DR JS MOROKA LOCAL MUNICIPALITY

PROJECT NO: JSM-O&M- MRK&SGN-23/24W00
A PANEL OF 3 CIVIL ENGINEERING CONTRACTORS TO PROVIDE ROAD SIGNAGE SERVICES FOR DR. JS MOROKA LOCAL MUNICIPALITY ROAD NETWORK AS AND WHEN REQUIRED FOR THREE YEARS CONTRACT.

SCOPE OF WORK

Part C3: Scope of Work

C3 Scope of Work

DR JS MOROKA LOCAL MUNICIPALITY

PROJECT NO: JSM-O&M- MRK&SGN-23/24W00
A PANEL OF 3 CIVIL ENGINEERING CONTRACTORS TO PROVIDE ROAD MARKING AND SIGNAGE SERVICES FOR DR. JS MOROKA LOCAL MUNICIPALITY ROAD NETWORK AS AND WHEN REQUIRED FOR THREE YEARS CONTRACT.

SPECIFICATION AND CONDITIONS OF TENDER

BASIS FOR TENDERING

The Dr JS Moroka Local Municipality invites tenders to provide Road Marking and Signage Services for Dr. JS Moroka Local Municipality road network as and when required for three years contract. This is only a supply and delivery project inclusive of operators or drivers and fuel.

Call for technical and performance of the provision of Road marking and signage services for routine road network maintenance specification for a period of 3 years from the appointment date. The submitted tenders will be adjudicated in accordance with the technical and performance specifications as outlined in the tender.

TERMS OF REFERENCE/SPECIFICATION

The purpose of this project is to appoint experienced and competent service providers with a **CIDB grading of at least 3SK/ 2SK PE or higher** to assist Dr JS Moroka Local Municipality with provision of Road Marking and Signage services along Dr J.S Moroka Local Municipality Road network as and when required for a period of three years**.**

1. PROJECT SCOPE

1.1 Road Signage

Brief description of works

The tasks that will be required from the successful bidder for this project will consist of Supply, Deliver, Off-Loading and Operations of: Replacement/New Installation of Road signs along the road network at various sites within the Dr JS Moroka Local Municipality as specified below: **The works include dismantling, storage and transportation of old signages from site to municipal offices**

1.1.1 **General**

1.1.1.1 Specifications relating to manufacturing of road signs are not included in this document, as relevant specifications regarding manufacturing will be issued to

a nominated subcontractor who shall be a recognised manufacturer of road signs.

1.1.1.2 The signs shall be the standard regulatory, guidance, warning and information signs and fabricated in accordance with the South African Road Traffic Signs Manual (July 1993) except where otherwise specified, indicated on drawings or directed by the Engineer/Department's representative.

1.1.1.3 The erection and placement of any signs, whether temporary or permanent, shall be in accordance with the CSRA/CUTA Road Signs Note 13 (September 1988).

1.1.1.4 The contractor must provide his/her own transport LDV

1.1.2 **Scope**

1.1.2.1 This section covers the supply and erection of permanent traffic signs at the locations indicated on the Drawings or directed by the Engineer.

1.1.2.2 Overhead traffic-sign supports shall be manufactured in accordance with the requirements of section 809.

1.1.2.3 The signs shall be of the standard regulatory, warning and information signs as detailed on the Drawings and shall be fabricated in accordance with the provisions of the National Road Traffic Act (Act 93 of 1996) and the Southern African Development Community Road Traffic Signs Manual, except where otherwise indicated on the Drawings.

1.1.3 **Storage and handling**

1.1.3.1 All road signs or parts of road signs shall be transported, handled and stored in a weather-proof storeroom in such a manner as to prevent any damage and deformation.

1.1.3.2 Sign boards shall be stored on blocks in the vertical position so that the signs are not in contact with the ground. There shall be sufficient space between the finished road sign boards to permit free air circulation and moisture evaporation.

1.1.3.3 Contact of road sign boards with treated timber and diesel, or storage where road sign boards come into contact with dirt or water will not be permitted.

1.1.3.4 When required, existing or newly erected road signs shall be fully or partially covered with burlap or other approved adequately ventilated material to obscure destinations that are temporarily inapplicable or irrelevant.

