From: Angelo Agrizzi [angelo@bosasa.com]
Sent: 03 October 2005 11:08
To: 'michael@bekaertbastion.co.za'
Cc: 'geoff@fenceandgate.co.za'
Subject: Emailing: FENCE DOC Final ---- VERY CONFIDENTIAL----------

FENCE DOC
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BID CONDITIONS AND SPECIFICATIONS

SPECIAL BID CONDITIONS

1. **INTRODUCTION**

The bid shall be for the supply, delivery, installation, commissioning and maintenance of Outer Perimeter Fences with/or Taut Wire Detection Inner Fences, and CCTV surveillance cameras at a number of Centres of Excellence and other Correctional Centres, as well as the linking of Taut Wire Detection Systems that are already installed to the integrated security systems to allow coverage at control rooms, upon the terms and subject to the conditions as set out in the Specifications. The system must integrate into the local, regional and National control rooms. Providing for effective off-site monitoring.

2. **CONDITIONS OF BID**

2.1 **GENERAL**

2.1.1 Bids are scheduled mechanically in DCS. The bid has consequently been drawn up so that certain essential information is to be furnished in a specific manner.

2.1.2 The bid forms should not be retyped or redrafted but photocopies may be prepared and used but signed on the original.

2.1.3 Black ink or black typewriter ribbon should be used to fill in bids.

2.1.4 Bidders should check the numbers of the pages and satisfy themselves that none is missing or duplicated. No liability will be accepted in regard to claims arising from the fact that pages are missing or duplicated.

2.1.5 Unless specifically provided for in the bid invitation, no bids by telegram, telex or fax will be considered.

2.1.6 These conditions form part of the bid and failure to comply therewith may invalidate the bid.

2.2 Bidders must bid in accordance with the requirements stipulated in the Special Bid Conditions, Bid Specifications and other documents that are attached per Annexures.

2.3 Bids will be invalid if they are not submitted on the specified forms which must be fully completed and returned with special conditions and specifications signed in the original as required.

2.4 Bids indicating alternative offers deviating from the aforementioned requirements or making only qualified, conditional, alternative or incomplete offers will under no circumstances be considered and the DCS shall be under no obligation to enter into correspondence in this regard. It is explicitly stated that the DCS shall under no circumstances, before or after the award of the bid, negotiate with any party regarding alternative methods of calculating the cost of the service.

COMPLY/ NON COMPLY

3. **QUALIFICATION OF BIDDERS**

3.1 Only reputable and recognised Bidders with proof of sufficient experience in the supply, delivery, installation, commissioning and maintenance of Outer Perimeter Fences with/or Taut Wire Detection Inner Fences and security systems will be considered. A minimum of five years experience is required.

3.2 If the Bidder is a Joint Venture, the parties to the joint venture must provide the relevant proof required by this request for a bid. The Joint Venture must show the benefit to DCS of bidding as a joint venture.

3.3 The Bidder must provide proof of at least two working installations of a similar scope.

3.4 The bidder must have experience in delivering the above service in a high security environment or be able to show that it understands the constraints and specific requirements of this type of environment.

3.5 The bidder must submit, together with the bid submission, flow diagrams that clearly show that the scope of the contract is understood.

COMPLY/ NON COMPLY

3.6 The bidder or suppliers must have equipped workshops with maintenance capacity, with a minimum of five years experience, to maintain the systems.

3.7 The bidder must provide proof that it has competent suppliers in place for all the equipment and materials required for the successful execution of this contract, together with the relevant performance guarantees and credit facilities reflected.

3.8 In the case of Partnerships or Closed corporations, affidavit reflecting the names, ID Numbers and addresses of Partners or members and in the case of a company, such information regarding the directors, must be submitted with the bid documents. Certified copies of Certificates of Registration to be attached as well as VAT Registration Certificates.

4. **CURRICULUM VITAE**

4.1 The bidder must have suitably qualified personnel available for the installation and commissioning of Outer Perimeter Fences and/or Taut Wire Detection Inner Fences and CCTV surveillance cameras, inclusive of the linking of the systems to the integrated security systems to allow coverage at control rooms, local, regional and national with off-site monitoring capabilities. The curriculum vitae of these staff must be supplied.

4.2 The bidder must supply the curriculum vitae of the person/s who will be responsible for the maintenance of the installations and systems at the correctional centres and control rooms.

5. **DETAILS OF THE BIDDER'S OFFICE**

5.1 The bidder should at least provide details regarding the physical address, telephone and fax numbers of its office.

6. **VALIDITY OF BID**

6.1 Bids must be valid for a period of 90 days from the closing date of the bid.

6.2 Should a bidder amend or withdraw his bid after being notified that his bid has been accepted:

		COMPLY / NON COMPLY
6.2.1	Give notice of his inability to execute the contract in terms of his bid; or	
6.2.2	Fail to sign a contract within the period fixed in the conditions reflected in the form of bid or any extended period fixed by the DCS; or	
6.2.3	Fail to execute the Contract according to the Contract Documents; he/she shall be liable to pay either the difference between his bid and a less favourable bid accepted, or, if the DCS decides to invite fresh bids, all additional expenses which the DCS will have to incur in this regard, as well as any differences between his bid, and the accepted new bid; provided that the DCS may fully or partly exempt in its sole discretion a bidder from the provisions of this sub rule if he is of the opinion that the circumstances justify the exemption. A certificate by the Accountant of the DCS specifying the additional expenses will be prima facie proof of the amount there.	
7.	**PERIOD OF CONTRACT**	
	The contract will commence with the signing of the contract and installation of the fences must commence immediately thereafter. The installation and commissioning at all sites must be completed by 17 March 2006. The maintenance and support must be available during installation and for a period 60 months there after. The bidder must take responsibility for the functionality of the system as well as the effective operation of the fences and systems supplied for five years.	
8.	**DATE OF COMMENCEMENT OF SERVICE**	
	The bidder will be required to commence with the contract on the date of the signature of the contract.	
9.	**GUARANTEE**	
9.1	The bidder shall submit together with the bid documents, Financial Particulars (Annexure G) together with its latest audited financial statements.	
9.2	The bidder guarantees via an approved engineers certificate that wind loads are at a minimum of 100km/hr.	

		COMPLY/ NON COMPLY
9.3	Should this requirement not be complied with in full, the bid may be considered invalid.	
9.4	The bidder shall submit a valid bank guarantee to the value of 2.5% of the total contract value. See Annexure G.	
10.	**ALTERATIONS TO DOCUMENTS**	
	No alteration, erasure, omission or addition shall be made to the text or conditions of these documents save where expressly so stated in the documents. Should any unauthorised change be made, the same will not be recognised but the original document shall apply.	
11.	**WITHDRAWAL**	
	A bidder may withdraw his bid without incurring any liability, provided written notice to that effect is in the hands of the Director Procurement at the DCS before CLOSING TIME FOR BIDS.	
12.	**THE CONTRACT**	
12.1	The contract to supply the required items/services in terms of the bid documents shall come into being when the formal contract is signed by both parties.	
12.2	The successful bidder shall sign a formal contract within 7(seven) days after the acceptance of the bid (Annexure B).	
12.3	Should the successful bidder fail to sign the contract as in sub rule 12.2 the DCS shall be entitled to act as in paragraph 6.2.3.	
12.4	Any amendments, omissions or waivers from or additions to the contract, shall be effected in writing by mutual agreement, signed by both parties.	

COMPLY / NON COMPLY

13. **PAYMENT**

- 90 % of the Bid price on completion of the delivery of the full bill of materials on site, 10 % after the installation has been successfully commissioned and running to the satisfaction of DCS, for a period of three months.
- 48 monthly fixed support and maintenance payments paid monthly in arrear. The first 12 months should be covered by the warranty.

14. **WARRANTY**

The warranty period shall begin on the date of first beneficial use and shall be for a one-year period. It shall include work performed during and after regular hours.

14.1 Technicians trained by the manufacturer shall perform warranty service.

14.2 The Contractor shall maintain a stock of replacement parts sufficient to provide responsive same-day service with a minimum of system "down" time.

15. INDEMNITY AND INSURANCE

15.1 The Contractor shall indemnify the DCS and hold it harmless against:

15.1.1 Any damage to DCS property, whether movable or immovable, including any loss directly flowing from damage to such property or any act or omission on the part of the contractor or its employees or any damage arising from the use and occupation of the DCS property by the Contractor;

15.1.2 Legal liability in respect of any claims which may be made against the DCS arising out of damage to property, whether movable or immovable, or any third parties, including any damage directly or indirectly flowing from any act or omission on the part of the Contractor and management staff of the Contractor or any damage arising from the use and occupation by the Contractor of the DCS property;

15.1.3 Legal liability claims in respect of death, injury or illness of any person, or loss flowing or arising from anything done or omitted by the contractor

COMPLY / NON COMPLY

or management staff of the Contractor or any damage while using or occupying DCS property;

15.1.4 Any legal cost or expenses reasonably incurred in connection with claims or actions against the DCS arising out of the foregoing including attorney and client costs.

15.2 For the proper fulfilment of the indemnity as provided for in paragraph 15.1 (1 to 4), the Contractor shall within 14 calendar days after the conclusion of the contract, submit proof of insurance cover held by it and maintained for the duration of the contract, to cover the risks as contemplated in paragraph 15.1 (1 to 4). The amount of such cover must be clearly stated. If the amount in the opinion of DCS is not sufficient, the DCS reserves the right to call upon the Contractor to increase the amount to the satisfaction of DCS, at the Contractor's expense.

15.3 The acceptance of this bid is subject to the condition that if proof of an acceptable insurance policy as required in paragraph 15.2 above, is not received by the DCS, the DCS may in its sole discretion, without prejudice to other rights available to it, terminate the contract and the Contractor shall be liable for any damage which the State may sustain as a result of the termination of the contract and the appointment of another Contractor.

16. MAINTENANCE

16.1 The Contractor shall provide preventive maintenance free of charge for the first 12 months during the warranty period. For the balance of 48 months maintenance will be separately charged. Maintenance shall include, but not be limited to:

16.1.1 Labor and materials, at no additional cost, to provide tests and adjustments to the systems.

16.1.2 Regular inspections to ensure that correct system operation is established.

16.2 As a separate price item, the Contractor shall provide a complete Maintenance Agreement for a period of five years which includes the warranty period.

16.3 The contractor must undertake to attend to any malfunctioning/ breakages within four hours after being reported to ensure maximum functionality of the system.

		COMPLY / NON COMPLY
17.	**TRAINING**	
	The proposal from the bidder must make and reflect suitable provision for the training and development of staff; this would include the training of current control room operators. In the event of no control rooms being available, the bidder must make provision for the training, as well the establishment of the physical control room.	
17.1	The contractor shall provide the full time services of qualified training staff to train DCS personnel to manage and run the system.	
17.2	Operator training shall be conducted for a minimum session length of eight (8) hours at the customer's site, on at least two separate occasions.	
17.3	Factory-trained personnel shall perform training.	
17.4	Sessions shall include, but not be limited to:	
17.4.1	Pre-installation – Control room operator procedures, Human behaviour patterns and set up of design display.	
17.4.2	Post-installation – system operation and maintenance support.	
18.	**CONTRACT PRICE ADJUSTMENT**	
18.1	The contract price shall be FIRM and not subject to escalation.	
18.2	Only one adjustment to the maintenance fee in accordance with the CPI, will be allowed per annum.	
19.	**BID SUBMISSION REQUIREMENTS**	
19.1	Bidders are required to submit their proposals in **TWO envelopes**, in the following format:	
	Envelope 1 marked with the name of the Bidder and titled: "***TECHNICAL PROPOSAL:*** *SUPPLY, DELIVERY, INSTALLATION, COMMISSIONING AND MAINTENANCE OF OUTER PERIMETER FENCES WITH/OR TAUT WIRE DETECTION INNER FENCES, AND CCTV SURVEILLANCE CAMERAS AT A NUMBER OF CENTRES OF EXCELLENCE AND OTHER CORRECTIONAL CENTRES"*	
	This envelope must contain at least the following:	

		COMPLY / NON COMPLY
19.1.1	Completed official bid documents – form SBD1, NOT including price or any costs (refer Envelope 2)	
19.1.2	Covering letter signed by an authorized person, *inter alia*: • Accepting the Rules of Bidding, Evaluation of Bids, and Bid Evaluation Criteria set out in the Specifications; • Including a declaration that the bidder has no conflict of interest in acting for DCS in this assignment. • Attaching a Tax Clearance Certificate from South African Revenue Services in respect of the bidder and all South African firms to be sub-contracted to it for this assignment or all parties to a Joint Venture / Consortium; • Providing full contact details for the bidder.	
19.1.3	Project comprehension and project management plan, setting out: • The bidder's understanding of the specifications (including Special Conditions), and complete proposals; • How the bidder proposes to manage the set of deliverables outlined in the specifications; • A proposed outline Work Plan with time-table for delivery in accordance with the specifications; • How the Project team members will be supervised; • How reporting to the Project Officer of DCS will take place; • Any innovative ideas for how the whole assignment can best achieve its objectives. • Proof of experience (number of years as well) • CV's of Technicians, Maintenance staff and other personnel who will be involved in the project. • Draft / proposed Maintenance Contract.	
19.1.4	**The Technical Envelope must NOT include any price proposal.**	
	Envelope 2 marked with the name of the Bidder and titled: "***FINANCIAL PROPOSAL:*** *SUPPLY, DELIVERY, INSTALLATION, COMMISSIONING AND MAINTENANCE OF OUTER PERIMETER FENCES WITH/OR TAUT WIRE DETECTION INNER FENCES, AND CCTV SURVEILLANCE CAMERAS AT A NUMBER OF CENTRES OF EXCELLENCE AND OTHER CORRECTIONAL CENTRES"*	
	This envelope must contain:	
	• Complete lists of equipment and installation items / consumable / services **per Correctional Centre**, including all installation costs, Training and Maintenance, and also including quantities and pricing.	

COMPLY / NON COMPLY

- VAT must be included.
- Original letter from the bidder's Bank or Financial Institution. (See Annexure A)

20. EVALUATION OF BIDS

20.1 A Bid Evaluation Committee will be established by DCS comprising representatives of the DCS that will evaluate all bids received by the deadline, according to the criteria indicated herein, and that will make a recommendation to the DCS Bid Committee for appointment of a bidder.

20.1.1 The Evaluation Committee reserves the right to call for presentations from bidders that meet the threshold score, and/or a visit to any site, if required.

20.1.2 Any bidder that fails to submit any element of the Bid Submission Requirements may, at the discretion of the Evaluation Committee, be rejected as non-compliant.

20.1.3 The decision of the Bid Committee will be final.

20.1.4 The Financial Envelopes of each bid received will be locked away until the Technical Envelopes have been evaluated by the Bid Evaluation Committee. Only those bidders whose Technical Proposals meet or better the Technical Threshold Score set out in the Bid Evaluation Criteria below, will be considered in respect of their Financial Proposals.

20.2 **Bid evaluation criteria**

Evaluation will be based on a point system where the following are the maximum points that can be awarded for each category:

Technical Proposal	**50 points**
Financial Proposal	**50 points**
Total	**100 points**

Envelope 1: Technical Proposal

The Technical Proposals received will be evaluated according to the following criteria and scoring system. Only those bidders that achieve the technical threshold score or more will have their Financial Proposals considered.

	Criteria	Scoring (for whole or each sub-element where applicable)	Maximum points	
	Technical Proposal			
1	Experience			
	- Number of years	*5 years and above = 3* *Less than 5 years =0*	3	13
	- Proof: working installations of security fences of this nature, including security systems	*Excellent = 4* *Good = 3* *Acceptable =2* *Poor =0*	4	
	- Experience in high security environment	*Excellent = 6* *Good = 4* *Acceptable =3* *Poor =0*	6	
2	Understanding of scope of requirements			
	- Diagrams	*Excellent = 4* *Good = 3* *Acceptable =2* *Poor =0*	4	20
	- Flow charts		4	
	- Integration		4	
	- Back-up systems		4	
	- Compatibility Proof		4	
3	Competency of bidder's suppliers, proven track record	*Excellent = 7* *Good = 5* *Acceptable =2* *Poor =0*	7	7
4	Suitable personnel			
	- CV's of Project Managers	*Excellent = 4* *Good = 3* *Acceptable =2* *Poor =0*	4	12
	- CV's of Technical staff		4	
	- CV's of Maintenance staff		4	
5	Guarantee	*Excellent = 4* *Good = 3* *Acceptable =2* *Poor =0*	4	4
6	Maintenance – proposed maintenance agreement	*Excellent = 6* *Good = 4* *Acceptable =3* *Poor =0*	6	6
7	Empowerment expertise – relevant experience and track record	*Excellent = 3* *Good = 2* *Acceptable =1* *Poor =0*	3	3
8	Training			
	- Sufficient training capacity and programmes	*Excellent = 3* *Good = 2* *Acceptable =1* *Poor =0*	4	4
9	Materials and Equipment			
	- Compliance with minimum requirements, including provision of lighting	*Excellent = 8* *Good = 6* *Acceptable =4* *Poor =0*	8	8
10	Work plan			

	- Implementation plan	*Excellent = 6*	6	
	- Timeframes	*Good = 4* *Acceptable =3* *Poor =0*	6	12
11	Compatibility and integration	*Excellent = 7* *Good = 5* *Acceptable =3* *Poor =0*	7	7
12	Black Economic Empowerment			
	- Evidence regarding the bidder's role in supporting Black Economic Empowerment	*Excellent = 4* *Good = 3* *Acceptable =2* *Poor =0*	4	4
	TOTAL Technical points			**100**
	Technical Threshold Score	**70**		

Envelope 2: Financial Proposal

The lowest total bid price will be allocated the maximum points indicated below. The remaining bidders will be allocated Financial Points pro-rata.

