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PROVISION OF ENGINEERING AND PROJECT MANAGEMENT SUPPORT TO LOCAL MUNICIPALITIES

MOHOKARE LOCAL MUNICIPALITY: BLUE DROP IMPROVEMENT PLAN

PROJECT: MISA/002/2013/TPSP/PROVINCES

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0	November 2013	First Draft Submitted

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EXECUTIVE SUMMARY

The Department of Water Affairs (DWA) has introduced the internationally recognised and acclaimed water quality compliance incentive regulation programme called the Blue Drop & Green Drop Certification Programme. Recently for the 2014 Blue Drop Certification Programme, the No-Drop, a programme to monitor and control water loss and water conservation has been incorporated into the Blue Water Services Audit process.

The Blue Drop Improvement Plan (BDIP) is one of the performance measurements that the regulator, DWA, expects the Water Services Authorities (WSA) to incorporate in the strategies implemented toward regulatory water quality compliance. The BDIP is therefore one of the management tools that the WSA can utilise to monitor continuous improvement toward regulatory water quality compliance and thus the delivery of safe drinking water to the supply area of the Mohokare Local Municipality (MLM).

The most significant areas of improvement within the WSA as highlighted in this Mohokare BDIP are the following:

1. Risk management remains one of the fundamental building blocks toward water quality regulatory compliance. The WSA, as part of its pursuit toward drinking water compliance, should embrace the principles of risk management, particularly in the delivery of drinking water to its constituencies. This should be an integrated process involving all key stakeholders within and without the municipalities. The Water Safety Planning process – one of the key Blue Drop Certification Key Performance Areas - underlines the fundamentals of risk management.
2. Higher emphasis on the maintenance services function and their facilitation toward optimum water quality services delivery particularly. The WSA is encouraged to pay attention to the role the maintenance function can play in ensuring that the infrastructure is kept at a functional condition and thus improvement to its useful life and appropriate service delivery.
3. The WSA is commended on the various improvements that are being commissioned at the various Works. The WSA is advised to consider any implications the improvements can have on the Works water use licences. Further, the WSA should pay attention to the staff requirements and availability to render appropriate operations of the upgraded and new process units.
4. Water quality sampling and monitoring at the three water supply systems is critical in the pursuit toward healthy potable water provision. The WSA is therefore urged to ensure that the following is adhered to:
    - Appropriate Operational Monitoring is observed at all the Water Treatment Works
    - Compliance monitoring is administered across the water supply systems.
    - Accredited laboratory services are provided to the WSA.

The WSA is urged to utilise the BDIP as a management tool toward effective and sustainable water quality regulatory compliance.

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PROPLAN Ref Number	:	1320
Date	:	November 2013

1. INTRODUCTION

Proplan Consulting Engineers (Pty) Ltd (ProPlan) was appointed in July 2013 to assist the MLM with the compilation of a BDIP in order to ensure the organisation and planning of continuous improvement towards effective management and operation of the drinking water systems in Mohokare.

2. SCOPE OF WORK

The scope of work for compiling a BDIP for MLM is based on the Blue Drop Certification Programme and on the Blue Drop Requirements published in 2012. The BDIP needs to be used by MLM as a tool to ensure continuous and sustainable improvement of performance to increase their Blue Drop Score in a calculated and balanced manner which will encourage good management practices and overall improvement in drinking water quality and management.

3. BLUE DROP CERTIFICATION PROGRAMME

The Blue Drop Certification Programme was initiated by the DWA in 2009 as an innovative means to regulate and monitor drinking water quality and the management thereof. The programme was designed with the core objective of safeguarding drinking water quality management.

The Blue Drop Programme also provides the general public with transparent reporting on the ability of the responsible authority to manage drinking water quality according to the risk management principles outlined by the World Health Organisation (WHO). Therefore the Blue Drop Certification Programme not only reflects the actual drinking water quality but also the ability of responsible institutions to sustain the quality as well as preparedness to deal with any incident that may pose a health risk to the public.

4. BLUE DROP STATUS

In order to obtain the prestigious Blue Drop Status, which requires a score of 95% or more against the set Key Performance Areas, Municipalities or Water Service Institutions need to comply with a specific set of requirements, which have become progressively stricter since the programme's inception. Municipalities are provided with a target of 95% compliance to the set Blue Drop Requirements in order to be awarded with a Blue Drop Award to confirm their management of their drinking water systems with excellence.