1.1.3.5 The covers shall be neatly applied and firmly fixed in position so that they will be able to withstand strong gusts of wind or eddies caused by passing traffic. The fixing shall be done in a way that will not cause any damage to the road sign face

1.1.4 **Execution of the work**

1.1.4.1 Supply and delivery of Road-signage paint which complies with the requirements of SABS 731-1 for type 1, type 2 or type 4 paint.

1.1.4.2 Position

Road signs shall be erected in the positions shown on the drawings or indicated by the Engineer/Department's representative.

1.1.4.3 Excavation and backfilling

Excavations for the erection of road signs shall be at least 1,0 m x 1,0 m in plan and a minimum of 1,0 m deep. Where the excavations are to be backfilled with soil, a 1:12 cement/soil mixture shall be prepared if instructed by the Engineer/Department's representative. The soil or soil-cement mixture shall then be placed at optimum moisture content in 100 mm thick layers in the excavation and shall be compacted to a minimum of 90 % of modified AASHTO density.

Where posts or structures are to be fixed in concrete, or where concrete footings are to be cast, the concrete, formwork and reinforcement shall comply with the relevant requirements. The holes shall be completely filled with concrete up to the level indicated by the Engineer/Department's representative. The upper surface of the concrete shall be neatly finished with sufficient fall to ensure proper drainage.

This subclause shall apply to ground-mounted signs only. Excavating and backfilling for the foundations of overhead steel structures are specified and regarded as specialised structural work.

Excavation in rock shall be paid for under item of hard materials

Where material from the excavations is not suitable for backfilling or for the preparation of soilcrete, suitable material shall be obtained as instructed by the Engineer/Department's representative.

1.1.4.4 Erection

Road sign boards must be inspected by the Engineer/Department's representative and approved in writing before the boards are taken from the camp site to the erection site. The Contractor shall notify the Engineer/Department's representative at least one (1) week before the said inspections are required.

During erection the structural steelwork shall be firmly bolted and protected to prevent buckling or damage from being caused during erection, or by the equipment used for erection

Posts to which road signs are to be fixed shall be vertical and the undersides of road signs shall be horizontal after having been erected.

Where timber posts are used for erecting the signs, all holes that are drilled in the timber shall be retreated with an approved preservative. A road sign identification number shall be painted with white enamel paint on the reverse side of the road sign board, above the month and year of manufacture, in 50 mm high letters and numbers on the side closest to the road shoulder as directed by the Engineer/Department's representative.

Any sign damaged during transit to the erection site or during the erection process shall be replaced or repaired to the satisfaction of the Engineer/Department's representative at no extra cost to the Employer.

1.1.4.5 Field welding

All welding done during erection shall comply with the requirements for welding during manufacture.

1.1.4.6 On-site painting

All painting done after the road signs have been erected shall comply with the requirements for painting during manufacture.

All places where the paintwork has been damaged during erection shall be repaired by the Contractor at his own cost to the satisfaction of the Engineer/Department's representative.

1.1.4.7 Time of erection

Road signs shall be erected immediately prior to the road being opened to public traffic, unless otherwise decided by the Engineer/Department's representative.

1.1.4.8 Attachment of overlays

The type of the overlay to be used will be specified by the Engineer/Department's representative and will consist either of 1 mm thick Chromadek plate, poprivetted onto the existing sign plate, or System 5 overlay or similar approved.

Before the application of the overlay to any structure, the existing sign board shall be thoroughly cleaned.

1.1.4.9 Repair of signs

The Engineer/Department's representative may require that certain existing signs be dismantled for repair work or storage and later re-erected. The signs shall be repainted or repaired by replacing the 200 mm profiles or straightening the sheet metal as specified during the manufacturing process. New materials shall be used for part or all of the supporting structure. This work shall be done with as little damage as possible to the signs.

1.1.5 **Materials**

1.1.5.1 Structural steel

The structural steel shall comply with the requirements of BS 4360 for the type of steel specified or shown on the Drawings. Where specified, all structural steel, including tubes, shall be galvanized in accordance with the requirements of SANS 32 quality B1 or SANS 121, Table 2 or 3, as applicable. Steel tubes shall comply with the requirements of SANS 657-1 and shall be D-shaped.

1.1.5.2 Bolts, nuts and rivets

Steel bolts and nuts shall conform to the appropriate parts of SANS 1700 or SANS 1143. Aluminium bolts and nuts shall be manufactured from alloy B51S or D65S. All steel bolts, nuts and washers shall have a hot-dip (galvanized) zinc coating that complies with the requirements of SANS 121, Table 2 or 3, as applicable.