	Financial Proposal	Maximum points for lowest price
1	Material/Equipment	50
2	Installation and Commissioning	
3	Training	
4	Maintenance	
5	Management Support	
6	Any other costs	
	TOTAL Financial points	**50**

The results of the Technical Points scored will be converted to a point out of 50 and added to the Financial Points out of 50, to determine total points out of 100. *

* The calculations will be done as follow:

Technical Points:	maximum 100
÷ 2	maximum 50
+ Financial Points	maximum 50
= TOTAL POINTS	maximum 100

Formula for the calculation of Financial Points:

$$50 \times \left(\frac{Lowest\ bid\ price}{Price\ of\ relevant\ bid} \right)$$

◊ In terms of regulation 13 of the preferential procurement regulations pertaining to the Preferential Procurement Policy Framework Act, 2000 (Act 5 of 2000), the total points out of 100 will be converted to 90 points by following the following formula:

$$90\ x \left(1 - \frac{Highest\ points - relevant\ bidder's\ points}{Relevant\ bidder's\ points} \right)$$

◊ The final points will be calculated as follows:

Points on price/functionality, converted to:	90 points
Preference claim for equity ownership by HDI's:	3 points
Preference claim for equity ownership by female HDI's:	2 points
Preference claim for equity ownership by disabled HDI's:	1 point
Preference claim for promotion of Small Businesses:	2 points
Preference claim for Locally Manufactured Products:	2 points
Final points:	100 points

Appendix A

LIST OF CENTRES

CENTRES OF EXCELLENCE

Region Eastern Cape	Full Security fence – Outer perimeter fence plus Taut wire detection inner fence, with CCTV cameras
Cradock	670m
Kirkwood	1200m
Stutterheim	350m
Idutywa	650m
Queenstown	670m

Region Kwazulu Natal	Full Security fence – Outer perimeter fence plus Taut wire detection inner fence, with CCTV cameras
Ekuseni (Newcastle)	1800m

Region Limpopo / Mpumalanga / North West	Full Security fence – Outer perimeter fence plus Taut wire detection inner fence, with CCTV cameras
Ermelo	880m
Makhado	750m

Region Northern Cape and Free State	Full Security fence – Outer perimeter fence plus Taut wire detection inner fence, with CCTV cameras
Goedemoed Med A (Aliwal North)	1560m
Sasolburg	1250m
Kroonstad Med C	800m
Kuruman	1050m

Region Western cape	Full Security fence – Outer perimeter fence plus Taut wire detection inner fence, with CCTV cameras
Drakenstein Med B (Suider Paarl)	630m
Dwarsrivier (Wolseley)	850m

CENTRES OF EXCELLENCE

Region Eastern Cape	Taut Wire detection inner fence only, with CCTV cameras
East London Med C	1600m
Umtata Max	1600m

Region Gauteng	Taut Wire detection inner fence only, with CCTV cameras
Emthonjeni Juveniles (Baviaanspoort – Cullinan Road)	1130m
Leeuwkop Juvenile (Bryanston)	960m

Region Kwazulu Natal	Taut Wire detection inner fence only, with CCTV cameras
Ncome Med A (Vryheid)	1000m

Region Limpopo / Mpumalanga / North West	Taut Wire detection inner fence only, with CCTV cameras
Klerksdorp	1300m
Rustenburg Juvenile	1500m
Middelburg Female	750m

Region Northern Cape and Free state	Taut Wire detection inner fence only, with CCTV cameras
Groenpunt Juvenile (Vereeniging)	1500m
Douglas	930m

Region Western cape	Taut Wire detection inner fence only, with CCTV cameras
Pollsmoor Female (Tokai)	775m
Voorberg Med B (Porterville)	1800m

CORRECTIONAL CENTRES

Region Gauteng	Full Security fence – Outer perimeter fence plus Taut wire detection inner fence, with CCTV cameras
Leeuwkop Max (Bryanston)	1400m
Baviaanspoort Max (Cullinan Road)	860m
Zonderwater Med A & B (Cullinan)	2000m
Odi (Mabopane)	1200m
Boksburg	2600m

Region Western Cape	Full Security fence – Outer perimeter fence plus Taut wire detection inner fence, with CCTV cameras
Helderstroom (Caledon)	1510m
Drakenstein Max (Suider Paarl)	1200m
Brandvlei Max (Worcester)	1100m

Region Limpopo / Mpumalanga / North West	Full Security fence – Outer perimeter fence plus Taut wire detection inner fence, with CCTV cameras
Rooigrond Med A (Mmbatho)	1530m
Potchefstroom	780m
Rustenburg Med A	1400m

Region Western Cape	Taut Wire detection inner fence only, with CCTV cameras
Pollsmoor Maximum (Tokai)	965m
Pollsmoor Med A (Tokai)	965m
Pollsmoor Med B (Tokai)	1200m

Region Limpopo / Mpumalanga / North West	Taut Wire detection inner fence only, with CCTV cameras
Rooigrond Med B (Mmabatho)	1100m

Region Free State / Northern Cape	Taut Wire detection inner fence only, with CCTV cameras
Groenpunt Max (Vereeniging)	1600m
Upington	1200m

CORRECTIONAL CENTRES

Region Eastern Cape	Taut Wire detection inner fence only, with CCTV cameras
East London Med A	1000m
East London Med B	1600m
Middledrift	1200m
Mdantsane	1000m

ANNEXURE A

SECURITY

STANDARD TECHNICAL SPECIFICATION FOR A SECURITY TAUT WIRE DETECTION INNER FENCE FOR CORRECTIONAL FACILITIES

AUGUST REVIEWED 2

INDEX

1. SPECIFICATION FOR SECURITY DETECTION FENCE

1.1. SCOPE

1.1.1 The contractor shall furnish labour, equipment, and materials for the following systems in this Section of the specification:

a. Security electronic equipment and cabinets.
b. Taut wire perimeter detection system.
c. Field communication equipment.
d. Perimeter Controller.
e. Report printer.
f. Surge protectors.
g. Power supplies.
h. Training.
i. Provision of spare parts
j. Maintenance of the systems
k. Connectivity and integration to control rooms

1.2 GENERAL

1.2.1 The Perimeter Protection Subsystem shall be based on the following stand-alone systems:

a. Electronic Detection Fence
b. Delay Fence integrity Detection
c. Gate area detection Solution

1.2.2 The Electronic Detection Fence shall employ the following two integrated technologies:

a. Taut wire Detection
b. Detection for delay fence

1.2.3 The Delay fence disturbance detection system shall be based on kinematics principles detecting any cut or removal of components of the delay fence as is detailed under Section 15 of this specification. This detection system shall be installed on the outer perimeter fence as indicated in the fence layout drawing.

1.2.4 The physical perimeter shall consist of an inner fence of 2.7m in height and an outer fence of 4.5m in height.

1.2.5 The Electronic taut wire detection system shall be implemented on the 2.7m inner fence, as described in this specification.

1.2.7 Due to the various gate area designs found on various facilities a gate area security and detection solution has to be designed on an application to application basis and has to be approved by the appointed representative from the head office of the end-user.

1.3 DETECTION FENCE

1.3.1 The taut wire fence and alarm system shall act as an electronic barrier to detect and alarm escape attempts.

1.3.2 The taut wire system shall be installed as a stand-alone system located on the facility side of the outer perimeter fence.

1.3.3 The electronic barrier shall consist of the following:

a. A protective 2700 mm high barrier with 27 taut barbed wires, stretched between anchor posts, (wire tension shall be such that when a 2kg weight is applied between two slider posts the wire deflection shall be between 50mm and 75mm. All wires shall be of the same tension) and supported by a number of slider posts and detection sensors.

b. 600mm wide side walk shall be constructed directly below the taut wire system and extend 400 mm to the facility side of the taut wire fence as shown on the layout drawings i.e. 1000mm wide in total. The sidewalk shall run the continuous length of the inner perimeter fence as indicated on the perimeter fence layout drawing. (Suitable alternatives and measures that could enhance the flow of storm water is encouraged, propose that a 250/300 concrete block be placed beneath expansion joints, with a 50mm gap, this will prevent erosion on various levels) Allowance must be made for Storm Water Culverts – to divert water flow

c. All corners shall be designed so the taut wire intersects.

1.3.4 The taut wire sensors shall be mounted on a sensor post constructed of galvanised steel. The sensors shall be spaced according to the wire spacing specification. (Bottom 18 wires 90mm, then 9 wires at 120mm spacing)

1.3.5 Movement transfer wires

High, tensile, double-braided barbed wire.

a. Minimum breaking strength of 439 Kg

b. Barbed 4 points.

c. Average spacing of the barbs is not to exceed 125 mm

d. Galvanised steel.

1.3.6 Tensioners

a. Tensioners shall be galvanised, ratchet wheel type.

b. At one end of the zone, each taut wire strand shall be attached to an individual tensioner.

1.3.7 Slider Post accessories: Slider mechanism with accessories that serve to support the wire system, converting vertical force into horizontal movement.

All slider posts shall be manufactured and supplied in accordance with the latest fence design drawings as attached.

All Slider post accessories shall be constructed of stainless steel.

1.3.8 Sensor Post Accessories: Sensor post shall be designed to contain the sensors.

At a minimum, the sensor post accessories shall be constructed of galvanised steel as per detail in the drawings.

1.3.9 Sensor, anchor and slider posts: All sections shall be at least 2750 mm in height.

1.3.10 Zones: The system shall be configured as shown on the drawings.

1.3.11 All wires shall be stored on the factory shipping reel until the wire is installed on the sensors.

1.3.12 Corner Configurations: All taut wire corner configurations shall be an intersecting type installation.

1.4 POSTS, FOOTERS AND SIDE WALK

1.4.1 Posts and Footers: Post and footers shall be an integral part of the side walk.

a. All slider (intermediate) posts shall be equidistant, between 3.5 to 4 m separation, depending on terrain and detection system requirements. Refer to structural layout drawings for intermediate post layout.

b. All posts shall be installed in accordance with detection system manufacturer recommendations.

c. All anchor posts shall be installed in accordance with the detection system manufacturer recommendations.

d. Slider and sensor post shall be installed in accordance with the detection system manufacturer recommendations.

e. Strain posts shall allow re-tensioning of fence wires and shall withstand wire tension force as well as additional loading of a reasonable intruder without causing permanent deformation. Refer to structural layout drawings for strain post layout.

1.4.2 Sidewalk and Post Footers: A concrete sidewalk shall be installed directly below the taut wire fence and shall run the continuous length of the system.

a. Sidewalks shall be minimum 100 mm thick and 1000mm wide as shown on the civil drawings and must include a gravel base with the appropriate wire mesh reinforcement.

b. To prevent cracking and chipping, sidewalk expansion joints shall be installed at 3000mm intervals and as necessary.

c. Expansion material shall be installed between the sidewalk and all posts mounted in the sidewalk barrier.

1.4.3 Concrete: All concrete shall be as specified by the Civil Department of Correctional Services appointed official. At a minimum the concrete shall have a minimum compressive strength of 20MPa at 28 days.

1.4.4 Earth: Trenches and holes shall be excavated and formed as necessary to support the sidewalk and posts.

1.4.5 Rock: Holes in solid rock shall be 25 mm wider than pipe diameter, and at a minimum 300 mm deep for sensor posts, and 460 mm deep for anchor posts. Holes shall be back filled with non-shrink grout.

1.4.6 Backfill: Backfill and fill materials shall be installed in layers not to exceed 150 mm in depth.

a. Moisten or aerate each layer as necessary to facilitate compaction to the required density.

b. Do not place back fill or fill materials on surfaces that are

muddy, frozen, or contain frost or ice.

15.4.7 Compaction: Each layer of fill and back fill shall be 90% of the maximum density.

1.5 CIVIL

Civil construction shall include route preparations, and casting a 1000mm wide concrete slab with welded mesh steel reinforcing a nominal thickness of 100mm and a minimum compressive strength of 20Mpa.

All existing electrical services as well as the cables required for this installation shall be installed in 50mm PVC sleeves in the concrete slab to ensure that these services can be maintained after completion of the contract.

The area underneath the concrete plinth shall be cleared of all vegetation prior to casting and treated with a suitable sterilization herbicide to prevent any vegetation growth.

The contractor shall allow and install a 250 micron PVC sheet underneath the concrete slab, to prevent any vegetation growth.

Beneath the expansion joints a concrete block 250 X 300 shall be placed to assist in the prevention of subsiding that may occur.

1.6 POWER AND COMMUNICATIONS CABLE

All cables must comply with the manufacturer recommendations.

Exterior wire and cables shall be installed in schedule 40 PVC conduit and rated for direct burial use. The conduit shall be installed in the inner fence sidewalk.

Power distribution wire from the main equipment room to remote processors, transponders, microwave units, or other remote electronics on the site perimeter shall be minimum 2.5 mm^2 copper and shall be increased in size as necessary to ensure no more than 5% (AC or DC) voltage drop from the main equipment room to the remote equipment. Power voltage drop calculations shall be submitted for all field located perimeter equipment.

Provide a two core multimode fibre optic-cable; direct bury type cable between all perimeter system enclosures and the head end to create a loop around the perimeter system. Provide 1500mm of spare cable for each cable in each perimeter system enclosure, or suitable alternative.

All cables that will be directly buried shall be, rated for direct burial and

approved for wet locations.

All conductors shall be rated for direct burial and approved for wet locations in accordance with SABS.

Signal and power cables shall be separate cables and not combined as part of the same cabling jacket.

1.7 ACCESSORIES

The system shall include all accessories required to perform the functions described in this Section.

1.8 MARKERS AND NAMEPLATES

1.8.1 Cable Tags:

Cable tags shall be provided in accordance with SABS.

1.8.2 Nameplates:

a. Precision engraved letters and numbers with uniform margins.

b. Character sizes shall be a minimum of 50 mm high.

c. Indoor : Shall be phonemic, two colour laminated stock, 2 mm thick, machine engraved to expose inn core colour (white).

d. Outdoor: Shall be Standard aluminium alloy plate stock, minimum 1 mm thick, engraved areas shall be enamel filled or background enamelled with natural aluminium engraved characters.

e. All nameplates shall be permanently attached.

1.8.3 Zone Identification:

a. In order for the officers inside the correctional facility to easily identify zone locations, at the top of each sensor post, a 250mm x 200mm sign shall be installed. The sign shall face the inside compound

b. All zones shall be identified by zone number.

c. Reflective white numbers on a dark blue background shall be used.

d. All signs shall be visible from a distance of 12 meters.

1.8.4 In order for the perimeter patrol officer to easily identify zone locations, at the end of each zone a 500mm x 250mm sign shall be installed. The sign shall face the perimeter road.

All zones shall be identified by zone number.

Black numbers on a reflective yellow background shall be used.

All signs shall be visible from a distance of 12000mm.

1.9 POWER SUPPLIES

Power supplies shall be furnished with characteristics as required to support the operational performance of the sensor and signal processors.

1.10 ENCLOSURES

All exterior post mounted enclosures must have the following features:

a. At least 1.6 mm stainless steel plate construction.

b. Continuously welded seams.

c. Cabinet lockable with all locks keyed alike.

Equipped with tamper detection device connected to the processor's tamper circuit. The tamper switch shall detect any attempt to vandalise the enclosure including the opening of the door and the cutting or breaking of the enclosure.

1.11 EARTHING

1.11.1 A continuous 70mm^2, bare, stranded, copper earthing conductor shall be buried a minimum of 600 mm, (CONNECTED TO A 1,5M COPPER BURIED EARTH SPIKE) under the taut wire system's sidewalk and run the continuous length of the sidewalk.

1.11.2 At each sensor post, via cad-weld connections, the earthing conductor shall attach to the ground bus located inside the enclosure. Also, a 70mm^2 earthing conductor shall bond the sensor post, processor post, and the nearest inner and outer fence post to the 70mm^2 ground ring. All doors of sensor posts and field cabinets shall be earthed.

1.11.3 At a point nearest the main electronics equipment room, a 70 mm^2, bare, stranded, copper conductor shall bond the buildings electrical system ground bus to the 70mm^2 ground ring buried under the taut wire system's sidewalk. All direct buried ground

connections shall be cad-weld type connections.

1.11.4 All systems described in this section shall be grounded in accordance with the responsible Department of Correctional Services appointed official's recommendations and meet the minimum requirements of the manufacturer.

1.12 SURGE PROTECTION

1.12.1 All metallic data, communications, video, and sensor lines entering or leaving a building shall be protected with surge protection devices.

1.12.2 Earthing of protective devices shall be in accordance with the manufacturer's recommendations and/or as described in these specifications and drawings.

1.12.3 All signal line protective devices shall be located at the terminal point nearest the cable interface with the exterior cable plant. Devices shall be mounted to the back panel of the cabinet.

1.12.4 Where equipment is fed from a panel board not protected by a panel board protector, provide a branch circuit protector installed at the panel board.

1.13 CLEAN UP

At the end of each day, the Contractor shall be responsible for the clean up, removal, and secure disposal of all debris, and all consumables, commensurate with the installation.

1.14 COOPERATION WITH OTHER TRADES:

The contractor shall coordinate the work as detailed in this paragraph of the specification with that of other paragraphs of this specification as well as all other contracting disciplines as required to ensure that the entire work of this project shall be carried out in an orderly, complete, and coordinate fashion.

1.15 DETECTION MEASURES

1.15.1 TAUT WIRE

Each sensor shall contain a dedicated microprocessor enabling a unique detection algorithm to be assigned as required.

The horizontal wires shall be attached to the sensors. The taut wire sensor shall be capable of producing an alarm when a wire is deflected by no more than 75mm. The taut wire sensor shall also respond to a cut in the wire.

The above system configuration shall have the capability to detect any attempt to penetrate the perimeter by climbing, cutting or spreading the fence wires apart.

a. The sensor detection parameters and detection performance should be accessible from the master controller on an individual sensor basis.

b. The taut wire detection performance should comply with the following minimum criteria:

Nuisance alarm rate:	Not more than one per zone per month
Probability of detection:	At least 95%.

c. The TWFDS shall annunciate an alarm condition in the event of one or combination of the following:

- Climbing the taut wire fence.
- Cutting the taut wire fence.
- Spreading the taut wire fence wires no further that the adjacent wire.
- Tampering with the processor enclosure.
- Attempting to remove the sensor post.
- Attempting to cut the power or communications of the processor to the perimeter security system.

d. Processing algorithms shall be provided as part of the TWFDS to process alarm events. Each individual wire shall be monitored for alarm conditions.

e. Subsequent attempts to climb, cut or spread the fence even after a tamper alarm condition is detected and enunciated, shall cause the processor to activate a new intrusion alarm.

f. Maximum permissible zone length is 100 meters.

g. The TWFDS shall have the ability to automatically adjust the centre of alarm detection range for gradual changes in sensor position caused by the environment, casual contact or ageing thus significantly lowering periodic maintenance.

