RRM STRUCTURAL SAFETY INSPECTION WORKSHOP

NORTHERN REGION – 5 March 2020

SANRAL

BUILDING SOUTH AFRICA
THROUGH BETTER ROADS

Reg. No. 1998/009584/30. An agency of the Department of Transport.

WORKSHOP PROGRAMME

	08h30 – 09h00	Registration	-
	09h00 – 09h15	Opening and Welcome	Ms Tshidi Lethale (Structures and Drainage Focus Group)
Session 1	09h15 – 10h00	Structural Duties of RRM Contracts and OHS Obligations	Mr Tony Seloana (Structures and Drainage Focus Group)
	10h00 – 10h30	Tea	-
Session 2	10h30 – 12h30	Safety Inspection Forms	Mr Alan Agaienz (Structures and Drainage Focus Group Member)
	12h30 – 13h30	Lunch	-
Session 3	13h30 – 15h30	Practical Examples	Ms Serisha Sukraj (Structures and Drainage Focus Group Member)
	15h30 – 16h00	Course Evaluation, Certificate of Attendance and Closure	Ms Tshidi Lethale (Structures and Drainage Focus Group Member)

OPENING AND WELCOME

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STRUCTURAL SAFETY INSPECTIONS

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CONTENTS

1. Introduction to Safety Inspections
    - TMH 19
    - RRM Contracts
    - OHS Act and Construction Regulation
2. Structural Terminology
3. Inspection process
4. Summary

1. INTRODUCTION

TMH 19 Manual for the Visual Assessment of Road Structures

- Provides the method for the visual assessment of the condition of road structures in South Africa at Network Level
- Describes the inspection methodology which involves the identification of visual defects and rating of defects on structures in terms of degree, extent and relevancy (DER)
- Part A covers, *inter alia*:
  - Structure types
  - Inventory information
  - DER ratings
- Part B covers, *inter alia*:
  - Example ratings to assist in the training of inspectors

RRM CONTRACTS

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THE SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LIMITED

CONTRACT SANRAL X.004-075-2019/1F

FOR

CONSULTING ENGINEERING SERVICES FOR THE ROUTINE ROAD MAINTENANCE OF NATIONAL ROUTES 1 AND 8 IN THE XHARIEP DISTRICT MUNICIPALITY

BASE DATE: FEBRUARY 2019

CONTRACT DOCUMENT

CHIEF EXECUTIVE OFFICER
SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LIMITED
48 TAMBOTIE AVENUE
VAL DE GRACE
PRETORIA, 0184

SERVICE PROVIDER: [redacted]

Structural duties defined in:

C3.2 DETAILED ASSESSMENT PHASE: ROAD CONDITION REPORT

C3.2.5 Structures

The Service Provider shall draw up a list of all structures and conduct **safety inspections** at least once in 12 (twelve) months in terms of the **Construction Regulations**. Safety inspections for newly constructed structures must be conducted every 6 (six) months for the first 2 (two) years. The format of the **safety inspection** is provided in Part C4: Appendix F. The following structures must be inspected:

- Bridges
- Major culverts
- Other culverts
- High mast lights and mast over 10m high
- Walls over 2m high
- Gantries
- Tunnels
- Buildings

Safety inspection records must be submitted to the Employer in the prescribed format at least once in 12 (twelve) months or every 6 (six) months for the first 2 (two) years for newly constructed structures. Uploading of this information into ITIS will be required once the module is functional in ITIS/ITIS Mobile.

Waterway inspection on all structures crossing a waterway must be carried out at least once in 12 (twelve) months or after any significant storm event. The waterway inspection form is also provided in Part C4: Appendix F.

RRM CONTRACTS

Structural duties defined in:

C3.5 ADMINISTRATION AND MONITORING OF THE WORKS CONTRACT

C3.5.3 Administration and Monitoring

(a) Fulfilling the functions of the Engineer

The duties of the Engineer shall be in accordance with the Employer's standard requirements and shall, inter alia, include:

xxi) Frequent inspection of the site shall be made so that problems may be identified, the causes identified, the methods of repair stipulated, job instructions issued and the repairs carried out timeously. It shall include night inspections of the road signs, road markings and road lighting, and inspections of the drainage during adverse weather conditions. **Records of safety inspection of structures (refer Appendix F) must be kept and submitted to the Employer annually.**

The following minimum inspection frequencies shall be used in developing a supervision methodology:

Update management report	bi-annually
Update condition report	weekly
Road traffic signs	annually
Road marking	annually
Road lighting	weekly
Guardrails	**weekly**
Structures	**annually**
Flexible road condition	annually
Rigid road condition	annually
Drainage	**monthly**
Slope Instabilities and applicable recommendations	varies
Informal settlements	weekly
Illegal accesses and signage	weekly
Fencing	monthly

RRM CONTRACTS

Structural duties defined in:

C3.5 ADMINISTRATION AND MONITORING OF THE WORKS CONTRACT

C3.5.3 Administration and Monitoring

(c) Occupational Health and Safety obligations

The Service Provider shall execute the duties of the employer, as his appointed agent, as contemplated in the **Construction Regulations (2014)** to the **Occupational Health and Safety Act (Act No. 85 of 1993)**.

RRM CONTRACTS

Structural duties defined in:

C3.5 ADMINISTRATION AND MONITORING OF THE WORKS CONTRACT

C3.5.5 Monitoring of the Works Contract

(e) Structures Safety Inspections

The Service Provider shall conduct **safety inspections** on all listed structures as specified in Clause 3.2.5.

CONSTRUCTION REGULATIONS (2014)

Construction Regulation, Section 11(2):

The owner of the structure must ensure that:

- **Competent person** to inspect structure periodically and declare it safe for continued use.
- **Inspection of structures** – once every 6 months for the first 2 years, thereafter yearly.
- Maintain the structure to ensure it is **safe for use**.
- Keep **records** of inspections

SAFETY INSPECTIONS

4 No. 37491 GOVERNMENT GAZETTE, 4 APRIL 2014

GOVERNMENT NOTICES
GOEWERMENTSKENNISGEWINGS

DEPARTMENT OF LABOUR
DEPARTEMENT VAN ARBEID

No. R. 227 4 April 2014

NOTICE REGARDING APPLICATION OF THE CONSTRUCTION REGULATIONS 2014

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993
CONSTRUCTION REGULATIONS, 2014

Under section 40(3)(b) of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), I, Thobile Lamati, appointed as chief inspector in terms of section 27(1) of the said Act, and by virtue of the powers delegated to me by the Minister of Labour, in terms of section 42(1) of the said Act, hereby grant the following temporary exemptions in terms of section 40 of the said Act:

1. All construction works where physical construction started after the 7th **of February 2014** must comply with the Construction Regulations 2003, and such construction works are exempted to comply with the Construction Regulations 2014 until **the 7th August 2014**, 6 months after the commencement of these Regulations, thereafter the Construction Regulations 2014 shall apply with the exception of Regulation 3 and 5 (7)(b) which will come into effect on the 7th **August 2015**, 18 months after the commencement of these Regulations.

2. All construction works where physical construction had started on or before the 7th **of February 2014** must comply with the Construction Regulations 2003, and such construction works are exempted to comply with Construction Regulations 2014 until the 6th **August 2015** and thereafter the Construction Regulations 2014 shall apply

Thobile Lamati
Chief Inspector

Construction Regulation 2014

CONSTRUCTION REGULATIONS (2014)

Definition of a **structure**, Section 1:

"structure" means—

(a) any building, steel or reinforced concrete structure (not being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, bulk mixing plant, pylon, surface and underground tanks, earth retaining structure or any structure designed to preserve or alter any natural feature, and any other similar structure;

(b) any falsework, scaffold or other structure designed or used to provide support or means of access during construction work; or

(c) any fixed plant in respect of construction work which includes installation, commissioning, decommissioning or dismantling and where any construction work involves a risk of a person falling;

CONSTRUCTION REGULATIONS (2014)

What are **Safety Inspections**?

The purpose of a Safety Inspection is to identify **safety related defects** that require **urgent attention** to ensure the structure is **safe for continued use**. It is not required to record routine maintenance defects.

CONSTRUCTION REGULATIONS (2014)

Competent Person defined in Section 1 as:

- … person who … has … the required **knowledge**, **training** and **experience** … and **qualifications** …

Requirements of **RRM personnel** (Clause C3.1.9(b) of contract):

Personnel	Qualification/Registration	Experience
Contract Engineer	Pr. Eng./Pr. Tech	10 years
Route Manager	N Dip./NQF 6 in Civ. Eng.	5 years

KNOWLEDGE & QUALIFICATIONS

EXPERIENCE

This workshop is the TRAINING

SAFETY INSPECTION FORMS

SANRAL

SAFETY INSPECTION FORM

Route

Structure No.

Structure Name

The purpose of this for continued use.

Item

Photo No.