4.1 Blue Drop Requirements

Regulation of public utilities, in this instance water and wastewater systems services, is the responsibility of the Department of Water Affairs (DWA). DWA, in line with international best practices, e.g. the World Health Organization (WHO), has introduced a robust Water Services Regulation Strategy for the water sector, which clarifies the requirements and obligations placed on Water Services Institutions (WSI), thereby protecting the health of consumers from possible waterborne diseases.

One of the regulatory approaches is that of incentive-based regulation in the form of the Blue Drop Certification Programme that acknowledges excellence in water management. This programme introduces best practises and excellence to the WSA. The Blue Drop assessment process measures and compares the performance of the WSA based on a number of criteria which cover all areas of water management including risk management, process control, water compliance, management accountability and asset management.

Compulsory Participation in the Blue Drop Assessments

The Department of Water Affairs, as the Regulator of Water Services in South Africa, also has the duty to monitor Water Services Institutions (WSI) as specified in Section 62 of the Water Services Act (No. 108 of 1997). WSIs are thus compelled to provide the necessary information required to undertake a proper analysis on the quality of water services and performance and it remains illegal for Water Services Authorities & Water Services Providers to refuse, withhold or provide false information as specified in Section 82 of the Water Services Act (No. 108 of 1997)

Participation in the Blue & Green Drop Assessments is therefore mandatory

NOTE: DWA **Blue Drop** Handbook, Version 1 - 2012

The latest DWA Blue Drop Requirements which were published and used for the 2014 report will be used to compile the BDIP for Mohokare.

Table 1 below lists the requirements of the 2014 Blue Drop Audit.

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Table 1 Blue Drop Requirements

BLUE DROP REQUIREMENTS			
1. Water Safety Planning 35%	**1.1. WATER SAFETY PLANNING PROCESS**	10%	**a.)** The Water Safety Planning Process is steered by a group of people which includes the technical, financial and management staff of the municipality. Where a WSP arrangement exist the WSA and WSP should partake in this process. **b.)** There should be clear indication that the water services institution conducted a water safety planning process and not only drafted a document. **c.)** There should be clear reference to the specific water supply system at hand and not only global risk management measurements put in place.
	1.2. RISK ASSESSMENT	35%	**a.)** The Risk Assessment must cover catchment, treatment and reticulation . **b.)** The Water Services Institution (WSI) must provide information on findings of the Risk Assessment (and detail Risk Prioritisation method followed) for the specific water supply system including water resource quality. Format not important but it should be proven not to be a desktop study. **c.)** The Water Safety Planning process must include (adequate) Control Measures for each significant hazard or hazardous event identified. **d.)** A Water Quality Risk Assessment conducted for at least 80% of the SANS 241 list of determinands. This is to verify whether treatment technology is adequate to treat the raw water to comply with national standard limits. **e) the WSI to prove implementation of mitigation measures from previous Water Safety Plans**
	1.3. MONITORING PROGRAMME	30%	**a.)** Prove **Operational Monitoring** is: i) Informed by the Risk Assessment ii) Required sites to monitor: Raw water, after filtration (per process unit) and final water. iii) Determinands (minimum): pH, turbidity and disinfectant residual iv) Frequency of analyses: at least once per shift v) Equipment used + calibration records **b.)** Prove **Compliance Monitoring** is: i) Informed by the Risk Assessment. ii) Monitoring programme is registered on BDS. iii) Actual monitoring occur according to registered BDS monitoring programme (80%). iv) Required sites monitored: Water works final & distribution network + Frequency of analyses: Water works final according SANS 241; **distribution network according to SANS 241:2011.** v) Coverage of population served must at least be 80%
	1.4. CREDIBILITY OF DWQ DATA	15%	**a)** Certificate of Accreditation for applicable methods OR Z-scores results (z-scores must be ≥–2 & ≤ 2 are acceptable) in a recognised Proficiency Testing Scheme. **b)** DWQ Data credibility on the BDS (Blue Drop Certified Data**)**
	1.5 INCIDENT MANAGEMENT	10%	**a) Protocol to specify:** (1) Alert levels, (2) Response times, (3) Required actions, (4) Roles & responsibilities, (5) Communication vehicles/methods and (6) Must include response on possible risks identified in the Risk Assessment of the Water Safety Planning process **b) Incident Register to include:** (7) Date, location and description of incident (8) Action taken and date of resolution (9) Outcome of cause investigation
	Bonus 1 Sampler's Training:		To be eligible for this bonus, WSI's must provide proof of training of samplers or Sampling Quality Control measures (Name the Sampling Training Course, Duration, Service Provider, and detail of Attendees) (1) Evidence of relevant sampling training that will ensure credibility of the sampling process; or (2) Evidence of control measures to ensure sampling credibility
	Bonus 2 IMP Communication		Communication on the Incident Management Protocol (IMP) process with all relevant staff within the municipality

