. The generator will provide backup power in the case of a power failure to all the equipment mentioned in this document and installed under the security contract. Capacity will also be allowed for emergency lighting in and around the guard house, the perimeter lighting and perimeter CCTV cameras. The generator will be supplied with electronic circuitry that will start the generator automatically in the case of a power failure.

5. Western Security Wall

Apart from the electric fence on the western perimeter wall additional protection will be provided in the form of razor wire. These will be installed on the outside of the wall and will present yet another physical barrier that a would be intruder has to negotiate to gain access to the site.

6. Security Control Room

The top floor of the eastern guard house will be used as a security control room. The access control system management computer will be located here as well as the monitors and recording equipment for the CCTV system. The fence alarm system computer will also be located here.

A separate security room is located next to the turnstiles at the eastern guard house. This will exclusively be used to enrol owners and their personnel on the biometric fingerprint access control system. Contractors and other temporary personnel will also be required to report here, and if they qualify they will be enrolled for a temporary time on the access control system.