Blind rivets used for fixing sign faces to square tubing framework shall be 4,76 mm rivets manufactured from or coated with a material that will not cause corrosion through electrolytic action. Blind rivets used for joining aluminium extrusions shall be hardened aluminium blind rivets.

1.1.5.3 Chromodek steel plate

Steel plate for road signs shall be 1,40 mm thick Chromadek G275 galvanized Iscor steel plate, which has been treated on both sides with an epoxy primer followed by a silicon polyester top coat. The total dry thickness of the treatment shall be at least 0,025 mm. Where a reflectorized road sign is required, its reverse side shall be painted with a dull grey prime coat and the face with only the specified top coat.

1.1.5.4 Other plate material

Other plate material shall be as specified in the Project Specifications.

1.1.5.5 Aluminium

Aluminium sections shall be of the sizes detailed on the Drawings, shall be manufactured from grade 6063.T.5 alloy and shall comply with the provisions of BS EN 12020 parts 1 and 2. Aluminium plate shall be manufactured from grade 5251.H.3 alloy and shall conform to the requirements of BS EN 537 and shall be 2,0 mm in thickness.

1.1.5.6 Concrete

Concrete shall be manufactured and placed as specified in section 704. Class 20/19 concrete shall be used for the erection of traffic sign supports, unless otherwise shown on the Drawings or directed by the Engineer.

1.1.5.7 Paint

All paints used shall comply with the requirements of SANS 1519-2, including the standards mentioned therein.

Except where reflecting surfaces are specified, the surface of painted traffic signs shall not be excessively glossy. The 60° specular gloss measured in accordance with SANS Method 2813 should, if possible, not exceed 50. No thinners shall be added to the paint.

1.1.5.8 Retro-reflective material

Retro-reflective material shall be supplied in the following grades and shall comply with the requirements of SANS 1519-1:
Class I - Engineering-grade retro-reflective material
Class II - Super-engineering-grade retro-reflective material
Class III - High-intensity grade retro-reflective material.

The material shall be supplied with a pressure-sensitive or heat-applied adhesive backing protected by a removable liner.

1.1.5.9 Timber posts for road sign supports

Timber poles for sign supports shall comply with SANS 457 part 2 or 3, shall be equal to or better than Strength Group B timber poles, and shall be stamped

with the SANS mark. The posts shall be treated with a preservative as specified below, and after treatment only one cut per pole will be allowed to obtain the correct length and chamfer at the top of the post. The exposed surface of the cut shall be given two coats of the appropriate preservative.
The poles shall be treated with a pressure process as defined in Paragraph 1 (b) of Schedule B of the Regulations for Combating and Preventing the Spread of Certain Insect Pests affecting Soft Wood, as published in the Government Gazette of 2 August 1968.
The type of preservation material will be specified in the Project Specifications, and shall be copper-chrome-arsenate salts which comply with SANS 673, or creosote complying with SANS 538 or 539.

1.1.5.10 Corrosion-protection tape

Steel reinforcement shall comply with the requirements of section 703.

1.1.5.11 Corrosion-protection tape

Corrosion-protection tape used between aluminium and steel shall be black PVC tape not less than 0,25 mm in thickness, shall be resistant to ultra-violet rays, and shall have an adhesive backing. The breaking strength of the material shall be not less than 3,5 kN/m.

1.1.6 **Manufacture of traffic-sign boards and supports**

1.1.6.1 Traffic-sign boards

Traffic-sign boards shall be manufactured strictly in accordance with the details tabulated on the Drawings, and shall be manufactured either from steel plate, aluminium plate or extrusion, or from particle board, as may be specified on the Drawings. Particle board shall normally be used only on traffic signs not exceeding 10 m^2 in area.

Wherever possible, the traffic-sign boards shall be manufactured as one unit. Traffic signs which are too large to be transported as one unit may, with the approval of the Engineer, be manufactured in sections. The completed sections shall be assembled in the shop prior to delivery to ensure that all the sections fit together properly and that the legends are properly spaced and aligned. Joints in sign faces shall be provided only at locations and to details approved by the Engineer.

Direct contact between aluminium plate and steel supporting framework shall be avoided by corrosion protection tape being applied to the sign face over the contact areas.

1.1.6.2 Welding

All welding of steelwork shall be carried out in accordance with the standards laid down in BS EN 1011. Welding shall be done before painting.