Urgent Action/Attention

If Yes, specify

Inspector's comments

Inspected by

Signature

Description of

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SAFETY INSPECTION FORM

RETAINING

SANRAL

EDMS # 4578657/5

WATERWAY INSPECTION FORM
I.t.o. TMH19

ALL WATERWAY STRUCTURES

Route		Section		Road km	
Structure No.		Start Latitude (south)	D D M M S S . s	Start Longitude (east)	D D M M S S . s
No of cells		End Latitude (south)	D D M M S S . s	End Longitude (east)	D D M M S S . s
Structure Name					

The purpose of this waterway inspection is to ensure that waterway structures remain functional and will not due to scour , siltation etc not fail to convey water as it was intended to do. Only major waterway defects that will affect the waterway functionality are to be recorded. Structural defects may be recorded but must also then form part of the separate structural safety inspection for bridges and culverts. Waterway inspections are to be undertaken at a maximum of 12 month intervals (preferably after the rain season) and also immediately after every significant rainfall event. Inspections must be undertaken by a competent person.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item No	Inspection Item / Defect Rating	Waterway Upstream 0	1	2	3	4	Photo No's	Waterway Downstream 0	1	2	3	4	Photo No's	Cells/spans with Defects 0	1	2	3	4	Photo No's
1	Siltation																		
2	Scouring																		
3	Debris																		
4	Vegitation																		
5	Erosion																		
6	Environmental Issues																		

Urgent Action or Attention required?	Yes		No		If Yes, Urgency?	Immediate		Within 2 months		Within 6 months	

Position	Photo No's	Description of required action

PHOTOGRAPHS

Photo No.	Inventory Description	Photo No.	Inventory Description
P01	Inlet elevation view	P03	Upstream View of feature crossed
P02	Outlet elevation view	P04	Downsteam View of feature crossed

Photos No	Position / Location	Description of photo of serious defect
P5		
P6		
P7		
P8		
P9		
P10		

SESSION 2 OF WORKSHOP

2. STRUCTURAL TERMINOLOGY

STRUCTURE TYPES

- Bridges
  - General, Arch, Cable, Cellular
- Culverts
  - Major Culvert
  - Lesser Culvert
- Retaining Wall
- Gantry
- Road Tunnel
- Light masts
- Buildings

STRUCTURE DEFINITIONS (TMH19 DEFINITIONS)

- Bridges:
  - Clear span equal or greater than 6m; or
  - Clear span exceeds 1.5m and the overall bridge length exceeds 20m; or
  - Opening height equal or greater than 6 m; or
  - Total cross-sectional opening is equal or greater than 36m2; or
  - The structure is road-over-rail or rail-over-road.
  - Allocated a ‘B’ number.

STRUCTURE DEFINITIONS (TMH19 DEFINITIONS)

- Major Culverts:
  - A cellular structure.
  - Defining dimensions less than that of Bridge.
  - Clear span or diameter equal or greater than 2.1m; or
  - Or with total cross-sectional opening equal or greater than $5m^2$.
  - All service culverts, irrespective of size, unless classified as bridge.
  - Allocated a 'C' number.

- Lesser Culverts:
  - Defining dimensions less than that of Major Culvert.
  - Allocated a 'CL' number if opening greater than $2.5m^2$.

STRUCTURE DEFINITIONS (TMH19 DEFINITIONS)

- Retaining walls:
  - A structure that resists the lateral pressure of soil, with a height in excess of 2.0m.
  - Allocated a ‘W’ number.
- Gantries:
  - An overhead structure on which various signs or signals are mounted.
  - Allocated a ‘G’ number.
- Road Tunnels:
  - A structure that accommodates road vehicles and is defined as a ‘Bored Tunnel’.
  - Long cut-and-covered tunnels constructed in shallow trenches may be defined as a road tunnel by the road authority.

STRUCTURE DEFINITIONS (TMH19 DEFINITIONS)

- Light Masts:
  - A light mast comprises of a tall pole/column with light fittings at the top.
  - In terms of TMH19, it relates to the structural integrity and excludes the electrical installations.
- Buildings:
  - A structure with roof and walls.
  - SANRAL offices, Toll plaza admin buildings, Toll Plazas, etc.
- Waterways:
  - A river, stream or body of water which is crossed by road structure
  - The purpose is to ensure the waterway remains functional, i.e. not adversely affected by scour, siltation, debris, vegetation, erosion, etc.
  - Defects to structures crossing waterway's also noted, but also captured on specific forms for the structure

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STRUCTURE ORIENTATION

- Orientate to national route in direction of increasing chainage
- Chainage increases from **south to north** or from **west to east**

3. INSPECTION PROCESS

PROGRAMMING OF INSPECTIONS

- All structures need to be inspected at least once a year (twice a year if the structure is less than 2 years old)

	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
Bridges												
Major culverts												
Lesser culverts												
Gantries												
High Mast lights												
Retaining walls												
Waterways												

PLANNING FOR INSPECTIONS

Equipment required:

- Inspection forms
- Clipboard, pencil, eraser and notebook
- Torch
- Binoculars
- Digital Camera (GPS enabled)
- Handheld GPS device (to 5m min. accuracy, WGS84 format)
- Access equipment, e.g. Ladder
- Non-slip shoes/boots and gumboots (for culvert inspections)
- Tape measure
- High-visibility vest
- Amber flashing light

PLANNING FOR INSPECTIONS

OHS requirements for the inspector:

- Working near traffic, at heights, near water, in vegetated and secluded areas, etc.
- Always keep office staff informed of whereabouts
- Carry out inspections during daylight
- Ensure closed spaces are lit up and well ventilated
- Always take an assistant
- Be aware of dangerous animals
- In crime prone areas, take a security escort
- Use of ladders must be in the correct and safe manner
- No rope access permitted
- DO NOT ENDANGER YOUR LIFE!

RECORD KEEPING AND DATA CAPTURE

- Inspections sheets filed systematically according to:
  - Route and section
  - Km distance
  - Structure number

  separated per structure type
- Photo's filed electronically in folders according to:
  - Route and section
  - Km distance
  - Structure number

  photos re-labeled to match inspection sheets
- Electronic capturing on SANRAL's ITIS in development…

SAFETY INSPECTIONS PROCESS FLOW

REPORTING

- Reporting at monthly meeting
  - All inspections summarized for the month in meeting Annexures (see template)

Date of Inspection	Structure Details				Urgent Action Required			Comments (Type of remedial action undertaken and/or timeframe for completion of remedial action)
	Type of Structure Inspected	Structure Number	Route & Section	km Location	Remedial Action Required (Yes or No)	If Yes, specify details:	Date of Remedial/Repair Work	

  - All Urgent Actions recorded and addressed
  - Annual reporting in Road Condition Report and inspections records submitted to SANRAL

4. SUMMARY

SUMMARY

- Level of detail - network level- capture safety related defects
- Inspections must be recorded in a systematic manner – template sheet
- Records must be kept and filed in systematic manner
- Reporting of defects
- Actioning of repairs
- Must be conducted regularly – inspections must be planned and programmed

Questions?

SAFETY INSPECTION FORMS: BRIDGES

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Inspection form - Bridges

SANRAL	SAFETY INSPECTION FORM i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)	BRIDGES

Route		Section		Road km	
Structure No.		Latitude (south)	D D M M S S . s	Longitude (east)	D D M M S S . s
Structure Name					

The purpose of this Safety Inspection is to identify safety related defects that require urgent attention to ensure the structure is safe for continued use. It is not required to record routine maintenance defects. These inspections are to be captured on ITIS.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS

Photo No.	Description	Photo No.	Description
P01	Upper approach showing parapets	P11	
P02	Bridge elevation	P12	
P03	Underside of deck	P13	
P04	Bridge number	P14	
P05		P15	
P06		P16	
P07		P17	
P08		P18	
P09		P19	
P10		P20	

Urgent Action/Attention required? Yes | No | If Yes, Urgency? Immediate | Within 2 months | Within 6 months

If Yes, specify details:

Inspector's comments:

Inspected by | Date

Signature | Firm

Description of Degree Rating: Minor 1 | Moderate 2 | Warning 3 | Severe 4

SANRAL BUILDING SOUTH AFRICA THROUGH BETTER ROADS	EDMS # 4578657/5	SAFETY INSPECTION FORM i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)	BRIDGES

Route		Section		Road km	
Structure No.		Start Latitude (south)	D D M M S S . s	Start Longitude (east)	D D M M S S . s
No of Spans		End Latitude (south)	D D M M S S . s	End Longitude (east)	D D M M S S . s
Structure Name					

The purpose of this Safety Inspection, to be undertaken by a competent person, is to identify safety related defects that require urgent attention to ensure the structure is safe for continued use. It is not required to record routine maintenance defects. These inspections are to be captured and hard copy and electronic records kept. Data shall also captured in SANRAL ITIS system. For existing structures inspections shall at 12 months maximum intervals. For new structures they shall be done every 6 months for the first 24 months and at 12 months maximum intervals thereafter.

Inspection form - Bridges

SANRAL	EDMS # 4578657/5	SAFETY INSPECTION FORM i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)	BRIDGES

Route	N002	Section	28	Road km	63.440
Structure No.	B484B	Start Latitude (south)	31 54 9.12	Start Longitude (east)	28 50 25.86
No of Spans	8	End Latitude (south)	28 54 12.26	End Longitude (east)	28 50 18.81
Structure Name	MHLATHUZE RIVER BRIDGE SOUTHBOUND				

The purpose of this Safety Inspection, to be undertaken by a competent person, is to identify safety related defects that require urgent attention to ensure the structure is safe for continued use. It is not required to record routine maintenance defects. These inspections are to be captured and hard copy and electronic records kept. Data shall also captured in SANRAL ITIS system. For existing structures inspections shall at 12 months maximum intervals. For new structures they shall be done every 6 months for the first 24 months and at 12 months maximum intervals thereafter.

Inspection form - Bridges

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			If Yes Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS				
Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Upper approach showing parapets	P11		
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SANRAL
SAFETY INSPECTION FORM
i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)
BRIDGES

Route | Section | Road km
Structure No. | Latitude (south) | Longitude (east)
Structure Name

The purpose of this Safety Inspection is to identify safety related defects that require urgent attention to ensure the structure is safe

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
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6	Handrails/parapets (incl. sidewalks)								
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10	Other defects?								

