



SILVER LAKES HOMEOWNERS ASSOCIATION NPC

TENDER DOCUMENT

TENDER FOR THE APPOINTMENT OF CONTRACTORS

TENDER NUMBER: 20462/01

SUPPLY AND INSTALLATION OF CONCRETE CART PATHS

ISSUED BY:

SILVER LAKES HOA NPC
P O Box 11106
Silver Lakes
0054
Tel: 012 809 0142

PREPARED BY:

BTW & ASSOCIATES (PTY) LTD
PostNet Suite 337
Private Bag X20009
Garsfontein
0042
Tel. (012) 991 0161

NAME OF THE TENDERER

.....

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

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PART T1: TENDERING PROCEDURES

T1.1 Tender Notice and Invitation to Tender

T1.2 Tender Data

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T1.1: TENDER NOTICE AND INVITATION TO TENDER

Silver Lakes Golf Estate Homeowners Association invites tenders for the upgrading of the golf cart paths

Tenderers should have a CIDB contractor grading designation of class 4CE or higher.

The physical address for collection of tender documents is: Silver Lakes Homeowners Association, 27 Muirfield Boulevard, Silver Lakes, 0081

A tender deposit is not required

Technical enquiries may be addressed to BTW & Associates (Pty) Ltd.

A compulsory site inspection meeting with representatives of the Employer will take place on site on 09 April 2019.

Sealed tenders endorsed with the following details must be submitted to SILVER LAKES HOMEOWNERS ASSOCIATION NPC

“TENDER NO: 20462/01: SUPPLY AND INSTALLATION OF CONCRETE CART PATHS”

The closing time for receipt of tenders will be 15:00 hours on 18 April 2019.

Telegraphic, telephonic, facsimile, e-mail and late tenders will not be accepted.

Tenders may only be submitted on the tender documentation that is issued.

Requirements for sealing, addressing, delivery, opening and assessment of tenders are stated in the Tender Data.

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

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T1.2: TENDER DATA

The Conditions of Tender are the Standard Conditions of Tender as contained in Annexure F of the CIDB Standard for Uniformity in Construction Procurement (refer: www.cidb.co.za). The Standard Conditions of Tender make several references to the Tender Data. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender. Each item of data given below is cross-referenced to the clause in the Standard Conditions of Tender to which it mainly applies.

Clause	Wording
F.1.1	The employer is Silver Lakes Homeowners Association NPC
F.1.2	The tender documents issued by the employer comprise of: PART T1: TENDERING PROCEDURES T1.1: Tender Notice and Invitation to Tender T1.2: Tender Data PART T2: RETURNABLE DOCUMENTS T2.1: List of Returnable Documents T2.2: Returnable Schedules PART C1: AGREEMENTS AND CONTRACT DATA C1.1: Form of Offer and Acceptance C1.2: Contract Data C1.3: Form of Guarantee C1.4: Adjudicator's Agreement (if applicable) PART C2: PRICING DATA C2.1: Pricing Instructions C2.2: Bills of Quantities PART C3: SCOPE OF WORKS C3.1 Description of the Works C3.2 Engineering C3.3 Construction C3.4 Annexures PART C4: SITE INFORMATION None
F.1.4	The Employer's agent is: BTW & Associates (Pty) Ltd Address: PostNet Suite 337, Private Bag X20009, Garsfontein, 0042

Clause	Wording
F.2.1	<p>Tel: (012) 991 0161 Fax: (012) 991 6662</p> <p>Only those Tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 4CE class of construction work, are eligible to submit tenders.</p> <p>Joint ventures are eligible to submit tenders provided that:</p> <ol style="list-style-type: none"> 1. every member of the joint venture is registered with the CIDB; 2. the lead partner has a contractor grading designation in the 4CE class of construction work; and 3. the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 4CE class of construction works. <p>F.2.7 The arrangements for a compulsory site inspection meeting are:</p> <p>Location: Meet Engineer or his Representative punctually on site at the Silver Lakes Golf Club Reception</p> <p>Date: 09 April 2019</p> <p>Starting time: 09:00</p> <p>Confirmation of attendance to be notified at least one full working day in advance to:</p> <p>Name: Mr JL Bouwer</p> <p>Tel: (012) 991 0161</p>
F.2.12	No alternative offers will be accepted.
F.2.13.3	Parts of each tender offer communicated on paper shall be submitted as an original plus 0 (nil) copies.
F.2.13.5 F.2.15.1	<p>The address for delivery of tender offers and identification details to be shown on each tender offer package are:</p> <p>Location of tender box:</p> <p>Physical address: Silver Lakes Homeowners Association NPC, 27 Muirfield Boulevard, Silver Lakes, 0081</p> <p>Identification details:</p> <p style="text-align: center;">TENDER NO: 20462/01: SUPPLY AND INSTALLATION OF CONCRETE CART PATHS</p> <p style="text-align: center;">CLOSING DATE: 18 April 2019 at 15:00</p> <p>Postal address: PO Box 11106, Silver Lakes, 0054</p>
F.2.13 / F.3.5	A two-envelope procedure will not be followed.
F.2.15	The closing time for submission of tender offers is stated in the Tender Notice/Invitation to Tender
F.2.15	Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted.
F.2.16	The tender offer validity period is 90 days.
F.2.19	Access shall be provided for inspections, test and analysis by prior arrangement with the Employer or Engineer.

Clause	Wording
F.2.23	<p>The Tenderer is required to submit the following certificates with his tender:</p> <p>Either a Certificate of Contractor Registration issued by the Construction Industry Development Board or a copy of the Application Form for registration in terms of the Construction Industry Development Board Act (Form F006) <u>and</u> an original valid Tax Clearance Certificate issued by the South African Revenue Services.</p>
F3.4	<p>The time and location for opening of the tender offers are in accordance with F.2.15</p>
F3.11	<p>Evaluation of Tenders:</p> <p>The Tenderers notice is drawn to the fact that the awarding of this tender will be in terms of the Supply Chain Management Policy of the Silver Lakes Homeowners Association NPC and The Standard Conditions of Tender as contained in Annexure F of the September 2005 edition of the CIDB Standard for Uniformity in Construction Procurement.</p>
F.3.11.2	<p>The procedure for the evaluation of responsive tenders is Method 2.</p> <p>The financial offer will be scoring using Formula 2 (option 1) in Table F1 where the value of W1 is:</p> <ol style="list-style-type: none"> 1) 90 where the financial value inclusive of VAT of all responsive tenders received have a value in excess of R 1 000 000; or 2) 80 where the financial value inclusive of VAT of one or more responsive tender offers have a value that equals of is less than R 1 000 000. <p>Up to 100 minus W1 tender evaluation points will be awarded to Tenderers who complete the preference schedule and who are found to be eligible for the preference claimed.</p>
F.3.13.1	<p>Tender offers will only be accepted on condition that:</p> <ol style="list-style-type: none"> a) the Tenderer has in <u>his or her possession</u> an original Tax Clearance Certificate issued by the South African Revenue Services; b) the Tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation; c) the Tenderer has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the Tenderer's ability to perform the contract in the best interests of the employer or potentially comprise the tender process.
F.3.18	<p>The number of paper copies of the signed contract to be provided by the Employer is ONE (1).</p>

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TENDER FOR THE APPOINTMENT OF CONTRACTORS

PART T2: RETURNABLE DOCUMENTS

T2.1 List of Returnable Documents

T2.2 Returnable Schedules

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

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T2.1: LIST OF RETURNABLE DOCUMENTS

The following documents are to be completed and returned as they constitute the tender. Whilst many of the returnables are required for the purpose of evaluating the tenders, some will form part of the subsequent contract, as they form the basis of the tender offer. For this reason, it is very important that Tenderers return **all information requested**.

1. RETURNABLE SCHEDULES REQUIRED FOR TENDER EVALUATION PURPOSES (included hereafter for completion)

- Schedule : 1A Compulsory Enterprise Questionnaire
- Schedule : 1B Status of Tenderer
- Schedule : 1C Certificate of Authority for Joint Ventures (if applicable)
- Schedule : 1D Record of Addenda to Tender Documents
- Schedule : 1E Personnel Schedule (if applicable)
- Schedule : 1F Schedule of Plant and Equipment Available for the Contract
- Schedule : 1G Schedule of Work Satisfactorily Executed by the Tenderer
- Schedule : 1H Schedule of Proposed Subcontractors
- Schedule : 1I Certificate of Attendance at Site Inspection Meeting
- Schedule : 1J Proposed Amendments and Qualifications

2. RETURNABLE SCHEDULES THAT WILL BE INCORPORATED INTO THE CONTRACT (to be attached with submission)

- Schedule : 2A Proof of Authority of Signatory
- Schedule : 2B Original Valid Tax Clearance Certificate
- Schedule : 2C Joint Venture Agreement (if applicable)
- Schedule : 2D Certificate of Contractor Registration Issued by the CIDB

3. OTHER SCHEDULES AND AFFIDAVITS THAT WILL BE INCORPORATED INTO THE CONTRACT (included hereafter for completion)

- C1.1 The Offer Portion of the Form of Offer and Acceptance
- C1.2 Contract Data
- C1.3 Form of Guarantee
- C1.4 Safety Agreement
- C2.2: Schedules of Quantities

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T2.2: RETURNABLE DOCUMENTS

SCHEDULE 1A: COMPULSORY ENTERPRISE QUESTIONNAIRE

The following particulars must be furnished. In the case of a joint venture, **separate** enterprise questionnaires in respect of each partner must be completed and submitted.

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 3: CIDB registration number, if any:

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

* Complete only if sole proprietor or partnership and attach separate page if more than 3 partners

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Tax reference number

The undersigned, who warrants that he/she is duly authorised to do so on behalf of the enterprise:

- i) confirms that the neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
- ii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;
- iii) confirms that I / we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the Tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest;
- iv) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed Date

Name Position

Tenderer

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SCHEDULE 1B: STATUS OF TENDERER

Indicate the status of the Tenderer by ticking the appropriate box hereunder. The Tenderer must complete the certificate set out below for the relevant category.

A Company	B Partnership	C Joint Venture	D Sole Proprietor	E Close Corporation

A. Certificate for Company

I,, chairperson of the board of directors of
, hereby confirm that by resolution of the board
(copy attached) taken on 20..., Mr/Ms
 acting in the capacity of, was authorized to sign all documents in
 connection with this tender for contract and any contract resulting from it on behalf of the
 company.

As witnesses :

1. Chairman :
2. Date :

Tenderers must attach a copy of the Resolution of the Board - refer Schedule 2B.

B. Certificate for Partnership

We, the undersigned, being the key partners in the business trading as
 hereby authorize Mr/Ms,
 acting in the capacity of to sign all documents in connection
 with the tender for Contract and any contract resulting from it on
 our behalf.

NAME	ADDRESS	SIGNATURE	DATE

NOTE : This certificate is to be completed and signed by all of the key partners upon whom rests
 the direction of the affairs of the Partnership as a whole

C. Certificate for Joint Venture

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorise Mr/Ms
, authorised signatory of the company
, acting in the capacity of lead partner, to sign all documents in
 connection with the tender offer for Contract and any contract resulting from it on our
 behalf.

This authorization is evidenced by the attached power of attorney signed by legally authorized signatories of all the partners to the Joint Venture.

NAME OF FIRM	ADDRESS	AUTHORISING SIGNATURE, NAME & CAPACITY
Lead partner		

D. Certificate for Sole Proprietor

I, hereby confirm that I am the sole owner of the business trading as

As witnesses:

1. _____ Signature : Sole owner : _____
 2. _____ Date : _____

E. Certificate for Close Corporation

We, the undersigned, being the key members in the business trading as
 hereby authorize Mr/Ms
 acting in the capacity of, to sign all documents in connection with the tender for
 Contract and any contract resulting from it on our behalf.

NAME	ADDRESS	SIGNATURE	DATE

NOTE: This certificate is to be completed and signed by all of the key-partners upon who rests the direction of the affairs of the Partnership as a whole.

Signed Date
 Name Position
 Tenderer

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

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SCHEDULE 1C: CERTIFICATE OF AUTHORITY FOR JOINT VENTURES (if applicable)

This returnable schedule is to be completed by joint ventures.

We, the undersigned, are submitting this tender offer in joint venture and hereby authorize Mr/Ms , authorised signatory of the company, close corporation or partnership , acting in the capacity of lead partner, to sign all documents in connection with the tender offer and any contract resulting from it on our behalf.

NAME OF FIRM	ADDRESS	DULY AUTHORISED SIGNATORY
Lead partner		Signature Name Designation
		Signature Name Designation
		Signature Name Designation

NOTE: A copy of the Joint Venture Agreement showing clearly the **percentage contribution of each partner** to the Joint Venture shall be appended to this schedule.

Signed Date

Name Position

Tenderer

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SCHEDULE 1D: RECORD OF ADDENDA TO TENDER DOCUMENTS

We confirm that the following communications received from the Employer before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer :

No.	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Attach additional pages if more space is required.

Signed Date

Name Position

Tenderer

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<p>SCHEDULE 1F: SCHEDULE OF PLANT AND EQUIPMENT AVAILABLE FOR THE CONTRACT</p>

The following are lists of major items of relevant equipment that I/we **presently** own or lease and will have available for this contract or will acquire or hire for this contract if my/our tender is accepted.

(a) Details of major equipment that is owned by and immediately available for this contract.

Quantity	Description, Size, Capacity, etc

Attach additional pages if more space is required.

(b) Details of major equipment that will be hired, or acquired for this contract if my/our tender is acceptable.

Quantity	Description, Size, Capacity, etc

Attach additional pages if more space is required.

Signed Date

Name Position

Tenderer

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<p>SCHEDULE 1G: SCHEDULE OF WORK SATISFACTORILY CARRIED OUT BY THE TENDERER</p>
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The following is a statement of similar work successfully executed by myself/ourselves:

Employer, contact person and telephone number	Description of Contract	Value of Work Inclusive of VAT (Rand)	Date Completed

Signed Date

Name Position

Tenderer

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SCHEDULE 1H: SCHEDULE OF PROPOSED SUBCONTRACTORS

We notify you that it is our intention to employ the following Subcontractors to work on this contract.