1.1.6.3 Structural steel

The relevant provisions of section 809 shall apply to all steel supporting structures for traffic signs.

1.1.6.4 Aluminium extrusion

Aluminium extrusions for sign boards shall be joined by blind rivets or bolts. They shall preferably not be joined longitudinally, but if this cannot be prevented without excessive waste, they shall be joined neatly and the joints staggered. No sections shorter than 500 mm shall be used.

Where aluminium extrusions are to be faced with retro-reflective background material, it shall be pre-applied to individual sections before assembly, with the material taken around the face edges of each extrusion for at least 10 mm. Retro-reflective material shall be heated to facilitate binding around edges without damaging the material. Where possible the placing of letters across the joint between two extrusions shall be avoided.

1.1.6.5 Galvanizing

Where the galvanizing of structural steel sign-board frames and sign-board supporting structures is specified, it shall be done as long after welding as may be practicable. However, where this is not feasible, the steel sections shall be galvanized before assembly and then welded. All welds shall be thoroughly cleaned and loose material removed and dressed, after which the welds shall be coated with two coats of an approved zinc-rich paint

Unless otherwise specified in the Schedule of Quantities or the Project Specifications, galvanized steel will not require painting.

Traffic-sign supports shall be constructed in accordance with the details shown on the Drawings.
Where no details for the construction of sign boards, the framework of the sign faces or the attachment thereof to the supporting framework are shown on the Drawings, they shall be designed by the Contractor himself, and he shall submit such details to the Engineer for approval before manufacture.

1.1.7 **Paint**

1.1.7.1 Colours, symbols and legends

Paint colours, symbols, legends and borders used on traffic signs shall comply with the regulations of the National Road Traffic Act, (Act 93 of 1996) and its Regulations, and also with the requirements of the Southern African Development Community Road Traffic Signs Manual.

The colours and shades shall conform to the colours and shades specified in SANS 1519-2 and shown in SANS 1091.

1.1.7.2 Preparation of surfaces and application of paint

The preparation of surfaces and all painting shall be carried out as specified in SANS 1519-2.

Unless otherwise specified, only the faces of aluminium road signs will require painting.

1.1.7.3 Time of paint

Traffic sign boards and legends shall not be painted more than six months prior to their erection.

1.1.8 **Protection and maintenance**

1.1.8.1 The Contractor shall protect the completed road signs against damage until they have been finally accepted by the Employer, and he shall maintain the road sign until the maintenance certificate has been issued.

1.1.8.2 Damage or defects caused by negligence or faulty workmanship shall be rectified by the Contractor at his own cost to the satisfaction of the Engineer/Department's representative.

1.1.9 **Dismantling, storing and re-erecting existing road signs**

1.1.9.1 Where instructed by the Engineer/Department's representative, the Contractor shall dismantle existing road signs, store them, and re-erect them at new positions indicated.

1.1.9.2 This work shall be done taking care to cause as little damage as possible to the signs.

1.1.9.3 The method applied for dismantling the existing signs and transporting and storing the signs shall be subject to the Engineer/Department's representative approval.

1.1.9.4 No additional payment shall be made for any equipment or handling methods necessary to prevent damage to existing signs which are suitable for re-use, as instructed by the Engineer/Department's representative.

1.1.9.5 Where required by the Engineer/Department's representative, the signs shall be repainted or repaired and new materials shall be used for part or all of the supporting structure.

1.2 Road Markings

Brief description of works

The tasks that will be required from the successful bidder for this project will consist of marking and maintenance of white or yellow painted lines or symbols on Dr. JS Moroka Local Municipality road network AS AND WHEN required for a period of three years

1.2.1 General

1.2.1.1 In broken lines the length of segments and the gap between segments shall be as indicated on the drawings. If these lengths are altered by the Engineer/Department's representative, the ratio of the lengths of the painted section to the length of the gap between painted sections shall remain the same.

1.2.1.2 Lines on curves, whether broken or unbroken, shall not consist of chords but shall follow the correct radius.

1.2.1.3 The Contractor shall provide temporary traffic control facilities at his own cost in accordance with specifications to ensure traffic safety where work is being executed.

1.2.2 Equipment and Instruction

1.2.2.1 The contractor must provide his/her own labour, tools and equipment

1.2.2.2 The contractor must provide his/her own transport LDV

1.2.2.3 All work must be coordinated and scheduled through the allocated Project Manager within the Roads and Stormwater Division of the DR JS Moroka Local Municipality.