PHOTOGRAPHS

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Urgent Action/Attention required? Yes | No | If Yes, Urgency? Immediate | Within 2 months | Within 6 months
If Yes, specify details:
Inspector's comments:
Inspected by | Date
Signature | Firm
Description of Degree Rating | Minor 1 | Moderate 2 | Warning 3 | Severe 4

1. Upper Approaches (incl. guardrails)

GUARDRAIL CONNECTIONS TO ENDBLOCKS

Retrofit detail for existing end-block connections

Inspection form - Bridges

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			If Yes Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
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SANRAL
SAFETY INSPECTION FORM
i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)
BRIDGES

Route | Section | Road km
Structure No. | Latitude (south) | Longitude (east)
Structure Name

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If Yes, specify details:
Inspector's comments:
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2. Abutments (incl. retaining walls)

Inspection form - Bridges

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect?			If Yes Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
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SANRAL
SAFETY INSPECTION FORM
i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)
BRIDGES

Route | Section | Road km
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PHOTOGRAPHS

Photo No.	Description	Photo No.	Description
P01	Upper approach showing parapets	P11	
P02	Bridge elevation	P12	
P03	Underside of deck	P13	
P04	Bridge number	P14	
P05		P15	
P06		P16	
P07		P17	
P08		P18	
P09		P19	
P10		P20	

Urgent Action/Attention required? Yes | No | If Yes, Urgency? Immediate | Within 2 months | Within 6 months
If Yes, specify details:
Inspector's comments:
Inspected by | Date
Signature | Firm
Description of Degree Rating | Minor 1 | Moderate 2 | Warning 3 | Severe 4

3. Piers

Inspection form - Bridges

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			If Yes Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS				
Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Upper approach showing parapets	P11		
P02	Bridge elevation	P12		
P03	Underside of deck	P13		
P04	Bridge number	P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

SANRAL
SAFETY INSPECTION FORM
i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)
BRIDGES

Route | Section | Road km
Structure No. | Latitude (south) | Longitude (east)
Structure Name

The purpose of this Safety Inspection is to identify safety related defects that require urgent attention to ensure the structure is safe

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS

Photo No.	Description	Photo No.	Description
P01	Upper approach showing parapets	P11	
P02	Bridge elevation	P12	
P03	Underside of deck	P13	
P04	Bridge number	P14	
P05		P15	
P06		P16	
P07		P17	
P08		P18	
P09		P19	
P10		P20	

Urgent Action/Attention required? Yes | No | If Yes, Urgency? Immediate | Within 2 months | Within 6 months
If Yes, specify details:
Inspector's comments:
Inspected by | Date
Signature | Firm
Description of Degree Rating: Minor 1 | Moderate 2 | Warning 3 | Severe 4

4. Top of deck

Inspection form - Bridges

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			If Yes Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS				
Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Upper approach showing parapets	P11		
P02	Bridge elevation	P12		
P03	Underside of deck	P13		
P04	Bridge number	P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

SANRAL
SAFETY INSPECTION FORM
i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)
BRIDGES

Route | Section | Road km
Structure No. | Latitude (south) | Longitude (east)
Structure Name

The purpose of this Safety Inspection is to identify safety related defects that require urgent attention to ensure the structure is safe

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS

Photo No.	Description	Photo No.	Description
P01	Upper approach showing parapets	P11	
P02	Bridge elevation	P12	
P03	Underside of deck	P13	
P04	Bridge number	P14	
P05		P15	
P06		P16	
P07		P17	
P08		P18	
P09		P19	
P10		P20	

Urgent Action/Attention required? Yes | No | If Yes, Urgency? Immediate | Within 2 months | Within 6 months
If Yes, specify details:
Inspector's comments:
Inspected by | Date
Signature | Firm
Description of Degree Rating: Minor 1 | Moderate 2 | Warning 3 | Severe 4

5. Underside of deck (incl. Bearings)

Inspection form - Bridges

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			If Yes Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS				
Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Upper approach showing parapets	P11		
P02	Bridge elevation	P12		
P03	Underside of deck	P13		
P04	Bridge number	P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

SANRAL
SAFETY INSPECTION FORM
i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)
BRIDGES

Route | Section | Road km
Structure No. | Latitude (south) | Longitude (east)
Structure Name

The purpose of this Safety Inspection is to identify safety related defects that require urgent attention to ensure the structure is safe

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS

Photo No.	Description	Photo No.	Description
P01	Upper approach showing parapets	P11	
P02	Bridge elevation	P12	
P03	Underside of deck	P13	
P04	Bridge number	P14	
P05		P15	
P06		P16	
P07		P17	
P08		P18	
P09		P19	
P10		P20	

Urgent Action/Attention required? Yes | No | If Yes, Urgency? Immediate | Within 2 months | Within 6 months
If Yes, specify details:
Inspector's comments:
Inspected by | Date
Signature | Firm
Description of Degree Rating: Minor 1 | Moderate 2 | Warning 3 | Severe 4

6. Handrail/Parapets (Incl. sidewalks)

Inspection form - Bridges

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			If Yes Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS				
Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Upper approach showing parapets	P11		
P02	Bridge elevation	P12		
P03	Underside of deck	P13		
P04	Bridge number	P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

SANRAL
SAFETY INSPECTION FORM
i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)
BRIDGES

Route | Section | Road km
Structure No. | Latitude (south) | Longitude (east)
Structure Name

The purpose of this Safety Inspection is to identify safety related defects that require urgent attention to ensure the structure is safe

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS

Photo No.	Description	Photo No.	Description
P01	Upper approach showing parapets	P11	
P02	Bridge elevation	P12	
P03	Underside of deck	P13	
P04	Bridge number	P14	
P05		P15	
P06		P16	
P07		P17	
P08		P18	
P09		P19	
P10		P20	

Urgent Action/Attention required? Yes | No | If Yes, Urgency? Immediate | Within 2 months | Within 6 months
If Yes, specify details:
Inspector's comments:
Inspected by | Date
Signature | Firm
Description of Degree Rating: Minor 1 | Moderate 2 | Warning 3 | Severe 4

7. Expansion Joints

Inspection form - Bridges

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect?			If Yes Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS

Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Upper approach showing parapets	P11		
P02	Bridge elevation	P12		
P03	Underside of deck	P13		
P04	Bridge number	P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

SANRAL
SAFETY INSPECTION FORM
i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)
BRIDGES

Route | Section | Road km
Structure No. | Latitude (south) | Longitude (east)
Structure Name

The purpose of this Safety Inspection is to identify safety related defects that require urgent attention to ensure the structure is safe

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS

Photo No.	Description	Photo No.	Description
P01	Upper approach showing parapets	P11	
P02	Bridge elevation	P12	
P03	Underside of deck	P13	
P04	Bridge number	P14	
P05		P15	
P06		P16	
P07		P17	
P08		P18	
P09		P19	
P10		P20	

Urgent Action/Attention required? Yes | No | If Yes, Urgency? Immediate | Within 2 months | Within 6 months
If Yes, specify details:
Inspector's comments:
Inspected by | Date
Signature | Firm
Description of Degree Rating: Minor 1 | Moderate 2 | Warning 3 | Severe 4

8. Flood damage

SCOUR

DEBRIS

SILTATION

Inspection form - Bridges

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			If Yes Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS				
Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Upper approach showing parapets	P11		
P02	Bridge elevation	P12		
P03	Underside of deck	P13		
P04	Bridge number	P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

SANRAL
SAFETY INSPECTION FORM
i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)
BRIDGES

Route | Section | Road km
Structure No. | Latitude (south) | Longitude (east)
Structure Name

The purpose of this Safety Inspection is to identify safety related defects that require urgent attention to ensure the structure is safe

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS

Photo No.	Description	Photo No.	Description
P01	Upper approach showing parapets	P11	
P02	Bridge elevation	P12	
P03	Underside of deck	P13	
P04	Bridge number	P14	
P05		P15	
P06		P16	
P07		P17	
P08		P18	
P09		P19	
P10		P20	

Urgent Action/Attention required? Yes | No | If Yes, Urgency? Immediate | Within 2 months | Within 6 months
If Yes, specify details:
Inspector's comments:
Inspected by | Date
Signature | Firm
Description of Degree Rating: Minor 1 | Moderate 2 | Warning 3 | Severe 4

9. Impact damage

IMPACT DAMAGE

Inspection form - Bridges

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			If Yes Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS				
Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Upper approach showing parapets	P11		
P02	Bridge elevation	P12		
P03	Underside of deck	P13		
P04	Bridge number	P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

SANRAL
SAFETY INSPECTION FORM
i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)
BRIDGES

Route | Section | Road km
Structure No. | Latitude (south) | Longitude (east)
Structure Name

The purpose of this Safety Inspection is to identify safety related defects that require urgent attention to ensure the structure is safe

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS

Photo No.	Description	Photo No.	Description
P01	Upper approach showing parapets	P11	
P02	Bridge elevation	P12	
P03	Underside of deck	P13	
P04	Bridge number	P14	
P05		P15	
P06		P16	
P07		P17	
P08		P18	
P09		P19	
P10		P20	

Urgent Action/Attention required? Yes | No | If Yes, Urgency? Immediate | Within 2 months | Within 6 months
If Yes, specify details:
Inspector's comments:
Inspected by | Date
Signature | Firm
Description of Degree Rating: Minor 1 | Moderate 2 | Warning 3 | Severe 4

10. Other defects

VANDALISM, THEFT, GRAFFITI

MISSING BRIDGE NUMBER

Inspection form - Bridges

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect?			If Yes Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)	X			X				
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS

Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Upper approach showing parapets	P11		
P02	Bridge elevation	P12		
P03	Underside of deck	P13		
P04	Bridge number	P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

Degree Rating	
No Defect	0
Minor	1
Moderate	2
Warning	3
Severe	4

Inspection form - Bridges

SANRAL	SAFETY INSPECTION FORM i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)	BRIDGES

Route		Section		Road km	
Structure No.		Latitude (south)		Longitude (east)	
Structure Name					

The purpose of this Safety Inspection is to identify safety related defects that require urgent attention to ensure the structure is safe

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect Yes	Defect No	Defect N/A	Degree Rating 1	2	3	4	Photo No's.
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS

Photo No.	Description	Photo No.	Description
P01	Upper approach showing parapets	P11	
P02	Bridge elevation	P12	
P03	Underside of deck	P13	
P04	Bridge number	P14	
P05		P15	
P06		P16	
P07		P17	
P08		P18	
P09		P19	
P10		P20	

Urgent Action/Attention required? Yes | No | If Yes, Urgency? Immediate | Within 2 months | Within 6 months