If we are awarded the contract we agree that this notification does not change the requirement for us to submit the names of proposed Subcontractors in accordance with requirements in the contract for such appointments. If there are no such requirements in the contract, then your written acceptance of this list shall be binding between us

No.	Name and Address of Proposed Subcontractor	Nature and Extent of Work	Previous Experience with Subcontractor
1.			
2.			
3.			
4.			
5.			
6.			
7.			

Signed Date

Name Position

Tenderer

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

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SCHEDULE 11: CERTIFICATE OF ATTENDANCE AT SITE INSPECTION MEETING

This is to certify that

..... (Tenderer)

of..... (address)

was represented by the person(s) named below at the compulsory meeting held for all Tenderers at

..... (location) on(date), starting at

We acknowledge that the purpose of the meeting was to acquaint ourselves with the site of the works and / or matters incidental to doing the work specified in the tender documents in order for us to take account of everything necessary when compiling our rates and prices included in the tender.

Particulars of person(s) attending the meeting:

Name Signature

Capacity

Name Signature

Capacity

Attendance of the above persons at the meeting is confirmed by the Employer's representative, namely:

Name Signature

Capacity Date & Time

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

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SCHEDULE 1J: PROPOSED AMENDMENTS AND QUALIFICATIONS
--

The Tenderer should record any deviations or qualifications he may wish to make to the tender documents in this Returnable Schedule. Alternatively, a tenderer may state such deviations and qualifications in a covering letter to his tender and reference such letter in this schedule.

The Tenderer's attention is drawn to clause F.3.8 of the Standard Conditions of Tender referenced in the Tender Data regarding the employer's handling of material deviations and qualifications.

Page	Clause or Item	Proposal

Signed Date

Name Position

Tenderer

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

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SCHEDULE 2A: PROOF OF AUTHORITY OF SIGNATORY

The Tenderer must attach to this page a copy of the resolution taken by the Board of Directors, authorising the Tenderer to sign all the documents in connection with the tender.

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

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<p>SCHEDULE 2B: ORIGINAL VALID TAX CLEARANCE CERTIFICATE / APPLICATION FOR TAX CLEARANCE</p>

The Tenderer must attach to this page an original Tax Clearance Certificate from the South African Revenue Services in respect of his/her company, close corporation or partnership. In the case of a joint venture between two or more firms, the tenderer shall attach an original/copy of the Tax Clearance Certificate for each of the joint venture partners.

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<p>SCHEDULE 2C: JOINT VENTURE AGREEMENT</p>
--

The Tenderer shall attach to this page a copy of the Joint Venture Agreement (if applicable).

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

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SCHEDULE 2D: CERTIFICATE OF CONTRACTOR'S REGISTRATION ISSUED BY THE CIDB

A certificate indicating the Contractor's CIDB rating must be attached to this page.

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

**TENDER NO: 20462/01: SUPPLY AND INSTALLATION OF CONCRETE CART PATHS
TENDER FOR THE APPOINTMENT OF CONTRACTORS**

PART C1: AGREEMENT AND CONTRACT DATA

- C1.1 Contract Data**
- C1.2 Form of Offer and Acceptance**
- C1.3 Safety Agreement**
- C1.4 Form of Guarantee**

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

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C1.1: CONTRACT DATA

The Conditions of Contract are the *General Conditions of Contract for Construction Works (2015, 2nd Edition)* published by the South African Institution of Civil Engineering. Copies of these conditions of contract may be obtained from the South African Institute of Civil Engineering (Tel: 011 805 5947).

Each item of data given below is cross-referenced to the clause in the Conditions of Contract to which it mainly applies.

PART 1: DATA PROVIDED BY THE EMPLOYER

Clause	Data												
1.1.4	The Employer is the SILVER LAKES HOMEOWNERS ASSOCIATION NPC												
1.2.2	The Employer's address for receipt of communications is; <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="text-align: center;">Physical Address:</th> <th style="text-align: center;">Postal Address:</th> </tr> </thead> <tbody> <tr> <td>27 Muirfield Boulevard</td> <td>PO Box 11106</td> </tr> <tr> <td>Silver Lakes</td> <td>Silver Lakes</td> </tr> <tr> <td>PRETORIA</td> <td>0054</td> </tr> <tr> <td>Tel: 012 809 0142</td> <td></td> </tr> </tbody> </table>	Physical Address:	Postal Address:	27 Muirfield Boulevard	PO Box 11106	Silver Lakes	Silver Lakes	PRETORIA	0054	Tel: 012 809 0142			
Physical Address:	Postal Address:												
27 Muirfield Boulevard	PO Box 11106												
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Tel: 012 809 0142													
1.1.15	The employer's agent is BTW & ASSOCIATES (PTY) LTD <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="text-align: center;">Physical Address:</th> <th style="text-align: center;">Postal Address:</th> </tr> </thead> <tbody> <tr> <td>Old Farm Office Park Block B</td> <td>PostNet Suite 337</td> </tr> <tr> <td>881 Old Farm Road</td> <td>Private Bag X20009</td> </tr> <tr> <td>Faerie Glen</td> <td>Garsfontein</td> </tr> <tr> <td>PRETORIA</td> <td>0042</td> </tr> <tr> <td>Tel: 012 991 0161</td> <td></td> </tr> </tbody> </table>	Physical Address:	Postal Address:	Old Farm Office Park Block B	PostNet Suite 337	881 Old Farm Road	Private Bag X20009	Faerie Glen	Garsfontein	PRETORIA	0042	Tel: 012 991 0161	
Physical Address:	Postal Address:												
Old Farm Office Park Block B	PostNet Suite 337												
881 Old Farm Road	Private Bag X20009												
Faerie Glen	Garsfontein												
PRETORIA	0042												
Tel: 012 991 0161													
1.4	The governing law is the law of Republic of South African law.												

Clause	Data
1.6	The special non-working days are the official builder's holiday plus all statutory public holidays.
38	The year-end break commences on 15 December and ends on 15 January
2.3	<p>The Contractor is required to obtain the following specific approvals from the Employer;</p> <ul style="list-style-type: none"> • Approval for Additional Work • Approval for Extension of Time • Approval for the utilization of the Contingency Budget.
7	The Form of Guarantee is to contain the wording of the document included as Form C1.3. The liability of the Guarantee shall be for the amount of 10 % of the Contract Price.
10	The Contractor shall commence executing the Works within 5 days of the Commencement Date or after all required contractual obligations have been complied with.
12.2	The Works Programme is to be delivered within 5 days of the Commencement Date
35.1.1.2.3	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is 15% of the total amount of the losses.
35.1.3	The limit of the liability insurance is R 2.0 m for any single claim
42.1	The works shall be completed within 14 months from the date of commencement of the contract.
43.1	The penalty for failing to complete the Works is R 2 000.00 per calendar day
46.2	Contract Price Adjustment (CPA) is not applicable to the contract.
49.1.5	The percentage advance on materials not yet built into the Permanent Works is 80 %
49.3	The percentage retention on the amounts due to the Contractor is 10 %
49.3	The limit of retention money is 10 % of the final contract amount.
49.6	A Retention Money Guarantee will only be allowed upon written approval from the Employer
53.1	The Defects Liability Period is 12 calendar months.
58.2	Disputes shall be referred to mediation.
58.4	Disputes are to be referred for final settlement to arbitration
4.5	<p>Variations to the Conditions of Contract are:</p> <p>Add the following at the end of sub-clause 4.5:</p> <p>"4.5.3 The Employer and the Contractor hereby agree, in terms of the provisions of Section 37(2) of the Occupational Health and Safety Amendment Act, 1993 (Act 85 of 1993), hereinafter referred to as 'the Act', that the following arrangements and procedures shall apply</p>

Clause	Data
	<p>between them to ensure compliance by the Contractor with the provisions of the Act:</p> <ul style="list-style-type: none"> (i) The Contractor undertakes to acquaint the appropriate officials and employees of the Contractor with all relevant provisions of the Act and the Regulations promulgated in terms of the Act. (ii) The Contractor undertakes that all relevant duties, obligations and prohibitions imposed in terms of the Act and Regulations on the Contractor will be fully complied with. (iii) The Contractor accepts sole liability for such due compliance with the relevant duties, obligations and prohibitions imposed by the Act and Regulations and expressly absolves the Employer from himself being obliged to comply with any of the aforesaid duties, obligations and prohibitions, with the exception of such duties, obligations and prohibitions expressly assigned to the Employer in terms of the Act and its associated Regulations. (iv) The Contractor agrees that any duly authorized officials of the Employer shall be entitled, although not obliged, to take such steps as may be necessary to monitor that the Contractor has conformed to his undertakings as described in paragraphs (i) and (ii) above, which steps may include, but will not be limited to, the right to inspect any appropriate site or premises occupied by the Contractor, or any appropriate records or safety plans held by the Contractor. (v) The Contractor shall be obliged to report forthwith to the Employer and Engineer any investigation, complaint or criminal charge which may arise as a consequence of the provisions of the Act and Regulations, pursuant to work performed in terms of this Contract, and shall, on written demand, provide full details in writing, to the Employer and Engineer, of such investigation, complaint or criminal charge. <p>4.5.4 The Contractor shall furthermore, in compliance with the Construction Regulations 2003 to the Act:</p> <ul style="list-style-type: none"> (i) Acquaint himself with the requirements of the Employer's health and safety specification as laid down in regulation 4(1)(a) of the Construction Regulation 2003, and prepare a suitably and sufficiently documented health and safety plan as contemplated in regulation 5(1) of the Construction Regulation 2003 for approval by the Employer or his assigned agent. The Contractor's health and safety plan and risk assessment shall be submitted to the Employer for approval within fourteen (14) days after receiving a completed copy of the Agreement and shall be implemented and maintained from the Commencement of the Works. (ii) The Employer, or his assigned agent, reserves the right to conduct periodic audits, as contemplated in the Construction Regulations 2003, to ensure that the Contractor is compliant in respect of his obligations. Failure by the Contractor to comply with the requirements of these Regulations shall entitle the Engineer, at the request of the Employer or his agent, to suspend all or any part of the Works, with no recourse whatsoever by the Contractor for any damages incurred as a result of such suspension, until such time that the Employer or his agents are satisfied that the issues in which the Contractor has been in default have been rectified."
	<p>The Additional Conditions of Contract are:</p>
4.6	<p>Add new sub-clause 4.6:</p> <p>"Applicable labour laws</p> <p>The Ministerial Determination, Special Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice N° R63 of 25 January 2002 as amended, as reproduced below, shall apply to works described in the scope of</p>

Clause	Data
	work as being labour-intensive and which are undertaken by unskilled or semi-skilled workers.
49.1.8	<p>Add new sub-clause 49.1.8:</p> <p>"Payment for the labour-intensive component of the works</p> <p>Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the scope of work. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict."</p>

Part 2: Data provided by the Contractor (Tenderer)

Clause	Data
1.	<p>The name of the Contractor is:</p> <p>.....</p> <p>Physical Address:</p> <p>.....</p> <p>.....</p> <p>Postal Address:</p> <p>.....</p> <p>.....</p> <p>Tel:</p> <p>Fax:</p>
2.	<p>a) The Period of performance is..... (months)</p> <p>b) The Contractor estimate to employ: (number) General Labour at the Rate of R..... per day or per task.</p> <p>c) The Contractor estimate to employ: no of sub-contractors to the total rand value of R(Vat Incl.)</p>
3.	<p>The authorized and designed representative of the Tenderer is:</p> <p>Name:</p> <p>The address for receipt of communications is;</p> <p>Physical Address:</p> <p>.....</p> <p>.....</p> <p>Postal Address:</p> <p>.....</p> <p>.....</p> <p>Tel.....</p> <p>Fax:</p>

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

TENDER NO: 20462/01: SUPPLY AND INSTALLATION OF CONCRETE CART PATHS

TENDER FOR THE APPOINTMENT OF CONTRACTORS

C1.2: FORM OF OFFER AND ACCEPTANCE

OFFER

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract in respect of the following works:

SILVER LAKES GOLF CART PATH UPGRADE

The Tenderer, identified in the Offer signature block below, has examined the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, and by submitting this Offer has accepted the Conditions of Tender.

By the representative of the Tenderer, deemed to be duly authorized, signing this part of this Form of Offer and Acceptance, the Tenderer offers to perform all of the obligations and liabilities of the Contractor under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the Conditions of Contract identified in the Contract Data.

THE OFFERED TOTAL OF THE AMOUNT INCLUSIVE OF VALUE ADDED TAX IS

.....
.....Rands (in words);Rands (in figures).

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document to the Tenderer before the end of the period of validity stated in the Tender Data, whereupon the Tenderer becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

Signature(s) _____

Name(s) _____

Capacity _____

For the Tenderer:

(Name and address of organization): _____

Name & Signature of Witness:

Name

Date

ACCEPTANCE

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the Tenderer's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the Conditions of Contract identified in the Contract Data. Acceptance of the Tenderer's Offer shall form an agreement between the Employer and the Tenderer upon the terms and conditions contained in this Agreement and in the Contract that is the subject of this Agreement.

The terms of the contract are contained in:

Part 1 Agreements and Contract Data (which includes this Agreement)

Part 2 Pricing Data

Part 3 Scope of Work and Specifications

And drawings and documents or parts thereof, which may be incorporated by reference into Parts 1 to 3 above.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules as well as any changes to the terms of the Offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from said documents are valid unless contained in this Schedule, which must be duly signed by the authorized representative(s) of both parties.

The Tenderer shall within two weeks after receiving a completed copy of this Agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data at or just after the date this Agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now Contractor) within five days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute a binding contract between the parties.

Signature(s) _____

Name(s) _____

Capacity _____

For the Employer _____

(Name and address of organization): _____

Name & Signature of Witness

Name

Date

SCHEDULE OF DEVIATIONS

Notes:

1. The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender.
2. A Tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid becomes the subject of agreements reached during the process of Offer and Acceptance, the outcome of such agreement shall be recorded here.
3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the Parties becomes an obligation of the contract, shall also be recorded here.
4. Any change or addition to the tender documents arising from the above agreements and recorded here, shall also be incorporated into the final draft of the Contract.