1.2.3 Mechanical equipment for painting

1.2.3.1 The equipment shall consist of an apparatus for cleaning the surfaces, a mechanical road-painting machine and all additional hand-operated equipment necessary for completing the work.

1.2.3.2 The mechanical road-marking machine shall be capable of painting at least two lines simultaneously and shall apply the paint to a uniform film thickness at the rates of application specified hereinafter.

1.2.3.3 The machine shall be so designed that it will be capable of painting the road markings everywhere to a uniform width with sides within the tolerances specified hereinafter, without the paint running or splashing.

1.2.3.4 The machine shall further be capable of painting lines of different widths by adjusting the spray jets on the machine or by means of additional equipment attached to the machine.

1.2.3.5 The machine shall be provided with clearly visible amber warning flashing lights which shall always be in operation when the machine is on the road.

1.2.4 **Material**

1.2.4.1 Supply and delivery of Road-marking paint which complies with the requirements of SABS 731-1 for type 1, type 2 or type 4 paint.

1.2.4.2 The paint shall be delivered at the site in sealed containers bearing the name of the manufacturer and the type of paint. Marking shall be in accordance with SABS 731-1.

1.2.4.3 The viscosity of the paint shall be such that it can be applied without being thinned down.

1.2.4.4 Retro-reflective road-marking paint shall comply with the requirements of CKS 192 and SABS 731.

1.2.4.5 The colours to be used shall be bright white, yellow or red.

1.2.4.6 The colour of the yellow and red paint shall be as specified in SABS 731-1.

1.2.4.7 The retro-reflective beads shall be glass beads that comply with the requirements for glass beads specified in CKS 192.

1.2.4.8 The beads shall be delivered at the site in sealed bags, marked with the name of the manufacturer, the batch number and an inspection seal of the South African Bureau of Standards (SABS), confirming that the beads form part of a lot that had been tested by the SABS and comply with the requirements of CKS 192. If not, the Contractor shall at all times have an SABS certificate on the site, with details of the batches that make up a lot that had been tested by the SABS, comply with CKS 192 and to which the inspection seal applies.

1.2.5 **Weather limitations**

1.2.5.1 Road-marking paint shall not be applied to a damp surface or at temperatures lower than 10 ºC, or when, in the opinion of the Municipality's representative, the wind strength is such that it may adversely affect the painting operations.

1.2.5.2 No road-marking paint may be applied when visibility is dangerously impeded by mist, smoke or smog.

1.2.6 **Surface Preparation**

1.2.6.1 Road markings shall be applied to bituminous surfaces only after sufficient time has elapsed to ensure that damage will not be caused to the painted surface and interlocking paving surfaces by volatiles evaporating from the seal.

1.2.6.2 After completion of the seal no less than two weeks or such longer period as may be directed by the Engineer/Department's representative shall elapse before any road markings shall be applied. However, the

Engineer/Department's representative may, in certain cases, require road markings to be painted without waiting for the seal to harden, in which case it shall be done as soon as possible after the instruction had been given.

1.2.6.3 Before the paint is applied, the surface shall be clean and dry and completely free from any soil, grease, oil, acid or any other material that will be detrimental to the bond between the paint and the surface. The surface where the paint is to be applied shall be properly cleaned by means of watering, brooming or compressed air if required.

1.2.6.4 Where road markings are to be applied to a concrete pavement, all laitance and loose curing compound shall be removed. Particular care shall be taken to ensure that the surface shall be clean, fresh concrete on all areas where roadstuds are to be fixed.

1.2.6.5 The Contractor shall take note of conditions which he is unable to rectify by himself and may effect the durability of the paint, and he shall point out these conditions to the Engineer/Department's representative in writing.

1.2.6.6 The Contractor shall protect the retro-reflective surfaces of roadstuds when paint is applied and remove the protection immediately after the paint has been applied.

1.2.6.7 On concrete and bituminous surfaces where polished aggregate is exposed, a tack coat shall be used. On new concrete surfaces any laitance and/or curing compound shall be removed before the markings are applied.

1.2.6.8 The material shall not be laid over loose debris, mud or similar extraneous matter or over old flaking markings of paint or thermoplastic material. If the road surface is at a temperature of less than 5 ºC, or if it is wet, it shall be warmed carefully by a road heater so that, when the material is laid, the surface temperature is above 5 ºC and the surface dry.