1.16 USER INTERFACE – FUNCTIONAL OPERATION

This requirement shall apply to the graphical user interface that may form part of the perimeter controller or implemented on the Integrated Management System (IMS).

Site Perimeter Map

A graphical presentation of the site perimeter shall include the following:

a. Position of the perimeter

b. Detection zones

c. Gates

d. Other static information (buildings or roads) that may be required to assist the operator to identify the location of an occurrence.

The following Icons representing the alarm / maintenance status of field detection devices shall be included:

a. Alarm status of taut wire detection for each zone.

b. Alarm status of Delay Fence Integrity Detection for each zone.

c. Tamper status of each field enclosure.

d. The status of detection devices and status monitoring in the sally port area.

e. The operational (maintenance) status of field equipment for each field controller.

Abnormal conditions shall be acknowledged by the operator by activating a single icon. This shall also stop the audible sounder.

The following requirements shall be the minimum requirements for the user interface:

Operational Information

The following are shown on the operator interface:

Site perimeter Layout

Icons representing the alarm status of detection devices
Indications of field node status and tamper
Buttons to accept and reset alarms
Buttons to issue a reason for alarms

Diagnostic Information

Real time Alarm status of all devices on the selected field node
Maintenance status of these devices
Buttons to inhibit any device
Analogue values of detection devices
Controls to adjust the operating parameters of field devices

Networking

Multiple operator interfaces can be linked to the same perimeter controller. These user workstations can be local or remote.

The graphical user interface as proposed must be presented to the end-user's authorised representative for approval before commencement of work. All available system information and specified requirements must be accessible through the User Interface. The user interface shall always be fully compliant to the above requirements.

1.17 TESTING:

1.17.1 The Contractor shall notify the DCS appointed official two (2) weeks prior to the system tests so that arrangements can be made to have DCS personnel witness the tests.

1.17.2 Each penetration of the taut wire system shall produce an alarm.

1.17.3 If an alarm is not detected on the first try of any test, the test shall be deemed a failure and all testing shall cease.

1.17.4 The Contractor shall be allowed time (not to exceed 1 hour) to make the necessary repairs before continuing the test. If additional failures are noted during the test, the test shall cease and be rescheduled for another day.

1.17.5 If the test is deemed a failure by DCS personnel, the Contractor shall be responsible for all cost incurred by the Government for scheduling a second test.

1.17.6 Taut Wire System: Test each system function step by step as summarised herein.

a. The simulated intrusion attempts shall be performed by a person weighing 45 Kg or more.

b. Safety equipment shall be provided by the Contractor and proper precautions shall be taken when performing the tests.

c. Each attempt shall be terminated upon detection.

d. Simulated escape attempts shall be performed at two (2) locations in each zone unless otherwise directed by the DCS appointed official.

e. Fast Climb: Approach and make contact with the fence and rapidly try to scale the fence.

f. Slow/Stealth full Climb Over: Approach and make contact with the fence and slowly, deliberately, and stealth fully attempt to climb to the top of the fence.

g. Climb Through: Spread wires apart and attempt to climb through.

h. Tamper: Remove cover on zone processor.

i. Trouble: In each zone, remove one side of the alarm communications wire from the processor board.

j. Cut Test: The contractor must have the ability to simulate a "Cut Test" in any zone identified by the DCS appointed official.

1.17.7 The gate area detection system shall be tested based on the requirement that the gate area detection must be of the same standard as the perimeter detection system.

1.17.8 Delay Fence Integrity Detection System

A simulated breaching of the outer perimeter fence shall be performed.

The outer fence detection system shall generate an alarm when such an attempt is made.

1.18 SPARE PARTS

The Contractor shall provide the institution with sufficient spare parts to minimise "Down Time" to a maximum period of 24hours on any item.

1.19 COMPLIANCE TO THE SPECIFICATION

The Contractor shall comply with all the requirements as per this specification. Proposed deviations shall only be considered after the award of the contract. Proposed deviations shall only be accepted if it meets with all of the following criteria:

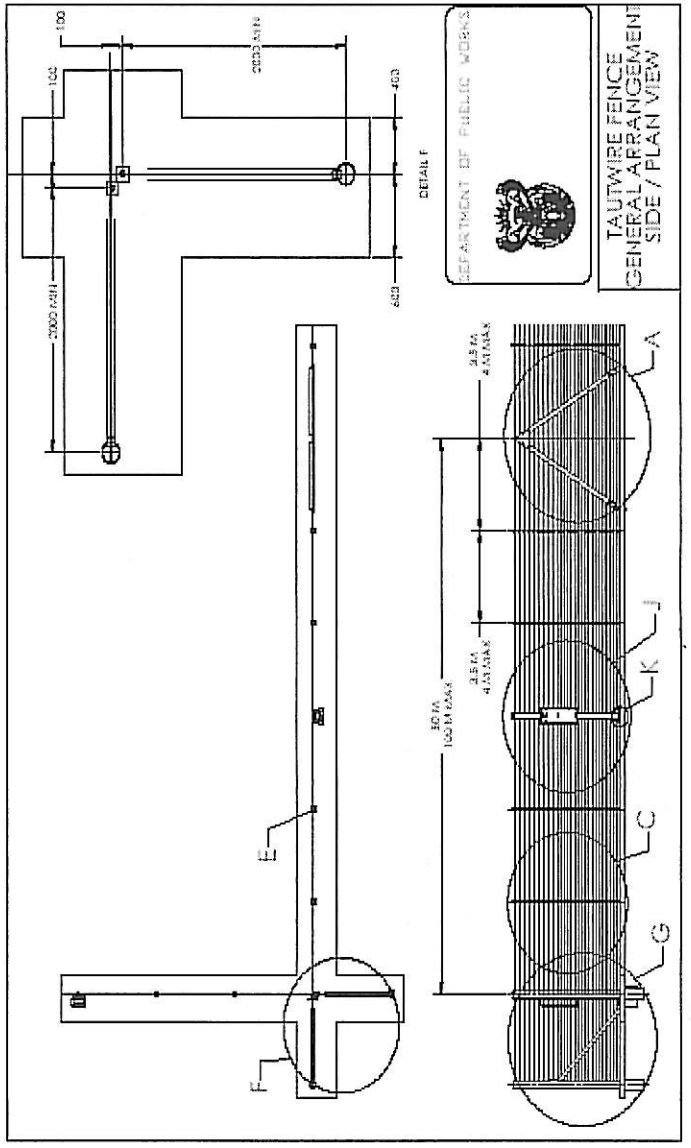
- The proposed deviation offers a substantial improvement to the final product offered.
- The proposed deviation has been proven in other applications.

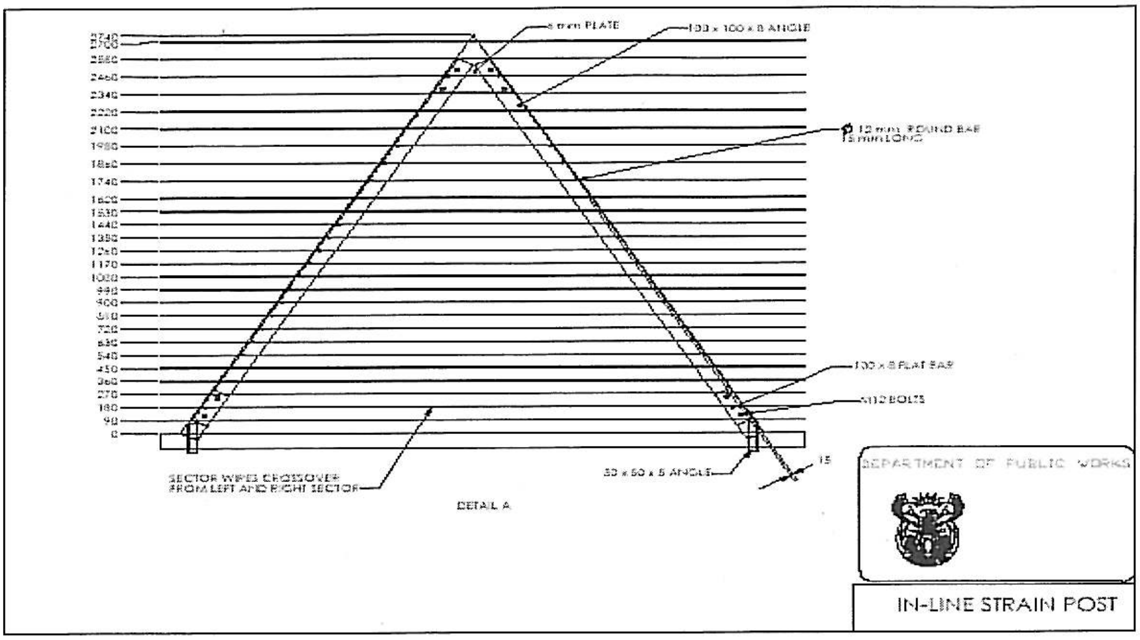
Any deviations from the specification can only be implemented with prior approval from the various representatives from DCS.

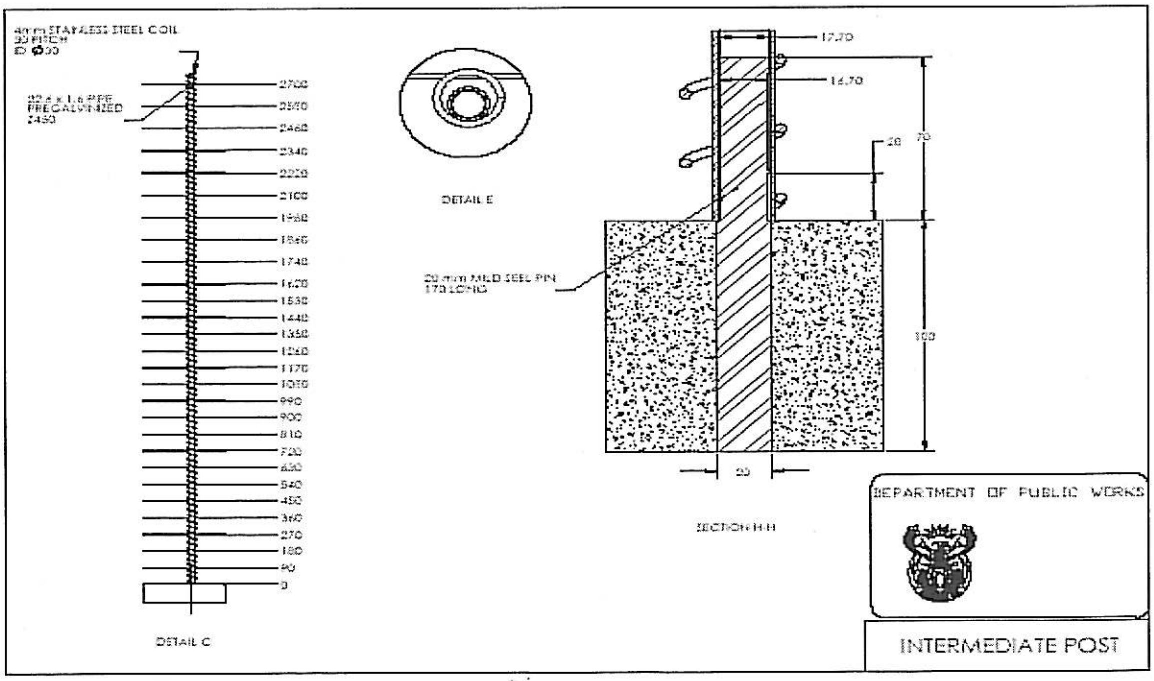
1.20 PROVEN PRODUCT

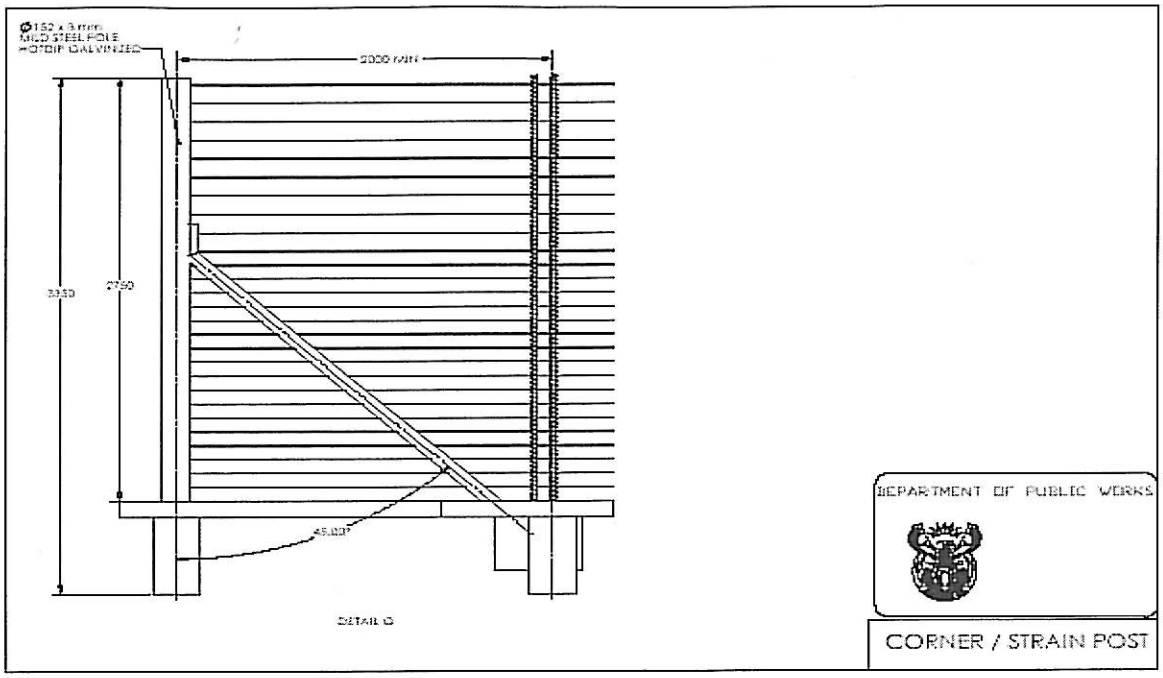
Due to the security nature of this requirement and the criticality of this application only proven product shall be considered.

Product could be approved only after investigation by all applicable parties.



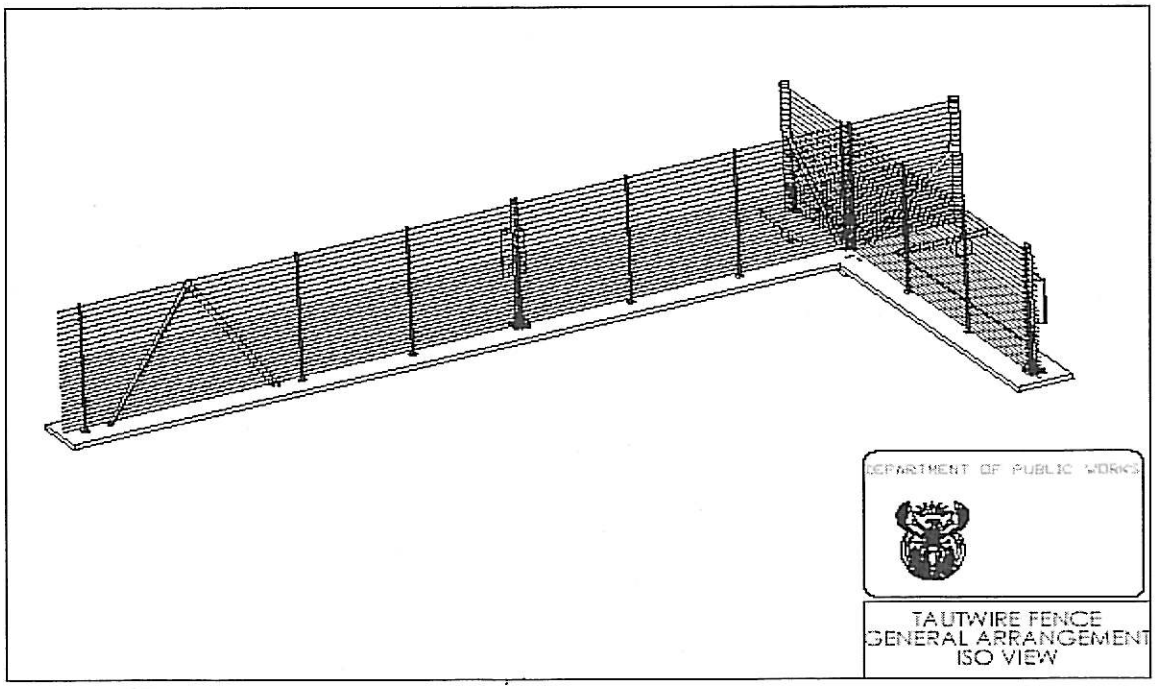

100 x 100 x 8 ANGLE
100 x 8 FLAT BAR
SECTOR WIRES CROSSOVER
FROM LEFT AND RIGHT SECTOR
DETAIL A
DEPARTMENT OF PUBLIC WORKS
IN-LINE STRAIN POST