1 Subject

Details

2 Subject

Details

3 Subject

Details

4 Subject

Details

5 Subject

Details

By the duly authorized representatives signing this Schedule of Deviations, the Employer and the Tenderer agree to and accept the foregoing Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, as well as any confirmation, clarification or change to the terms of the Offer agreed by the Tenderer and the Employer during this process of Offer and Acceptance. It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the Tenderer of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this Agreement.

FOR THE TENDERER:

Signatures (s) _____

Name(s) _____

Capacity _____

Name and Address of Organization

Name & Signature of Witness

Name

Date

FOR THE EMPLOYER

Signatures (s) _____

Name(s) _____

Capacity _____

Name and Address of Organization

Name & Signature of Witness

Name

Date

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

TENDER NO: 20462/01: SUPPLY AND INSTALLATION OF CONCRETE CART PATHS

TENDER FOR THE APPOINTMENT OF CONTRACTORS

C1.3: SAFETY AGREEMENT

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

TENDER NO: 20462/01: SUPPLY AND INSTALLATION OF CONCRETE CART PATHS

TENDER FOR THE APPOINTMENT OF CONTRACTORS

AGREEMENT IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 1993, SECTION 37(2)

HEALTH & SAFETY SPECIFICATION FOR PRINCIPAL CONTRACTORS (PC)

The Silver Lakes Homeowners Association NPC and the Contractor hereby agree, in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act 1993 (Act 85 of 1992, hereinafter referred to as the Act), that the following arrangements and procedures shall apply between them to ensure compliance by the Contractor with the provisions of the Act, namely:

1. The Employer and Contractor hereby agree, in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act No.85 of 1993, hereinafter referred to as “the Act”, that the contractor as an employer in its own right and in its capacity as contractor for the execution of the works, shall have certain obligations and that the following arrangement shall apply between them to ensure compliance by the contractor with provisions of the Act, namely:
 - a) The contractor undertakes to acquaint the appropriate officials and the employees of the contractor with all relevant provisions of the Act, and the regulation promulgated in terms of the Act, and
 - b) The contractor undertakes that all relevant duties, obligations and prohibitions imposed in terms of the Act and regulations will be fully complied with, and
 - c) The contractor hereby accepts sole responsibility for such due compliance with the relevant duties, obligations and prohibitions imposed by the Act and regulations and expressly absolves the employer and the employer’s consulting engineers from being obliged to comply with any of the aforesaid duties, obligations and prohibitions in respect of the work included in the contract.
 - d) The contractor shall be obliged to report forthwith to the employer any investigation, compliant or criminal charge which may arise as a consequence of the provisions of the Act and regulations pursuant to work performed on behalf of the employer, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charges.
2. The Employer recognizes the right of each employee to work safely in a healthy environment under decent human conditions. Each employee has the right to return home safely and healthy to his home and family after each day’s work.
3. Work should not be done at the expense of human safety or health.

- 4. Work shall be executed under humane conditions, especially with reference to hours and Health & Safety issues in mind.
- 5. The PC shall appoint a fulltime Health & Safety Manager should he have more than 50 employees on site. A fulltime Safety Representative shall be present on site for 50 employees or less
- 6. The Nominated Safety Representative of the Main Contractor is (Name and Surname);

.....

ID No

Who will execute his/her duties in accordance with The Act.

Thus signed:

.....
ON BEHALF OF SILVER LAKES HOMEOWNERS ASS.

.....
DATE

WITNESS

.....
ON BEHALF OF THE CONTRACTOR

.....
DATE

WITNESS

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

TENDER NO: 20462/01: SUPPLY AND INSTALLATION OF CONCRETE CART PATHS

TENDER FOR THE APPOINTMENT OF CONTRACTORS

C1.4 FORM OF GUARANTEE

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

TENDER NO: 20462/01: SUPPLY AND INSTALLATION OF CONCRETE CART PATHS

TENDER FOR THE APPOINTMENT OF CONTRACTORS

C1.4 FORM OF GUARANTEE

Contract No:.....

WHEREAS.....
[hereinafter referred to as "the Employer"] entered into, a Contract with

.....
[hereinafter called "the Contractor"] on the day of20..... for the construction of:

.....
.....

at.....

AND WHEREAS it is provided by such Contract that the Contractor shall provide the Employer with security by way of a guarantee for the faithful fulfillment of such Contract by the Contractor;

AND WHEREAS

.....

Has/have at the request of the Contractor, agreed to give such guarantee;

NOW THEREFORE WE

.....

Do hereby guarantee and bind ourselves jointly and severally as Guarantor and Co-principal Debtors to the Employer under renunciation of the benefits of division and exclusion for the due and faithful performance by the Contractor of all the terms and conditions of the said Contract, subject to the following conditions:

1. The Employer shall, without reference and/or notice to us, have complete liberty of action to act in any manner authorized and/or contemplated by the terms of the said Contract, and/or to agree to any modifications, variations, alterations, directions or extensions of the Completion Date of the Works under the said Contract, and that its rights under this guarantee shall in no way be prejudiced nor our liability hereunder be affected by reason of any steps which the Employer may take under such Contract or of any modification, variation, alterations of the Completion Date which the Employer may take, give, concede or agree to under the said Contract.

2. This guarantee shall be limited to the payment of a sum of money.

3. The Employer shall be entitled, without reference to us, to release any guarantee held by it, and to give to or compound or make any other arrangements with the Contractor.
4. This guarantee shall remain in full force and effect until the issue of the Certificate of Completion in terms of the Contract, unless we are advised in writing by the Employer before the issue of the said Certificate of his intention to institute claims, and the particular thereof, in which event this guarantee shall remain in full force and effect until all such claims have been paid or liquidated.
5. Our total liability hereunder shall not exceed the sum of

Amount in words:

.....

Amount in Rands:

.....

6. The Guarantor reserves the right to withdraw from this guarantee by depositing the Guaranteed Sum with the beneficiary, whereupon the Guarantor's liability hereunder shall cease.
7. We hereby choose our address for the serving of all notices for all purposes arising here from as

.....

IN WITNESS WHEREOF this guarantee has been executed by us at

.....

on this day of20.....

As Witnesses:

1. Signature:

2. Signature:

Duly authorized to sign on behalf of

.....

Physical Address:

..... Postal Code:.....

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

TENDER NO: 20462/01: SUPPLY AND INSTALLATION OF CONCRETE CART PATHS

TENDER FOR THE APPOINTMENT OF CONTRACTORS

<p>PART C2: PRICING DATA</p>

- C2.1 Pricing Instructions**
- C2.2 Bills of Quantities**
- C2.3 Summary of Schedules of Quantities**

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

TENDER NO: 20462/01: SUPPLY AND INSTALLATION OF CONCRETE CART PATHS

TENDER FOR THE APPOINTMENT OF CONTRACTORS

C2.1: PRICING INSTRUCTIONS

1. The General Conditions of Contract, the Contract Data, the Specifications (including the Project Specifications) and the Drawings shall be read in conjunction with the Bill of Quantities.
2. Certain items under the mechanical portion of the works have been included as provisional sums. Tenderers have the opportunity to add their profit margins on this equipment & quote for installation thereof.
3. The Bill comprises items covering the Contractor's profit and costs of general liabilities and of the construction of Temporary and Permanent Works.
4. Although the Bidder is at liberty to insert a rate of his own choosing for each item in the Bill, he should note the fact that the Contractor is entitled, under various circumstances, to payment for additional work carried out and that the employer is obliged to base his assessment of the rates to be paid for such additional work on the rates the Contractor inserted in the Bill.
5. Descriptions in the Bill of Quantities are abbreviated and may differ from those in the Standardized and Project Specifications. No consideration will be given to any claim by the Contractor submitted on such a basis. Should any requirement of the measurement and payment clause of the appropriate Standardized or Project Specification(s) be contrary to the terms of the Bill and the specification, the specifications shall prevail.
6. Unless stated to the contrary, items are measured net in accordance with the specifications without any allowance having been made for waste.
7. The amounts and rates to be inserted in the Bill of Quantities shall be the full inclusive amounts to the Employer for the work described under the several items. Such amounts shall cover all the costs and expenses that may be required in and for the supply and delivery of goods, and shall cover the costs of all general risks, profits, taxes (but excluding value-added tax), liabilities and obligations set forth or implied in the documents on which the Bid is based.
8. An amount or rate shall be entered against each item in the Bill of Quantities, whether or not quantities are stated. An item against which no amount or rate is entered will be considered to be covered by the other amounts or rates in the Bill.

9. The Bidder shall also fill in a rate against the items where the words "rate only" appear in the amount column. Although no work is foreseen under these items and no quantities are consequently given in the quantity column, the bid rates shall apply should work under these items actually be required.
10. Should the Bidder group a number of items together and bid one sum for such group of items, the single bid sum shall apply to that group of items and not to each individual item, or should he indicate against any item that full compensation for such item has been included in another item, the rate for the item included in another item shall be deemed to be nil.
11. The bid rates, prices and sums shall, subject only to the provisions of the Conditions of Contract, remain valid irrespective of any change in the quantities during the execution of the Contract.
12. The quantities of work as measured and accepted and certified for payment in accordance with the Conditions of Contract, and not the quantities stated in the Bill of Quantities, will be used to determine payments to the Contractor. The validity of the Contract shall in no way be affected by differences between the quantities in the Bill of Quantities and the quantities certified for payment.
13. For the purposes of this Bill of Quantities, the following words shall have the meanings hereby assigned to them:
 - **Unit:** The unit of measurement for each item of work as defined in the Standardized, Project or Particular Specifications
 - **Quantity:** The number of units of work for each item
 - **Rate:** The payment per unit of work at which the Bidder bids to do the work
 - **Amount:** The quantity of an item multiplied by the bid rate of the (same) item
 - **Sum:** An amount bid for an item, the extent of which is described in the Bill of Quantities, the Specifications or elsewhere, but of which the quantity of work is not measured in units
14. The units of measurement indicated in the Bill of Quantities are metric units. The following abbreviations may appear in the Bill of Quantities:

mm	=	millimetre
m	=	metre
km	=	kilometre
km-pass	=	kilometre-pass
m ²	=	square metre
m ² -pass	=	square metre-pass
ha	=	hectare

m³ = cubic metre
m³-km = cubic metre-kilometre
kW = kilowatt
kN = kilonewton
kg = kilogram
t = ton (1 000 kg)
% = per cent
MN = meganewton
MN-m = meganewton-metre
PC Sum= Prime Cost Sum
Prov Sum= Provisional Sum

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

TENDER NO: 20462/01: SUPPLY AND INSTALLATION OF CONCRETE CART PATHS

TENDER FOR THE APPOINTMENT OF CONTRACTORS

C2.2: SCHEDULES OF QUANTITIES

Section 1: Preliminary and General

Section 2: Golf Cart Pathways: Front 9

Section 3: Golf Cart Pathways: Back 9

Section 4: Golf Cart Pathways: Replacement Panels

[Type text]

ITEM NO	PAYMENT CLAUSE	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1		SECTION 1 : PRELIMINARY & GENERAL				
1.1	SANS 1200A 8.3	FIXED CHARGED ITEMS				
1.1.1	8.3.1	contractual requirements	sum	1		
	8.4.2	OPERATE AND MAINTAIN FACILITIES ON THE SITE				
	1200A 8.3.2.2	FACILITIES FOR CONTRACTOR				
1.1.2		ablution and latrine facilities	sum	1		
1.1.3		tools and equipment	sum	1		
1.1.4		water supply, electric power, communications, dealing with water and access	sum	1		
1.1.5		Barricading (shade netting) along construction area between construction and golf course	sum	1		
1.1.6	8.3.4	other fixed charged obligations	sum	1		
1.1.7	8.3.4	removal of Engineer's and Contractor's site establishment on completion	sum	1		
1.2	8.4	TIME RELATED ITEMS				
1.2.1	8.4.1	contractual requirements	sum	1		
	8.4.2	OPERATE AND MAINTAIN FACILITIES ON THE SITE				
	1200A 8.4.2.2	FACILITIES FOR CONTRACTOR FOR THE DURATION OF CONSTRUCTION				
1.2.2		ablution and latrine facilities	sum	1		
1.2.3		tools and equipment	sum	1		
1.2.4		water supply, electric power, communication, dealing with water and access	sum	1		
1.2.5	8.4.3	supervision	sum	1		
		SUB-TOTAL CARRIED FORWARD				

[Type text]

ITEM NO	PAYMENT CLAUSE	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1.2.6	8.4.4	brought forward company and head office overhead costs	sum	1		
1.2.7		Barricading (shade netting) along construction area between construction and golf course	sum	1		
1.2.8	8.4.5	other time-related obligations	sum	1		
1.3	8.8	TEMPORARY WORKS				
	8.8.4	EXISTING SERVICES				
1.3.1		excavate by hand to expose existing services (provisional)	m ³	5		
1.3.2		protection of existing services	sum	1		
1.4		ITEMS NOT MENTIONED Should the Contractor wish to price any items mentioned in the General Conditions of Contract, Specifications or Drawings, but not specifically mentioned in the Schedule, he should do so hereunder. Full descriptions, quantities, units and rates are to be stated.				
TOTAL FOR SECTION 1 (Carried forward to Summary)						

[Type text]