1.2.7 **Setting out the road markings**

1.2.7.1 No road markings shall be painted until the setting out and premarkings have been inspected and approved by the Engineer/Department's representative.

1.2.7.2 The lines, symbols, figures or marks shall be premarked by means of paint spots of the same colour as that of the final lines and marks. These paint spots shall be at such intervals as will ensure that the traffic-markings can be accurately applied, and in no case shall they be more than 1,5 m apart. Normally spots of approximately 10 mm in diameter should be sufficient.

1.2.7.3 The dimensions and positions of road-markings shall be as indicated by the Engineer/Department's representative, specified in the appropriate statutory

provisions and the South African Road Traffic Signs Manual.

1.2.7.4 The repainting of a roadway after the application of a fogspray shall only be done once it is possible to determine the beginning and positions of individual broken line segments. Premarking of such a roadway shall entail the searching for and marking of such broken line segments. Painting shall thereafter be done to the same tolerances as prescribed in CA 04.09.10.

1.2.7.5 After spotting, the positions of the proposed road markings such as broken lines and the starting and finishing points of barrier lines shall be indicated on the road. These premarkings shall be approved by the Engineer/Department's representative prior to commencement of any painting operations.

1.2.7.6 The position and outlines of special markings shall be produced on the finished road in chalk and shall be approved by the Engineer/Department's representative before the markings are painted. Approved templates may be used on condition that the positioning of the marking is approved by the Engineer/Department's representative before painting is commenced.

1.2.7.7 When a road has been fog sprayed and the darkened road markings have to be repainted, the Contractor shall set out the starting and end points of the broken lines. The paint shall then be applied within the tolerances for the repainting of existing lines.

1.2.7.8 The positions for the beginning and end of all barrier-line road-markings must be suitably indicated by the Engineer/Department's representative before the marking of the road commences.

1.2.8 **Applying the paint**

1.2.8.1 The figures, letters, signs, symbols, broken or unbroken lines or other marks shall be painted as shown on the drawings or as directed by the Engineer/Department's representative.

1.2.8.2 Where the paint is applied by machine, it shall be applied in one layer. Before the road-marking machine is used on the permanent works, the satisfactory operation of the machine shall be demonstrated on a suitable site which is not part of the permanent works. Adjustments to the machine shall be followed by further testing. Only when the machine has been correctly adjusted and its use has been approved by the Engineer/Department's representative after testing, may the machine be used on the permanent work. The operator shall be experienced in the use of the machine.

1.2.8.3 After the machine has been satisfactorily adjusted, the rate of application shall

be checked and adjusted if necessary before application on a large scale is commenced.

1.2.8.4 Where two or three lines are required next to each other, the lines shall be applied simultaneously by the same machine. The paint shall be stirred before application in accordance with the manufacturer's instructions. Paint shall be applied without the addition of thinners.

1.2.8.5 Where, under special circumstances, painting is done by hand, it shall be applied in two layers, and the second layer shall not be applied before the first layer has dried out sufficiently. As most road-marking paint reacts with the bitumen surface of the road, the paint shall be applied with one stroke only of the brush or roller.

1.2.8.6 Ordinary road-marking paint shall be applied at a rate not less than 0,42 litre/m².

1.2.8.7 Unless otherwise instructed by the Engineer/Department's representative, the road-marking shall be completed before a particular section of the road is opened to traffic. Each layer of paint shall be continuous over the entire area being painted.

1.2.8.8 Control sheets with details of the order number, work dates, quantities of paint used and surface areas painted shall be completed by the Contractor for every section of road included in an order. One set of copies of these sheets shall be handed to the Engineer/Department's representative on completion of every individual order.

1.2.9 **Applying the retro-reflective beads**

1.2.9.1 Where retro-reflective paint is required, the retro-reflective beads shall be applied by means of a suitable machine in one continuous operation, immediately after the paint has been applied. The rate of application of the beads shall be at least 0,8 kg/litre of paint or such other rate as may be directed by the Engineer/Department's representative. Machines that apply the beads by means of gravity only shall not be used. The beads shall be sprayed onto the paint layer by means of a pressure sprayer.

1.2.9.2 If specified or instructed by the Engineer/Department's representative, additional surface reflectorization of plastic road-markings shall be applied at a rate and according to the methods specified in BS 3262, 1987, part 3.