DETAIL E
SECTION H-H
DETAIL C
DEPARTMENT OF PUBLIC WORKS
INTERMEDIATE POST



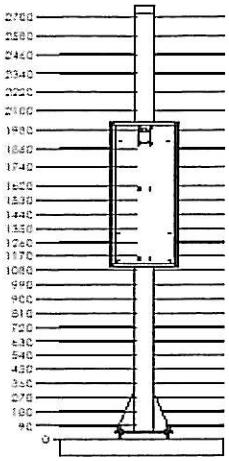
DEPARTMENT OF PUBLIC WORKS

CORNER / STRAIN POST

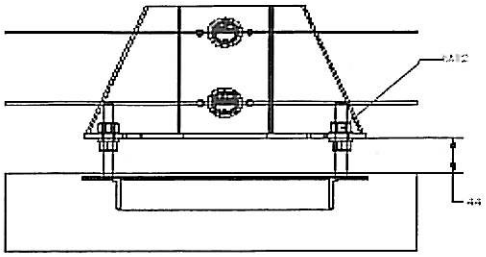


DEPARTMENT OF PUBLIC WORKS

TAUTWIRE FENCE
GENERAL ARRANGEMENT
ISO VIEW



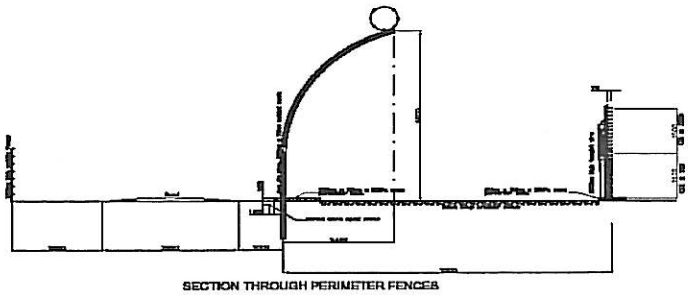
DETAIL 2



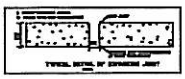
DETAIL 1

DEPARTMENT OF PUBLIC WORKS

TAUT WIRE POST



SECTION THROUGH PERIMETER FENCES
SCALE 1:50



NEW GENERATION PRISONS
PERIMETER FENCE DETAIL

ANNEXURE B

SECURITY

STANDARD TECHNICAL SPECIFICATION FOR AN

OUTER PERIMETER FENCE FOR CORRECTIONAL FACILITYS

AUGUST REVISION 2

INDEX

1. SPECIFICATION FOR A SECURITY OUTER PERIMETER FENCE

1.1. SCOPE

1.1.1 The contractor shall furnish labour, equipment, and materials for the following systems in this Section of the specification:

a. 4.5m Bowed DUPLO (DUPLO refers to a double wired welded mesh panel) wire welded mesh security outer fence.
b. Preparation of strip where fence will be installed
c. 4.5m bowed DUPLO wire fence detection system.
d. Detection system controller.
e. Gate detection system.
f. Surge protection.
g. Power supplies.
h. Training.
i. Provision of spare parts
j. Maintenance of the systems and installation
k. Connectivity and integration to control rooms

1.2 GENERAL

1.2.1 The Perimeter Security Fence shall be based on the following systems:

a. Wire (DUPLO)
b. Delay fence integrity detection
c. Gate area detection solution

1.2.2 The Delay fence disturbance detection system shall be based on kinematics principles detecting any cut or removal of components of the delay fence as is detailed hereunder in this specification. This detection system shall be installed on the outer perimeter fence as indicated in the fence layout drawing.

1.2.3 The physical perimeter shall consist of an inner fence and an outer fence of 4.5m in height.

1.2.4 Furthermore the outer fence detection system shall be installed on the outer perimeter fence attached to the outer fence structure as per the specifications of the technology manufacturer.

1.2.5 Due to the various gate area designs found on various facilities a gate area security and detection solution has to be designed on an application to application basis and has to be approved by the appointed representative from the Department of Correctional services.

1.2.6 It is a requirement that all sub-systems must be integrated with the Integrated Management System on a site. Contractors shall ensure that the control system offered complies with this requirement.

2. 4.5m PERIMETER SECURITY FENCE

The Perimeter Security Fence must not to be closer than 20m from the buildings except in cases where the site is an existing site and site limitations are experienced. The perimeter fence shall enclose all the holding units and all the support buildings accessible to offenders or supporting offender's activities.

2.1 Standard Fencing Specifications

2.1.1 **Posts**
Curved 101.6mm x 4.5mm Grade W 300 Hot dipped galvanised tubular posts to radius specified with 3mm capping plate. Posts have predrilled 11mm diameter holes for M8 bolts to fix cover plate to posts. Refer to details for top rail fixing plate. Posts to be positioned in Class 6, 103mm ID P.V.C x 2.58mm wall thickness x 1500mm long sleeves set in 500mm x 500mm x 1500mm 15MPA concrete foundation. Ground conditions may require additional concrete.

2.1.2 **Covering plate**
Covering plates required on all curved posts from ground to top of post 50mm x 5mm flat steel required, predrilled with 11mm diameter holes for fixing mesh to post.

2.1.3 **Fixing Accessories**
Cover plates to posts: M8 x 150mm galvanised cup-square bolts with galvanised washers and shear off nuts.
Top rail to post & post at corners: M10 x 40mm galvanised cup-square bolts with galvanised washers and shear off nuts.
Corner post bracket: M12 U-bolt galvanised with galvanised washers and shear off nuts.

2.1.4 **Welded wire mesh panels**
The mesh panels shall be manufactured from high tensile Galfan Class A coated wire in accordance with SANS 10244-2:2003 specification, and be of the DUPLO double strand wired welded mesh.

Vertical wires shall be welded on either side of the horizontal wires. The vertical wires on the inside (correctional facility side) shall be to a height of 3000mm. The vertical wires on the outside shall be for the total length (6000mm) of the welded mesh panel. All vertical wires shall be spaced at 76.2mm and all horizontal wires spaced at 12.7mm centre to centre.

Inside apertures : 72.2mm x 8.7mm

Centre to centre	: 76.2mm x 12.7mm
Wire diameter	: 4mm
Width of panel	: 3050mm
Height of panel	: 6000mm
Tensile Strength of wire	: 600 – 900 N/mm^2
Weld strength	: 60 – 80%

2.1.5 **Top rail**

50mm x 50mm x 5mm Angle Iron top rail. Pre-drilled holes according to detail drawings including 50mm x 5mm covering plate to fix Razor Wire coil to angle iron top rail.

2.1.6 **Galvanising**

All posts, rails and cover plates to be Hot dipped galvanised in accordance with ISO 1461 (Min.70 microns)

2.2 Additional

Razor Wire Coil

Razor coil must be provided, must be of a coiled type, 2.5mm, 304 Stainless steel with tensile strength of 1350 to 1500N/mm2, thickness of the barb tape – 0.5mm, width of the barb tape 31mm, barbs must be of the fishtail type, with a minimum length of 62mm, with a max distance between barbs of 105mm, compacted coil diameter 690/750mm.

2.3 Gates

Sliding gates shall be allowed depending on site conditions and management of access control.

Sliding gates shall be of an "intelligent" induction motor type by means of an electrically controlled industrial type gate motor. Beams shall be provided to prevent closing of the gate while a vehicle is driving through.

Refer to detail drawings, and specification.

The frame to be constructed of 60 x 40 x 2mm rectangular steel tubing and Hot dipped galvanised to ISO 1461 (Min thickness 45 micron). Each gate must consist of two leaves of same size.

Locking devices shall be to Department of Corrections specification and acceptance.

The gate must be installed in such a way that the leaves can open in both directions.

Each gate must be clad with the same mesh as that of the fence using similar cover plate & bolting system.

The gap between the bottom of the gate and the road surface shall not exceed 50mm

For detail of the construction of the gate area closing frame and side panels refer to the detail drawings.

2.4 Erection of the fencing posts

After excavation of the fencing post holes, 1300mm of the 103mm ID P.V.C sleeve with positioning bolt to be set vertically in concrete foundation. Slide post into sleeve. Minimum 5 days setting time to be allowed before positioning posts. After setting of concrete the top 200mm PVC sleeve to be cut off before erection of posts. The PVC sleeves shall protrude through the 100mm concrete strip. Care must be taken to ensure all posts are aligned (vertically and at tops), plump, perpendicular and in the correct position on the route of the fencing. All sleeves must be encased in a 25/19 concrete footing of adequate size. The contractor shall note that all galvanising shall be done after manufacturing of the posts.

2.5 Concrete slab for outer security fence

A 25/19mm concrete slab must be cast in situ along the inside of the external fence. The dimensions of the slab shall be as follows: 1000 x 100mm or other as specified on top of prepared ground level. The wire mesh panels of the fence shall be cast into the concrete slab. An expansion gap of 50mm wide must be provided at 3000mm intervals, to provide drainage and movement. (Suitable alternatives and measures that could enhance the flow of storm water is encouraged, propose that a 250/300 concrete block be placed beneath expansion joints, with a 50mm gap, this will prevent erosion on various levels) Allowance must be made for Storm Water Culverts – to divert water flow

The wire mesh panels of the fence shall be cast into the concrete slab. The Section of mesh into concrete beam and in ground shall be bitumen dipped / covered up to 100mm above ground level

Civil construction will include route preparations, and casting of the 1000mm wide concrete slab with welded mesh steel reinforcing to a nominal thickness of 100mm and a minimum compressive strength of 20Mpa.

All existing electrical services as well as the cables required for this installation shall be installed in 50mm PVC sleeves in the concrete slab to ensure that these services can be maintained after completion of the

contract.

The area underneath the concrete plinth shall be cleared of all vegetation prior to casting and treated with a suitable sterilization herbicide to prevent any vegetation growth.

The contractor shall allow and install a 250 micron PVC sheet underneath the concrete slab, to prevent any vegetation growth.

2.6 Preparation of the fence lines

The fence lines and the eight metre strip between the inner (when required by DCS, this must be cleared before the contract starts) and the outer fence shall be prepared in such a way that each zone length runs as close as possible to the same gradient. Marginal gradient changes will only be allowed on zone ends. Approval for gradient changes in soil preparation shall only be done once written approval from the Department of Correctional Services appointed official has been obtained.

2.7 Preparation of the strip between the outer and the inner fences

The eight metre strip between the inner and the outer fence shall be cleared of all vegetation, treated with a suitable sterilization herbicide, preventing any vegetation growth and the area shall be covered by a layer of 19 mm single sized stone on a geo-textile similar to Bidum U34 as part of this contract.

The contractor shall include in his offer the cost to maintain this area for the full duration of the contract and shall include as part of his offer a suitable sterilization herbicide treatment once every six months for the full duration of his maintenance contract.

The contractor shall note that it shall be the responsibility of the fencing contractor to do all liaisons regarding all civil work with the Department of Correctional Services appointed official of the Department of Corrections All information required e.g. soil conditions, back filling etc. shall be taken into consideration during the tender period and no additional costs as a result of poor liaison shall be tolerated.

3. OUTER FENCE DETECTION SYSTEM

3.1 POWER AND COMMUNICATIONS CABLE

All cables must comply with the manufacturer recommendations.

Exterior wire and cables shall be installed in schedule 40 PVC conduit and rated for direct burial use. The conduit shall be installed in the inner fence concrete strip if an inner fence is simultaneously erected

otherwise it shall be installed in the outer fence concrete strip.

Power distribution wire from the main equipment room to remote processors, transponders, detection units, or other remote electronics on the site perimeter shall be minimum 2.5 mm^2 copper and shall be increased in size as necessary to ensure no more than 5% (AC or DC) voltage drop from the main equipment room to the remote equipment. It is required to submit power voltage drop calculations for all field located perimeter equipment.
Provide a two core multimode fibre optic cable; direct bury type cable between all perimeter system enclosures and the head end to create a loop around the perimeter system. Provide 1500mm of spare cable for each cable in each perimeter system enclosure.

All cables that will be directly buried shall be rated for direct burial and approved for wet locations.

All conductors shall be rated for direct burial and approved for wet locations in accordance with SABS.

Signal and power cables shall be separate cables and not combined as part of the same cabling jacket.

3.2 ACCESSORIES

The system shall include all accessories required to perform the functions described in this Section.

3.3 MARKERS AND NAMEPLATES

3.3.1 Cable Tags:

Cable tags shall be provided in accordance with SABS.

3.3.2 Nameplates:

a. Precision engraved letters and numbers with uniform margins.

b. Character sizes shall be a minimum of 50 mm high.

c. Indoor : Shall be phonemic, two colour laminated stock, 2 mm thick, machine engraved to expose inn core colour (white).

d. Outdoor: Shall be Standard aluminium alloy plate stock, minimum 1 mm thick, engraved areas shall be enamel filled or background enamelled with natural aluminium engraved characters.

e. All nameplates shall be permanently attached.

3.3.3 Zone Identification:

a. In order for the perimeter patrol officer to easily identify zone locations, at the end of each zone a 500mm x 250mm sign shall be installed. The sign shall face the perimeter road.

c. All zones shall be identified by zone number.

c. Black numbers on a reflective yellow background shall be used.

d. All signs shall be visible from a distance of 12000mm.

3.4 POWER SUPPLIES

Power supplies shall be furnished with characteristics as required to support the operational performance of the sensor and signal processors.

3.5 ENCLOSURES

All exterior post mounted enclosures must have the following features:

a. At least 1.6 mm stainless steel plate construction.

b. Continuously welded seams.

c. Cabinet lockable with all locks keyed alike.

d. Equipped with tamper detection device connected to the processor tamper circuit. The tamper switch shall detect any attempt to vandalise the enclosure including the opening of the door and the cutting or breaking of the enclosure.

3.6 EARTHING

3.6.1 A continuous 70mm^2, bare, stranded, copper earthing conductor shall be buried a minimum of 600 mm under the sidewalk and run the continuous length of the sidewalk.

3.6.2 At each sensor post, via cad-weld connections, the earthing conductor shall attach to the ground bus located inside the enclosure. Also, a 70mm^2 earthing conductor shall bond the processor enclosure, and the nearest outer fence post to the 70mm^2 ground ring (CONNECTED TO A 1,5M COPPER BURIED

EARTH SPIKE). All doors of field cabinets shall be earthed.

3.6.3 At a point nearest the main electronics equipment room, a 70 mm^2, bare, stranded, copper conductor shall bond the buildings electrical system ground bus to the 70mm^2 ground ring buried under the sidewalk. All direct buried ground connections shall be cad-weld type connections.

3.6.4 All systems described in this section shall be grounded in accordance with the responsible Department of Correctional Services appointed official's recommendations and meet the minimum requirements of the manufacturer.

3.7 SURGE PROTECTION

3.7.1 All metallic data, communications, video, and sensor lines entering or leaving a building shall be protected with surge protection devices.

3.7.2 Earthing of protective devices shall be in accordance with the manufacturer's recommendations and/or as described in these specifications and drawings.

3.7.3 All signal line protective devices shall be located at the terminal point nearest the cable interface with the exterior cable plant. Devices shall be mounted to the back panel of the cabinet.

3.7.4 Where equipment is fed from a panel board not protected by a panel board protector, provide a branch circuit protector installed at the panel board.

3.8 DETECTION MEASURES

3.8.1 PURPOSE OF SYSTEM

The outer perimeter fence is a bowed welded mesh fence structure as per the attached drawings and acts mainly as a delay system.

This delay functions of the outer fence need to be protected to ensure that it fulfils its purpose. Detection is required to detect the cutting or removing of the structure and attempts thereof.

The system shall be applied in order to ensure maximum coverage in the detection area.

3.8.2 DESCRIPTION OF SYSTEM

a. Zones

The system shall be installed in specific lengths called Zones. Each zone and detection device can provide and report its own intrusion alarms, therefore providing information on the area of any intrusion attempt. Zone lengths should not exceed 20m.

b. Detection units

Each zone shall be equipped with detection units; the detection unit shall include the transmitter, receiver, alarm processing unit and the required communication cable.

c. Installation

Measuring devices must be directly attached to the fence structure and connected via a field communication network. The network shall be connected to the main detection network via the field nodes and reflect in the main control room.

Each device will be represented in the main control user interface allow for parameter setting and diagnostics per device. The operator shall be able to identify the device that caused the alarm within a sector or zone.

The detection equipment shall be installed in accordance with the supplier specifications, the installation specifications must be presented before installation commences.

The detection units installed shall be sufficient to cover the specified area.

d. Maintenance

Maintenance must be conducted on a regular basis.

e. Detection

Detection parameters should be adjustable according to the needs of the centre.

The detection system shall announce at least the following alarm events:

- Fence cut
- Fence components removed

The contractor shall allow as part of this contract for the necessary tests to be effected as required by the end user.

3.9 FIELD CONTROLLER

3.9.1 Processor

Each zone shall be equipped with a field processor unit, performing all the functions associated with a particular zone. A field processor shall provide for / contain the following sub-systems:-

- Digital inputs
- Relay outputs
- Processor
- Data communication
- Reset key switch transmitter type

Field processors shall be installed in the middle of each zone. The enclosure shall be manufactured from Stainless steel. Enclosures shall be rated IP 65 and fitted with a door lock and tamper switch as per Par 1.10 d.

All cable entries to field units, if exposed shall be protected against vandalism by means of stainless steel covers.

3.9.2 Data Communication

Field processors are to be linked to the central control room in the most suitable manner.

3.9.3 Power

A single phase power feed shall supply the field processors. (230V should be supplied to each field node.) All equipment shall be protected against lightning surges and transient voltages to all the relevant SABS specifications and regulations

3.10 PERIMETER CONTROLLER

3.10.1 System operation

The system shall be installed as a zoned, automatic, supervised alarm detection system.

a. The alarm condition is transmitted from the post mounted, zone field microprocessor via redundant fibre-optic loop to the perimeter Master Controller.

c. Each independent defined intrusion event shall affect a unique signal on the perimeter controller to the MIS

d. The supervised circuit in the system causes a tamper/status alarm to signal.

e. The location at any point at which an attempt is made to tamper with the system shall be identified at the perimeter controller.

f. Approved detection measures shall be incorporated into the system and used as separate zones protecting the vehicle sally port. (One zone only)

g. System status and all alarm conditions shall be reported to the central control from the field controllers to a perimeter controller.

h. System status and all alarm conditions shall be reported to the system operator from the perimeter controller to a graphics display unit.

i. All fixed components of the perimeter alarm system shall receive power from the UPS provided in central control or a main electronics equipment room.

3.10.2 Hardware

The perimeter controller shall be installed in the Central Control console as shown on the drawings.