NO	PAYMENT CLAUSE	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
2		SECTION 2: GOLF CART PATHWAYS: FRONT 9				
2.1	SANS 1200C	SITE CLEARANCE				
2.1.1	8.2.1	Lift and remove current pavers to dedicated storage area	m ²	2,790		
2.1.2	8.2.1	Lift and remove grass sods to dedicated storage areas	m ²	20		
2.1.3	8.2.1	clear and grub site 2 m wide for golf cart pathways	m ²	2790		
	1200DM					
2.1.4	8.3.7	excavate in all materials and spoil	m ³	20		
2.1.5	8.3.7	excavate in all materials for pathways and stockpile "clean" excavated material in dedicated stockpile areas	m ³	140		
2.1.6	8.3.3 (a)	road-bed preparation (150 mm thick) and compaction of insitu material to 93 % Mod. AASHTO maximum density	m ³	420		
2.1.7	8.2.3	extra over items 2.1.4 to 2.1.5 for removal of boulders and debris to unspecified sites and dump (provisional)	m ³ m	10		
2.2	1200DM	PATHWAY CONSTRUCTION				
2.2.1	8.2.7	trimming excavations in all materials	m ²	280		
2.2.2	8.2.13	polyethylene sheeting 250 µm under concrete	m ²	3,065		
2.2.3	8.2.8	concrete grade 25/20	m ³	279		
2.2.4	8.2.12	high tensile welded mesh reinforcement of mass 2.11 kg/m ²	m ²	2,790		
2.2.5	8.2.9	smooth narrow formwork (up to 150 high)	m	4,180		
2.2.6		wood float	m ²	2,790		
2.2.7	8.3.10	expansion joints as detailed on the drawing (brick on edge)	m	1,395		
		SUB-TOTAL CARRIED FORWARD				
ITEM	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT

[Type text]

NO	CLAUSE					
		brought forward				
2.2.7	8.3.10	expansion joints as detailed on the drawing (brick on edge	m	1,395		
2.3	PSVA	GRASSING				
2.3.1		top soiling and grading shoulders	m ²	40		
	8.3 (d)	Supplying and applying chemical fertilizer				
2.3.2	8.3 (d) iv	2 : 3 : 3 (22) fertilizer	kg	10		
2.3.3	8.4 (a)	Grassing with kikuyu sods	m ²	40		
TOTAL FOR SECTION 2 (Carried forward to Summary)						

[Type text]

NO	PAYMENT CLAUSE	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
3		SECTION 3: GOLF CART PATHWAYS: BACK 9				
3.1	SANS 1200C	SITE CLEARANCE				
3.1.1	8.2.1	Lift and remove current pavers to dedicated storage area	m ²	4,786		
3.1.2	8.2.1	Lift and remove grass sods to dedicated storage areas	m ²	40		
3.1.3	8.2.1	clear and grub site 2 m wide for golf cart pathways	m ²	4,786		
	1200DM					
3.1.4	8.3.7	excavate in all materials and spoil	m ³	40		
3.1.5	8.3.7	excavate in all materials for pathways and stockpile "clean" excavated material in dedicated stockpile areas	m ³	240		
3.1.6	8.3.3 (a)	road-bed preparation (150 mm thick) and compaction of insitu material to 93 % Mod. AASHTO maximum density	m ³	718		
3.1.7	8.2.3	extra over items 3.1.4 to 3.1.5 for removal of boulders and debris to unspecified sites and dump (provisional)	m ³ km	10		
3.2	1200DM	PATHWAY CONSTRUCTION				
3.2.1	8.2.7	trimming excavations in all materials	m ²	480		
3.2.2	8.2.13	polyethylene sheeting 250 µm under concrete	m ²	5,265		
3.2.3	8.2.8	concrete grade 25/20	m ³	480		
3.2.4	8.2.12	high tensile welded mesh reinforcement of mass 2.11 kg/m ²	m ²	4,786		
3.2.5	8.2.9	smooth narrow formwork (up to 150 high)	m	7,180		
3.2.6		wood float	m ²	4,786		
3.2.7	8.3.10	expansion joints as detailed on the drawing (brick on edge)	m	2,393		
		SUB-TOTAL CARRIED FORWARD				

[Type text]

ITEM NO	PAYMENT CLAUSE	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
3.3	PSVA	brought forward GRASSING				
3.3.1		topsoiling and grading shoulders	m ²	40		
	8.3 (d)	Supplying and applying chemical fertilizer				
3.3.2	8.3 (d) iv	2 : 3 : 3 (22) fertilizer	kg	10		
3.3.3	8.4 (a)	Grassing with kikuyu sods	m ²	40		
TOTAL FOR SECTION 3 (Carried forward to Summary)						

[Type text]

NO	PAYMENT CLAUSE	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
4		SECTION 4: GOLF CART PATHWAYS: REPLACEMENT PANELS				
4.1	SANS 1200C	SITE CLEARANCE				
4.1.1	8.2.1	Lift and remove current concrete panels and spoil	m ²	68		
	1200DM					
4.1.2	8.3.7	excavate in all materials and spoil	m ³	1		
4.1.3	8.3.7	excavate in all materials for pathways and stockpile "clean" excavated material in dedicated stockpile areas	m ³	4		
4.1.4	8.3.3 (a)	road-bed preparation (150 mm thick) and compaction of insitu material to 93 % Mod. AASHTO maximum density	m ³	10		
4.1.5	8.2.3	extra over items 4.1.2 to 4.1.3 for removal of boulders and debris to unspecified sites and dump (provisional)	m ³ km	1		
4.2	1200DM	PATHWAY CONSTRUCTION				
4.2.1	8.2.7	trimming excavations in all materials	m ²	6		
4.2.2	8.2.13	polyethylene sheeting 250 µm under concrete	m ²	77		
4.2.3	8.2.8	concrete grade 25/20	m ³	7		
4.2.4	8.2.12	high tensile welded mesh reinforcement of mass 2.11 kg/m ²	m ²	68		
4.2.5	8.2.9	smooth narrow formwork (up to 150 high)	m	90		
4.2.6		wood float	m ²	68		
4.2.7	8.3.10	expansion joints as detailed on the drawing (brick on edge)	m	45		
4.3	PSVA	GRASSING				
4.3.1		topsoiling and grading shoulders	m ²	10		
	8.3 (d)	Supplying and applying chemical fertilizer				
4.3.2	8.3 (d) iv	2 : 3 : 3 (22) fertilizer	kg	4		
4.3.3	8.4 (a)	Grassing with kikuyu sods	m ²	10		
TOTAL FOR SECTION 4 (Carried forward to Summary)						

[Type text]

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

TENDER NO: 20462/01: SUPPLY AND INSTALLATION OF CONCRETE CART PATHS

TENDER FOR THE APPOINTMENT OF CONTRACTORS

C2.3: SUMMARY OF SCHEDULES OF QUANTITIES

SECTION	DESCRIPTION	AMOUNT
1	Preliminary and General Cost	
2	Golf Cart Pathways: Front 9	
3	Golf Cart Pathways: Back 9	
4	Golf Cart Pathways: Replacement Panels	
Subtotal		
Plus: Allowance for Contingencies (10%)		
Subtotal		
Plus: VAT @ 15%		
Total Tender Amount (Carry to Form of Tender)		

Signature of Person Authorised to Sign the Tender

Date

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

TENDER NO: 20462/01: SUPPLY AND INSTALLATION OF CONCRETE CART PATHS

TENDER FOR THE APPOINTMENT OF CONTRACTORS

PART C3: SCOPE OF WORK

- C3.1 Description of the Works**
- C3.2 Construction**
 - C3.2.1 Project Specifications**
 - C3.2.2 Particular Specifications**
- C3.3 Annexures**
 - C3.3.1 Annexure A: Tender Figures**

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

TENDER NO: 20462/01: SUPPLY AND INSTALLATION OF CONCRETE CART PATHS

TENDER FOR THE APPOINTMENT OF CONTRACTORS

C3.1: DESCRIPTION OF THE WORKS

C3.1 DESCRIPTION OF THE WORKS

C3.1.1 Scope of Work

The Contract is set out to explain the upgrading of the existing pathways, the construction of new pathways and the replacement of the existing pathways.

The upgrading of the front 9 holes includes the following:

The starting point is hole number 2 greenside, to the end of hole number 3 greenside, (total distance of 345 meters and this includes 1 fish tail parking).

The pathway shall go from Hole 4 following the contour through to hole 5 and across the fairway, 20 meters from the dam edge of hole 5 and across the bridge to the concrete circle. (The total distance is 702 metres and includes 2 fish tails).

Cross over of 91 meters and extra meters behind the 7th green of 255 meters.

The upgrading of the back 9 holes will include the following:

Starting at hole 10 greenside through to hole 11 following the contour through to hole 12 and once again following the contours to the concrete paving linked at hole 13 (total distance of 980 meters).

Hole 14 across the bridge following the contour, with a slight bend at the 120 meter marker towards the bridge at the 100 meter mark to the 15th tee (The total distance of 343 meters and includes 1 fish tail.)

Hole 15 following the contour to the back of the 15th green and linked in with the concrete paving (total distance of 373 meters and includes 1 fish tail.

Hole 16 on the greenside bridge following the contour up the 17th hole's tee box (total distance of 111 meters and includes 1 fish tail.

Hole 17 following the contour straight down to the 18th tee box (total distance of 492 meters)

Hole 18 cross-over to the bridge and linked in behind the 10th tee box (total distance of 94 meters)

The total overall distance is approximately 3 786 meters.

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

TENDER NO: 20462/01: SUPPLY AND INSTALLATION OF CONCRETE CART PATHS

TENDER FOR THE APPOINTMENT OF CONTRACTORS

C3.2: CONSTRUCTION

C3.2.1 Project Specifications

C3.2.2 Particular Specifications

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

TENDER NO: 20462/01: SUPPLY AND INSTALLATION OF CONCRETE CART PATHS

TENDER FOR THE APPOINTMENT OF CONTRACTORS

PROJECT SPECIFICATIONS

GENERAL

The specification applicable to this Contract comprises of the following:

C3.2.1 Project Specifications

C3.2.1.1 Section A: Project Description and General Information

C3.2.1.2 Section B: Materials and Workmanship Specification

C3.2.1.3 Section C: Variations and Additions to Standardised Specifications

C3.2.1.4 Civil Works: Standardized Specifications

SANS 1200 A	:	General
SANS 1200 C	:	Site Clearance
SANS 1200 D	:	Earthworks
SANS 1200 DM	:	Earthworks (roads, subgrade)
SANS 1200 G	:	Concrete
SANS 1200 M	:	Roads (general)
SANS 1200 ME	:	Subbase

The Standardised Specifications can be obtained from the South African Bureau of Standards and the said Standardised Specifications shall be deemed to be included in and to form part of this Contract.

C3.2.2 Particular Specifications

PSVA	:	Ancillary Work: Landscaping and Grassing
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STATUS

Should any requirement of the Project Specification be in conflict with any requirement of the Standardised or Particular Specification listed above, the requirements of the Project Specification shall prevail. In the event of any such contradictions, the Contractor must bring it to the attention of the Engineer immediately.

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

TENDER NO: 20462/01: SUPPLY AND INSTALLATION OF CONCRETE CART PATHS

TENDER FOR THE APPOINTMENT OF CONTRACTORS

C3.2.1: PROJECT SPECIFICATIONS

C3.2.1.1: SECTION A: PROJECT DESCRIPTION AND GENERAL INFORMATION

A.1 DESCRIPTIVE

This Contract covers the supply, delivery, transport, handling, storage, erection, installation, commissioning, testing, adjustment, handing over in complete working order and upholding during the Defects Liability Period of construction work for the **UPGRADING OF THE GOLF CART PATHWAYS**.

A.2 SCOPE OF CONTRACT

The Contract comprises four (4) sections as follows:

Section 1: Preliminary and General Cost

Section 2: Golf Cart Pathways: Front 9

Section 3: Golf Cart Pathways: Back 9

Section 4: Golf Cart Pathways: Replacement Panels

A.3 SITE OF WORKS

The Site of Works is accessible by road. Tenderers shall satisfy themselves as to the means of access and everything affecting the delivery, storage, handling and complete erection and installation of the plant. The Contractor shall be allowed to work and complete the upgrading on one hole at a time only.

A.4 SITE CONDITIONS

Water and electricity is not available on site. The Tenderer shall make allowance for the provision of water and electricity if required and shall allow the cost of the water and electricity supply in his rates.

The Contractor must provide his own office facilities if required and make his own arrangements in respect of telephone services.

All employees of the Contractor must be issued with company name tags by the Contractor and a daily record of the employees on site must be kept. No employees of the Contractor will be allowed to stay on site overnight.

The Contractor must provide, maintain and supervise temporary ablution facilities and latrine accommodation necessary for his employees in compliance with the requirements of the Silver Lakes Construction Rules.

The Contractor shall clear the Site properly on completion of each portion of the work. Clean excavated soil must be stockpiled where indicated and needs not to be carted off the Silver Lakes Estate. Building rubble must be carted away to an acceptable dumping site, to be identified by the Contractor.

The Contractor will be held responsible for any damage caused by his employees to the Employer's buildings, structures, buried and overhead services, work under construction or other assets, and for safeguarding traffic, man and beast against injury from the presence and execution of his Works. He is to provide suitable watchmen, guard rails, lights or warning for plant, equipment, stacks of materials or open trenches in his care, and all the measures he adopts are to be subject to the approval of the Engineer.

A.5 COMPLIANCE WITH REGULATIONS

All equipment including temporary works and construction equipment must comply with the requirements of the Occupational Health and Safety Act, (Act 85 of 1993) and the relevant regulations made there under, with specific reference to the Construction Regulations of 2003. The Contractor must meet all costs involved should alterations be necessary to secure compliance with the regulations mentioned.

A.6 ACCEPTANCE OF TENDERS

The Employer does not bind itself to accept the lowest or any tender.

Tenders will be assessed on the Employer's estimate of the best value offered and to be able to do this, the Employer will estimate, at current rates, the cost of civil engineering works associated with each tender. In adjudicating the tenders, account will also be taken of the following:-

- (a) Delivery period
- (b) Technical resources and previous experience of the Tenderer
- (c) Any special conditions or qualifications put forward by the Tenderer

A.7 DOCUMENTS

The whole of this Specification, together with all Schedules and Annexures thereto and any drawings or information submitted by the successful Tenderer, will be considered as part of the Contract Document.

A.8 SUFFICIENCY OF TENDER

The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender and of the prices stated in the Schedule of Prices which prices shall cover all his obligations under the Contract and all matters and things necessary for the proper completion and upholding of the Works.