1.2.10 **Tolerances**

1.2.10.1 Road-markings shall be constructed to an accuracy within the tolerances given below:

1.2.10.1.1 Width

The width of lines and other markings shall not be less than the specified width, nor shall it exceed the specified width by more than 10 mm.

1.2.10.1.2 Position

The position of lines, letters, figures, arrows, retro-reflective roadstuds and other markings shall not deviate from the true position by more than 100 mm in the longitudinal and 20 mm in the transverse direction.

When an unbroken line and a broken line are painted alongside each other, the beginning and/or the end of the adjacent lines shall coincide.

When existing lines are repainted, the new marking shall not deviate more than 100 mm in the longitudinal direction and 10 mm in the transverse direction from the existing marking.

1.2.10.1.3 Alignment of markings

The alignment of the edges of longitudinal lines shall not deviate from the true alignment by more than 10 mm in 15 m.

1.2.10.1.4 Broken lines

The length of segments of broken longitudinal lines shall not be shorter than the specified length or deviate by more than 150 mm from the specified length.

1.2.10.2 Property and/or road signs damaged by the Contractor, his personnel or his agents shall be repaired or restored at his own cost to their condition as before the damage.

1.2.10.3 Only materials intended for use on this Contract may be stored on the site.

1.2.11 **Faulty workmanship or material**

1.2.11.1 If any material that does not comply with the requirements is delivered to the site, or is used in the works, or if any work of an unacceptable quality is carried out, such material or work shall be removed, replaced or repaired as required by the Engineer/Department's representative at the Contractor's own cost.

1.2.11.2 While work is in progress, tests shall be carried out on materials and/or the quality of work to ensure compliance with the specified requirements.

1.2.11.3 The sampling methods are specified under the appropriate sampling and testing methods. The sampling methods described in TMH5 shall be followed where applicable. (TMH5 is published for the Committee of State Road Authorities by the National Institute for Transport and Road Research - presently the Division of Road and Transport Technology - as part of the series Technical Methods for Highways.)

1.2.12 **Protection**

1.2.12.1 After the paint has been applied, the road markings shall be protected against damage by traffic or other causes.

1.2.12.2 The Contractor shall be responsible for erecting, placing and removing all warning boards, flags, cones, barricades and other protective measures that may be necessary in terms of any statutory provisions and/or as may be recommended in the South African Road Traffic Signs Manual and specified in Road Note 13.

2 TIME FRAMES, DELIVERABLES AND DURATION OF APPOINTMENT

2.1 It is required that the successful Bidder will:

2.1.1 Commence with preparation of work on the Project as and when required, after notification that his/her Bid was accepted;

2.1.2 Prepare and submit to the Municipality for consideration and approval a detailed project plan containing information on how the project will be conducted; time frames and the supporting systems and means that will be utilised..

2.1.3 The total duration of the appointment will be once off.

2.2 Time for Completion

2.2.1 The maximum time allowed for the completion of the contract is three (3) years AS AND WHEN REQUIRED from the date of Letter of Acceptance.

2.3 Work Program

2.3.1 Work may only be conducted on receipt of a work instruction.

2.3.2 Performance to be measured on work given and work completed.

2.3.3 Evaluation on work conducted to be carried out by a Council official.

2.3.4 Council may appoint more than one contractor.

2.3.5 The provision of equipment and labour is the responsibility of the contractor.

2.3.6 The contractor is required to be available 24/7 for standby purposes.

2.4 Rainfall Figures

The following figures are applicable for Clause 50(5) of the Special Conditions of Contract

INFORMATION SOURCE:	National Weather Bureau, Department of Transport Pretoria, Tel.: (012) 309 3911
RAINFALL STATION:	N/A
PERIOD:	N/A

MONTH	Nn	Rn
JANUARY		
FEBRUARY		
MARCH		
APRIL		
MAY		
JUNE		
JULY		
AUGUST		
SEPTEMBER		
OCTOBER		
NOVEMBER		
DECEMBER		
ANNUAL AVERAGE:		

Nn = Average amount of days on which a rainfall of 10 mm or more has been recorded.
Rn = Average monthly rainfall in mm

2.5 Delay in Completion

The Contractor shall organise the Works in such a manner that no delays occur. Delay due to faulty organisation or lack or shortage of materials or labour or co-operation with other parties or to any other cause within the control of the Contractor will not be countenanced and full power is reserved by the Engineer to order the Contractor to expedite the work should the work, in the opinion of the Engineer, not progress in a satisfactory way.