If Yes, specify details:

Inspector's comments:

Inspected by | Date

Signature | Firm

Description of Degree Rating: Minor 1 | Moderate 2 | Warning 3 | Severe 4

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect? Yes	No	N/A	If Yes Degree Rating 1	2	3	4	Photo No's.
1	Upper approaches (incl. guardrails)	X				X			P11
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS

Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Upper approach showing parapets	P11	N. Abut	Dip in approach
P02	Bridge elevation	P12		
P03	Underside of deck	P13		
P04	Bridge number	P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

Degree Rating	
No Defect	0
Minor	1
Moderate	2
Warning	3
Severe	4

Inspection form - Bridges

SANRAL

SAFETY INSPECTION FORM
i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)

BRIDGES

Route		Section		Road km	
Structure No.		Latitude (south)		Longitude (east)	
Structure Name					

The purpose of this Safety Inspection is to identify safety related defects that require urgent attention to ensure the structure is safe for continued use. It is not required to record routine maintenance defects. These inspections are to be captured on ITIS.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS

Photo No.	Description	Photo No.	Description
P01	Upper approach showing parapets	P11	
P02	Bridge elevation	P12	
P03	Underside of deck	P13	
P04	Bridge number	P14	
P05		P15	
P06		P16	
P07		P17	
P08		P18	
P09		P19	

Urgent Action/Attention required?	Yes	No	If Yes, Urgency?	Immediate	Within 2 months	Within 6 months	
If Yes, specify details:							

Inspector's comments:

Inspected by		Date	
Signature		Firm	

Description of Degree Rating	Minor	1	Moderate	2	Warning	3	Severe	4

Urgent Action or Attention required?	Yes		No		If Yes, Urgency?	Immediate		Within 2 months		Within 6 months	
If Yes, specify details:											

Inspector's comments:

Inspected by		Date	
Signature		Firm	

Degree Rating Description	No Defect	0	Minor	1	Moderate	2	Warning	3	Severe	4

Inspection form - Bridges

SANRAL	SAFETY INSPECTION FORM i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)	BRIDGES

Route		Section		Road km	
Structure No.		Latitude (south)	S 0 0 0 0	Longitude (east)	E 0 0 0 0
Structure Name					

The purpose of this Safety Inspection is to identify safety related defects that require urgent attention to ensure the structure is safe for continued use. It is not required to record routine maintenance defects. These inspections are to be captured on ITIS.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS

Photo No.	Description	Photo No.	Description
P01	Upper approach showing parapets	P11	
P02	Bridge elevation	P12	
P03	Underside of deck	P13	
P04	Bridge number	P14	
P05		P15	
P06		P16	
P07		P17	
P08		P18	
P09		P19	

Urgent Action/Attention required?	Yes	No	If Yes, Urgency?	Immediate	Within 2 months	Within 6 months	
If Yes, specify details:							
Inspector's comments:							
Inspected by			Date				
Signature			Firm				
Description of Degree Rating	Minor 1		Moderate 2		Warning 3	Severe 4	

Urgent Action or Attention required?	Yes		No	N	If Yes, Urgency?	Immediate	
Within 2 months		Within 6 months					
If Yes, specify details:	N/A						

Inspector's comments: There are vertical hairline cracks (width less than 1mm) on the abutment wall. The abutment also has a black stain which is indicative of people possibly using the bridge as shelter.

Inspected by	Steven Dlamini	Date	10 November 2019
Signature		Firm	TD Consulting

Degree Rating Description	No Defect	0	Minor	1	Moderate	2	Warning	3	Severe	4

Inspection form - Bridges

SANRAL	SAFETY INSPECTION FORM i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)	BRIDGES

Route		Section		Road km	
Structure No.		Latitude (south)		Longitude (east)	
Structure Name					

The purpose of this Safety Inspection is to identify safety related defects that require urgent attention to ensure the structure is safe for continued use. It is not required to record routine maintenance defects. These inspections are to be captured on ITIS.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Upper approaches (incl. guardrails)								
2	Abutments (incl. retaining walls)								
3	Piers								
4	Top of deck								
5	Underside of deck								
6	Handrails/parapets (incl. sidewalks)								
7	Expansion joints								
8	Flood damage?								
9	Impact damage?								
10	Other defects?								

PHOTOGRAPHS

Photo No.	Description	Photo No.	Description
P01	Upper approach showing parapets	P11	
P02	Bridge elevation	P12	
P03	Underside of deck	P13	
P04	Bridge number	P14	
P05		P15	
P06		P16	
P07		P17	
P08		P18	
P09		P19	

Urgent Action/Attention required?	Yes / No	If Yes, Urgency?	Immediate	Within 2 months	Within 6 months	
If Yes, specify details:						
Inspector's comments:						
Inspected by		Date				
Signature		Firm				
Description of Degree Rating	Minor 1	Moderate 2	Warning 3	Severe 4		

Urgent Action or Attention required?	Yes: Y / No:	If Yes, Urgency?	Immediate: / Within 2 months: X / Within 6 months:
If Yes, specify details:	There is serious scouring around the bridge abutment footing. The scouring could undermine the foundation and comprise the structural integrity of the bridge.		
Inspector's comments:	Bridge inspector should inspect scour damage and check whether structural integrity is not compromised i.e. abutment bearing capacity		
Inspected by	Steven Dlamini	Date	10 November 2019
Signature		Firm	TD Consulting

Degree Rating Description	No Defect	0	Minor	1	Moderate	2	Warning	3	Severe	4

EXAMPLES OF MAKE SAFE ITEMS

Public safety risk is considered high and must receive immediate attention

SAFETY INSPECTION FORMS: CULVERTS

SANRAL

BUILDING SOUTH AFRICA
THROUGH BETTER ROADS

Reg. No. 1998/009584/30. An agency of the Department of Transport.

Inspection form – Culverts (Major and Lesser)

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Inlet works								
2	Outlet works								
3	Barrel(s)								
4	Waterway								
5	Embankments								
6	Retaining walls								
7	Flood damage?								
8	Impact damage?								
9	Other defects?								
10									

1. Inlet works

Inspection form – Culverts (Major and Lesser)

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Inlet works								
2	Outlet works								
3	Barrel(s)								
4	Waterway								
5	Embankments								
6	Retaining walls								
7	Flood damage?								
8	Impact damage?								
9	Other defects?								
10									

2. Outlet works

Inspection form – Culverts (Major and Lesser)

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Inlet works								
2	Outlet works								
3	Barrel(s)								
4	Waterway								
5	Embankments								
6	Retaining walls								
7	Flood damage?								
8	Impact damage?								
9	Other defects?								
10									

3. Barrel(s)

Inspection form – Culverts (Major and Lesser)

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Inlet works								
2	Outlet works								
3	Barrel(s)								
4	Waterway								
5	Embankments								
6	Retaining walls								
7	Flood damage?								
8	Impact damage?								
9	Other defects?								
10									

4. Waterway

Inspection form – Culverts (Major and Lesser)

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Inlet works								
2	Outlet works								
3	Barrel(s)								
4	Waterway								
5	Embankments								
6	Retaining walls								
7	Flood damage?								
8	Impact damage?								
9	Other defects?								
10									

5. Embankments

Inspection form – Culverts (Major and Lesser)

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Inlet works								
2	Outlet works								
3	Barrel(s)								
4	Waterway								
5	Embankments								
6	Retaining walls								
7	Flood damage?								
8	Impact damage?								
9	Other defects?								
10									

6. Retaining walls

Inspection form – Culverts (Major and Lesser)

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Inlet works								
2	Outlet works								
3	Barrel(s)								
4	Waterway								
5	Embankments								
6	Retaining walls								
7	Flood damage?								
8	Impact damage?								
9	Other defects?								
10									

7. Flood damage

Inspection form – Culverts (Major and Lesser)

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Inlet works								
2	Outlet works								
3	Barrel(s)								
4	Waterway								
5	Embankments								
6	Retaining walls								
7	Flood damage?								
8	Impact damage?								
9	Other defects?								
10									

8. Impact damage

Inspection form – Culverts (Major and Lesser)

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Inlet works								
2	Outlet works								
3	Barrel(s)								
4	Waterway								
5	Embankments								
6	Retaining walls								
7	Flood damage?								
8	Impact damage?								
9	Other defects?								
10									

9. Other defects

SAFETY INSPECTION FORMS: GANTRIES

SANRAL

BUILDING SOUTH AFRICA
THROUGH BETTER ROADS

Reg. No. 1998/009584/30. An agency of the Department of Transport.