Since there may be minor operations, items of materials, matters and details necessary for the proper execution and completion of the Works under the Contract, which are neither shown on the drawings nor particularly mentioned in the Specification, the Contract shall include for such minor operations, materials, matters and details as if they had been expressly detailed and

described. The Contractor shall execute as part of this Contract every requisite for the full and perfect completion of the whole Works, except as may be specifically stipulated in the Contract.

A.9 INTENT OF DRAWINGS AND SPECIFICATION

The Drawings and Specification supplied with the Tender Document are not intended to be either complete in detail or to prescribe rigidly the plant to be offered or the general layout of the Works, but are intended only as a guide to Tenderers. The Specification details the minimum requirements of the Employer and Tenderers must provide everything necessary, whether mentioned or not, to provide a satisfactory, efficient and workmanlike installation.

Should Tenderers consider that deviations from or additions to the plant as specified by the Employer are necessary, these must be described and accounted for in detail as set out in Clause

Any exclusions by the Tenderer to the installation as specified shall be itemized and described in detail.

A.10 VARIATION FROM SPECIFICATION

Should the Tenderer desire to make any alteration to the Specification with regard to the material or plant offered or the conditions of testing or other procedure, he shall set out his proposals in detail on "Alterations by Tenderer" attached to this Document, or, alternatively, shall set them out in detail in a separate letter marked "Alterations by Tenderer" and accompanying his tender. No alteration, amendment or exclusion will be recognised unless adequately set out as described above.

A.11 SCHEDULE OF PRICES

The prices quoted in the Schedule of Prices shall cover the cost of all work required for the execution of the Contract and each price shall be considered as the full value of the work described in each item and as covering all contingent expenses.

A.12 OFF-LOADING, STACKING AND LIABILITY FOR BREAKAGES

The Contractor will be required at his own expense to make all arrangements for off-loading and carefully stacking all materials and plant delivered under this Contract at the Site of the Works. The off-loading and stacking shall be carried out strictly in accordance with the requirements of the Engineer so as to permit a thorough and careful examination and testing of all items for breakages, fractures, etc. and any routine maintenance during storage.

The Contractor shall be fully responsible for the protection of all materials and plant delivered by him to Site against damage by water, weather, fire and any other interference until such time as it is used and accepted by the Employer as complete.

A.13 STORAGE

Facilities for extended storage at Site for materials and plant may not always be available and the Contractor shall therefore make his own arrangements for any off-site storage which may be required.

A.14 INSPECTION AT SITE

All materials and plant will be carefully examined upon delivery at the Site by the Engineer's representative and all items showing defects or damage of any description shall be laid aside as

not being in accordance with the requirements of the Contract and these shall be removed and replaced by the Contractor at his own cost.

A.15 TEMPORARY HOUSING, STORES, ETC.

The Contractor shall provide and maintain at his own cost all sheds of a temporary nature necessary for the convenience of his workmen and for the accommodation and proper protection of materials and plant from damage or loss. These are to be erected only on sites which shall have been approved by the Engineer and they shall be removed as soon as their necessity ceases and the site thereof restored to its original condition and the ground left clean and sanitary.

A.16 DEWATERING

Dewatering of excavations will be the responsibility of the Contractor and he must either allow therefore in his rates or give a rate for the use of a pump of specified size and pumping capacity in his covering letter.

C3.2.1.2: SECTION B: MATERIALS AND WORKMANSHIP SPECIFICATION

B.1 GENERAL

All materials and components used in the construction under this Contract shall be of the best quality and suitable for the purposes for which they are intended.

B.2 QUALITY MANAGEMENT

B.2.1 Applicable Quality Assurance Standards

The Tenderer shall provide a co-ordinated and formally documented statement of his quality management system, including quality management objectives, policies, organisation and procedures, for the compulsory implementation of SANS 0157, Code of Practice for Quality Management Systems, Part III. The same applies to Part II of the said Code of Practice, which must be implemented on certain selected items only. However, although Part II will not be implemented in all instances it will not exempt the Contractor of compliance with the quality requirements laid down in the tender documents. Monitoring and control by the Engineer may be done at any time on any material.

The Contractor shall submit with his tender an assessment report on his quality management and quality control system issued by an independent Quality Assurance Authority approved by the Engineer. The inspection on which this assessment report is based shall have taken place not more than twelve months prior to the closing date for this tender.

Responsibility for and all associated costs of compliance with this sub-clause shall rest with the Contractor.

B.2.2 Quality Assurance Enhancement

Should the Contractor or any of the proposed sub-contractors not comply with Sub-Clause 1 at the time of tender a Contract may be awarded subject to a written undertaking to enhance his own and/or sub-contractor's quality assurance system to the satisfaction of the Engineer before commencement of the Contract.

B.2.3 Quality Assurance Staff

The Contractor shall satisfy the Engineer that a quality specialist together with sufficient and suitably qualified staff will be assigned to control the quality of material used by the Contractor and to monitor the quality of the material used by each sub-contractor engaged in the supply of critical and major components and sub-assemblies.

The curriculum vitae of the quality specialist shall be submitted to the Engineer at the time of tender. The Engineer shall approve the proposed quality staff in writing and changes of staff shall require the written agreement of the Engineer.

If the Engineer considers that the proposed quality specialist and/or quality staff is inadequate or becomes inadequate during the course of the Contract due to staff changes or for any other reason, the Contractor shall employ for the period of the Contract and at his cost an independent quality specialist and/or sufficient and suitably qualified quality staff approved by the Engineer.

B.2.4 Engineers Quality Assurance Representative

The Engineer may elect to appoint an independent quality assurance representative to act in a surveillance capacity on his behalf for part or all off the Contract.

B.2.5 Classification of Material

Part II of the above-mentioned Code of Practice i.e. a quality system for manufacture and installation, will apply only to certain critical material, products and services indicated in the tender documents, of which the Engineer considers the manufacturing and the installation stages of such critical importance that quality assurance by the Contractor shall be of an even higher level than that prescribed in Part III.

B.2.6 Sub-letting

All enquiries made and contract placed by the Contractor for critical components shall require that sub-contractors comply with the requirements of the preceding Sub-Clauses. Responsibility for and all associated costs of compliance shall rest with the Contractor. In instances where SANS 0157 is not applicable, Tenderers must indicate what equivalent alternative Code of Practice is being implemented.

B 2.7 Disqualification

Tenderers who do not include the formally documented statements called for in Sub-Clause 1 and who do not respond in terms of Sub-Clause 2 above will be disqualified.

B.3 STANDARD SPECIFICATIONS

Reference made hereinafter to specifications of the South African National Standards (SANS) or the British Standards Institution (BS) shall be deemed to include all revisions of and/or additions to such specifications ruling at the closing date of tenders.

C3.2.1.3: SECTION C: VARIATIONS and ADDITIONS to STANDARDISED SPECIFICATION

SANS 1200A: GENERAL

PSA 3.1 Quality of Samples

All materials used shall be the best of their respective kinds and shall be suitable for the purposes for which they are intended. Materials shall comply with the requirements of the South African Bureau of Standards, where such standards are available.

If required by the Engineer, samples of any of the materials the Contractor intends to use shall be submitted at the Contractor's expense to the Engineer before they are used in the Works and the Engineer reserves the right to subject any sample of material to such tests as may be required to ensure compliance with the specification for this contract. When approved, the samples will be kept by the Engineer as standards for the duration of the Contract. No materials inferior in quality or workmanship to the approved samples shall be used by the Contractor.

PSA 4.2 Contractor's Offices, Stores and Services

Add the following:

The Contractor shall where applicable, make the necessary arrangements with the homeowner's association for the provision of services such as water and electricity for construction purposes.

Should the Contractor make use of local services, he shall make arrangements, where applicable, for connections to be made, complete with meters from these services for use at the Site. All costs incurred in respect of these connections and the meters, pipes, cables, etc. from the connections to his facilities, the cost of the water consumed, the cost of the removal of sewage and the use of the telephone, and the cost for finally disconnecting and removing the services shall be paid by the Contractor, who shall include full compensation for such costs in his tendered rates for the various items of work requiring the use of one or more of the services.

Sufficient back-up services shall be provided to ensure the uninterrupted execution of the Works such as storage tanks for water for use in the mixing of concrete, stand-by electrical power for work at night and for electrical plant and equipment used on Site.

PSA 5.7 Safety

Add the following:

1. The Contractor shall at all times observe adequate safety precautions on Site to ensure the safety of his own staff as well as that of the public and other persons engaged in or about the Works. In this respect he shall observe all laws, ordinances and regulations pertaining to his work.
2. The Contractor's attention is specifically drawn to the following Acts, and particularly to the relevant regulations under each Act, copies of which shall at all times be kept by him on the Site:
 - (a) The Factories, Machinery and Building Work Act (Act 22 of 1941)
 - (b) The Explosives Act (Act 26 of 1956)

- (c) The Mines and Works Act (Act 27 of 1956)
- (d) The Occupational Health and Safety Act (Act 85 of 1993)
- (e) The Construction Regulations of 2003

3. The Contractor is also required to comply with the safety precautions set out in the following publications, copies of which shall also be kept by him on the Site:

The Code of Practice relating to the safety of men working in civil engineering inspection pits and small-diameter vertical shafts. (Transactions of the South African Institution of Civil Engineers, Vol. 2, No. 11, November 1960, obtainable from the Secretary, S.A. Institution of Civil Engineers).

- 4. The Contractor shall provide suitable and safe access by way of ladders, gangways, etc. to all parts of the Works as may be required for construction purposes or for inspection by the Engineer or the authorised Inspectors in terms of the abovementioned Acts and Regulations.
- 5. All precautions shall be taken to protect workmen against falling material and/or objects and other dangers whilst they are carrying out their duties. Trenches shall in every way be made and kept safe for persons working therein.
- 6. All persons working, inspecting or supervising in places where falling material and/or objects could be encountered shall be provided by the Contractor with hard hats of a type approved by the Inspector of Mines, the use of which shall be strictly enforced.
- 7. The Contractor shall provide a properly equipped first-aid box, which shall be accessible at all times.
- 8. Where adequate safety precautions are not being observed, the Engineer may order the Contractor to comply with minimum safety requirements at the latter's expense. Compliance with such order will not absolve the Contractor from any of his responsibilities and obligations under the Contract.
- 9. The Contractor shall display on a prominent place the following emergency information:
 - (a) Local Police Telephone number
 - (b) Local Ambulance Telephone number
 - (c) Local Fire Brigade Telephone number
 - (d) Nearest Doctor
 - (i) Name
 - (ii) Telephone number (office hours)
 - (iii) Telephone number (after hours)
 - (iv) Consulting room street address.
- 10. The Contractor shall furthermore comply with the requirements of the "Safety Instructions" contained elsewhere in this Document.

PSA 8: **MEASUREMENT AND PAYMENT**

PSA 8.7 **Daywork**

Replace this Clause with the following:

No provision is made for dayworks

SANS 1200 C: SITE CLEARANCE

PSC 3.1 Disposal of Material

The Contractor shall during the period of the Contract (including the Maintenance Period) remove any accumulation of surplus earth, rock, clay or soil or other excavated material not required for refilling.

Surplus material shall be deposited, spread and levelled at agreed sites within the Contract area or at dumping sites found by the Contractor.

All filthy or offensive matter met with during the execution of the Works shall be carted away immediately to an approved dump site.

PSC 5.8 Demolition of Structures

Demolition of structures by means of blasting will not be permitted.

SANS 1200 D: EARTHWORKS

PSD 3

MATERIAL

Add the following Sub-Clauses:

PSD 3.1

Classification for excavation purposes

PSD 3.1.2

Classes of excavation

(a) **Soft excavation**

Excavation of all material other than hard rock material, as specified in clause 3.1.2 (c), will be measured as soft excavation.

(b) **Intermediate excavation**

Delete this clause.

(c) **Hard rock excavation**

Delete the reference to boulder excavation in paragraphs (1) and (2).

(d) **Boulder excavation Class A**

Delete this Clause.

(e) **Boulder excavation Class B**

Delete this Clause.

PSD 5

CONSTRUCTION

PSD 5.2.2

Excavation

Add the following Sub-Clauses:

PSD 5.2.2.5

Utilization of excavated material

Excavated material and material recovered from temporary work shall, in so far as it is suitable, be utilized for backfill. Material unsuitable for use as backfill or in excess of the quantity required to complete the backfill shall be spoiled or utilized as directed by the Engineer.

PSD 5.2.2.6

Excavation limits for payment purposes

For measurement and payment purposes, the limits of the excavations for structures shall be as shown on the Drawings.

Where no excavation limits are shown on the Drawings and the Engineer has decided that formwork has to be provided for the sides of a concrete member, the limits of the excavation for measurement and payment purposes shall be the vertical planes 0,5 m outside the perimeter of the concrete member for which the formwork is to be provided, and the founding level shown on the Drawings.

PSD 5.2.2.7

Over-excavation

Over-excavation in hard material shall be backfilled with mass concrete as specified or as directed by the Engineer and shall be at the Contractor's expense.

PSD 5.2.2.8

Unsuitable material

Boulders, logs or any other unsuitable excavated material shall be taken to spoil.

Where, in the opinion of the Engineer, unsuitable material is encountered at founding level, such material shall be removed and replaced with foundation fill in accordance with the requirements of clause PSD 5.2.3.4 of this section and as directed by the Engineer.

PSD 5.2.2.9

Preparation of the founding surface

Where hard material suitable for founding is encountered at the founding level, it shall be cut and trimmed to a firm surface, either level, stepped or serrated, as may be required.

Where there are indications that the material at the founding level will be soft material or hard material that will deteriorate rapidly on exposure, the excavation of the final layer with a thickness of 150 mm shall be postponed until just before the blinding layer is placed.

Where shown on the Drawings or ordered by the Engineer, excavations shall be extended to a specified depth below the given undersides of the slabs and footings to make provision for the placing of a concrete blinding layer.