3.10.3 Monitoring and Control

The controller shall contain the status map off all field detection and status devices. These devices shall include the following:

a. Outer fence detection alarm

b. Outer fence detection maintenance

c. Field cabinet tamper

d. Auxiliary inputs including gate area detection devices and gate status contacts at sally port.

e. Field communication status for each field controller

3.10.4 Alarm and Event Printing

Alarms and selected events shall be printed on a suitable continuous paper printer via a parallel port

3.10.5 Alarm and Event Recording

The following shall be recorded on the alarm or event log:

a. All changes in the state of field devices. This includes alarm and maintenance conditions. These events shall be logged per zone and per device.

b. Operator master accept actions.

c. Field reset actions.

Log entries shall be date and time stamped to the nearest second.

3.10.6 External Interfaces

These external data interfaces shall be used to integrate the perimeter system with an Integrated Management System (IMS) or CCTV system.

Where an Integrated Management System (IMS) is in operation the Perimeter system shall be fully integrated with the IMS and CCTV systems for annunciation, print recording, and logging of alarms and initiation of CCTV system functions upon an alarm condition.

All perimeter alarms shall be logged, enunciated, recorded and managed by the MIS alarm terminal in Central Control. Fence Alarms, trouble and tamper conditions shall be separately enunciated by individual zone designations.

The interface definition shall be documented and delivered with the system as part of the deliverable of this project.

The diagnostic software shall include a data recording facility to record all the digital and analogue signals from any selected field processor unit and any selected detection device.

4. USER INTERFACE – FUNCTIONAL OPERATION

This requirement shall apply to the graphical user interface that may form part of the perimeter controller or implemented on the Integrated Management System (IMS).

Site Perimeter Map

A graphical presentation of the site perimeter shall include the following:

a. Position of the perimeter

b. Detection zones

c. Gates

d. Other static information (buildings or roads) that may be required to assist the operator to identify the location of an occurrence.

The following Icons representing the alarm / maintenance status of field detection devices shall be included:

a. Alarm status of Delay Fence Integrity Detection for each zone.

b. Tamper status of each field enclosure.

c. The status of detection devices and status monitoring in the sally port area.

d. The operational (maintenance) status of field equipment for each field controller.

Abnormal conditions shall be acknowledged by the operator by activating a single icon. This shall also stop the audible alarm.

The colour of status icons shall be available.

The following requirements shall be the minimum requirements for the user interface:

The graphical user interface as proposed by the Bidder must be presented to the end-user's authorised representative for approval before commencement of work. All available system information and specified requirements must be accessible through the User Interface. The user interface shall always be fully compliant to the above requirements.

5. TESTING:

5.1 The Contractor shall notify the Department of Correctional Services appointed official two (2) weeks prior to the system tests so that arrangements can be made to have Department of Correctional Services appointed official witness the tests.

5.2 Each penetration of the detection system shall produce an alarm.

5.3 If an alarm is not detected on the first try of any test, the test shall be deemed a failure and all testing shall cease.

5.4 The Contractor shall be allowed time (not to exceed 1 hour) to make the necessary repairs before continuing the test. If additional failures are noted during the test, the test shall cease and be rescheduled for another day.

5.5 If the test is deemed a failure by the Department of Correctional Services appointed official, the Contractor shall be responsible for all cost incurred by the Government for scheduling a second test.

5.6 The gate area detection system shall be tested based on the requirement that the gate area detection must be of the same standard as the perimeter detection system.

5.7 Delay Fence Integrity Detection System

A simulated breaching of the outer perimeter fence shall be performed.

The outer fence detection system shall generate an alarm when such an attempt is made.

6. SPARE PARTS

The Contractor shall provide the institution with the sufficient spare parts to minimise "down time", to a maximum of 24 hours of any aspect of the system, and has to attach a proposed copy thereof to the Bid submission.

7 COMPLIANCE TO THE SPECIFICATION

The Contractor shall comply with all the requirements as per this specification. Proposed deviations shall only be considered after the award of the contract. Proposed deviations shall only be accepted if it meets with all of the following criteria:

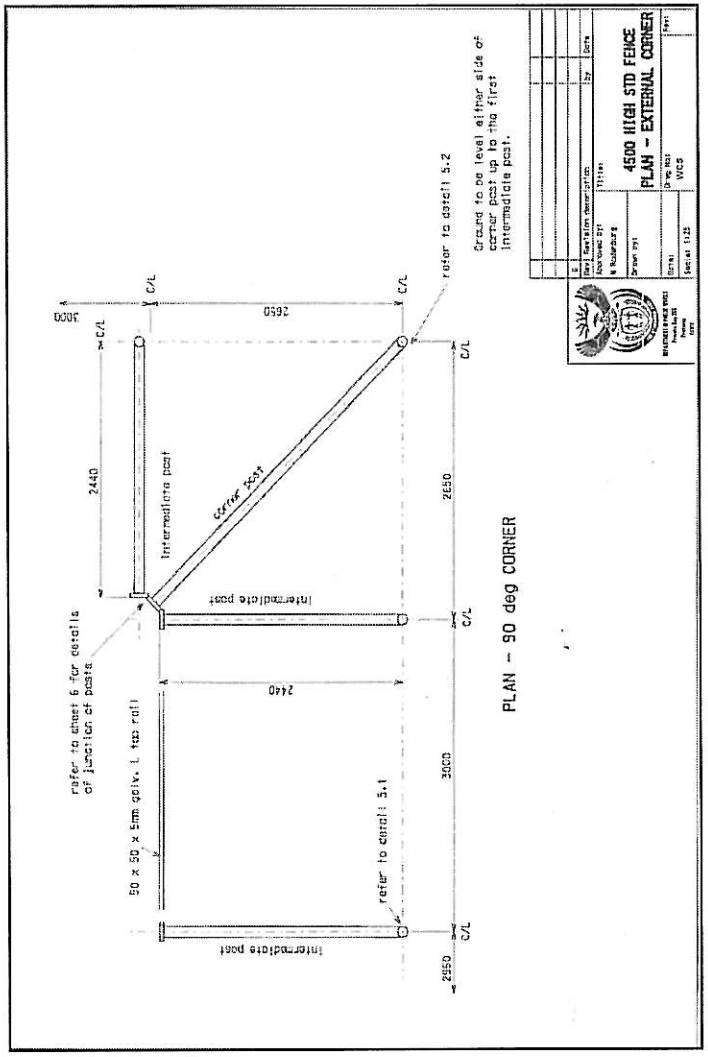
- The proposed deviation offers a substantial improvement to the final product offered.
- The proposed deviation has been proven in other applications.

Any deviations from the specification can only be implemented with prior approval from the various representatives from DCS Contract management, and the Department of Correctional Services appointed official

8 PROVEN PRODUCT

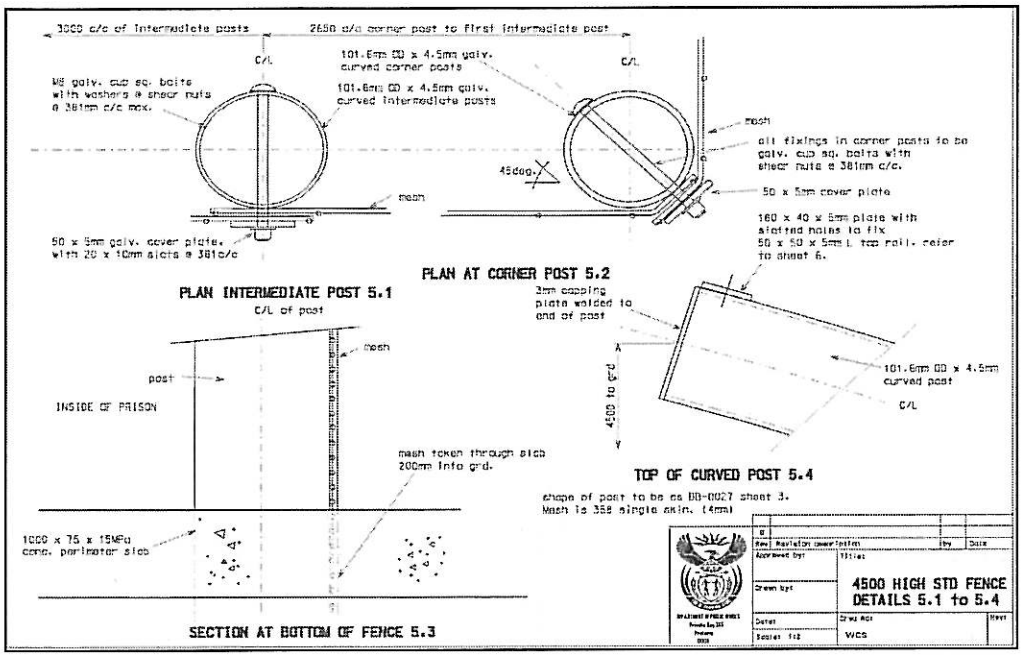
Due to the security nature of this requirement and the criticality of this application only proven product shall be considered.

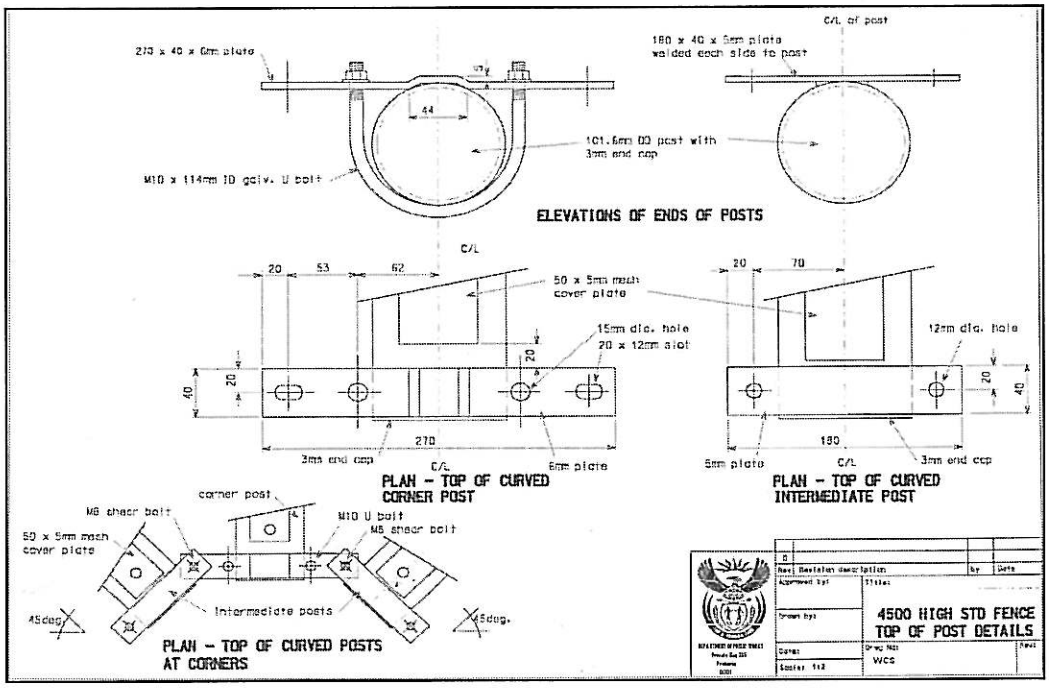
Product could be approved only after investigation by all applicable parties.

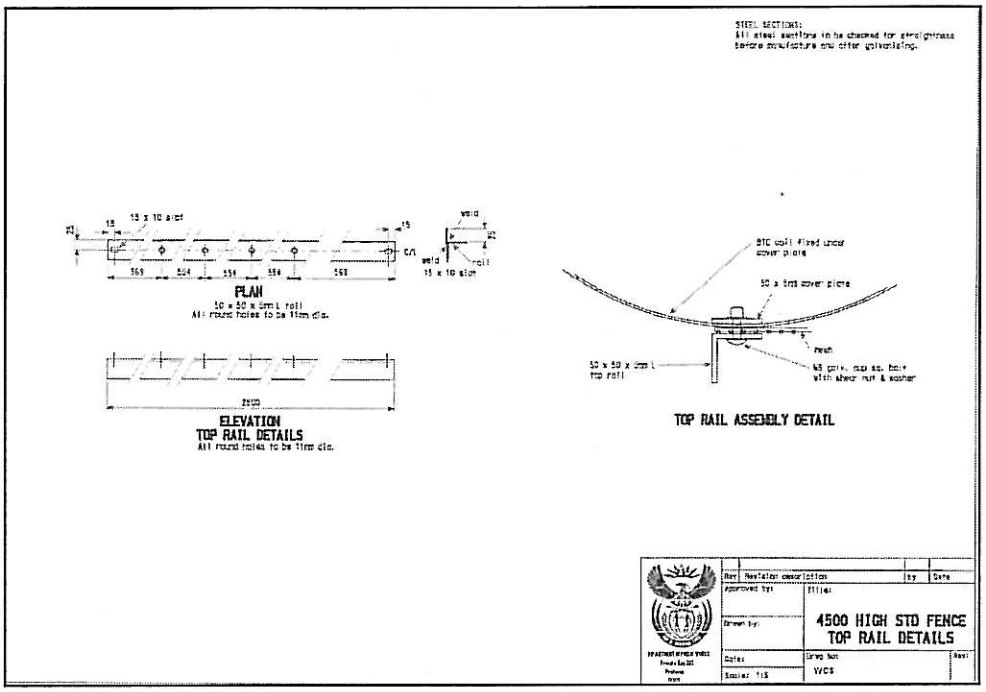


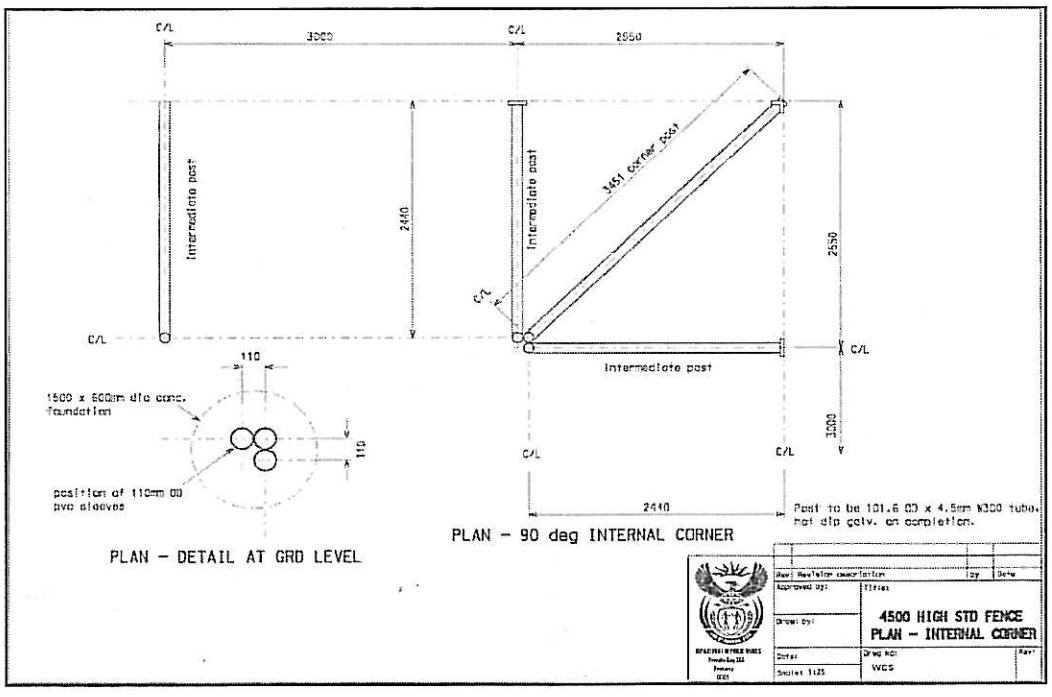
50 x 50 x 5mm L & 50 x 5mm cover strip.
refer to sheet 7.
3mm capping, refer to detail 5.4
610mm dia. BTC
long bore coil
C/L
C/L
3420 radius
mesh & cover plate
curved section
3202
3590
4384
6014 on C/L's
4500
1220
straight section
101.6 x 4.5mm galv. W300 tubular
steel post
5.1
1000 x 100mm, 20MPa concrete slab
grd line
1500 x 500mm dia. 15MPa
concrete foundation
1300 x 101.6mm ID pvc sleeve
M12 galv. bolt
1500
1300
1000
straight section
2440 on C/L
C/L
length of straight section = 2220
length of curved section = 4380
on centre line.
Total length on centre
line of pole = 6600
size of mesh panel = 3050mm wide x 6000
Rev
Revision description
by
Date
Approved by
Drawn by
Date
Scales 1:25
Title:
4500 HIGH STD FENCE
CURVED INTERMEDIATE POST
Drwg No:
WCS
Rev:

4500
4331
4050
3637
3000
3mm cap plate
refer to detail 5.4
G
F
E
D
C
B
A
615 on centre line of post
1220
straight section
5.2
3500
2828
2121
1414
707
Post to be constructed from 101.6mm OD x 4.5mm W300 steel tube.
Length of post on c/l = 7462
Dimensions and radius of curves indicated
are for a 90 deg corner. Corners less and greater
than 90 deg. will require individual designs. The design
and engineering cert. can be obtained from the manufacturer.
RADIUS OF CURVES: (on c/l of post)
A: straight section
B: 2795mm
C: 3946mm
D: 4867mm
E: 5643mm
F: 7040mm
Post to be hot dip galv. to
ISO 1461 after all cutting and drilling.
Rev
Revision description
by
Date
Approved by
Drawn by
Date
Scales 1:25
Title:
4500 HIGH STD FENCE
CURVED CORNER POST DETS.
Drwg No:
WCS
Rev:


3000 c/c of intermediate posts
2650 c/c corner post to first intermediate post
C/L
101.6mm OD x 4.5mm galv. curved corner posts
101.6mm OD x 4.5mm galv. curved intermediate posts
M8 galv. cup sq. bolts with washers @ shear nuts @ 381mm c/c max.
mesh
45deg.
all fixings in corner posts to be galv. cup sq. bolts with shear nuts @ 381mm c/c.
50 x 5mm cover plate
50 x 5mm galv. cover plate, with 20 x 10mm slots @ 381c/c
160 x 40 x 5mm plate with slotted holes to fix 50 x 50 x 5mm L top rail, refer to sheet 6.
PLAN AT CORNER POST 5.2
PLAN INTERMEDIATE POST 5.1
C/L of post
post
INSIDE OF PRISON
mesh taken through slab 200mm into grd.
1000 x 75 x 15MPa conc. perimeter slab
SECTION AT BOTTOM OF FENCE 5.3
3mm capping plate welded to end of post
4500 to grd
101.6mm OD x 4.5mm curved post
TOP OF CURVED POST 5.4
shape of post to be as DD-0027 sheet 3.
Mesh is 358 single skin. (4mm)
Rev: Revision description
by
Date
Approved by
Drawn by
Date:
Scale: 1:2
Title:
4500 HIGH STD FENCE DETAILS 5.1 to 5.4
Drwg No:
WCS
Rev:

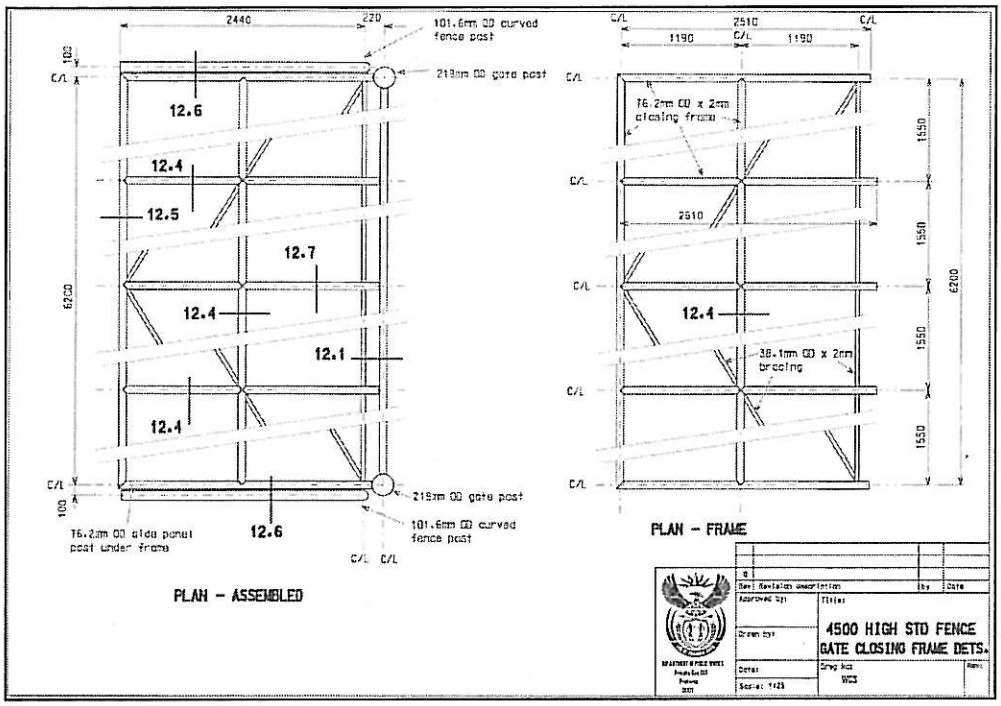

270 x 40 x 6mm plate
C/L of post
180 x 40 x 5mm plate welded each side to post
44
101.6mm OD post with 3mm end cap
M10 x 114mm ID galv. U bolt
ELEVATIONS OF ENDS OF POSTS
C/L
20
53
62
50 x 5mm mesh cover plate
15mm dia. hole 20 x 12mm slot
40
20
270
3mm end cap
6mm plate
PLAN - TOP OF CURVED CORNER POST
70
12mm dia. hole
180
5mm plate
3mm end cap
PLAN - TOP OF CURVED INTERMEDIATE POST
corner post
M8 shear bolt
M10 U bolt
M8 shear bolt
50 x 5mm mesh cover plate
45deg.
intermediate posts
PLAN - TOP OF CURVED POSTS AT CORNERS
Rev: Revision description
by
Date
Approved by
Drawn by
Date:
Scale: 1:2
Title:
4500 HIGH STD FENCE TOP OF POST DETAILS
Drwg No:
WCS
Rev:

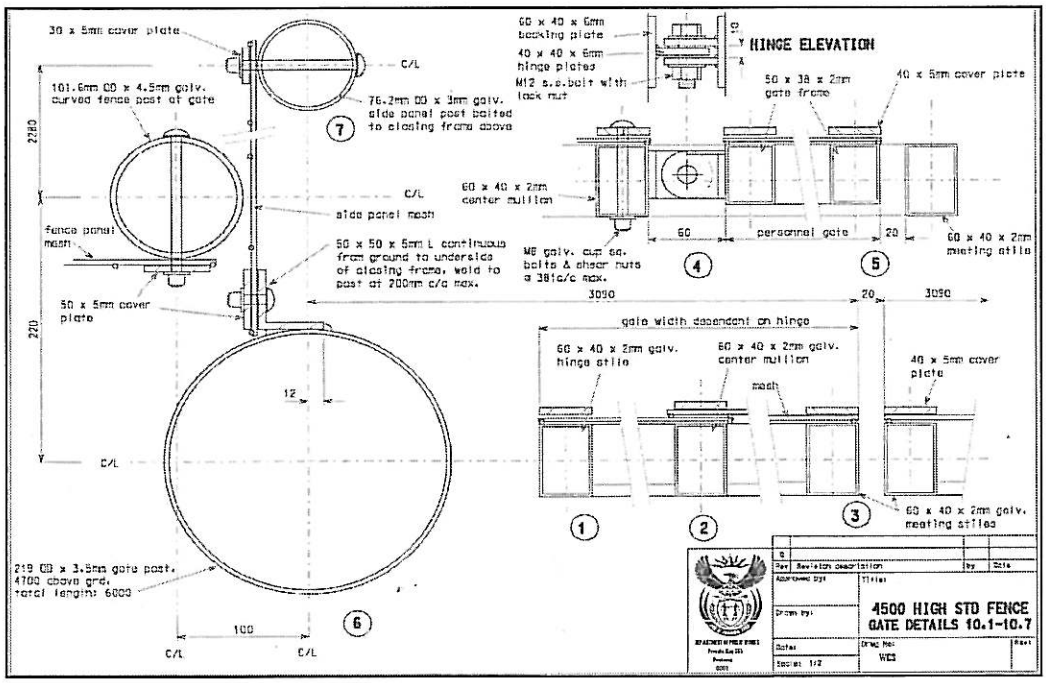

STEEL SECTIONS:
All steel sections to be cleaned for straightness before manufacture and after galvanizing.
15 x 10 slot
PLAN
10 x 50 x 5mm L roll
All round holes to be 11mm dia.
ELEVATION
TOP RAIL DETAILS
All round holes to be 11mm dia.
BTC coil fixed under cover plate
50 x 5mm cover plate
Mesh
50 x 50 x 5mm L top rail
TOP RAIL ASSEMBLY DETAIL
Rev | Revision description | by | Date
Approved by:
Drawn by:
Dates:
Scales: 1:5
Titles:
4500 HIGH STD FENCE
TOP RAIL DETAILS
Drwg No: WCS
Rev:

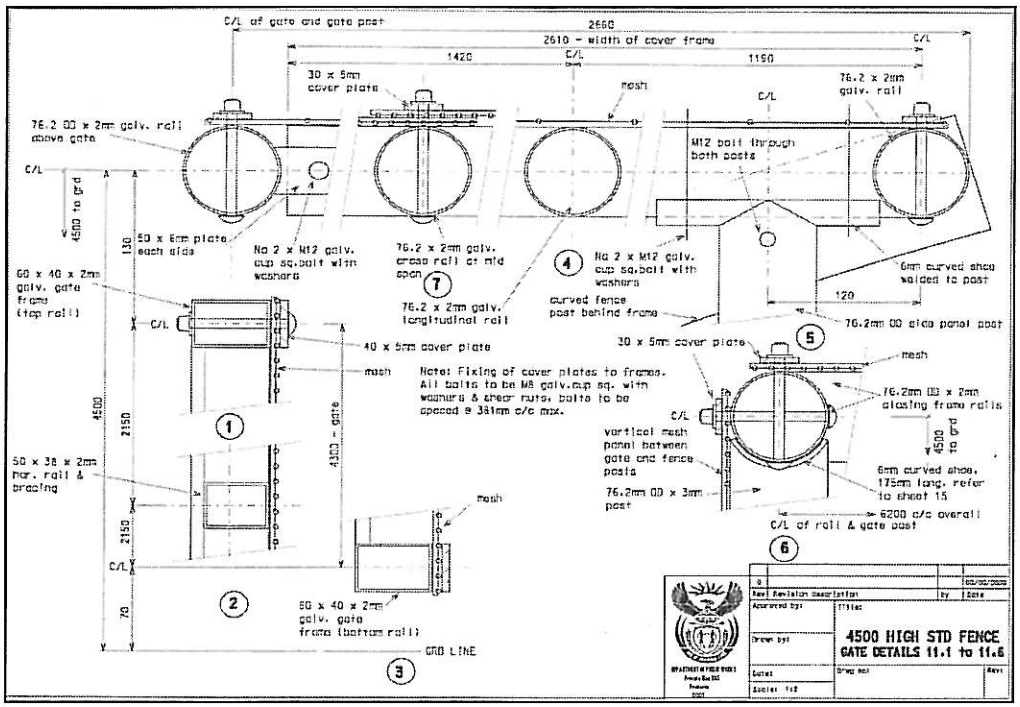

C/L
3000
2550
Intermediate post
2440
3451 Centres
C/L
110
1500 x 600mm dia conc. foundation
110
position of 110mm OD pvc sleeves
PLAN – DETAIL AT GRD LEVEL
Intermediate post
C/L
Intermediate post
2440
PLAN – 90 deg INTERNAL CORNER
Post to be 101.6 OD x 4.5mm N300 tube, hot dip galv. on completion.
Rev | Revision description | by | Date
Approved by:
Drawn by:
Dates:
Scales: 1:25
Titles:
4500 HIGH STD FENCE
PLAN – INTERNAL CORNER
Drwg No: WCS
Rev:

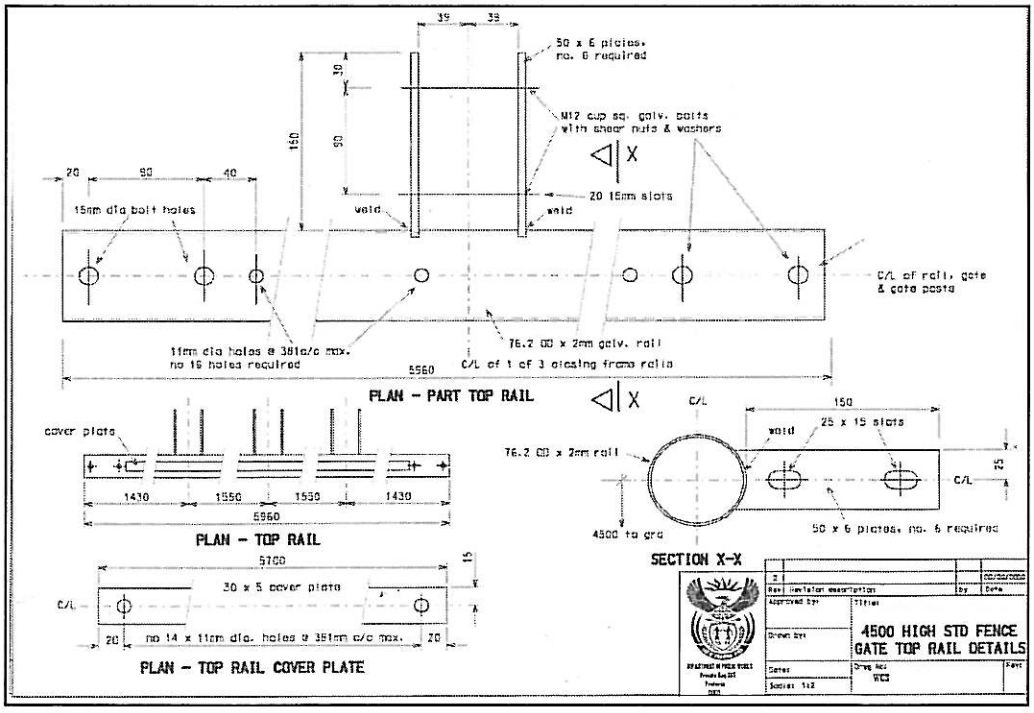
fixing of rails & closing frame refer to sht 13
gate posts to be capped. refer to sht 14
12.1
11.2
11.3
11.1
11.4
11.5
11.6
12.3
mesh
gate
219mm OD x 3.5mm gate posts
barrel bolt
1500 x 700 x 700mm 15MPa conc. foundations for gate & fence posts
300 x 300 x 6mm base plates
ELEVATION
76mm OD side panel post
side panel mesh
101.6mm OD fence post
fence mesh
219mm OD gate post
personnel gate
closing frame over
450 x 450 x 1000 deep conc. foundation
700 x 700 x 1500 conc. foundation
6200
C/L
PLAN
4500 HIGH STD FENCE
6000 GATE PLAN & ELEVATION

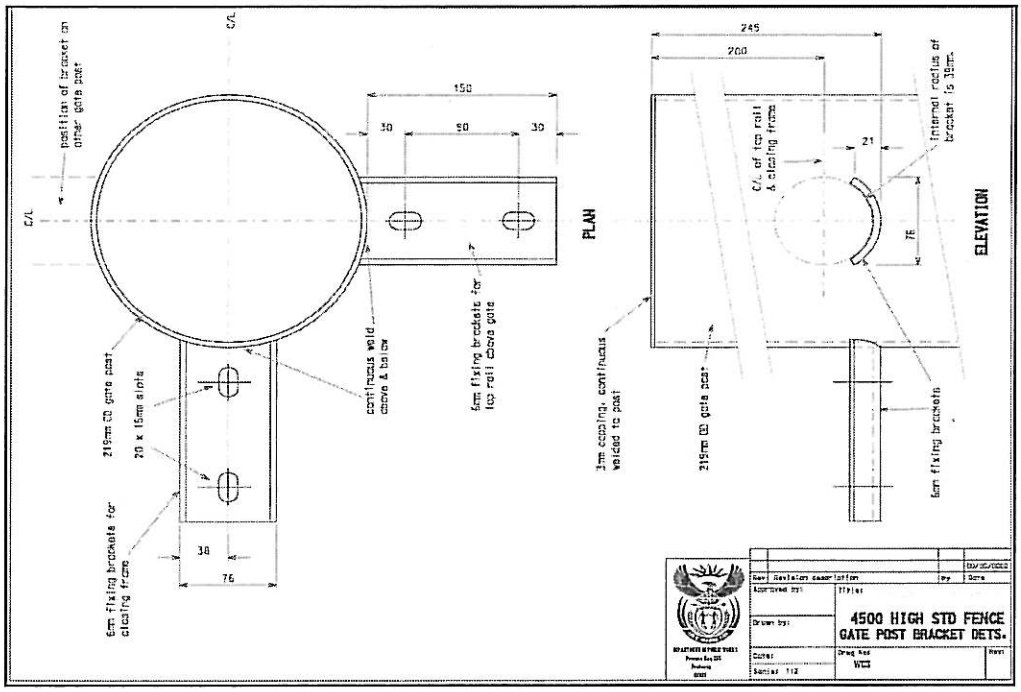
BTC coil
12.5
76.2mm OD x 2mm tubular entry closing frame
76.2 OD x 3mm galv. tubular side panel post
1000 x 450 x 450 conc. foundation
razor wire coil
11.7
mesh side panel
12.4
5.3
12.6
3mm coping sht 14.
101.6mm OD fence post behind side panel
combined foundation 1500 x 700 x 700mm. 15MPa concrete
2280
220
12.1
gate
12.2
11.6
12.3
219mm OD x 3.5mm tubular gate post
200
4600
1300
6000
4500 HIGH STD FENCE
6000 GATES - SECTION

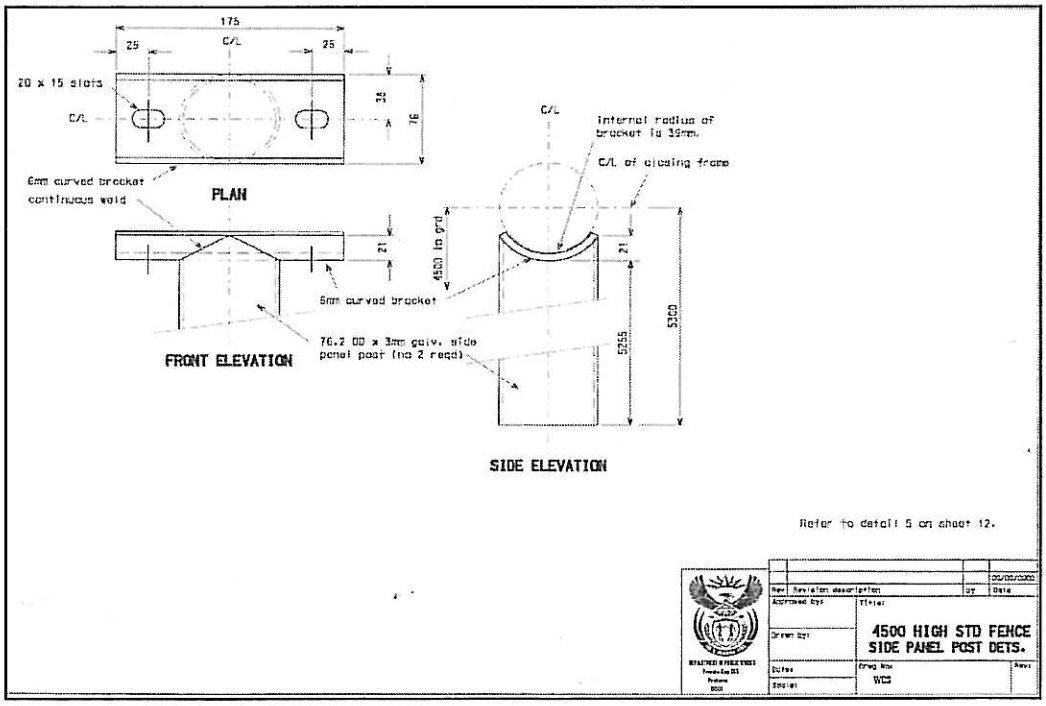

2440
220
101.6mm OD curved fence post
219mm OD gate post
12.6
12.4
12.5
12.7
12.4
12.1
12.4
6200
100
76.2mm OD side panel post under frame
12.6
219mm OD gate post
101.6mm OD curved fence post
PLAN – ASSEMBLED
2510
1190
1190
76.2mm OD x 2mm closing frame
2510
12.4
38.1mm OD x 2mm bracing
1550
1550
1550
1550
6200
PLAN – FRAME
Rev Revision description By Date
Approved by:
Drawn by:
Dates:
Scales: 1:25
Title:
4500 HIGH STD FENCE GATE CLOSING FRAME DETS.
Drwg No: WCS
Rev:


30 x 5mm cover plate
101.6mm OD x 4.5mm galv. curved fence post at gate
76.2mm OD x 3mm galv. side panel post bolted to closing frame above
7
C/L
2280
side panel mesh
fence panel mesh
50 x 50 x 5mm L continuous from ground to underside of closing frame, weld to post at 200mm c/c max.
50 x 5mm cover plate
220
12
C/L
219 OD x 3.5mm gate post, 4700 above grd, total length: 6000
100
6
C/L C/L
60 x 40 x 6mm backing plate
40 x 40 x 6mm hinge plates
M12 s.e.bolt with lock nut
HINGE ELEVATION
50 x 38 x 2mm gate frame
40 x 5mm cover plate
60 x 40 x 2mm center mullion
60
personnel gate
20
60 x 40 x 2mm meeting stile
M8 galv. cup sq. bolts & shear nuts @ 381c/c max.
4
5
3090
20
3090
gate width dependant on hinge
60 x 40 x 2mm galv. hinge stile
60 x 40 x 2mm galv. center mullion
mesh
40 x 5mm cover plate
1
2
3
60 x 40 x 2mm galv. meeting stiles
Rev Revision description By Date
Approved by:
Drawn by:
Dates:
Scales: 1:2
Title:
4500 HIGH STD FENCE GATE DETAILS 10.1-10.7
Drwg No: WCS
Rev:

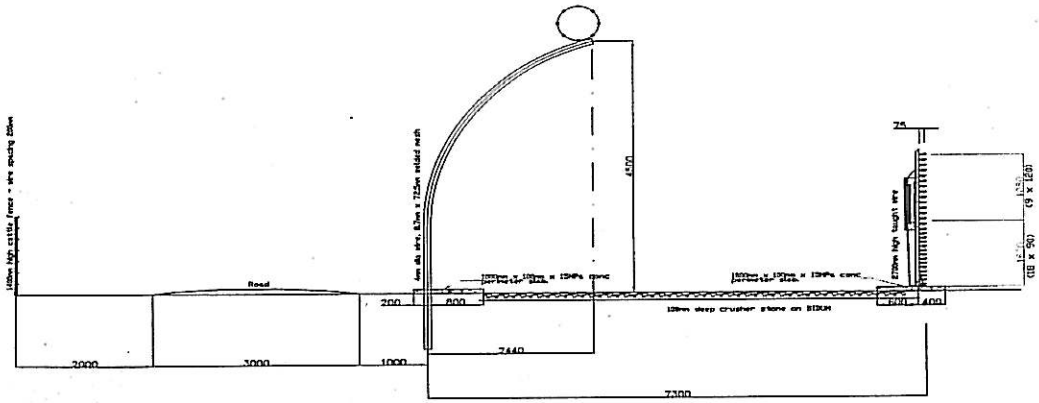

C/L of gate and gate post
2660
2610 - width of cover frame
1420
1150
30 x 5mm cover plate
mesh
76.2 x 2mm galv. rail
76.2 OD x 2mm galv. rail above gate
M12 bolt through both posts
4500 to grd
50 x 6mm plate each side
No 2 x M12 galv. cup sq.bolt with washers
76.2 x 2mm galv. cross rail at mid span
No 2 x M12 galv. cup sq.bolt with washers
6mm curved shoe welded to post
60 x 40 x 2mm galv. gate frame (top rail)
76.2 x 2mm galv. longitudinal rail
curved fence post behind frame
120
76.2mm OD x 3mm post
40 x 5mm cover plate
mesh
Note: Fixing of cover plates to frames. All bolts to be M8 galv.cup sq. with washers & shear nuts, bolts to be spaced @ 381mm c/c max.
30 x 5mm cover plate
mesh
76.2mm OD x 2mm closing frame rails
4500 grd
vertical mesh panel between gate and fence posts
6mm curved shoe, 175mm long, refer to sheet 15
76.2mm OD x 3mm post
6200 c/c overall
C/L of rail & gate post
50 x 38 x 2mm hor. rail & bracing
4500 - gate
mesh
60 x 40 x 2mm galv. gate frame (bottom rail)
GRD LINE
4500 HIGH STD FENCE
GATE DETAILS 11.1 to 11.6


39
39
50 x 6 plates, no. 6 required
30
160
90
M12 cup sq. galv. bolts with shear nuts & washers
X
20
90
40
15mm dia bolt holes
20 15mm slots
weld
weld
C/L of rail, gate & gate posts
11mm dia holes @ 381c/c max. no 15 holes required
76.2 OD x 2mm galv. rail
5560
C/L of 1 of 3 closing frame rails
PLAN - PART TOP RAIL
cover plate
1430
1550
1550
1430
5960
PLAN - TOP RAIL
5700
30 x 5 cover plate
C/L
20
no 14 x 11mm dia. holes @ 381mm c/c max.
20
PLAN - TOP RAIL COVER PLATE
X
C/L
150
weld
25 x 15 slots
76.2 OD x 2mm rail
25
C/L
4500 to grd
50 x 6 plates, no. 6 required
SECTION X-X
4500 HIGH STD FENCE
GATE TOP RAIL DETAILS


position of bracket on other gate post
C/L
150
30
90
30
PLAN
245
200
Internal radius of bracket is 39mm.
C/L of top rail & closing frame
21
76
ELEVATION
219mm OD gate post
20 x 15mm slots
continuous weld above & below
6mm fixing brackets for top rail close gate
3mm casing, continuous welded to post
6mm fixing brackets for closing frame
38
76
6mm fixing brackets
Rev Revision description by Date
Approved by
Drawn by
Dates
Series 112
Title:
4500 HIGH STD FENCE GATE POST BRACKET DETS.
Drwg Nos
WC3
Revn


175
25
C/L
25
20 x 15 slots
C/L
38
76
6mm curved bracket continuous weld
PLAN
21
6mm curved bracket
FRONT ELEVATION
C/L
Internal radius of bracket is 39mm.
C/L of closing frame
4500 to grd
21
5355
5500
76.2 OD x 3mm galv. side panel post (no 2 reqd)
SIDE ELEVATION
Refer to detail 5 on sheet 12.
Rev Revision description by Date
Approved by
Drawn by
Dates
Series
Title:
4500 HIGH STD FENCE SIDE PANEL POST DETS.
Drwg Nos
WC5
Revn

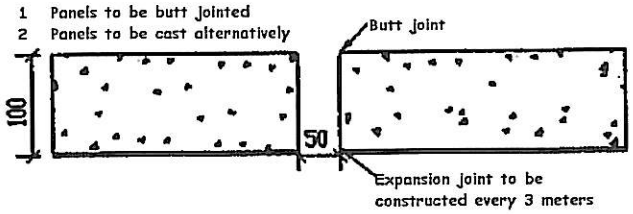
Rev	Revision description	by	Date
Approved by:		Title: CROSS SECTION OF INNER FENCE AND AND OUTER FENCE WITH DIMENSIONS	
Drawn by:			
Date:		Drawg No: WCS	Rev:
Scale: 1:25			



SECTION THROUGH PERIMETER FENCES
SCALE 1:50

Rev	Revision description	by	Date
Approved by:		Title: CONCRETE PLINTH DETAIL FOR INNER AND OUTER FENCE	
Drawn by:			
Date:		Drawg No: WCS	Rev:
Scale: 1:25			

1 Panels to be butt jointed
2 Panels to be cast alternatively



TYPICAL DETAIL OF EXPANSION JOINT
N.T.S.

ANNEXURE C

SECURITY

STANDARD TECHNICAL SPECIFICATION FOR

SLIDING GATES AND MOTORS FOR CORRECTIONAL FACILITIES

AUGUST REVISION

INDEX

1 SPECIFICATION FOR SLIDING GATE AND MOTOR

1.1. SCOPE

1.1.1 The contractor shall furnish labour, equipment, and materials for the following systems in this Section of the specification:

a. Siding gate motors
b. Surge / Lightning protectors.
c. Power supplies.
d. Training.
e. Provision of spare parts
f. Maintenance of the systems
g. Connectivity and integration to control rooms

The contractor shall provide a complete sliding gate and motor solution, integrated into existing control rooms.

2. Specifications of the proposed sliding motor

2.1 DEFINITION

Must be of a linear induction motor type.

DIMENSIONS / CAPABILITIES

Length 490 mm
Height 265 mm
Width 170mm
Rotar Length may not be less that the gate length
Minimum Friction Tolerance 180 Newton Metres
Minimum Operating Temperature -30C
Maximum Operating Temperature +50C

2.2 LOCKING MECHANISMS

The motor must be equipped with an intelligent locking mechanism, to withstand a break force of 3, 7 Tonnes, the lock must have a backup battery.

2.3 SAFETY FEATURES

The motor must be intelligent, should there be an obstruction during the opening or closing of any kind, the motor must change direction immediately

The motor must have an life expectancy of at least 10 years, be unconditionally guaranteed for five years

2.4 INTEGRATION

The motor must be able to integrate with Access control / Biometric readers, and integrate to the control rooms

ANNEXURE D

SECURITY

STANDARD TECHNICAL SPECIFICATION FOR

PERIMETER FENCE CAMERAS FOR CORRECTIONAL FACILITIES

AUGUST REVISION

INDEX

1 SPECIFICATION FOR SECURITY SURVEILLANCE EQUIPMENT

1.1. SCOPE

1.1.1 The contractor shall furnish labour, equipment, and materials for the following systems in this Section of the specification:

a. Security surveillance cameras
b. Digital Video Recorders (DVR's)
c. Monitors / viewing equipment
d. Camera support posts
e. Surge / Lightning protectors.
f. Power supplies.
g. Training.
h. Provision of spare parts
i. Maintenance of the systems
j. Connectivity and integration to control rooms
k. Sufficient lightning to be provided

The contractor shall provide a complete closed circuit television system integrated to the fencing to comply with the requirements as detailed throughout this document, and which shall comply fully with the requirements of this specification for a direct supervision facility.

On-site Control Room (applicable where no control rooms are available)

Each Control site shall be fitted with a complete control room solution, comprising of:

a. On-site Digital Video Recording system
b. Camera Controllers
c. Monitors
d. Spot Monitors
e. Review PC/s
f. Uninterruptible On-line Power Supply
g. LAN and WAN Connectivity
h. Communications as per operational requirements

i. Air Conditioning Unit

Off-site Surveillance Capability

It is imperative that all sites should be able to be surveyed (and controlled, if and when necessary) from a remote location, such as a centralized management area and regional (One per region) and national control centre. Off-site surveillance must be possible at all times, operated on a national Wide Area Network (WAN) and should utilize a permanent connectivity solution, rather than a dial-up connection. This connectivity must have redundancy capability, combined with a Disaster Recovery Solution (DRS) at a remote disaster recovery site. This management area, regional and national control centre should have hard- and software redundancy, as well as electrical power supply backup, sufficient to maintain service to the client at all times. Strict security measures should apply to both virtual and natural environments. AAA authentication, firewall protection and network access control is imperative for virtual security, while physical and electronic access control and efficient security measures combined with stringent standard operating procedures is essential for secure operation of the control centre. All equipment and systems must be monitored and backed up at all times, with full audit trail and reporting facilities available on a management information system (MIS).

INCLUSIONS

1. The successful Bidder must provide and execute everything for the works including
2. The acquisition of import permits, shipping, clearing and forwarding of all imported plant.
3. The provision of all documentation and technical information at the specified times.
4. The guarantee that the system will be capable of meeting the requirements of the Specification.

2. SPECIFICATION PHILOSOPHY

It shall be noted that this specification is a hybrid specification as some user requirements are expressed as a performance specification while various other aspects are specified in detail.
The intention of the technical specifications is to equip the site with reliable and modern electronic systems based on proven products and technology. The successful Contractor shall be responsible to install a fully functional and elegant solution for the specified requirement. Contractors shall make provision in their costing for all required equipment. (All subsystem-interfaces, modems, components, mounting brackets, cabinets, racks, wiring, etc, required to complete the Works, in a fully operational state prior to hand over, shall be deemed included in the Bid Sum. No claims whatsoever in this regard will be considered after the Bid has been awarded).

3. INTEGRATION CONSTRAINTS

The contractor will be responsible for the integration of all equipment and systems for the complete system. Should DCS any time in the future wish to integrate the system with any other system, the contractor will be obliged to cooperate in the process

4. WORK PROVIDED BY OTHERS

The DCS will manage a concurrent action to ensure that monitoring room staffing is available for the monitoring room operational duties following system handover.
The Contractor will supply additional lighting as and where required, this will be relevant to the camera specifications.
The DCS is to provide controlled access to all areas of the site for the sole purposes of installation and commissioning of the proposed system, including access to power facilities as required. Access will be according to DCS security procedures.

5. REFERENCE AND TECHNICAL DOCUMENTS

11.1 The various laws, by-laws, codes and standards will not be repeated under this heading.

11.2 The Successful Bidder shall supply all sets of operating, instruction and training manuals and any other documents relating to the system as may be required and / or requested by the DCS.

11.3 The successful Bidder must forward the documentation as soon, as is reasonably possible after installation.

11.4 The cost in respect of the supply of the documentation will be deemed to be included in the Bid price and will be a condition precedent to payment.

6. PROJECT PROGRAMME AND MILESTONES

a. Following the appointment of the successful Bidder, a design review work session will be conducted between the Bidder and the DCS. During this session the scope of supply will be evaluated and minor adjustments to the scope of the work may be done.

b. The calculation for reaction response on specific critical failures will be enforced and applied. If the contractor fails to remedy critical failures within 4 hours of notification, the cost and inconvenience suffered by DCS of such failure will be determined by DCS according to the enclosed schedule (see annexure ?) and recovered from the contractor by deducting it from the monthly account payable to the contractor.

c. The Bidder shall submit his formal project schedule in Gantt format (MS Project) to the Project Manager for approval within five days after appointment.

7. POWER SUPPLIES

a. Contractors will be responsible to supply the control room with a stable UPS unit with 25% spare capacity. The calculation of the UPS unit will be done by the contractor.

b. All field camera junction points will require 230V, two wire plus earth single phase power.

c. The successful Bidder shall ensure that his subcontractor:

- Is in possession of a valid wireman's licence

- register with the relevant supply authorities
- execute the electrical work in accordance with the specification
- cable routes are pegged and approved prior to excavation
- Update as built documentation with the new power cable routes

d. Power supplies to field equipment will be via ONLINE UPS to provide improved voltage stabilisation. Units shall auto-start after power restoration.

e. Coarse surge protection on the incoming main supply shall provide protection up to 1 kV.

f. Lightning protection shall be provided by the Bidder on the main feed to all equipment to generally limit the impulse level to 240 volt.

g. No other special allowances for short or long term over voltages or under voltages, impulses, transients, spikes, surges, mains borne interference's or power failures will be provided. The Bidder shall ensure that all equipment, electrical or electronic, will be suitable for continuous and reliable operation under these circumstances, and the Bidder shall ensure that all equipment is adequately protected in this regard whether such protection has been specified in detail or not.

8. SURVEILLANCE SYSTEM COMPONENTS

1. Fixed Cameras

Requirement

- Fixed colour cameras with auto iris/vari-focal lenses are required.
- All of these cameras shall be required with mount brackets per application.
- Cameras shall be installed as per site requirements (Indoors/outdoors)

Deployment

- The cameras will be deployed throughout the site as position at various points within the fence
- Fixed Colour DSP Camera (Digital signal processing)

- Cameras used shall have the following minimum specifications:

- The 1/3-inch, colour (Charged Coupled Device) CCD high-resolution DSP camera shall produce superior colour images for high-resolution, colour-intensive CCTV applications. The high-resolution camera shall have high sensitivity with an advanced feature list.

2. Defining Features

- The camera shall have a high-resolution 1/3-inch colour CCD of 768H x 494V picture elements.
- The camera's sensor area shall be 6.0 mm horizontal by 4.96 mm vertical with a unit cell size of 6.35um x 7.4um.
- The camera shall have a minimum resolution of 470 TV lines.
- The camera shall have a minimum illumination of 0.9 Lux at F1.2.
- The camera shall have an S/N ratio of 46 dB with AGC off.
- The camera shall have a selectable, auto or manual shutter control.
- The camera shall have an eight-position selectable manual shutter control range from 1/60 second to 1/10,000 second.
- The camera shall have an automatic shutter range from 1/60 second to 1/100,000 second.
- The camera shall have four selectable modes of backlight compensation controlled by dipswitch selection.
- The camera shall have a selectable 0.45 or 1.0 gamma correction.
- The camera shall have a selectable on or off automatic gain control (AGC).
- The camera shall have four selectable modes of white balance function including automatic adjustment, 3200 degree K, 4200 degree K and 6300 degree K.
- The camera shall have an auto select line lock or internal synchronization system.
- The camera shall have a 0 to 360 degree vertical phase adjustment range when operating in line lock mode controlled by buttons accessible outside the camera case.
- The camera shall have composite and Y/C video output connector's standard.
- The camera shall support both C- and CS-lenses with an integrated back-focus mechanism with thumb wheel adjustment and screw lock.
- The camera shall support both video and DC auto-iris lenses with standard 4-pin connector.
- The camera shall be capable of operating on 12 VDC or 24VAC without any manual adjustments.
- The camera shall have integrated non-conductive mounting provisions located on both the top and bottom of the camera.
- The camera power connections shall be designed for power connection without the use of any tools.
- The camera shall have a green LED indicator signifying the camera has power.
- The camera shall have all dipswitch controls hidden by an access hatch.