Inspection form – Gantries

SANRAL	EDMS # 457865715	SAFETY INSPECTION FORM i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)	GANTRIES

Route		Section		Road km	
Structure No.		Start Latitude (south)	D D M M S S . s	Start Longitude (east)	D D M M S S . s
		For portal only give: End Latitude (south)	D D M M S S . s	End Longitude (east)	D D M M S S . s
Structure Name					

The purpose of this Safety Inspection, to be undertaken by a competent person, is to identify safety related defects that require urgent attention to ensure the structure is safe for continued use. It is not required to record routine maintenance defects. These inspections are to be captured and hard copy and electronic records kept. Data shall also captured in SANRAL ITIS system. For existing structures inspections shall at 12 months maximum intervals. For new structures they shall be done every 6 months for the first 24 months and at 12 months maximum intervals thereafter.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Support Plinth								
2	Base Plate and HD Bolts								
3	Steel Members								
4	Sign (incl. fasteners)								
5	Impact damage?								
6	Other defects?								
7									
8									
9									
10									

Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Gantry Elevation	P11		
P02	Plinth1 Elevation	P12		
P03	Plinth 2 Elevation	P13		
P04	Gantry Number	P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

Urgent Action or Attention required?	Yes		No		If Yes, Urgency?	Immediate		Within 2 months		Within 6 months	

If Yes, specify details:	

Inspector's comments:

Inspected by		Date	
Signature		Firm	

Degree Rating Description	No Defect	0	Minor	1	Moderate	2	Warning	3	Severe	4

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Support Plinth								
2	Base Plate and HD Bolts								
3	Steel Members								
4	Sign (Incl. fasteners)								
5	Impact damage?								
6	Other defects?								
7									
8									
9									
10									

1. Support Plinth

Inspection form – Gantries

SANRAL	EDMS # 4578657/5	SAFETY INSPECTION FORM I.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)	GANTRIES

Route		Section		Road km	
Structure No.		Start Latitude (south)	D D M M S S . S	Start Longitude (east)	D D M M S S . S
		For portal only give: End Latitude (south)	D D M M S S . S	End Longitude (east)	D D M M S S . S
Structure Name					

The purpose of this Safety Inspection, to be undertaken by a competent person, is to identify safety related defects that require urgent attention to ensure the structure is safe for continued use. It is not required to record routine maintenance defects. These inspections are to be captured and hard copy and electronic records kept. Data shall also captured in SANRAL ITIS system. For existing structures inspections shall at 12 months maximum intervals. For new structures they shall be done every 6 months for the first 24 months and at 12 months maximum intervals thereafter.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect? Yes	Defect? No	Defect? N/A	Degree Rating 1	Degree Rating 2	Degree Rating 3	Degree Rating 4	Photo No's.
1	Support Plinth								
2	Base Plate and HD Bolts								
3	Steel Members								
4	Sign (Incl. fasteners)								
5	Impact damage?								
6	Other defects?								
7									
8									
9									
10									

Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Gantry Elevation	P11		
P02	Plinth1 Elevation	P12		
P03	Plinth 2 Elevation	P13		
P04	Gantry Number	P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

Urgent Action or Attention required?	Yes		No		If Yes, Urgency?	Immediate		Within 2 months		Within 6 months
If Yes, specify details:										

Inspector's comments:

Inspected by		Date	
Signature		Firm	

Degree Rating Description	No Defect	0	Minor	1	Moderate	2	Warning	3	Severe	4

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect? Yes	Defect? No	Defect? N/A	Degree Rating 1	Degree Rating 2	Degree Rating 3	Degree Rating 4	Photo No's.
1	Support Plinth								
2	Base Plate and HD Bolts								
3	Steel Members								
4	Sign (Incl. fasteners)								
5	Impact damage?								
6	Other defects?								
7									
8									
9									
10									

2. Base Plate and HD Bolts

Inspection form – Gantries

SANRAL | EDMS # 457865715 | SAFETY INSPECTION FORM i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014) | GANTRIES

Route | Section | Road km

Structure No. | Start Latitude (south) D D M M S S . s | Start Longitude (east) D D M M S S . s

For portal only give: End Latitude (south) D D M M S S . s | End Longitude (east) D D M M S S . s

Structure Name

The purpose of this Safety Inspection, to be undertaken by a competent person, is to identify safety related defects that require urgent attention to ensure the structure is safe for continued use. It is not required to record routine maintenance defects. These inspections are to be captured and hard copy and electronic records kept. Data shall also captured in SANRAL ITIS system. For existing structures inspections shall at 12 months maximum intervals. For new structures they shall be done every 6 months for the first 24 months and at 12 months maximum intervals thereafter.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect? Yes	Defect? No	Defect? N/A	Degree Rating 1	Degree Rating 2	Degree Rating 3	Degree Rating 4	Photo No's.
1	Support Plinth								
2	Base Plate and HD Bolts								
3	Steel Members								
4	Sign (incl. fasteners)								
5	Impact damage?								
6	Other defects?								
7									
8									
9									
10									

Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Gantry Elevation	P11		
P02	Plinth1 Elevation	P12		
P03	Plinth 2 Elevation	P13		
P04	Gantry Number	P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

Urgent Action or Attention required? Yes | No | If Yes, Urgency? Immediate | Within 2 months | Within 6 months

If Yes, specify details:

Inspector's comments:

Inspected by | Date

Signature | Firm

Degree Rating Description: No Defect 0 | Minor 1 | Moderate 2 | Warning 3 | Severe 4

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect? Yes	Defect? No	Defect? N/A	Degree Rating 1	Degree Rating 2	Degree Rating 3	Degree Rating 4	Photo No's.
1	Support Plinth								
2	Base Plate and HD Bolts								
3	Steel Members								
4	Sign (Incl. fasteners)								
5	Impact damage?								
6	Other defects?								
7									
8									
9									
10									

3. Steel Members

Inspection form – Gantries

SANRAL	EDMS # 457865715	SAFETY INSPECTION FORM I.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)	GANTRIES

Route		Section		Road km	
Structure No.		Start Latitude (south)	D D M M S S . s	Start Longitude (east)	D D M M S S . s
	For portal only give:	End Latitude (south)	D D M M S S . s	End Longitude (east)	D D M M S S . s
Structure Name					

The purpose of this Safety Inspection, to be undertaken by a competent person, is to identify safety related defects that require urgent attention to ensure the structure is safe for continued use. It is not required to record routine maintenance defects. These inspections are to be captured and hard copy and electronic records kept. Data shall also captured in SANRAL ITIG system. For existing structures inspections shall at 12 months maximum intervals. For new structures they shall be done every 6 months for the first 24 months and at 12 months maximum intervals thereafter.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Support Plinth								
2	Base Plate and HD Bolts								
3	Steel Members								
4	Sign (incl. fasteners)								
5	Impact damage?								
6	Other defects?								
7									
8									
9									
10									

Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Gantry Elevation	P11		
P02	Plinth1 Elevation	P12		
P03	Plinth 2 Elevation	P13		
P04	Gantry Number	P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

Urgent Action or Attention required?	Yes		No		If Yes, Urgency?	Immediate		Within 2 months		Within 6 months	

If Yes, specify details:

Inspector's comments:

Inspected by		Date	
Signature		Firm	

Degree Rating Description	No Defect	0	Minor	1	Moderate	2	Warning	3	Severe	4

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Support Plinth								
2	Base Plate and HD Bolts								
3	Steel Members								
4	Sign (Incl. fasteners)								
5	Impact damage?								
6	Other defects?								
7									
8									
9									
10									

4. Sign (Incl. fastners)

Inspection form – Gantries

SANRAL	EDMS # 4578657/5	SAFETY INSPECTION FORM i.t.o. Occupational Health and Safety Act (1993) and Construction Regulations (2014)	GANTRIES

Route		Section		Road km	
Structure No.		Start Latitude (south)	D D M M S S . S	Start Longitude (east)	D D M M S S . S
		For portal only give: End Latitude (south)	D D M M S S . S	End Longitude (east)	D D M M S S . S
Structure Name					

The purpose of this Safety Inspection, to be undertaken by a competent person, is to identify safety related defects that require urgent attention to ensure the structure is safe for continued use. It is not required to record routine maintenance defects. These inspections are to be captured and hard copy and electronic records kept. Data shall also captured in SANRAL ITIS system. For existing structures inspections shall at 12 months maximum intervals. For new structures they shall be done every 6 months for the first 24 months and at 12 months maximum intervals thereafter.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect? Yes	Defect? No	Defect? N/A	Degree Rating 1	Degree Rating 2	Degree Rating 3	Degree Rating 4	Photo No's.
1	Support Plinth								
2	Base Plate and HD Bolts								
3	Steel Members								
4	Sign (Incl. fasteners)								
5	Impact damage?								
6	Other defects?								
7									
8									
9									
10									

Photo Schedule

Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Gantry Elevation	P11		
P02	Plinth1 Elevation	P12		
P03	Plinth 2 Elevation	P13		
P04	Gantry Number	P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

Urgent Action or Attention required?	Yes		No		If Yes, Urgency?	Immediate		Within 2 months		Within 6 months
If Yes, specify details:									

Inspector's comments:

Inspected by		Date	
Signature		Firm	

Degree Rating Description	No Defect	0	Minor	1	Moderate	2	Warning	3	Severe	4

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect? Yes	Defect? No	Defect? N/A	Degree Rating 1	Degree Rating 2	Degree Rating 3	Degree Rating 4	Photo No's.
1	Support Plinth								
2	Base Plate and HD Bolts								
3	Steel Members								
4	Sign (Incl. fasteners)								
5	Impact damage?								
6	Other defects?								
7									
8									
9									
10									

5. Impact Damage

SAFETY INSPECTION FORMS: HIGH MAST LIGHT

SANRAL

BUILDING SOUTH AFRICA
THROUGH BETTER ROADS

Reg. No. 1998/009584/30. An agency of the Department of Transport.