PSD 5.2.3.3

Backfill and fill near structures

(a) **General**

When placing backfill and fill, the following precautions shall be taken:

- (i) In so far as it is possible, the material shall be placed simultaneously to approximately the same elevation on both sides of a structure or structural member where appropriate. If conditions require that backfill or fill be placed appreciably higher on one side than on the opposite side, the additional material on the higher side shall not be placed until authorized by the Engineer and preferably not until the concrete has been in place for 14 days, or until tests show that the concrete has attained sufficient strength to withstand any pressure safely that has been created by the backfill or fill or by the method of construction.
- (ii) The material behind structural members restrained at the top by the superstructure, e.g. portal-type structures, shall be placed as stated on the Drawings or as directed by the Engineer.
- (iii) The material behind the walls of concrete culverts shall not be placed until the top slab has been placed and cured, unless otherwise authorized by the Engineer.

(b) **Backfill**

Excavated areas around structures, between the structure and the vertical walls of the surrounding excavation, shall be backfilled with approved material in horizontal layers not exceeding 150 mm in depth after compaction, to the level of the original ground surface or to the level specified on the Drawings. Each layer shall be moistened or dried to the optimum moisture content for the material and be compacted to a density of not less than 90 % of modified AASHTO density, except that, in a road prism, the material shall be compacted to a density of not less than 93 % of modified AASHTO density. In cases where structures are founded on backfill material, the density shall be as specified in the Project Specifications, but shall not be less than 95 % of modified AASHTO density.

(c) **Prevention of wedge action**

Before the fill in the space between a structure and any adjacent sloping fill and the backfill between a structure and the sloping sides of the surrounding excavation is constructed, the slope of the fill and of the sides of the excavation shall be benched or serrated in order to prevent wedge action between the structure and the fill or the sides of the excavation during backfilling and compaction.

The distance between the exposed face of the structure and the toe of the fill or excavation side shall be sufficient to allow proper compaction.

PSD 5.2.3.4

Foundation fill

If, during the course of excavation, it is found that the material at the indicated founding depth does not have the required bearing capacity as specified on the Drawings, the excavations shall be extended at the discretion of the Engineer until satisfactory founding material is encountered. The Engineer reserves to himself the right to order the Contractor to make up the difference in levels with foundation fill.

Where the foundation fill consists of rock or crushed stone, it shall be constructed as directed by the Engineer.

Foundation fill consisting of granular material shall be constructed in layers not exceeding 150 mm in thickness after compaction. Each layer shall be moistened or dried to optimum moisture content for the material and be compacted to a density of not less than 95 % of modified AASHTO density.

Mass concrete fill to be used shall be of the class or mix specified or directed by the Engineer.

PSD 5.2.4.2

Topsoiling

Delete this Sub-Clause and refer to Section PSVA.

PSD 5.2.4.3

Grass or other vegetation

Delete this Sub-Clause and refer to Section PSVA.

PSD 5.2.6

Dewatering of foundation excavations

Over and above his general obligations in regard to dealing with water as specified in SANS 1200 A, the Contractor shall be responsible for preventing the ingress of water into the foundation excavations. The preventive measures shall include the construction of proper drainage channels, diversion channels, berms, sumps, and the supply, operation and maintenance of the necessary bailing and pumping equipment.

The dewatering measures, with the exception of pumping, shall be maintained until the backfilling has been completed, after which all settled silt, mud, etc. shall be removed from the exposed surfaces where necessary. Between the various construction stages, pumping may be interrupted as may be decided by the Engineer. The draining or pumping of water from foundation excavations shall be so done that no concrete materials will be carried away.

PSD 5.2.7

Payment

If a lump sum has been set out in the Schedule of Quantities for the dewatering of foundations. The method of payment for work authorized by the Engineer shall be in accordance with the provisions of the relevant pay item of clause 8 of this section. Work not authorized by the Engineer shall not be measured for payment.

If no lump sum or provisional sum has been set out in the Schedule of Quantities, the tendered rates for foundation excavations and backfilling shall include full compensation for the dewatering of foundations.

PSD 7

TESTING

Add the following:

PSD 7.4

The requirements of Clause 7.2 of SANS 1200 DM and SANS 1200 M shall also apply to this Section.

PSD 8

MEASUREMENT AND PAYMENT

PSD 8.3.2

Bulk Excavation

- (a) Replace 0,5 km with 1 km.
- (b) Extra-over for

Delete pay items (3) and (4).

PSD 8.3.3

Restricted Excavation

(a)

Add the following to this pay item

- (i) In the case of structures, excavation will be scheduled to different depths as follows:

(a) 0 m up to 2 m unit: cubic metre (m³)

(b) Exceeding 2 m up to 4 m unit: cubic metre (m³)

- (c) Etc. in increments of 2 m
depths unit: cubic metre (m³)
- (ii) Extra over item (i) above
for additional excavation
required by the Engineer
after the excavation has
been completed unit: cubic metre (m³)

The limits for the successive depth ranges shall be measured down from the average surface to the agreed founding level.

The unit of measurement shall be the cubic metre of material measured in the original position before excavation. The quantity of excavation for each depth range shall be calculated from the nett outlines of the excavation limits shown on the Drawings and the depth of excavation completed within each range.

Irrespective of the total depth of the excavation, the quantity of material within each depth range shall be measured and paid for separately.

Where no excavation limits are shown on the Drawings and formwork has to be provided to the sides of concrete members, an additional quantity of excavation shall be measured to 0,5 m outside the concrete perimeter in order to provide a working space.

Where foundation fill is constructed in an excavation, the quantity of excavated material measured for payment shall be the material excavated between the average ground surface, and the founding level, from the prism with vertical sides or as specified or directed by the Engineer.

In no case shall any of the following volumes of excavation be included in the measurement for payment:

- (i) The volume of excavation in excess of the abovementioned limits.
- (ii) The volume included within the excavated road prism, contiguous channels, ditches, etc. for which payment is provided elsewhere in the Specifications.
- (iii) The volume of water or other liquid (except the volume of mud, muck or similar semi-solid matter, which has not resulted from the construction operations and which cannot be pumped or drained away).

The tendered rate shall cover all the costs as stated in SANS 1200D 8.3.3 including any additional excavation the Contractor may require for additional work space outside the authorized limits.

If after a foundation excavation has been completed, cleaned and trimmed ready for blinding, the Engineer orders further excavations on account of changed dimensions and/or founding conditions, an extra-over payment (item

SANS 1200 DM: EARTHWORKS (roads, subgrade)

PSDM 5.2.2.4 Temporary Stockpiling of Materials

The Contractor shall programme the Works in such a way that double handling of material is minimised. No additional payment for temporary stockpiling or extra handling where materials must be stockpiled temporary, shall be made.

PSDM 5.2.4.3 Topsoiling

The final thickness of topsoil shall be at least 100 mm.

PSDM 5.2.8.2 Overhaul

For this Contract freehaul will be regarded as all haulage within the boundaries of the Site of Works as well as a distance of 1 km outside the boundaries.

SANS 1200G: CONCRETE (STRUCTURAL)

PSG 3.2 CEMENT

PSG 3.2.1 Portland blast furnace cement and rapid hardening cement shall not be used on the Works.

PSG 3.2.3 Storage of Cement

Replace this Sub-Clause with the following Sub-Clause:

Cement which is stored on the Site shall be kept under a cover that provides adequate protection against moisture and other factors that may aggravate deterioration.

Where the cement is supplied in bags, the bags shall be closely and neatly stacked to a height not exceeding 12 bags, and they shall be so arranged that they can be used in the order in which they were delivered to the Site. Different brands and/or types of the same brand shall be stored separately.

The storage of cement in bulk in silos or similar containers shall be permitted, provided that the cement drawn for use is measured by mass and not by volume.

Cement shall not be kept in storage for longer than 6 weeks from the date of manufacture without the Engineer's permission.

The Engineer may order the removal of cement, which is older than 6 weeks, from the Site or the alteration of the design mix if he does allow its use. Alternatively, he may allow the cement to be used in concrete of less critical importance, as in blinding layers.

PSG 3.5 ADMIXTURES

PSG 3.5.1 Approval of Admixtures Required

Add the following paragraph to this Sub-Clause:

- (e) Admixtures shall comply with the requirements of ASTM C-154 or AASHTO M-154 and shall be of an approved brand or type.

PSG 3.5.2 Air-Entraining Agents

Add the following paragraph to this Sub-Clause:

- (e) Air-entraining agents shall comply with the requirements of ASTM C-260 or AASHTO M-194.

PSG 4.5.2 Finish

Add the following to this Sub-Clause:

All external corners shall be 12 mm bull nosed at no extra payment.

PSG 5.2.1 Classification of Finishes

Add the following Sub-Clause 5.2.1 (c)

Special

Imperfections such as small fins, bulges, irregularities, surface honeycombing, and slight surface discolorations shall be made good and repaired by approved methods including rubbing down or grinding to the complete satisfaction of the Engineer. The finish of the concrete shall be accurate to Degree of Accuracy I as defined in terms of Clause 6 (see also 5.5.10.3).

PSG 5.5.1.7 **Strength concrete**

Add the following to this Sub-Clause:

Unless specified differently the grade of concrete to be used shall be as follows:

- (i) Grade 30/20: All reinforced concrete structures;
- (ii) Grade 20/20: All paving slabs and floor slabs;
- (iii) Grade 15/20: Unreinforced foundations and Pipe encasement;
- (iv) Grade 10/40: Mass concrete and concrete filling
- (v) Grade 15/10: Screeds and benching

PSG 5.5.13.9 **Epoxy grout (epoxy mortar type only).**

The manufacturer's instructions shall be observed when an epoxy grout is used.

PSG 5.5.17 **Joints in structures**

PSG 5.5.17.1 **Materials**

(a) **General**

All materials used in the forming, construction and sealing of permanent joints, as well as all proprietary or custom-built expansion-joint assemblies shall be subject to the approval of the Engineer.

When required by the Engineer, the Contractor shall submit test certificates from an approved independent testing authority to show that the respective materials comply with the specified requirements, or a certificate from the patent holder or designer to certify that the manufactured item complies in all respects with relevant product specifications.

(b) **Joint filler**

Joint filler shall comply with the requirements of the following specifications:

- (i) American Association of State Highway Officials (A.A.S.H.O.) Standard Specification M153-54 Type I and III.
- (ii) National Transport Commission "Standard Specification for Roads and Bridge Works".
- (iii) Department of Public Works PW471 "Specification of Materials and Methods to be used" Section 3.13 Expansion Joints.

Joint fillers shall consist of closed cell expanded polyethylene with a density of not less than 100 kg/m³.

(c) **Sealants**

Joint sealers shall consist of a two component polyurethane sealing compound complying with the requirements of SANS 1077.

Other sealants may be used if approved by the Engineer after submission of full specifications and information by the Contractor at tender stage.

(d) **Accessory materials**

(i) **Primers**

When a primer is to be used in conjunction with the sealant, it shall be of the prescribed proprietary material.

(ii) **Adhesives**

Adhesives used in conjunction with preformed seals shall be of a proven and approved type which is compatible with the material of the seal.

(iii) **Bond breakers**

Polyethylene tape, coated papers, metal foils or similar material may be used where bond breakers are required.

(iv) **Back-up material**

Back-up material shall consist of a compressible material of correct width and shape in order to ensure that it will be in approximately 50% compression after installation and that the sealant can be formed to the specified depth.

Back-up materials shall be compatible with the sealant used. Material containing bitumen or volatiles shall not be used with thermosetting chemically curing sealants.

(e) **Storage**

All materials used in the forming, construction and sealing of permanent joints and all proprietary or custom-built expansion-joint assemblies shall be stored off the ground under cover that provides adequate protection against sunlight, physical or chemical damage or other factors that may cause deterioration.

PSG 5.5.17.2

Filled Joints

Filled joints shall be accurately formed to the dimensions shown and with the filler material specified on the Drawings. The filler shall be secured in position so that it will not be displaced during or after concreting if the filler is to remain permanently in the joint.

Wherever polystyrene or a similar material which is susceptible to damage is used to form joints, it shall be lined with a hard surface on the side to be concreted. The hard

surface shall be sufficiently resilient to ensure that the joint and surfaces can be formed free from defects.

PSG 5.5.17.3

Sealing of Joints

(a) **General**

Sealed joints shall be made watertight over the full length of the joints, unless otherwise permitted by the Engineer, and the joint dimensions shall be as shown on the Drawings.

(b) **Preparation of joints**

The reaming of joints by sawing or other means shall be undertaken when edge spalling or ravelling can be avoided and shall be subject to the Engineer's approval. After removal of the temporary filler material or the breaking-out of the excess concrete, the inside faces of the joint shall be wire-brushed or grit-blasted to removal all laitance and contaminants. Thereafter the joint shall be cleaned and blown out with compressed air to remove all traces of dust. Solvents shall not be used for removing contaminants from concrete and porous surfaces.

Care shall be taken to ensure that primers or adhesives are applied only to surfaces that are absolutely dry. The primer or adhesive shall be applied strictly in accordance with the manufacturer's instructions. Unless otherwise specified, the primer shall be applied within the temperature range of 10°C to 40°C and the sealant shall be applied after the curing period of the primer and within the period during which the primer remains active.

(c) **Sealants**

Sealants shall be applied strictly in accordance with the manufacturer's instructions by a person skilled in the use of the particular type of sealant. The trapping of air and the formation of voids in the sealant shall be avoided. The sealant shall be finished to a neat appearance flush with the edges of the concrete or to the specified depth.

Thermoplastic hot-poured sealants shall not be poured into the joints when the temperature of the joint is below 10°C. The safe heating temperature shall not exceed the specified pouring temperature by more than 10°C.

Two-part thermosetting chemically curing sealants shall not be applied after expiry of the specified potlife period, which shall commence once the base and activator of the sealant have been combined.

(d) **Preformed compression seals**

The seal shall be inserted and secured with a lubricant adhesive which covers both sides of the seal over the full area in contact with the inside faces of the joint. The lubricant adhesive shall be applied immediately before the seal is inserted.

The seal shall be installed in a compressed state, with the appropriate equipment, so that the seal will remain in compression even under the

Material of joint sealer to be stated)

The unit of measurement shall be the linear metre net length of the position where the sealant is applied.