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BLUE DROP REQUIREMENTS			
2. DWQ Process Control & Management 8%	**2.1 WORKS CLASSIFICATION COMPLIANCE**	15%	Treatment works classified according to the requirements of Regulation 2834-ONLY the classification as it appears on BDS will be used. Supporting evidence to allow the correct classification to be loaded on BDS, Water Services institutions remains accountable for correctness of information / classification Certificate to be displayed at treatment works (confirmed during on-site assessments)
	2.2 PROCESS CONTROL REGISTRATION COMPLIANCE	50%	**a)** Process Control staff must be Registered according to Regulation 2834 with the Department of Water Affairs. Water Services Institutions to prove per treatment works that Process Control Staff complies with the legislative requirements of: i) Number of process Controllers ii) Complying with the required Classification levels. **b)** The Supervisor must comply with legislative requirements. Information as it appears on the BDS will be used ONLY WSI's to ensure correct classification of all staff per treatment plant.
	2.3 WATER TREATMENT WORKS LOGBOOK	35%	**a)** A logbook is in place to record all incidents at the water treatment works. **b)** Evidence is presented that the logbook process is being implemented. (It is NOT required to be implemented for the entire assessment period)
	Bonus 1 Process Control Training		Proof of Process Controller staff being subjected to relevant training the past 12 months to **allow Process Controllers to meet the education requirements towards higher level draft Regulation 17 Registration (Year 2013)**
	Bonus 2 Process Control Excellence		**a) Process control staff classified according to the requirements of draft Regulation 17 on the Blue Drop System.** **b) Process Control Staff and Supervisor compliance confirmed against Draft Regulation 17 (at least 75% in each shift). WSI must indicate shift patterns and Supervisor on BDS. WSI to explain measures in place when shift does not comply with regulatory process control requirements.** **c) WSI must indicate process controllers and /or supervisors that are "shared across different plants/sites**
3. Drinking Water Quality Verification 30%	**3.1.1 MICROBIOLOGICAL DWQ COMPLIANCE**	50%	The Microbiological Quality of the water supply must comply with the South African National Standard (SANS241)(**specifically the 2014 BLUE DROP LIMITS** which have been derived from SANS241: 2006 and 2011) as per the Excellent Requirements set by the Blue Drop Programme(E coli) - Excellent Compliance (97% for <100 00 population & (99% for >100 000 population)
	3.1.2 CHEMICAL DWQ COMPLIANCE	45%	The Chemical Quality of the water supply must comply with the Excellent Requirements set by the Blue Drop Programme for all the chemical-health determinands listed in the South African National Standards (the 2014 Blue Drop Limits, derived from SANS241: 2006 and 2011) Chemical-Health(Acute and Chronic) - Excellent Compliance (95% for <100 000 population) & (97% for 100 000 population) - Good Compliance (93% for <100 000 population) & (95% for 100 000 population)
	3.1.3 OPERATIONAL COMPLIANCE	5%	The compliance of operational determinands must comply with the 2014 Blue Drop Excellent Limits set by the Blue Drop Programme - Excellent Compliance (93% for <100 000 population & 95% for > 100 000 population) - Good Compliance (90% for <100 000 population & 93% for > 100 000 population)
	Bonus Aesthetic DWQ Compliance		The aesthetic Quality of the water supply must comply with the Excellent Requirements set by the Blue Drop Programme for all aesthetic determinands listed in the 2014 Blue Drop Limits - Excellent Compliance (93% for <100 000 population & 95% for > 100 000 population) - Good Compliance (90% for <100 000 population & 93% for > 100 000 population)
	PENALTY 1: Data Difference		Should there be a **difference between data** available on BDS and that which is presented in hardcopy for verification the penalty will apply.
	PENALTY 2: <11 Month's Data		Less than 11 months data available to assess Microbiological and Chemical compliance
	PENALTY 3: Notification of Failure		If there is any **significant (sustained) failure** with no evidence of a Water Quality Alert Notice (Boil Water Notice) being issued, this penalty will apply. NB! This may have an implication on qualification for certification.