3. Compliance and Certification

- The camera's video signal shall conform to the PAL composite format and the S-Video format.
- The camera shall be FCC Part 15 Class A approved.

4. Physical Characteristics

- The camera shall operate over an ambient temperature range of 14 degrees F to 122 degrees F (-10 deg C to 50 deg C).
- The camera shall operate with an ambient non-condensing humidity up to 96%.

5. Warranty

- Equipment will have a limited, three-year warranty on parts and labour.
- The CCD sensor of the camera will have a limited, five-year warranty on parts and labour.

9. LENSES

8.1 Vari-Focal Lenses

- With two focal distances at wide angle and telephoto, vari-focal lenses are the most practical lenses to use when an application requires flexibility in the angular field of view.

8.1 Compliance and Certification

- All lenses shall be CE certified.

8.2 Warranty

- Equipment will have a limited, five-year warranty on parts and labour.

8.3 Product Specification

- The 1/3" image, 3.5-8mm focal length, F1.4-to-F64 vari-focal lens with video auto-iris operation, CS mount, with 0.3m minimum object distance.
- The 1/3" image, 3.5-8mm focal length, F1.4-to-F64 vari-focal lens with video auto-iris operation, CS mount and 4-pin connector attached, with

0.3m minimum object distance.

- The 1/3" image, 3.5-8mm focal length, F1.4-to-F64 vari-focal lens with dc auto-iris operation, CS mount and 4-pin connector attached, with 0.3m minimum object distance.
- The 1/3" image, 2.8mm focal length, F1.4-to-F64 vari-focal lens with dc auto-iris operation, CS mount and 4-pin connector attached, with 0.3m minimum object distance.

- The 1/3" image, 2-12mm focal length, F1.4-to-F64 vari-focal lens with dc auto-iris operation, CS mount and 4-pin connector attached, with 0.3m minimum object distance.

9 CAMERA PLATFORMS / POSTS

9.1 Camera supports are critical elements. Contractors are advised not to neglect the design of poles and support brackets.

9.2 Stainless steel shall be used for all fixtures, fasteners, nuts, washers. Protective cages and purpose-made brackets may be hot dipped galvanised.

10. Monitors

All CCTV monitors supplied shall be high-resolution colour monitors.

10.1 Defining Features

- The colour monitor shall have a horizontal resolution of 480 TV lines.
- On-screen display (OSD) controls in a selection of five languages shall be provided. OSD menu controls shall include volume, contrast, brightness, sharpness, colour, tint, h-position, v-position, and language. Separate front panel controls shall include video channel input, under scan, and power on/off.
- The monitor shall include a speaker on the front panel.
- The monitor shall be NTSC/PAL scan system selectable and have universal power capability (90-254V ac), with detachable power cord.
- Horizontal scanning frequency shall be 15.75 kHz for NTSC and 16.625

kHz for PAL. Vertical scanning frequency shall be 60 Hz for NTSC and 50 Hz for PAL. Horizontal and vertical linearity shall be 10 percent maximum, and the active display area shall be 7 percent over scan and 3 percent under scan (switch able).

- Monitor shall have 2 channels video input/output (A/B composite with independent settings) utilizing mini-DIN connectors. There shall be 2 channels audio input/output utilizing RCA phone connectors.
- DC restored video shall be incorporated and the monitor shall have auto termination.
- Optional rack mount for standard 19" sub-rack shall be available.

10.2 Compliance and Certification

- The monitor shall be UL and CUL listed, and shall be FCC Part 15 Class A and FDA approved.

10.3 Physical Characteristics

- Weight shall not exceed 30.8 lb. (14 kg).
- Power consumption shall not exceed 70W, and shall be universal AC.
- Ambient temperature for operation shall be between 32 and 104 degrees F (0 and 40 degrees C). Ambient humidity shall be between 10 and 90 percent (non-condensing).

10.4 Warranty

- Monitor shall have a two-year limited warranty.

11. DIGITAL VIDEO RECORDING (DVR) SYSTEM

11.1 Specifications

The Digital Video Recorder/s (DVR) shall be 16 video channels, 16 alarm inputs, capable of recording 16 cameras / simultaneous /

composite video and audio inputs at once, together with managing alarm inputs. The system must be capable of individual Video Motion Detection (VMD) per camera input.

The DVR should comply with at least the following specifications:

- Minimum recording rate of 100 fps automatically optimized for maximum recording rate per channel
- MPEG4 or JPEG compression that maximizes recording duration and picture quality
- Maximum resolution of 480 TV lines @ 640 × 480 (576 TVL @ 768 × 576) pixel capture without loss of video quality
- Hard disk must be the primary video storage medium
- Simultaneous record, playback and transmission of up to 16 digital video channels
- Multiple Server units that can be connected to a 100Base-T network to provide multiple channel recorder/ recording systems using client operator workstations
- Backup network management application
- Macros capability used for programming recording, alarm and display events
- Remote setup from any recorder or workstation
- Multiple Server networks may be interconnected via WAN between sites for recording live and playback view of hundreds of remote cameras
- No video degradation regardless of repeated digital recording
- Instantaneous search and playback of previously recorded images, locally or remotely
- Built-in Graphical User Interface (GUI) provides easy and fast setup and live view/video playback/transmission operation. The playback control allows viewing all video scenes individually during playback without affecting recording

12 GENERAL

12.1 The DVR system shall automatically record activity on any camera in the facility, and shall be capable of simultaneous playback of any recorded channel via a dedicated LAN/WAN.

12.2 The contractor shall employ the necessary number of Digital Video Recorders in the system to ensure complete coverage of the facility, and to ensure all events have been recorded.

12.3 The play back, viewing of live video or video archiving shall have no impact on the recording of images or the normal recording frame rate.

12.4 In the case of a failure on the DVR system, the CCTV matrix system shall not be affected. The Matrix shall provide for built-in and suitably terminated video loop outputs that are failure independent of the digital video recording process in the DVR.

12.5 In case of failure of the DVR control station, or the failure of any one DVR on the networked DVR system; the recording process and configuration of the remaining DVR units shall not be affected

12.6 In the case of failure of the LAN/WAN interconnecting the networked DVR system, or failure of any camera input, the configured, automated recording process of the individual DVR units shall not be affected.

12.7 In the case of a network communications, camera or power input failure to any DVR of the DVR control station, the system shall, upon re-establishment of the required input(s); provide automated recovery of the configured recording process.

12.8 The DVR shall provide for configurable image recording rate per individual camera input in the range of zero (in the case of no motion

or picture change) to 25 images per second. The DVR shall be capable of recording at a minimum totalled rate per DVR of 64 images per second for up to 16 cameras activated simultaneously.

13 Functional Requirements

13.1 The system shall include the necessary software required for performing the following operations:

- Digital Recording
- Viewing of Live Images
- Playback of Recorded Images
- Transmission of Live or Recorded Images
- Image Archiving by means of CD or DVD.

13.2 The system shall allow the pre-programming of various recording configurations, and shall be capable of operating in the following modes:

- Continuous minimum recording rate at 6 frames per second
- Start and stopping of recording according to a pre-programmed schedule
- Automatic recording upon activity detection
- Alarm triggered recording
- Recording upon operator request
- The recorder will automatically start re-recording over the oldest recorded material when the designated Hard Disc Drives are full. The amount of recording space is incumbent on the client requirements.
- The DVR shall have at least one alarm output that can be triggered on detecting motion on any selected camera.
- Network Alarms - The DVR shall be capable to receive recording triggers on a TCP/IP network.

- The network trigger shall allow for individual camera recording, i.e., associate a selected camera with the network trigger.
- Continuous recording - It shall be possible to have the DVR record on any camera continuously without any triggers.
- Video Motion Detection - The video motion detection (VMD) shall allow for at VMD on any camera. The VMD sensitivity shall be adjustable.
- Recorders shall be placed at strategic positions throughout the facility, and network together via the DVR LAN.

13.3 The DVR LAN shall allow for the following operations –

- Transfer of event commands to the appropriate DVR
- Configuration of recording schedules and modes of operation.
- Playback of recorded images.
- Viewing of Live images.
- The management workstation within the central control room shall be capable of configuring all DVR's on the network, without the need for local intervention.
- The communication between recorder and the server management workstation shall be IP based. The communication media for connecting the various elements of the system, as well as the DVR LAN, will be dedicated fibre optic or other suitable cables that shall be installed by the security contractor.

14 Network Capabilities

The DVR system shall also offer a full multi-user authorization login application. This application shall offer levels of authorization based on defined sites and functions. In addition, a full setup utility shall be available for the Administrator to configure authorizations. The login window shall consist of a User Name and Password field. A user shall be able to login as an Administrator or User. User authorization shall be

configurable for specific system operations. The software shall offer a full multi-user authorization process as follows:

- User groups shall be created once globally and shall appear in all recorders and workstations connected to the network.
- Users shall be created once globally and shall be given rights to particular groups.
- Groups shall be authorized and given specific access to each server, permitting "function-specific" profiles.
- Users created and authorized for each machine shall be able to login to any recorder and workstation and automatically have their group rights for that machine follow them.
- There shall be no virtual limit on the amount of Groups and Users that can be authorized in the software.
- The recorder shall allow for each group to be authorized or denied access, per Component, to-
  - Login
  - Logout
  - Set-up
  - Network Setup & Site Name.
  - User and Group Management.
  - Site Authorization.
  - Macro Create-Edit.
  - Alarm Setup.
  - Device Setup.
  - Pre & Post Alarm.
  - Picture Database Utilities.
  - Auto record.
  - Scheduler for Macros.

- Enable/Disable Scheduler.
- Reports
- Schedule
- Live View
- Per Camera - Playback View.
- Per camera - Archive Creation/Deletion.
- PTZ Controls.

- All users created shall be able to login to any server on the system. A user, given appropriate access, shall be able to remotely configure all components connected to the network. The programming shall include the complete operation of the recorders, including but not limited to:
  - Camera titles.
  - Alarm conditions.
  - System reports.
  - PTZ control.
  - Alarms.

- The recorder shall also offer a GUI capable of complete server configuration and operation. This capability is comprised of monitoring, recording and playback. Sub-features such as defined areas for video display and control, toolbars, site and device trees, video controls, and dialog areas shall be provided. Configuration of the system shall include setup of:
  - Camera and alarm names.
  - Network parameters.
  - Users and Groups.
  - Data storage allocation.
  - Macro programming.
  - Scheduling, display and alarm notification.

- Pre/post alarm recording.
- Backup utility for setup configuration

15 Lighting

The Contractor must make provision for suitable lighting and lightning posts, the lighting must be sufficiently placed as to allow for lighting of the fence area, whilst ensuring that the cameras are not in any way affected.

ANNEXURE E

SECURITY

PROPOSED MAINTENANCE CONTRACT

AUGUST REVISION

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ANNEXURE F

SECURITY

PROPOSED BID PRICING SCHEDULES

INDEX

CENTRES OF EXCELLENCE

Region Eastern Cape	Full Security fence – Outer perimeter fence plus Taut wire detection inner fence, with CCTV cameras.	BID PRICE – INCLUSIVE OF V.A.T.
Cradock	670m	R .....
Kirkwood	1200m	R .....
Stutterheim	350m	R .....
Idutywa	650m	R .....
Queenstown	670m	R .....

Region Kwazulu Natal	Full Security fence – Outer perimeter fence plus Taut wire detection inner fence, with CCTV cameras.	BID PRICE – INCLUSIVE OF V.A.T.
Ekuseni (Newcastle)	1800m	R .....

Region Limpopo / Mpumalanga / North West	Full Security fence – Outer perimeter fence plus Taut wire detection inner fence, with CCTV cameras.	BID PRICE – INCLUSIVE OF V.A.T.
Ermelo	880m	R .....
Makhado	750m	R .....

Region Northern Cape and Free state	Full Security fence – Outer perimeter fence plus Taut wire detection inner fence, with CCTV cameras.	BID PRICE – INCLUSIVE OF V.A.T.
Goedemoed Med A (Aliwal North)	1560m	R .....
Sasolburg	1250m	R .....
Kroonstad Med C	800m	R .....
Kuruman	1050m	R .....

Region Western cape	Full Security fence – Outer perimeter fence plus Taut wire detection inner fence, with CCTV cameras.	BID PRICE – INCLUSIVE OF V.A.T.
Drakenstein Med B (Suider Paarl)	630m	R .....
Dwarsrivier (Wolseley)	850m	R .....

CENTRES OF EXCELLENCE

Region Eastern Cape	Taut Wire detection inner fence only, with CCTV cameras.	BID PRICE – INCLUSIVE OF V.A.T.
East London Med C	1600m	R .....
Umtata Max	1600m	R .....

Region Gauteng	Taut Wire detection inner fence only, with CCTV cameras.	BID PRICE – INCLUSIVE OF V.A.T.
Emthonjeni Juveniles (Baviaanspoort – Cullinan Road)	1130m	R .....
Leeuwkop Juvenile (Bryanston)	960m	R .....

Region Kwazulu Natal	Taut Wire detection inner fence only, with CCTV cameras.	BID PRICE – INCLUSIVE OF V.A.T.
Ncome Med A (Vryheid)	1000m	R .....

Region Limpopo / Mpumalanga / North West	Taut Wire detection inner fence only, with CCTV cameras.	BID PRICE – INCLUSIVE OF V.A.T.
Klerksdorp	1300m	R .....
Rustenburg Juvenile	1500m	R .....
Middelburg Female	750m	R .....

Region Northern Cape and Free state	Taut Wire detection inner fence only, with CCTV cameras.	BID PRICE – INCLUSIVE OF V.A.T.
Groenpunt Juvenile (Vereeniging)	1500m	R .....
Douglas	930m	R .....

Region Western cape	Taut Wire detection inner fence only, with CCTV cameras.	BID PRICE – INCLUSIVE OF V.A.T.
Pollsmoor Female (Tokai)	775m	R .....
Voorberg Med B (Porterville)	1800m	R .....

CORRECTIONAL CENTRES

Region Gauteng	Full Security fence – Outer perimeter fence plus Taut wire detection inner fence, with CCTV cameras.	BID PRICE – INCLUSIVE OF V.A.T.
Leeuwkop Max (Bryanston)	1400m	R .....
Baviaanspoort Max (Cullinan Road)	860m	R .....
Zonderwater Med A & B (Cullinan)	2000m	R .....
Odi (Mabopane)	1200m	R .....
Boksburg	2600m	R .....

Region Western Cape	Full Security fence – Outer perimeter fence plus Taut wire detection inner fence, with CCTV cameras.	BID PRICE – INCLUSIVE OF V.A.T.
Helderstroom (Caledon)	1510m	R .....
Drakenstein Max (Suider Paarl)	1200m	R .....
Brandvlei Max (Worcester)	1100m	R .....

Region Limpopo / Mpumalanga / North West	Full Security fence – Outer perimeter fence plus Taut wire detection inner fence, with CCTV cameras.	BID PRICE – INCLUSIVE OF V.A.T.
Rooigrond Med A (Mmbatho)	1530m	R .....
Potchefstroom	780m	R .....
Rustenburg Med A	1400m	R .....

CORRECTIONAL CENTRES

Region Western Cape	Taut Wire detection inner fence only, with CCTV cameras.	BID PRICE – INCLUSIVE OF V.A.T.
Pollsmoor Maximum (Tokai)	965m	R .....
Pollsmoor Med A (Tokai)	965m	R .....
Pollsmoor Med B (Tokai)	1200m	R .....

Region Limpopo / Mpumalanga / North West	Taut Wire detection inner fence only, with CCTV cameras.	BID PRICE – INCLUSIVE OF V.A.T.
Rooigrond Med B	1100m	R .....

Region Free State / Northern Cape	Taut Wire detection inner fence only, with CCTV cameras.	BID PRICE – INCLUSIVE OF V.A.T.
Groenpunt Max (Vereeniging)	1600m	R .....
Upington	1200m	R .....

Region Eastern Cape	Taut Wire detection inner fence only, with CCTV cameras.	BID PRICE – INCLUSIVE OF V.A.T.
East London Med A	1000m	R .....
East London Med B	1600m	R .....
Middledrift	1200m	R .....
Mdantsane	1000m	R .....

ANNEXURE G

FINANCIAL PARTICULARS

(Paragraph 9 of the Special Bid Conditions)

BID NO.: HK XX/2005

DESCRIPTION: SUPPLY, DELIVERY, INSTALLATION, COMMISSIONING AND MAINTENANCE OF OUTER PERIMETER FENCES WITH/OR TAUT WIRE DETECTION INNER FENCES, AND CCTV SURVEILLANCE CAMERAS AT A NUMBER OF CENTRES OF EXCELLENCE AND OTHER CORRECTIONAL CENTRES, AS WELL AS THE LINKING OF TAUT WIRE DETECTION SYSTEMS THAT ARE ALREADY INSTALLED TO THE INTEGRATED SECURITY SYSTEMS TO ALLOW COVERAGE AT CONTROL ROOMS.

NAME OF BIDDER: _____

TOTAL BID PRICE: R_____

BANK GUARANTEE REQUIRED:
2,5% OF THE TOTAL BID VALUE R_____

An **original** letter of the bidder's Bank or Financial Institution must be submitted with the Bid Proposal (**Envelope 2: Financial Proposal**), stating whether the bidder:

- has the financial capacity to execute the Contract successfully for the total bid amount;
- and also to provide an undertaking to issue a bank guarantee (to the value of 2,5% of the total bid value) to the Department of Correctional Services, if the bidder is successful in the bidding process.

Important: *Should this requirement not be complied with in full, the bid may be considered invalid.*