The tendered rate shall cover cost of supplying, preparing and application of the joint sealer as specified including testing and making good. Other costs related to the joint will be covered by items PSG 8.5.1 or 2 as the case may be.

PSG 8.7

GROUTING

Add the following pay items:

Grouting with epoxy grout using non-shrink grout unit: cubic metre (m³)

The unit of measurement shall be the cubic metre of completed grouting.

The tendered rate shall include full compensation for supplying of all materials, mixing, applying and finishing to a floated surface finish.

SILVER LAKES HOMEOWNERS ASSOCIATION NPC

TENDER NO: 20462/01: SUPPLY AND INSTALLATION OF CONCRETE CART PATHS

TENDER FOR THE APPOINTMENT OF CONTRACTORS

C3.2.2: PARTICULAR SPECIFICATIONS

SECTION VA: ANCILLARY WORK: LANDSCAPING AND GRASSING

PSVA 1 SCOPE

This section covers the landscaping and/or the establishing of vegetation in such areas as indicated on the Drawings or ordered by the Engineer, in writing.

PSVA 2 INTERPRETATIONS

PSVA 2.1 SUPPORTING SPECIFICATIONS

The following specifications shall, inter alia, form part of the Contract Document:

- (a) SANS 1200A
- (b) SANS 1200D

PSVA 3 MATERIALS

PSVA 3.1 FERTILIZER

The type of fertilizer to be used shall be as specified or ordered by the Engineer or scheduled.

PSVA 3.2 GRASS CUTTINGS

Grass cuttings shall be fresh and in a good condition for planting, with sufficient root material to ensure good growth. Species to be planted shall be as specified or scheduled.

PSVA 3.3 GRASS SEED

Only good-quality fresh seed shall be used. The types of seed in the mixture and the pure live-seed content shall be as specified or scheduled.

PSVA 3.4 TREES, SHRUBS AND GROUND COVERS

Plants shall be of the variety and size shown on the Drawings.

When trees, shrubs and ground covers are supplied and delivered to the Site by the Employer, the Contractor shall give the Engineer at least six weeks advance notice of his requirements. Upon receipt of the plants, the Contractor shall ensure that the plants are in good condition and free from obvious diseases and shall accept full responsibility to maintain the plants in good condition throughout the Contract, including the maintenance period. The plants shall be fully maintained and watered during this period, and any losses of plants due to lack of maintenance or diseases developing during the Contract period and the maintenance period shall be replaced at the Contractor's expense.

Plants shall be handled and packed in the approved manner for the particular species or variety, and all necessary precautions shall be taken to ensure that plants will arrive at the point of use in proper condition for successful growth. Trucks used for transporting plants shall be equipped with covers to protect plants from windburn. Containers shall be in a good condition.

Plants supplied by the Contractor shall be healthy, shapely and well-rooted. Roots shall not show any evidence of having been restricted or deformed at any time. Plants shall be well-grown and free from insect pests and diseases.

PSVA 3.5 GRASS SODS

Grass sods shall be nursery grown and shall be harvested, delivered and planted within 36 hours, unless otherwise authorized by the Engineer. Grass sods shall be free from noxious weeds and diseases and shall contain a minimum of 30 mm of soil.

Sods shall be of the variety of grass specified or scheduled. The grass shall have been grown specifically for sod purposes, mown regularly and maintained to provide an approved quality of uniformity. It shall be harvested by special machines manufactured for this purpose to ensure an even depth of cut with sufficient root material and soil.

PSVA 3.6 REVEGETATION CYLINDERS

Revegetation cylinders shall consist of cylindrical capsules with a diameter of approximately 125 mm and a length of 1 500 mm. They shall be manufactured from extruded plastic netting or similar approved biodegradable material. The plastic material shall be specially formulated to provide protection against ultra-violet rays from the sun, and shall be sufficiently robust to last for a period of not less than three years without disintegration under normal service conditions.

The revegetation cylinders shall be filled with shredded or partially compressed organic matter, such as wood chippings. Where wood chippings are used, only material passing a 31 mm sieve with round holes and having been retained on a 5 mm sieve with square holes shall be used. The wood chippings shall be treated with Tanalith C or a similar approved wood preservative.

The Contractor's attention is drawn to the fact that the use of revegetation cylinders is subject to patent rights and that all royalties shall be payable by the Contractor.

PSVA 3.7 ANTI-EROSION COMPOUNDS

Anti-erosion compounds shall consist of a plastic material in dispersion, such as Verdyol or a similar approved compound, which can be sprayed onto the soil to bind and protect it against erosion.

PSVA 3.8 TOPSOIL

Topsoil shall consist of fertile loamy soil selected from areas showing a good coverage of natural vegetation, preferably grasses. It shall be free from deleterious matter such as large roots, stones, refuse, stiff or heavy clays and noxious weeds, which would adversely affect its suitability for the planting of grass.

Topsoil shall be obtained wherever suitable material occurs, either from the Site or from borrow areas to be cleared, as described in Sub-Clause 5.2.1.2 of SANS 1200D. The Engineer shall indicate his requirements to the Contractor regarding the quantity of topsoil required and the areas at which it shall be selected and when it shall be removed. Unless otherwise specified or as instructed by the Engineer, topsoil shall not be taken from more than 400 mm below the original undisturbed surface. If the Contractor fails to conserve topsoil as instructed, he shall obtain suitable substitute material from other sources at no extra cost to the Employer.

Where so specified, the Contractor shall procure and supply topsoil from his own sources outside the Site. Such sources shall be subject to the approval of the Engineer.

Topsoil shall be stockpiled in separate loose heaps as tipped from the trucks and shall not be stockpiled higher than 2,0 m.

PSVA 3.9 MANURE

Manure shall, unless another type is approved by the Engineer, be pure "kraal" manure, free from soil, weed seed or other objectionable material. It shall not contain any particles that will not pass through a 50 mm screen. Only manure which has been approved by the Engineer shall be delivered to the Site.

PSVA 3.10 COMPOST

Compost shall be well-decayed, friable and free from weed seed, dust and other objectionable materials.

PSVA 4 PLANT

Not applicable to this Section.

PSVA 5 CONSTRUCTION

PSVA 5.1 LANDSCAPING OF AREAS

PSVA 5.1.1 Shaping

Areas that require shaping which involves bulk earthworks, such as contoured areas, shall be excavated, filled, compacted when required, and shaped to the correct contours to within a tolerance of plus or minus 150 mm. Such work shall be considered as earthworks and measurement and payment shall be made under SANS 1200D, except that quantities may be measured by means of a grid of levels taken at 10 m intervals before and after shaping, or by means of levelled cross-sections.

PSVA 5.1.2 Trimming

Trimming shall consist of bringing the existing or previously shaped ground to an even surface with the final levels generally following the original surface. Trimming shall normally be done by grader, or, in more confined or steep areas, by bulldozer. Where machine operations are not practicable because of confined spaces or steep slopes, trimming shall be done using hand tools.

All trimming alongside roads and streets shall be completed before construction of the subbase layer commences. Such trimming shall be carried out on both sides of the road or street up to the boundaries of the road reserve unless otherwise specified or instructed by the Engineer.

Where applicable, trimmed surfaces shall be left slightly rough to facilitate binding with topsoil or the natural establishing of vegetation.

When subsequent grassing is required or when instructed by the Engineer, areas previously shaped shall be trimmed as described above to within a tolerance of plus or minus 25 mm, with all undulations following a smooth curve. The above tolerance shall apply only to areas where the final contours are given in the Drawings.

During trimming, all stones in excess of 50 mm in size and all excess material shall be removed. The trimming of any areas requiring grass shall be done in such a way that, after cultivation and

application of any topsoil, the finished surface of the area shall be approximately 25 mm below the top of adjacent kerbing, channelling or pavement.

PSVA 5.1.3 Plant rates

The Engineer shall be entitled to pay for shaping and trimming as described above on the basis of the hourly rates for motor graders and bulldozers. The motor grader and bulldozer to be provided shall each have a fly-wheel power of not less than 93 kW. Any labour or other plant ordered shall be paid for as "extra work" as specified in clause 40 of the General Conditions of Contract.

PSVA 5.2 PREPARATION OF AREAS FOR GRASSING

The various areas to be grassed shall be prepared as follows:

PSVA 5.2.1 Areas not requiring topsoil

Where the areas to be grassed consist of organically suitable material, they shall be scarified to a minimum depth of 150 mm. All loose stones larger than 30 mm on areas to be mowed by machine shall be removed.

PSVA 5.2.2 Areas requiring topsoil

Where areas to be grassed consist of organically unsuitable material, the surface shall be roughened to ensure a proper bonding between the topsoil and the subsoil. If required, the area shall be scarified as described in Sub-Clause PSVA 5.2.1 above.

Topsoil shall be placed on the prepared surfaces and trimmed to the uniform thickness required. The topsoil shall be prepared by means of hand-rakes or light rotavators to obtain a smooth surface. All stones shall be removed as specified for areas not requiring topsoil in Sub-Clause PSVA 5.2.1 above.

PSVA 5.2.3 Fertilizing

The Contractor shall have the top 150 mm of the prepared surfaces tested to determine the amount and type of fertilizer required for establishing proper growing conditions for the grass. The fertilizer shall be evenly applied over all surfaces where grass is to be planted and shall then be thoroughly mixed with the soil, either mechanically or manually, to a depth of 150 mm. Where hydroseeding is to be performed, the fertilizer may be mixed with the cellulose pulp and water used in hydroseeding.

PSVA 5.3 GRASSING

The method of establishing grass shall depend on the circumstances relating to each case. The method to be used in each case shall be agreed on by the Engineer and the Contractor.

PSVA 5.3.1 Planting of grass cuttings

The areas to be planted shall, unless they are wet, be thoroughly watered before planting to ensure that soil will be uniformly wet over a depth of at least 150 mm during planting.

The Contractor shall plant an approved variety of grass cuttings, using his own method, in such a way as to obtain a sufficient number of live and actively growing plants per square metre to provide an acceptable cover as defined in Sub-Clause PSVA 5.4.2 of this section. At least 70 grain bags of cuttings shall be planted per hectare. Only fresh cuttings shall be used. Grass cuttings that have been allowed to dry out shall not be used. Immediately after planting the grass cuttings shall be given a copious watering and when sufficiently dry shall be rolled with a light agricultural roller.

PSVA 5.3.2 Sodding

Areas to be grassed by sodding shall be given a layer of topsoil at least 75 mm thick unless the Engineer instructs that the topsoil be omitted where suitable subsoil is present. The areas to be sodded shall be thoroughly watered beforehand so that they will be wet to a depth of at least 150 mm after sodding. The surface shall be slightly roughened to ensure a good penetration of roots into the soil. Sods shall be protected against drying out and shall be kept moist from the time of harvesting until finally placed.

Wherever possible, the first row of sods shall be laid in a straight line and, if on a slope, laying shall be started at the bottom of the slope. The sods shall be butted tightly against each other and care shall be taken not to stretch or overlap the sods. Where a good fit cannot be obtained, the intervening space shall be filled with topsoil. The next row shall similarly be placed tightly against the bottom row with the joints staggered, and so on, until the entire area is covered with sods. On the instructions of the Engineer, sods shall be held in position on steep slopes by a sufficient number of robust wooden stakes approximately 300 mm in length by 20 mm in diameter.

Each section of completed sodding shall be lightly rolled and thoroughly watered.

PSVA 5.3.3 Hydroseeding

The types and mixtures of seeds to be used shall be as specified or scheduled if not so specified and shall be agreed on by the Engineer and the Contractor before any seed is ordered for use by the Contractor. The Contractor shall be solely responsible for establishing an acceptable grass cover, and any approval by the Engineer of seed or seed mixtures proposed for use shall not relieve him of this responsibility.

Cellulose pulp shall be added to the hydroseeding mix at a rate of 25 kg of pulp per kilolitre of water used, except where otherwise instructed for flat slopes.

Hydroseeding shall then be carried out with the use of an approved hydroseeding machine at a rate of application of not less than 38 kg of seed mixture per hectare, unless otherwise specified in the Project Specifications.

When the use of an anti-erosion compound such as Verdyol is required and the compound is to be applied simultaneously with the hydroseeding, it shall be mixed with the hydroseeding mixture before application. In this case the amount of cellulose pulp shall be decreased by one-third to a half, depending on the amount of compound added.

PSVA 5.3.4 Revegetation cylinders

Revegetation cylinders shall be placed end to end in rows along the contour lines of the slope, as directed by the Engineer. The spacing of rows shall be as shown on the Drawings and the cylinder ends shall be staggered in alternate rows to prevent runnels from forming. Revegetation cylinders shall be secured at their ends and in the middle to barbed-wire running down the slope; special wire ties supplied by the manufacturer and a suitable wire-tying tool shall be used.

The stay wires shall be secured to the slope by means of steel stakes and shall be pulled out. The slope face shall preferably be not smooth but kept slightly rough in order to facilitate the retention of topsoil.

After the revegetation cylinders have been placed and secured in position, the space between rows shall be filled with an approved topsoil and the upper surface of the topsoil shall be finished flush with the top of the revegetation cylinders. The use of rake-shaped wooden tools is recommended for this purpose. Care shall be taken during construction not to compact the topsoil excessively or to damage

the cylinders when topsoil is moved down the slope. On slope lengths exceeding 10 m, special measures shall be taken to protect finished work, such as the use of metal chutes or plastic sheeting to move topsoil down the slope. All topsoiling shall start from the top of the slope.

The Contractor's attention is directed to the more comprehensive details of construction given on the Drawings and in the manufacturer's instructions.

PSVA 5.3.5 Grassing of borrow pits, temporary bypasses, camp sites, access roads and stockpile sites

Prior to any grassing that may be required on borrow areas, the finishing-off of borrow pits as described in Sub-Clause 5.2.2.2 of SANS 1200D, the obliteration of bypasses and access roads as described in clause 5.8 of SANS 1200A and the clearing of camp sites as described in SANS 1200A shall have been carried out as specified in the relevant sections.