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BLUE DROP REQUIREMENTS			
4. Management Accountability & Local Regulation 10%	**4.1 MANAGEMENT COMMITMENT**	30%	Management's commitment to effective Drinking Water Quality Operations and Management should be portrayed by Proof of signature approval of the: a) Water Safety Plan; b) DWQ Monitoring Programme c) Water Treatment Plant Logbook d) Operations and Maintenance Budget e) Water Services Development Plan
	4.2 PUBLICATION OF PERFORMANCE	25%	Evidence should be provided on the various means of drinking water quality information made public to the constituencies supplied with drinking water from this specific water supply system. Forms of Publication: • Newspaper publication • Municipal Billing • Community Radio • Annual Report • Posters & Pamphlets • Population and Promotion of "My Water" • Electronic Webpage The Water Services Institutions must provide0 evidence of adequate marketing of Existing Blue Drop Certified water supply systems
	4.3 SERVICE LEVEL AGREEMENT / PERFORMANCE AGREEMENT	15%	Should there be an institutional arrangement between Water Services Authority and Water Services Provider then it is essential that the legislatively required contract (Section 19 of the Water Services Act) stipulate the Service Level Agreements between the two entities. A copy of this document is required. **OR** Should the Water Services Authority fulfil the function of Water Services Provider as per Section 78 arrangements, then it is required that the responsible manager (official) have a Performance Agreement (Workplan) in place which stipulates Drinking Water Quality Management Responsibilities.
	4.4 SUBMISSION OF DWQ DATA	30%	**a)** 12 months of data had been submitted on the Blue Drop System (BDS) (DWA will only consider data available on the BDS) **b)** **All** compliance monitoring test results are required to be submitted **c)** **As** per a requirement of the Water Services Act, compliance data submission occurred monthly(Section 62 of the Water Services Act, Section 9 Regulations) (measured as BDS submission compliance)
	BONUS (1): Publication of Performance		Availing information on Drinking Water to relevant public in 3 or more forms listed.
	BONUS (2): Performance Agreement		Workplans of Process Controllers aligned to Operations and Maintenance Manual
	BONUS (3): Procurement processes		Proof that systems are in place to not run short of Chemicals & Consumables required for treatment
	PENALTY: Submission of DWQ Data		Penalty will apply should the Department find proof during / post assessment that the WSI are guilty of an offence as per Section 82 of the Water Services Act, by only submitting partial information in order to present a false impression of DWQ Performance and/or compliance.