Inspection form – High Mast Light

The purpose of this Safety Inspection, to be undertaken by a competent person, is to identify safety related defects that require urgent attention to ensure the structure is safe for continued use. It is not required to record routine maintenance defects. These inspections are to be captured and hard copy and electronic records kept. Data shall also captured in SANRAL ITIS system. For existing structures inspections shall at 12 months maximum intervals. For new structures they shall be done every 6 months for the first 24 months and at 12 months maximum intervals thereafter.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Support Plinth								
2	Base Plate and HD Bolts								
3	Mast								
4	Light Fititng and fixings								
5	Impact damage?								
6	Other defects (eg. Exposed wiring, vandalism) ?								
7									
8									
9									
10									

PHOTOGRAPHS

Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	High Mast Light Elevation	P11		
P02	Plinth Elevation	P12		
P03	Mast Number	P13		
P04		P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

1. Support Plinth

Inspection form – High Mast Light

The purpose of this Safety Inspection, to be undertaken by a competent person, is to identify safety related defects that require urgent attention to ensure the structure is safe for continued use. It is not required to record routine maintenance defects. These inspections are to be captured and hard copy and electronic records kept. Data shall also captured in SANRAL ITIS system. For existing structures inspections shall at 12 months maximum intervals. For new structures they shall be done every 6 months for the first 24 months and at 12 months maximum intervals thereafter.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Support Plinth								
2	Base Plate and HD Bolts								
3	Mast								
4	Light Fititng and fixings								
5	Impact damage?								
6	Other defects (eg. Exposed wiring, vandalism) ?								
7									
8									
9									
10									

PHOTOGRAPHS

Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	High Mast Light Elevation	P11		
P02	Plinth Elevation	P12		
P03	Mast Number	P13		
P04		P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

2. Baseplates and HD Bolts

Inspection form – High Mast Light

The purpose of this Safety Inspection, to be undertaken by a competent person, is to identify safety related defects that require urgent attention to ensure the structure is safe for continued use. It is not required to record routine maintenance defects. These inspections are to be captured and hard copy and electronic records kept. Data shall also captured in SANRAL ITIS system. For existing structures inspections shall at 12 months maximum intervals. For new structures they shall be done every 6 months for the first 24 months and at 12 months maximum intervals thereafter.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Support Plinth								
2	Base Plate and HD Bolts								
3	Mast								
4	Light Fititng and fixings								
5	Impact damage?								
6	Other defects (eg. Exposed wiring, vandalism) ?								
7									
8									
9									
10									

PHOTOGRAPHS

Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	High Mast Light Elevation	P11		
P02	Plinth Elevation	P12		
P03	Mast Number	P13		
P04		P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

3. Mast

Inspection form – High Mast Light

The purpose of this Safety Inspection, to be undertaken by a competent person, is to identify safety related defects that require urgent attention to ensure the structure is safe for continued use. It is not required to record routine maintenance defects. These inspections are to be captured and hard copy and electronic records kept. Data shall also captured in SANRAL ITIS system. For existing structures inspections shall at 12 months maximum intervals. For new structures they shall be done every 6 months for the first 24 months and at 12 months maximum intervals thereafter.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Support Plinth								
2	Base Plate and HD Bolts								
3	Mast								
4	Light Fititng and fixings								
5	Impact damage?								
6	Other defects (eg. Exposed wiring, vandalism) ?								
7									
8									
9									
10									

PHOTOGRAPHS

Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	High Mast Light Elevation	P11		
P02	Plinth Elevation	P12		
P03	Mast Number	P13		
P04		P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

4. Light Fittings and Fixings

Light Fittings

Fixings

Inspection form – High Mast Light

The purpose of this Safety Inspection, to be undertaken by a competent person, is to identify safety related defects that require urgent attention to ensure the structure is safe for continued use. It is not required to record routine maintenance defects. These inspections are to be captured and hard copy and electronic records kept. Data shall also captured in SANRAL ITIS system. For existing structures inspections shall at 12 months maximum intervals. For new structures they shall be done every 6 months for the first 24 months and at 12 months maximum intervals thereafter.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Support Plinth								
2	Base Plate and HD Bolts								
3	Mast								
4	Light Fititng and fixings								
5	Impact damage?								
6	Other defects (eg. Exposed wiring, vandalism) ?								
7									
8									
9									
10									

PHOTOGRAPHS

Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	High Mast Light Elevation	P11		
P02	Plinth Elevation	P12		
P03	Mast Number	P13		
P04		P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

5. Impact Damage

Inspection form – High Mast Light

The purpose of this Safety Inspection, to be undertaken by a competent person, is to identify safety related defects that require urgent attention to ensure the structure is safe for continued use. It is not required to record routine maintenance defects. These inspections are to be captured and hard copy and electronic records kept. Data shall also captured in SANRAL ITIS system. For existing structures inspections shall at 12 months maximum intervals. For new structures they shall be done every 6 months for the first 24 months and at 12 months maximum intervals thereafter.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Support Plinth								
2	Base Plate and HD Bolts								
3	Mast								
4	Light Fititng and fixings								
5	Impact damage?								
6	Other defects (eg. Exposed wiring, vandalism) ?								
7									
8									
9									
10									

PHOTOGRAPHS

Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	High Mast Light Elevation	P11		
P02	Plinth Elevation	P12		
P03	Mast Number	P13		
P04		P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

6. Other Defects
(e.g. Exposed Wiring, Vandalism)

	• Poor Compaction Around the Electrical Mast/Pole
	• Exposed Wiring / Cable

SAFETY INSPECTION FORMS: RETAINING WALLS

SANRAL

BUILDING SOUTH AFRICA
THROUGH BETTER ROADS

Reg. No. 1998/009584/30. An agency of the Department of Transport.

Retaining Walls

Inspection form – Retaining Walls

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Wall								
2	Joints								
3	Cut or fill bank (incl. slope protection)								
4	Drainage								
5	Impact damage?								
6	Other defects?								
7									
8									
9									
10									

PHOTOGRAPHS				
Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Wall Elevation	P11		
P02	Wall Number	P12		
P03		P13		
P04		P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

1. Wall

Types of Retaining Wall Systems

	Gabion Basket Retaining Wall
	Pre-Cast L-Shaped Concrete Retaining Wall

1. Wall Continued

Types of Retaining Wall Systems

	Pre-Cast Concrete Retaining Wall
	MSE Retaining Wall

1. Wall continued

Types of Retaining Wall Systems

	Reinforced Cast In-situ Concrete Cantilever Retaining Wall
	Löffelstein Wall Retaining System

Inspection form – Retaining Walls

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Wall								
2	Joints								
3	Cut or fill bank (incl. slope protection)								
4	Drainage								
5	Impact damage?								
6	Other defects?								
7									
8									
9									
10									

PHOTOGRAPHS				
Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Wall Elevation	P11		
P02	Wall Number	P12		
P03		P13		
P04		P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

2. Joints

Inspection form – Retaining Walls

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Wall								
2	Joints								
3	Cut or fill bank (incl. slope protection)								
4	Drainage								
5	Impact damage?								
6	Other defects?								
7									
8									
9									
10									

PHOTOGRAPHS				
Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Wall Elevation	P11		
P02	Wall Number	P12		
P03		P13		
P04		P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

3. Cut or Fill Banks

Inspection form – Retaining Walls

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Wall								
2	Joints								
3	Cut or fill bank (incl. slope protection)								
4	Drainage								
5	Impact damage?								
6	Other defects?								
7									
8									
9									
10									

PHOTOGRAPHS				
Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Wall Elevation	P11		
P02	Wall Number	P12		
P03		P13		
P04		P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

4. Drainage

Wall Internal Drainage

Inspection form – Retaining Walls

INSPECTION (mark with an X as applicable for Defect and Degree)									
Item	Description	Defect?			Degree Rating				Photo No's.
		Yes	No	N/A	1	2	3	4	
1	Wall								
2	Joints								
3	Cut or fill bank (incl. slope protection)								
4	Drainage								
5	Impact damage?								
6	Other defects?								
7									
8									
9									
10									

PHOTOGRAPHS				
Photo No.	Inventory Description	Photo No.	Location	Defect Description
P01	Wall Elevation	P11		
P02	Wall Number	P12		
P03		P13		
P04		P14		
P05		P15		
P06		P16		
P07		P17		
P08		P18		
P09		P19		
P10		P20		

5. Impact Damage

SAFETY INSPECTION FORMS: WATERWAYS

SANRAL

BUILDING SOUTH AFRICA
THROUGH BETTER ROADS

Reg. No. 1998/009584/30. An agency of the Department of Transport.

Inspection form – Waterways

SANRAL	EDMS # 4378657/5	WATERWAY INSPECTION FORM i.t.o. TMH19	ALL WATERWAY STRUCTURES

Route		Section		Road km	
Structure No.		Start Latitude (south)	° ' " S	Start Longitude (east)	° ' " E
No of cells		End Latitude (south)	° ' " S	End Longitude (east)	° ' " E
Structure Name					

The purpose of this waterway inspection is to ensure waterway structures remain functional and will not due to scour , siltation etc not fail to convey water as it was intended to do. Only major waterway defects that will affect the waterway functionality are to be recorded. Structural defects may be recorded but must also then form part of the separate structural safety inspection for bridges and culverts. Waterway inspections are to be undertaken at a maximum of 12 month intervals (preferably after the rain season) and also immediately after every significant rainfall event. Inspections must be undertaken by a competent person.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item No	Inspection Item	Watreway Upstream					Photo No's	Waterway Downstream					Photo No's	Cells/spans with Defects					Photo No's
	Defect D Rating	0	1	2	3	4		0	1	2	3	4		0	1	2	3	4	
1	Siltation																		
2	Scouring																		
3	Debris																		
4	Vegitation																		
5	Erosion																		
6	Environmental issues																		

Urgent Action or Attention required?	Yes	No	Is this Urgency?	Immediate	Within 2 months	Within 6 months

Position	Photo No's	Description of required action

PHOTOGRAPHS

Photo No.	Inventory Description	Photo No.	Inventory Description
P01	Inlet elevation view	P03	Upstream View of feature crossed
P02	Outlet elevation view	P04	Downstream View of feature crossed

Photos No	Position / Location	Description of photo of serious defect
P5		
P6		
P7		
P8		
P9		
P10		
P11		
P12		

Inspector's comments:

Inspected by		Date	
Signature		Firm	

Degree Rating Description	No Defect	0	Minor	1	Moderate	2	Warning	3	Severe	4

INSPECTION (mark with an X as applicable for Defect and Degree)

Item No	Inspection Item	Watreway Upstream					Photo No's	Waterway Downstream					Photo No's	Cells/spans with Defects					Photo No's
	Defect D Rating	0	1	2	3	4		0	1	2	3	4		0	1	2	3	4	
1	Siltation																		
2	Scouring																		
3	Debris																		
4	Vegitation																		
5	Erosion																		
6	Environmental issues																		

1. Siltation

Inspection form – Waterways

SANRAL	EDMS # 4378657/5	WATERWAY INSPECTION FORM i.t.o. TMH19	ALL WATERWAY STRUCTURES

Route		Section		Road km	
Structure No.		Start Latitude (south)	D M S	Start Longitude (east)	D M S
No of cells		End Latitude (south)	D M S	End Longitude (east)	D M S
Structure Name					