PSVA 5.4 ESTABLISHING AND MAINTENANCE OF GRASS

PSVA 5.4.1 Watering, weeding, cutting and replanting

All sodded and planted areas shall be adequately watered at frequent and regular intervals in order to ensure proper seed germination and the growth of grass until the grass has established on acceptable cover and thereafter until the beginning of the maintenance period of the grass. The amount and frequency of watering shall be subject to the Engineer's approval. Where hydroseeding is carried out, the commencement of watering may be postponed until a favourable time of the year, but watering shall in any case commence and continue as soon as the seeds have germinated and growth begins.

The Contractor shall mow the grass on all areas that have been grassed, whenever so instructed by the Engineer, until the end of the maintenance period.

All grass cuttings shall be collected and disposed of if so directed by the Engineer. Weeds shall be controlled by means of pulling or cutting or by any other approved means. Any bare patches where the grass has not taken, or where it has been damaged or has dried out shall be recultivated, planted, sodded or hydroseeded at the Contractor's expense.

All grassed areas shall have acceptable cover as defined below at both the beginning and end of the maintenance period.

PSVA 5.4.2 Acceptable cover

An acceptable grass cover shall mean that not less than 75% of the area planted or hydroseeded shall be covered with grass and that there shall be no bare patches the maximum dimension of which shall not exceed 500 mm. In the case of sodding, acceptable cover shall mean that the full area shall be covered with live grass at the end of any period of not less than three months after sodding.

PSVA 5.4.3 Maintenance period

The maintenance period of grass shall commence when an acceptable cover as defined in Sub-Clause PSVA 5.4.2 above has been established and shall be one year. This means that the maintenance period for grass can commence earlier or later than the maintenance period for other portions of the Contract.

The maintenance period for grassing by revegetation cylinders shall start whenever an acceptable grass cover is obtained or when the section of the Works where grassing is done is handed over for maintenance, whichever is the earlier date, and shall be one year.

If the maintenance period for the grass expires before the end of the maintenance period for the Contract, the Contractor shall further mow the grass on such areas as instructed by the Engineer up to the end of the maintenance period for the Contract.

PSVA 5.5 TREES, SHRUBS AND GROUND COVERS

PSVA 5.5.1 Positions of plants

The positions in which trees, shrubs and ground covers are to be planted shall be as indicated on the Drawings or as determined by the Engineer, and care shall be taken that the taller plants will not obscure traffic signs.

PSVA 5.5.2 Preparation of plant holes

Unless otherwise directed by the Engineer, holes for trees and shrubs shall be placed and prepared as follows:

- (a) All holes shall be square in plan.
- (b) For shrubs the holes shall be at least 500 mm square by 600 mm deep.
- (c) For trees the holes shall be at least 600 mm square by 700 mm deep.
- (d) The planting holes shall be refilled with selected and approved topsoil, thoroughly mixed with manure or compost (one heaped spadeful added to every plant hole) and, depending on soil-test reports, the required amount and type of the fertilizer.
- (e) The holes shall be thoroughly watered before planting. Where the local soil has poor drainage, 150 mm of broken rock shall be placed at the bottom of the planting hole before filling it with soil.

PSVA 5.5.3 Planting

Before planting the plants shall be well watered before they are removed from their containers.

Ground-cover plants shall be carefully lifted from their containers and transferred to holes in the prepared soil, which holes shall be just large enough to accommodate the plant and the adhering soil. Care shall be taken to avoid exposure of the roots during planting. Soil for ground covers shall be prepared as for grassing as specified in clause PSVA 5.2.

Directly after the planting, plants shall be well-watered to establish them firmly in the soil. After the soil has set, additional soil shall, in the case of trees and shrubs, be added where necessary to bring the backfill material to within 150 mm of the ground surface to ensure the retention of sufficient water. All trees shall be tied to a suitable creosote-treated timber stake planted firmly in the ground. The stake shall have a minimum diameter of 35 mm and shall be 300 mm longer than the planted tree, with a maximum length of 3 m above the ground. After planting the ground surface around the plants shall be covered with straw or grass or any other type of mulch to minimize evaporation.

PSVA 5.5.4 Maintenance

During the maintenance period, which shall end twelve months after completion of the actual planting of trees, shrubs and ground covers, the Contractor shall be responsible for watering the plants and for keeping them free from weeds and pests.

Every plant that is not healthy or shows unsatisfactory growth shall be replaced by the Contractor at his own expense before the end of this period.

PSVA 5.6 GENERAL

PSVA 5.6.1 Time of planting

The planting of grass, trees, shrubs and ground covers shall be carried out as far as is practicable during periods most likely to produce beneficial results. The Contractor shall make every effort to programme his operations to make this possible.

PSVA 5.6.2 Traffic on grassed areas

The Contractor shall not plant grass until all operations that may require construction equipment to be taken over the grassed areas have been completed. No equipment, trucks or water carts shall be allowed on areas that have been grassed and only equipment required for the preparation of areas, the application of fertilizer and the spreading of topsoil will be allowed to operate on areas ready for grassing.

PSVA 5.6.3 Erosion control

During construction, the Contractor shall protect all areas susceptible to erosion by installing all necessary temporary and permanent drainage works as soon as possible and by taking such other measures as may be necessary to prevent the concentration of surface water and the scouring of slopes, banks and other areas.

Runnels or erosion channels developing during the construction period or during the maintenance period shall be backfilled and consolidated and the affected areas shall be restored to their former proper condition. The Contractor shall not allow large-scale erosion to develop before effecting repairs and all erosion damage shall be repaired as soon as possible and in any case not later than three months before the end of the maintenance period. Topsoil washed away shall be replaced.

PSVA 5.6.4 Proprietary brand materials used for erosion control

Proprietary brands of materials that may be required for erosion protection to enable natural grass to become established shall be to the approval of the Engineer.

PSVA 5.6.5 Responsibility for establishing an acceptable cover

Notwithstanding the fact that the method of grassing and the type of seed or grass used and the rate of seed application may be specified or agreed to by the Engineer, and that the frequency of mowing will be as instructed by him, the Contractor shall be solely responsible for establishing an acceptable grass cover and for the cost of replanting or rehydroseeding where an acceptable cover has not been obtained. Where, however, in the opinion of the Contractor, it is doubtful from the outset whether an acceptable cover can be established, he may inform the Engineer of his reasons for this, and the Engineer shall, if he agrees, either adopt another grassing method or agree to accept whatever cover can be obtained, provided that all reasonable efforts are made to establish a good cover by the method proposed. Such agreement shall only be valid if given in writing by the Engineer.

PSVA 6 TOLERANCES

Not applicable to this Section.

PSVA 7 TESTING

Not applicable to this Section.

PSVA 8 MEASUREMENT AND PAYMENT

PSVA 8.1 TRIMMING

- (a) Machine trimming unit: square metre (m²)

- (b) Hand trimming unit: square metre (m²)

NOTE: All bulk earth-moving operations as described in Sub-Clause PSVA 5.1.1 shall be measured and paid for under SANS 1200D.

The unit of measurement for trimming shall be the square metre of area trimmed on the Engineer's instructions, including areas trimmed after shaping.

The tendered rate shall include full compensation for trimming areas to the specified finish, including the moving of small quantities of material which would be inherent in this process, and the removal of surplus material and stones. For payment purposes a distinction shall be made between machine trimming that can reasonably be carried out by bulldozer or motor grader, and hand trimming that cannot be done by machine owing to confined space, steep slopes or difficult shapes.

PSVA 8.2 USE OF MACHINES FOR TRIMMING OR SHAPING (ALTERNATIVE TO SUB-ITEM PSVA 8.1(a))

- (a) Bulldozer unit: hour (h)

- (b) Motor grader unit: hour (h)

The unit of measurement shall be the hour actually worked by each machine in trimming or shaping areas. Standing time shall not be measured.

The tendered rates shall include full compensation for the supply and use of the machines, including the cost of fuel, operators, maintenance, transporting the machine to and from the point of use, and for all other incidentals necessary to carry out the work.

PSVA 8.3 PREPARING AREAS FOR GRASSING AND GROUND COVERS

- (a) Scarifying unit: hectare (ha) or square metre (m²)

- (b) Topsoiling on the Site with:
 - (i) Topsoil obtained from the site or borrow areas provided by the Employer
unit: cubic metre (m³)
 - (ii) Topsoil obtained by the Contractor from other sources (including all haul)
unit: cubic metre (m³)

- (c) Topsoiling of borrow pits with topsoil obtained from borrow areas or from the Site
unit: cubic metre (m³)

PSVA 8.3(e) STOCKPILING OF TOPSOIL

The unit of measurement shall be the cubic metre of topsoil stockpiled on the written instructions of the Engineer, where this operation is unavoidable despite proper advance planning. Only material actually loaded, transported to and stockpiled on sites designated for stockpiling shall be measured, and not any material merely pushed or bladed into heaps adjacent to the area from which it was taken.

The tendered rate shall include full compensation for removal and loading the topsoil, transporting it, placing it in stockpile, and for any payments to private owners for the use of stockpile areas.

PSVA 8.4 GRASSING

- (a) Planting of grass unit: square metre (m²)
- (b) Sodding unit: square metre (m²)
- (c) Revegetation cylinders unit: metre (m)
- (d) Hydroseeding:
 - (i) Providing approved seed mixture for hydroseeding unit: kilogram (kg)
 - (ii) Hydroseeding unit: hectare (ha)

PSVA 8.4(a) PLANTING OF GRASS CUTTINGS

The unit of measurement for the planting of grass cuttings shall be the square metre of established grass with an acceptable grass cover.

The tendered rate shall include full compensation for the planting of grass cuttings, the establishing of an acceptable cover, the replanting of dead areas and the maintenance of the grass, all as specified, but excluding the mowing of grass.

PSVA 8.4(b) SODDING

The unit of measurement for sodding shall be the square metre covered with sods and having an acceptable cover.

The tendered rate shall include full compensation for sodding, the establishing of an acceptable cover, the replanting of dead areas, and the maintenance of the grass, all as specified, but excluding the mowing of the grass.

PSVA 8.4(c) REVEGETATION CYLINDERS

The unit of measurement for revegetation cylinders shall be the metre of revegetation cylinders furnished and placed as specified, measured along the rows in which they are placed end to end.

The tendered rates shall include full compensation for constructing and maintaining the revegetation cylinders, all as specified. Topsoiling shall be paid for separately under items PSVA 8.3 (b) and (c)

and due allowance shall be made for excluding the volume occupied by the revegetation cylinders from the volume of topsoil measured for payment. Hydroseeding shall be paid for separately.

PSVA 8.4(d) HYDROSEEDING

(i) The unit of measurement for providing seed shall be the kilogram of seed of the specified mixture, excluding the mass of any pulp added thereto.

(ii) The unit of measurement for hydroseeding shall be the hectare of grass established by hydroseeding and having an acceptable cover.

The tendered rate shall include full compensation for planting grass by hydroseeding the establishing of an acceptable cover, rehydroseeding bare patches, and the maintenance of the grass, all as specified, but excluding the mowing of the grass.

General

Half the payments under item PSVA 8.4 shall become due when the grassing or hydroseeding has been carried out, and the remainder shall become due when a satisfactory cover has been established, except in the case of Sub-item PSVA 8.4(c) where the full amount will become due upon the satisfactory execution of the work.

PSVA 8.5 MOWING OF GRASS

unit: hectare (ha)

The unit of measurement shall be the hectare measured each time when the grass has been cut on the instructions of the Engineer.

The tendered rate shall include full compensation for all plant, equipment and labour required for each grass cutting and the disposal of grass cuttings, i.e. payment shall be made every time the grass has been cut on the instructions of the Engineer.

PSVA 8.6 ANTI-EROSION COMPOUND (VERDYOL OR A SIMILAR APPROVED COMPOUND)

unit: kilogram (kg)

The unit of measurement shall be the kilogram net mass of anti-erosion compound used as approved by the Engineer.

The tendered rate shall include full compensation for supplying the material and mixing and applying it with the hydroseeding or by itself.

PSVA 8.7 TREES, SHRUBS AND GROUND COVERS

(a) Provision of trees and shrubs (types indicated) unit: number (no)

(b) Provision of ground covers unit: number (no)

The unit of measurement shall be the number of each variety of tree, shrub or ground cover supplied and established.

The tendered rate shall include full compensation for supplying the plants at the point of final use, including substitutes for plants that may become diseased or may die.

(c) Planting and establishing of:

- (i) Trees unit: number (no)
- (ii) Shrubs unit: number (no)
- (iii) Ground covers unit: number (no)

The unit of measurement shall be the number of each type planted and established.

The tendered rates shall include, in the case of trees and shrubs, full compensation for excavating the holes to the specified dimensions, for supplying topsoil, wooden stakes, broken rock, manure and compost, and mixing them with any fertilizer required for planting, for refilling each hole with the topsoil mixture and other soil, for watering the plants until the end of the maintenance period, and in the case of ground covers, for planting in the soil prepared as specified in Clause for supplying and replanting substitutes for plants that have died, and for maintaining the plants as specified until the end of the maintenance period, including any other incidentals that may be necessary for the proper execution of the work. Where the Employer supplies the plants, the above rates shall also include full compensation for taking delivery of the plants, maintaining them until required, transporting them to the point of final use, and for providing substitutes for plants that die or become diseased during storage.

Any chemical fertilizer required will be measured and paid for under Sub-item PSVA 8.3(d). Preparation of soil for the planting of ground covers will be measured and paid for under item .

PSVA 8.8 EXTRA WORK FOR LANDSCAPING provisional sum

The provisional sum allowed shall be expended at the discretion of the Engineer to cover the cost of work in addition to the scheduled items that may be required in respect of landscaping when plant is used at hourly rates, e.g. the cost of loading and transporting surplus material, in respect of establishing the grass by topsoiling only, repairing erosion damage after topsoil has been applied, or in respect of any other items of work required for which no pay items have been provided.

Payments shall be made as specified in clause 48 of the General Conditions of Contract.

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PART C3.3.1: ANNEXURE A: TENDER FIGURES

Figure 1: Silver Lakes Golf Cart Pathways

Figure 2: General Layout