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BLUE DROP REQUIREMENTS			
5. Asset Management 14%	**5.1 ANNUAL PROCESS AUDIT**	20%	Process Audit Report on technical inspection/assessment of treatment facility and evidence of implementation of findings This process assessment should've been done within the 12-month assessment period
	5.2 ASSET REGISTER	15%	The Institution must present a complete Asset Register. The asset register must: **a)** Detail relevant equipment and infrastructure **b)** Indicate asset description **c)** Location **d)** Condition (remaining life) **e)** Replacement value
	5.3 AVAILABILITY & COMPETENCE OF MAINTENANCE TEAM	15%	**a)** The Institution must present evidence of a competent Maintenance Team (in form of Organogram; Contract or Invoice). Logbook with maintenance entries will serve as adequate evidence (for Mechanical, Electrical, Instrumentation and Civil Work). **b)** Additional prove required on team competency (e.g. Qualification & Experience & Trade-test)
	5.4 OPERATIONS AND MAINTENANCE MANUAL	15%	O&M manual to contain: **a)** Civil, mechanical, electrical detail / drawing of plants **b)** Design capacity of plant, **c)** Operational schedules, maintenance schedule **d)** Process detail and control **e)** Mechanical and electrical equipment specification **f)** Fault finding **g)** Monitoring
	5.5 OPERATIONS & MAINTENANCE BUDGET and EXPENDITURE	20%	The Institution must present credible evidence of: **a)** Maintenance Budget (as part of Operations Budget) **b)** Maintenance Expenditure (as part of the Operations Expenditure) **c)** Maintenance Expenditure should be more than 5% of the Operations Expenditure in Total for the preceding Financial Year. Financial expenditure to apply as per Municipal Budget Year: Jul 2012 to Jun 2013
	5.6 DESIGN CAPACITY vs OPERATIONAL CAPACITY	15%	Proof to be submitted of the documented design capacity and documented daily operating capacity over the past 12 months. Groundwater dependant systems must have an acceptable plan which stipulates abstraction patterns that will prevent aquifer damage. Flow meters must be calibrated at least annually.
6. WATER USE EFFICIENCY & WATER LOSS MANAGEMENT 3%	**6.1 WATER BALANCE**	30%	Provide MONTHLY and ANNUAL composite IWA water balance diagrams and supporting documents for the complete system as part of the water audit (as a component in the WSDP) as per Regulation 509 of 2001 Clause 10 of the Water Supply Regulations. Balance diagram to specify as a minimum the main components of the IWA balance including Water Losses broken down into: **a)** System input volumes **b)** Billed metered and unmetered usage **c)** Unbilled Authorisation Consumption **d)** Water losses broken down into Real and Apparent Losses **e)** Free Basic Water, and **f)** Non Revenue Water and to be supported by a schematic showing bulk meters, zones and main infrastructure components. Note: WSI's to ensure that units are clearly indicated against numeric values in water balance (e.g. 100 kl/annum, 50m^3 /day, etc)
	6.2 WDM STRATEGY AND BUSINESS PLAN AND IMPLEMENTATION	30%	**a)** Evidence must be provided of a Council approved WDM strategy and business plan consisting of at least the following: - Background and Context - Situation Assessment including a Needs Statement - Key issues and challenges - Focus Areas of Intervention - List of Proposed Interventions - Set targets for demand, NRW, commercial and real losses - Budget and multi-year Implementation Timeline

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BLUE DROP REQUIREMENTS									
6. WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (Cont) 3%	**6.2 (Cont)**		**b)** Provide evidence of implementation against the above Plan in terms of: - List of Interventions (Projects) - Movement against targets for demand, NRW, commercial and real losses - Budget and Multi-year Implementation Timeline (Reg 509 of 2001 Clause 10)						
	6.3 COMPLIANCE AND PERFORMANCE	40%	**a)** Provide historic data in order to calculate the following: - Physical (real) water loss trend - Commercial water loss trend - Water use efficiency trend **b)** Provide the following data (grey cells only) with supporting documentation, in order to calculate the WSI baseline profile for: - Physical (real) water loss trend - Commercial water loss trend - Water use efficiency trend						
			Population number served:		SIV (System Input Volume) (kl/annum):		Average system pressure(m):		
			Household served:		Authorised, Billed and Metered (kl/annum):		Usage (l/cap /day):		
			Total connections:		Authorised, Billed and Unmetered (kl/annum):		Non-revenue (l/cap /day):		
			Metered Connections:		Authorised and Unbilled (Kl/annum):		Real losses (l/cap/day)		
			Unmetered Connections:		Authorised Consumption (kl/annum):		% Metering		
			Households with deemed of flat rate billing:		Revenue water (kl/annum):		Efficiency =		
			Number of metered connections billed:		Non-revenue water(kl/annum):				
			Proven Industrial use (kl/annum):		Water losses (kl/annum):				
			Length of mains installed		Apparent or Commercial losses (kl/annum):		Water loss =		
			Assumed commercial losses		Real or Physical water losses (kl/annum):				
	PENALTY: Inclusion in the IDP		Components listed under Criteria 1.2 were not included in the IDP						
	BONUS (1): Training in WDM		a) The institution must present evidence of a competent Water Loss Management Team (in form of an Organogram) with <20% vacancy ratio in accordance with Clause 66 (Staff matters) of the Municipal System Act 32 of 2000. b) Proof required on team manager competency (Qualification & Experience) with the following additional requirement: Manager to have suitable tertiary qualification with suitable experience. c) The institution must present evidence of a competent structured Maintenance Team (in form of Organogram with well-defined positions and job description; Contract or Invoice). Logbook with maintenance entries will serve as adequate evidence. d) Additional proof required on team competency for the team presented under (c) above (e.g. Qualification & Experience & Trade-test). (e) Indicate number of suitably qualified plumbers per 1000 connections.						