The purpose of this waterway inspection is to ensure waterway structures remain functional and will not due to scour , siltation etc not fail to convey water as it was intended to do. Only major waterway defects that will affect the waterway functionality are to be recorded. Structural defects may be recorded but must also then form part of the separate structural safety inspection for bridges and culverts. Waterway inspections are to be undertaken at a maximum of 12 month intervals (preferably after the rain season) and also immediately after every significant rainfall event. Inspections must be undertaken by a competent person.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item No	Inspection Item	Watreway Upstream					Photo No's	Waterway Downstream					Photo No's	Cells/spans with Defects					Photo No's
	Defect D Rating	0	1	2	3	4		0	1	2	3	4		0	1	2	3	4	
1	Siltation																		
2	Scouring																		
3	Debris																		
4	Vegitation																		
5	Erosion																		
6	Environmental issues																		

Urgent Action or Attention required?	Yes	No	Is this Urgency?	Immediate	Within 2 months	Within 6 months

Position	Photo No's	Description of required action

PHOTOGRAPHS

Photo No.	Inventory Description	Photo No.	Inventory Description
P01	Inlet elevation view	P03	Upstream View of feature crossed
P02	Outlet elevation view	P04	Downstream View of feature crossed

Photos No	Position / Location	Description of photo of serious defect
P5		
P6		
P7		
P8		
P9		
P10		
P11		
P12		

Inspector's comments:

Inspected by		Date	
Signature		Firm	

Degree Rating Description	No Defect	0	Minor	1	Moderate	2	Warning	3	Severe	4

INSPECTION (mark with an X as applicable for Defect and Degree)

Item No	Inspection Item	Watreway Upstream					Photo No's	Waterway Downstream					Photo No's	Cells/spans with Defects					Photo No's
	Defect D Rating	0	1	2	3	4		0	1	2	3	4		0	1	2	3	4	
1	Siltation																		
2	Scouring																		
3	Debris																		
4	Vegitation																		
5	Erosion																		
6	Environmental issues																		

2. Scouring

Inspection form – Waterways

SANRAL	EDMS # 4378657/5	WATERWAY INSPECTION FORM i.t.o. TMH19	ALL WATERWAY STRUCTURES

Route		Section		Road km	
Structure No.		Start Latitude (south)	S H M S . s	Start Longitude (east)	E H M S . s
No of cells		End Latitude (south)	S H M S . s	End Longitude (east)	E H M S . s
Structure Name					

The purpose of this waterway inspection is to ensure waterway structures remain functional and will not due to scour , siltation etc not fail to convey water as it was intended to do. Only major waterway defects that will affect the waterway functionality are to be recorded. Structural defects may be recorded but must also then form part of the separate structural safety inspection for bridges and culverts. Waterway inspections are to be undertaken at a maximum of 12 month intervals (preferably after the rain season) and also immediately after every significant rainfall event. Inspections must be undertaken by a competent person.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item No	Inspection Item	Watreway Upstream					Photo No's	Waterway Downstream					Photo No's	Cells/spans with Defects					Photo No's
	Defect D Rating	0	1	2	3	4		0	1	2	3	4		0	1	2	3	4	
1	Siltation																		
2	Scouring																		
3	Debris																		
4	Vegitation																		
5	Erosion																		
6	Environmental issues																		

Urgent Action or Attention required?	Yes	No	Is this Urgency?	Immediate	Within 2 months	Within 6 months

Position	Photo No's	Description of required action

PHOTOGRAPHS

Photo No.	Inventory Description	Photo No.	Inventory Description
P01	Inlet elevation view	P03	Upstream View of feature crossed
P02	Outlet elevation view	P04	Downstream View of feature crossed

Photos No	Position / Location	Description of photo of serious defect
P5		
P6		
P7		
P8		
P9		
P10		
P11		
P12		

Inspector's comments:

Inspected by		Date	
Signature		Firm	

Degree Rating Description	No Defect	0	Minor	1	Moderate	2	Warning	3	Severe	4

INSPECTION (mark with an X as applicable for Defect and Degree)

Item No	Inspection Item	Watreway Upstream					Photo No's	Waterway Downstream					Photo No's	Cells/spans with Defects					Photo No's
	Defect D Rating	0	1	2	3	4		0	1	2	3	4		0	1	2	3	4	
1	Siltation																		
2	Scouring																		
3	Debris																		
4	Vegitation																		
5	Erosion																		
6	Environmental issues																		

3. Debris

Inspection form – Waterways

SANRAL	EDMS # 4378657/5	WATERWAY INSPECTION FORM i.t.o. TMH19	ALL WATERWAY STRUCTURES

Route		Section		Road km	
Structure No.		Start Latitude (south)	S H M S . s	Start Longitude (east)	E H M S . s
No of cells		End Latitude (south)	S H M S . s	End Longitude (east)	E H M S . s
Structure Name					

The purpose of this waterway inspection is to ensure waterway structures remain functional and will not due to scour , siltation etc not fail to convey water as it was intended to do. Only major waterway defects that will affect the waterway functionality are to be recorded. Structural defects may be recorded but must also then form part of the separate structural safety inspection for bridges and culverts. Waterway inspections are to be undertaken at a maximum of 12 month intervals (preferably after the rain season) and also immediately after every significant rainfall event. Inspections must be undertaken by a competent person.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item No	Inspection Item	Watreway Upstream					Photo No's	Waterway Downstream					Photo No's	Cells/spans with Defects					Photo No's
	Defect D Rating	0	1	2	3	4		0	1	2	3	4		0	1	2	3	4	
1	Siltation																		
2	Scouring																		
3	Debris																		
4	Vegitation																		
5	Erosion																		
6	Environmental issues																		

Urgent Action or Attention required?	Yes	No	Is this Urgency?	Immediate	Within 2 months	Within 6 months

Position	Photo No's	Description of required action

PHOTOGRAPHS

Photo No.	Inventory Description	Photo No.	Inventory Description
P01	Inlet elevation view	P03	Upstream View of feature crossed
P02	Outlet elevation view	P04	Downstream View of feature crossed

Photos No	Position / Location	Description of photo of serious defect
P5		
P6		
P7		
P8		
P9		
P10		
P11		
P12		

Inspector's comments:

Inspected by		Date	
Signature		Firm	

Degree Rating Description	No Defect	0	Minor	1	Moderate	2	Warning	3	Severe	4

INSPECTION (mark with an X as applicable for Defect and Degree)

Item No	Inspection Item	Watreway Upstream					Photo No's	Waterway Downstream					Photo No's	Cells/spans with Defects					Photo No's
	Defect D Rating	0	1	2	3	4		0	1	2	3	4		0	1	2	3	4	
1	Siltation																		
2	Scouring																		
3	Debris																		
4	Vegitation																		
5	Erosion																		
6	Environmental issues																		

4. Vegetation

Inspection form – Waterways

SANRAL	EDMS # 4378657/5	WATERWAY INSPECTION FORM i.t.o. TMH19	ALL WATERWAY STRUCTURES

Route		Section		Road km	
Structure No.		Start Latitude (south)	S H M S . s	Start Longitude (east)	S H M S . s
No of cells		End Latitude (south)	S H M S . s	End Longitude (east)	S H M S . s
Structure Name					

The purpose of this waterway inspection is to ensure waterway structures remain functional and will not due to scour , siltation etc not fail to convey water as it was intended to do. Only major waterway defects that will affect the waterway functionality are to be recorded. Structural defects may be recorded but must also then form part of the separate structural safety inspection for bridges and culverts. Waterway inspections are to be undertaken at a maximum of 12 month intervals (preferably after the rain season) and also immediately after every significant rainfall event. Inspections must be undertaken by a competent person.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item No	Inspection Item	Watreway Upstream					Photo No's	Waterway Downstream					Photo No's	Cells/spans with Defects					Photo No's
	Defect D Rating	0	1	2	3	4		0	1	2	3	4		0	1	2	3	4	
1	Siltation																		
2	Scouring																		
3	Debris																		
4	Vegitation																		
5	Erosion																		
6	Environmental issues																		

Urgent Action or Attention required?	Yes	No	Is this Urgency?	Immediate	Within 2 months	Within 6 months

Position	Photo No's	Description of required action

PHOTOGRAPHS

Photo No.	Inventory Description	Photo No.	Inventory Description
P01	Inlet elevation view	P03	Upstream View of feature crossed
P02	Outlet elevation view	P04	Downstream View of feature crossed

Photos No	Position / Location	Description of photo of serious defect
P5		
P6		
P7		
P8		
P9		
P10		
P11		
P12		

Inspector's comments:

Inspected by		Date	
Signature		Firm	

Degree Rating Description	No Defect	0	Minor	1	Moderate	2	Warning	3	Severe	4

INSPECTION (mark with an X as applicable for Defect and Degree)

Item No	Inspection Item	Watreway Upstream					Photo No's	Waterway Downstream					Photo No's	Cells/spans with Defects					Photo No's
	Defect D Rating	0	1	2	3	4		0	1	2	3	4		0	1	2	3	4	
1	Siltation																		
2	Scouring																		
3	Debris																		
4	Vegitation																		
5	Erosion																		
6	Environmental issues																		

5. Erosion

Inspection form – Waterways

SANRAL	EDMS # 4378657/5	WATERWAY INSPECTION FORM i.t.o. TMH19	ALL WATERWAY STRUCTURES

Route		Section		Road km	
Structure No.		Start Latitude (south)	° ' " S	Start Longitude (east)	° ' " E
No of cells		End Latitude (south)	° ' " S	End Longitude (east)	° ' " E
Structure Name					

The purpose of this waterway inspection is to ensure waterway structures remain functional and will not due to scour , siltation etc not fail to convey water as it was intended to do. Only major waterway defects that will affect the waterway functionality are to be recorded. Structural defects may be recorded but must also then form part of the separate structural safety inspection for bridges and culverts. Waterway inspections are to be undertaken at a maximum of 12 month intervals (preferably after the rain season) and also immediately after every significant rainfall event. Inspections must be undertaken by a competent person.