3 SPECIAL PROVISIONS OF THE CONTRACT

3.1 The companies will be remunerated after the work has been done as per the instruction of Dr J.S Moroka Local Municipality or the Municipal Representative.
3.2 The quantity of the work done will include labour cost, machinery and other related cost that may arise as per the tender documents.
3.3 The project will be implemented on an as and when required.

4 GENERAL

4.1 This specification will form the base for the contractor to provide Road Signage Services for DR. JS Moroka Local Municipality Road network.
4.2 Responsible person at the municipality during the contact period will be Mr. MJ Lamola 013 973 1129
4.3 Site work to be done.
4.4 Contract period is 36 MONTHS on an as and when required basis.
4.5 The rates of all items in this bill shall include all manufacturing delivery costs, excluding VAT.
4.6 In all cases the service provider shall ensure that the amount of his form of offer incorporates all statutory taxes, duties, Levies and that nothing but values added tax (VAT) remains to be adhered thereto.

4.7The contractor must adhere to the Occupational, Health and Safety Act

4.7.1 Safety of Workmen

The safe conduct of the Works shall be a primary consideration and the entire Works shall be carried out in conformity with all applicable statutory regulations and requirements and Tenderers must price their Tenders accordingly.

The Contractor shall provide and maintain in readiness on the Site, all equipment, and materials necessary to render first aid in case of accidents or other emergencies. The Contractor shall also assign to the Works and designate for this purpose, trained employees who are able to render first aid. NB A first aid box must be on site when work is being carried out

4.7.2 Health and Safety Requirements

It is a requirement of this contract that the Contractor shall provide a safe working environment and to direct all his activities in such a manner that his employees and any other persons who may be directly affected by his activities are not exposed to hazards to their health and safety.

To this end the Contractor shall conform to all the stipulations of the Occupational Health and Safety Act (Act 85 of 1993) and the Regulations applicable at the time of tender, which inter alia provide for the designation of a health and safety representative (or representatives) when an employer has more than 20 employees in his employ.

The following shall govern:

1. The Contractor shall execute the work in accordance with the Contract document pertaining to this contract and shall be the Employer's representative regarding occupational health and safety for all activities on the site but without derogating from his status in his own right as an Employer or user in accordance with the Occupational Health and Safety Act, 1993 (Act no. 85 of 1993).

2. This Agreement shall hold good from the commencement date of the Contract up to completion or termination thereof.

3. The Contractor declares himself to be conversant with the following:

    a) All the requirements, regulations and standards of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), hereinafter referred to as "the Act". Together with its amendments.

    b) The procedures and safety rules of the Employer as pertaining to the Contractor and to all his subcontractors.

    c) The purpose and meaning of this Agreement as envisaged by the provisions of the Section 37(2) of the Act.

4. In addition to the requirements of the Contract documents, the Contractor agrees to execute all the works forming part of this Contract and to operate and utilize all machinery, plant and equipment in accordance with the Act.

5. The Contractor is responsible for the compliance with the Act by all his subcontractors, whether or not nominated and/or approved by the Employer.

6. The Contractor hereby accepts sole liability for the compliance with the relevant duties, obligations and prohibitions imposed by the Act and expressly absolve 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.

7. The Contractor shall be obliged to report forthwith to the employer any investigation, complaint, or criminal charge which may arise as a consequence of the provision of the Act pursuant to work performed on behalf of the employer, and shall, on written demand, provide full details in writing of such investigation, complaint of criminal charge.

4.8 Sub-Contractors

The Employer shall have the right to cede any sub-contract under this contract to a pre-approved subcontractor, in accordance with the provisions of Clause 9 of the General Conditions of Contract.

4.9 Supply of Materials

All material to be used in the Works is to be supplied by the Contractor.

The Contractor shall ensure that the work is not delayed due to the lack of materials on Site, by placing orders for material required under this Contract as soon as possible. No extension of time will be allowed for any delay due to the supply of materials.

Although the quantities have been carefully calculated, it must be considered as approximate only and the Contractor, before ordering any materials, should check the quantities required. The bill of quantities is provisional.

5 EXPERTISE REQUIRED

It is required that the Contractor and his personnel have experience in providing Road marking and signage services as specified in Form N on T2.1 (List of Returnable Documents)