5. CURRENT BLUE DROP PERFORMANCE OF MOHOKARE LOCAL MUNICIPALITY

5.1 Overall Performance

Mohokare Local Municipality performance in the initial two years of the programme was averagely at 45%, which is commendable given the fact that the programme had just been introduced. The following two years demonstrated a significant improvement in the overall performance, viz. 2011 and 2012 assessment periods. A summary of the performance is outlined in Figure 1 below.

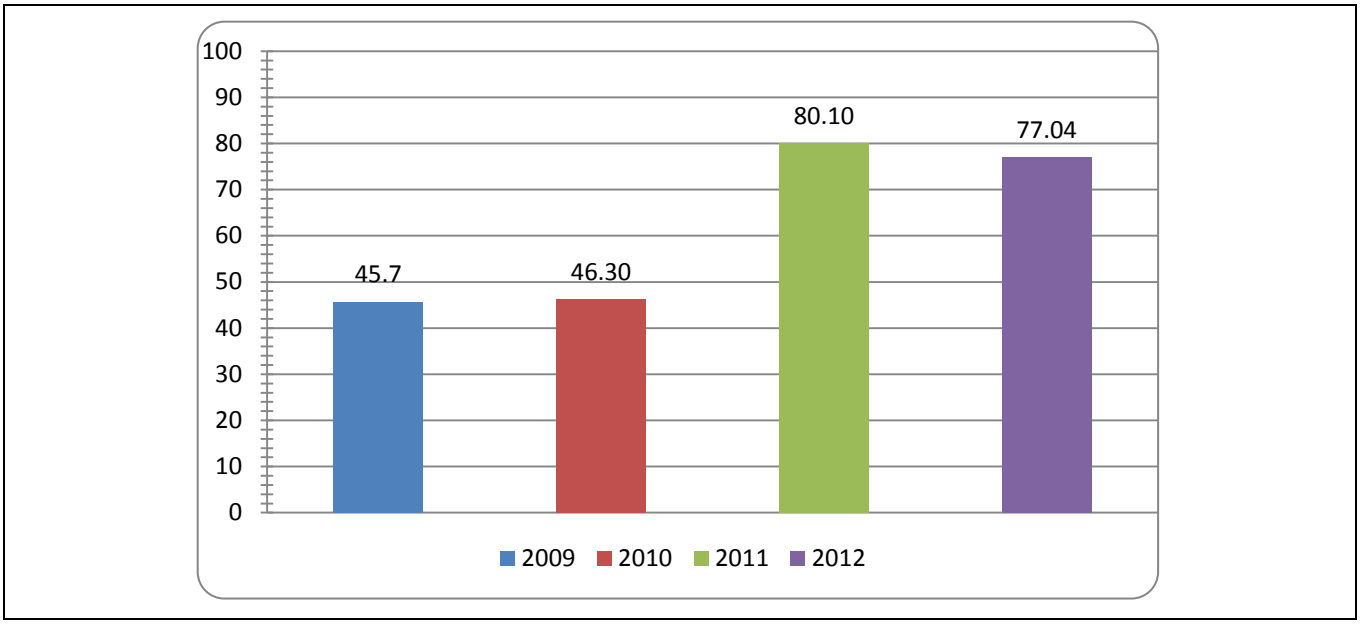

Figure 1 Summary of Mohokare's Blue Drop Performance (2010-2012)

The performance of the WSA at the inception of the BD Certification Programme in 2009 was at an average of 45.7 %, a commendable performance considering the age of the programme, i.e. 1st year of assessments. In the second year of assessment, the WSA performance was just below 50% overall, a slight improvement from the previous period.

The best performance of the Mohokare municipality was in the period of the 2011 BD assessment, an overall score of 80.1% was achieved. The WSA had demonstrated a marked improvement in the management of the drinking water services to its constituents.

In the following assessment period, 2012, although still showing elements of commitment, it is unfortunate that the WSA dropped its overall performance to a level of 77.04%. The BD drinking water quality compliance Key Performance Area was the primary area of low performance, particularly in the Rouxville water supply system.

The overall performance of the WSA in the 2012 period, viewed against all of the 20 municipalities in the Free State Province, is at position seven (7), see Figure 2 below. This performance is indicative of the potential improvement that the Mohokare municipality can bring to the fore.