INSPECTION (mark with an X as applicable for Defect and Degree)

Item No	Inspection Item	Watreway Upstream					Photo No's	Waterway Downstream					Photo No's	Cells/spans with Defects					Photo No's
	Defect D Rating	0	1	2	3	4		0	1	2	3	4		0	1	2	3	4	
1	Siltation																		
2	Scouring																		
3	Debris																		
4	Vegitation																		
5	Erosion																		
6	Environmental issues																		

Urgent Action or Attention required?	Yes	No	Is this Urgency?	Immediate	Within 2 months	Within 6 months

Position	Photo No's	Description of required action

PHOTOGRAPHS

Photo No.	Inventory Description	Photo No.	Inventory Description
P01	Inlet elevation view	P03	Upstream View of feature crossed
P02	Outlet elevation view	P04	Downstream View of feature crossed

Photos No	Position / Location	Description of photo of serious defect
P5		
P6		
P7		
P8		
P9		
P10		
P11		
P12		

Inspector's comments:

Inspected by		Date	
Signature		Firm	

Degree Rating Description	No Defect	0	Minor	1	Moderate	2	Warning	3	Severe	4

INSPECTION (mark with an X as applicable for Defect and Degree)

Item No	Inspection Item	Watreway Upstream					Photo No's	Waterway Downstream					Photo No's	Cells/spans with Defects					Photo No's
	Defect D Rating	0	1	2	3	4		0	1	2	3	4		0	1	2	3	4	
1	Siltation																		
2	Scouring																		
3	Debris																		
4	Vegitation																		
5	Erosion																		
6	Environmental issues																		

6. Environmental Issues

Inspection form – Waterways

INSPECTION (mark with an X as applicable for Defect and Degree)

Item No	Inspection Item	Watreway Upstream					Photo No's	Waterway Downstream					Photo No's	Cells/spans with Defects					Photo No's
	Defect D Rating	0	1	2	3	4		0	1	2	3	4		0	1	2	3	4	
1	Siltation																		
2	Scouring																		
3	Debris																		
4	Vegitation																		
5	Erosion																		
6	Environmental issues																		

Urgent Action or Attention required?	Yes		No		If Yes, Urgency?	Immediate		Within 2 months		Within 6 months	

Position	Photo No's	Description of required action

Degree Rating	
No Defect	0
Minor	1
Moderate	2
Warning	3
Severe	4

Inspection form – Waterways

INSPECTION (mark with an X as applicable for Defect and Degree)

Item No	Inspection Item	Watreway Upstream					Photo No's	Waterway Downstream					Photo No's	Cells/spans with Defects					Photo No's
	Defect D Rating	0	1	2	3	4		0	1	2	3	4		0	1	2	3	4	
1	Siltation																		
2	Scouring																		
3	Debris																		
4	Vegitation																		
5	Erosion																		
6	Environmental issues																		

Urgent Action or Attention required?	Yes		No		If Yes, Urgency?	Immediate		Within 2 months		Within 6 months	

Position	Photo No's	Description of required action

Inspection form – Waterways

INSPECTION (mark with an X as applicable for Defect and Degree)

Item No	Inspection Item	Watreway Upstream					Photo No's	Waterway Downstream					Photo No's	Cells/spans with Defects					Photo No's
	Defect D Rating	0	1	2	3	4		0	1	2	3	4		0	1	2	3	4	
1	Siltation																		
2	Scouring																		
3	Debris																		
4	Vegitation																		
5	Erosion																		
6	Environmental issues																		

Urgent Action or Attention required?	Yes		No		If Yes, Urgency?	Immediate		Within 2 months		Within 6 months	

Position	Photo No's	Description of required action

Inspection form – Waterways

PHOTOGRAPHS			
Photo No.	Inventory Description	Photo No.	Inventory Description
P01	Inlet elevation view	P03	Upstream View of feature crossed
P02	Outlet elevation view	P04	Downsteam View of feature crossed

Photos No	Position / Location	Description of photo of serious defect
P5		
P6		
P7		
P8		
P9		
P10		
P11		
P12		

Inspector's comments:

Inspected by		Date	
Signature		Firm	

Degree Rating Description	No Defect	0	Minor	1	Moderate	2	Warning	3	Severe	4

SAFETY INSPECTION FORMS: TUNNELS

SANRAL

BUILDING SOUTH AFRICA
THROUGH BETTER ROADS

Reg. No. 1998/009584/30. An agency of the Department of Transport.

Questions?

PRACTICAL EXAMPLES

BRIDGES

ITEM 5: UNDERSIDE DECK

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	□
MODERATE	2	□
WARNING	3	□
SEVERE	4	■

BRIDGES

ITEM 2: ABUTMENTS

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	□
MODERATE	2	□
WARNING	3	■
SEVERE	4	□

GANTRIES

ITEM 2: BASE PLATES AND HD BOLTS

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	
MINOR	1	■
MODERATE	2	
WARNING	3	
SEVERE	4	

BRIDGES

ITEM 2: ABUTMENTS

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	
MINOR	1	
MODERATE	2	■
WARNING	3	
SEVERE	4	

WATERWAY & CULVERT

ITEM 4: VEGETATION
ITEM 4: WATERWAY

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	□
MODERATE	2	□
WARNING	3	■
SEVERE	4	□

BRIDGES

ITEM 5: UNDERSIDE OF DECK

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	□
MODERATE	2	□
WARNING	3	■
SEVERE	4	□

WATERWAY & CULVERT

ITEM 1: SILTATION
ITEM 4: WATERWAY

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	□
MODERATE	2	□
WARNING	3	■
SEVERE	4	□

BRIDGES

ITEM 7: EXPANSION JOINTS

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	□
MODERATE	2	□
WARNING	3	■
SEVERE	4	□

BRIDGES

ITEM 3: PIERS

DEFECT

YES	NO
☐	■

DEGREE

NO DEFECT	0	■
MINOR	1	☐
MODERATE	2	☐
WARNING	3	☐
SEVERE	4	☐

BRIDGES

ITEM 3: PIERS

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	□
MODERATE	2	□
WARNING	3	□
SEVERE	4	■

WATERWAYS & BRIDGES

ITEM 3: DEBRIS
ITEM 8: FLOOD DAMAGE

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	□
MODERATE	2	□
WARNING	3	□
SEVERE	4	■

BRIDGES

ITEM 4: TOP OF DECK

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	■
MODERATE	2	□
WARNING	3	□
SEVERE	4	□

BRIDGES

ITEM 7: EXPANSION JOINTS

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	
MINOR	1	■
MODERATE	2	
WARNING	3	
SEVERE	4	

BRIDGES

ITEM 2: ABUTMENTS

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	■
MODERATE	2	□
WARNING	3	□
SEVERE	4	□

CULVERT

ITEM 3: BARREL

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	■
MODERATE	2	□
WARNING	3	□
SEVERE	4	□

BRIDGES

ITEM 2: ABUTMENT

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	□
MODERATE	2	■
WARNING	3	□
SEVERE	4	□

BRIDGES

ITEM 2: ABUTMENT

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	■
MODERATE	2	□
WARNING	3	□
SEVERE	4	□

BRIDGES

ITEM 1: UPPER APPROACHES (INCL GUARDRAILS)

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	□
MODERATE	2	□
WARNING	3	■
SEVERE	4	□

BRIDGES

ITEM 1: UPPER APPROACHES (INCL GUARDRAILS)

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	□
MODERATE	2	□
WARNING	3	□
SEVERE	4	■

WATERWAY

ITEM 1: SILTATION

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	□
MODERATE	2	■
WARNING	3	□
SEVERE	4	□

BRIDGES

ITEM 5: UNDERSIDE OF DECK

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	□
MODERATE	2	□
WARNING	3	■
SEVERE	4	□

BRIDGES

ITEM 7: EXPANSION JOINTS

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	□
MODERATE	2	□
WARNING	3	□
SEVERE	4	■

WATERWAY & CULVERT

ITEM 4: VEGETATION
ITEM 4: WATERWAY

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	□
MODERATE	2	□
WARNING	3	■
SEVERE	4	□

BRIDGES

ITEM 6: HANDRAILS/PARAPETS

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	■
MODERATE	2	□
WARNING	3	□
SEVERE	4	□

BRIDGES

ITEM 5: UNDERSIDE OF DECK

DEFECT

YES	NO
■	□

DEGREE

NO DEFECT	0	□
MINOR	1	□
MODERATE	2	□
WARNING	3	□
SEVERE	4	■

COMPLETE EXAMPLE

SANRAL

BUILDING SOUTH AFRICA
THROUGH BETTER ROADS

Reg. No. 1998/009584/30. An agency of the Department of Transport.

Questions?

CLOSURE AND EVALUATION

SANRAL

BUILDING SOUTH AFRICA
THROUGH BETTER ROADS

Reg. No. 1998/009584/30. An agency of the Department of Transport.

SANRAL

BUILDING SOUTH AFRICA THROUGH BETTER ROADS

RRM Structural Safety Inspection Workshop

Evaluation Form

Date: Tuesday, 18 February 2020
Venue: Ascot Wedding & Conference Venue
Address: 210 Woodhouse Road, Scottsville, Pietermaritzburg
Time: 08:30am – 04:30pm

Please **TICK** the box that best represents your feedback on the workshop:

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	The venue of the workshop created a conducive learning environment	1	2	3	4	5
2	The presentation(s) was clear	1	2	3	4	5
3	The presenter(s) communicated clearly	1	2	3	4	5
4	The workshop helped me understand the importance and need for these inspections	1	2	3	4	5
5	The session helped me to understand how to perform these inspections	1	2	3	4	5
6	I am confident to perform inspections	1	2	3	4	5

Comments:

_____

_____

_____

_____