The development of the BDIP should be interpreted as an opportunity for yet another management tool that can be utilised to obtain the necessary budget resources and consolidate plans that will assist the staff in formulating a plan of action for improvement of the drinking water quality management across all the WSA supply systems. The BDIP should be adopted as a living document where the appropriate actions are recorded during the quarterly reviews, as catered for on the BDIP Excel Sheet for each water supply system.

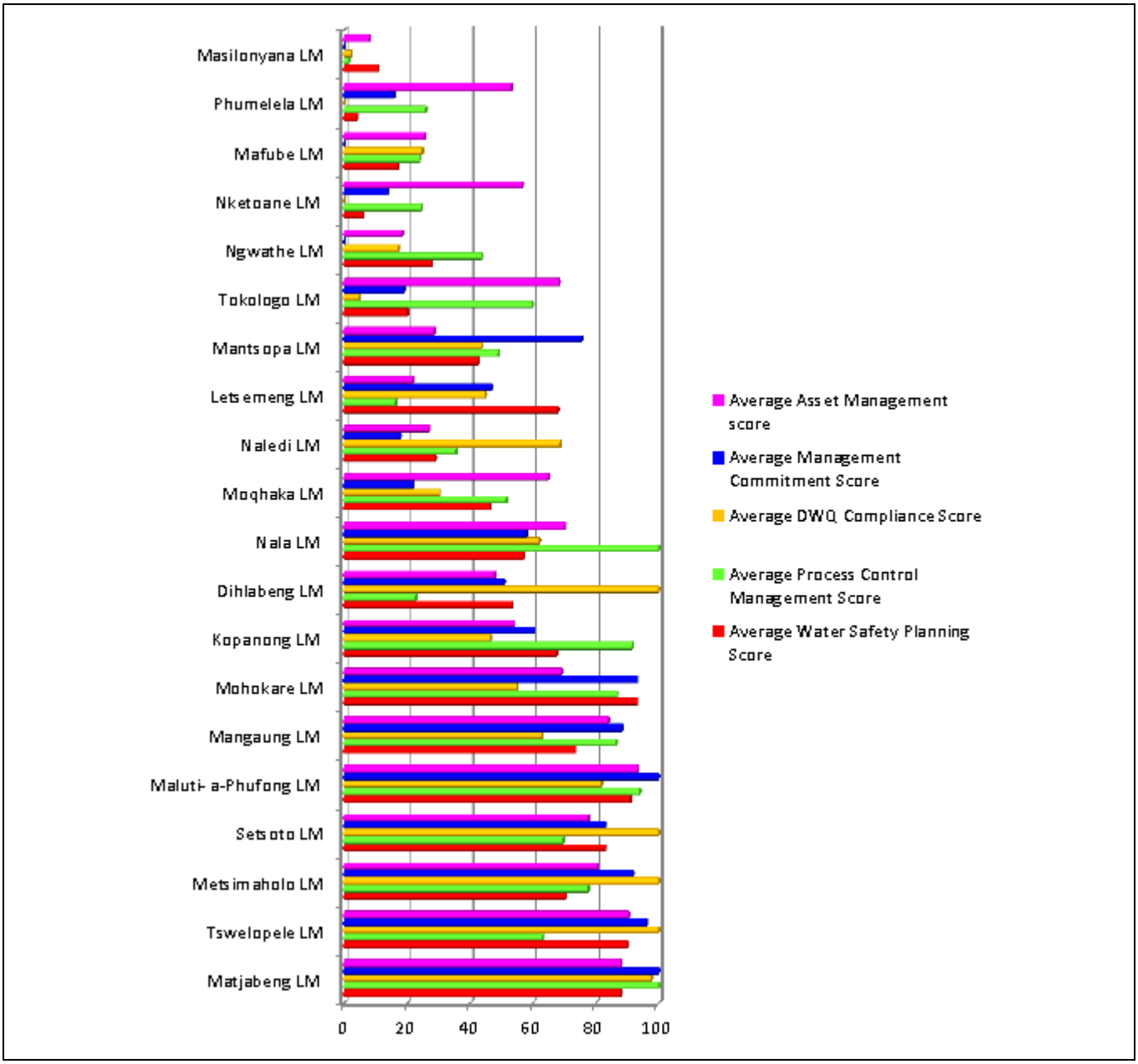

Figure 2 Free State Provincial Blue Drop Comparison for 2012

The performance of all the Free State Region WSAs is displayed in Figure 2 above, the Mohokare municipality is positioned seventh (7^{th}) overall.

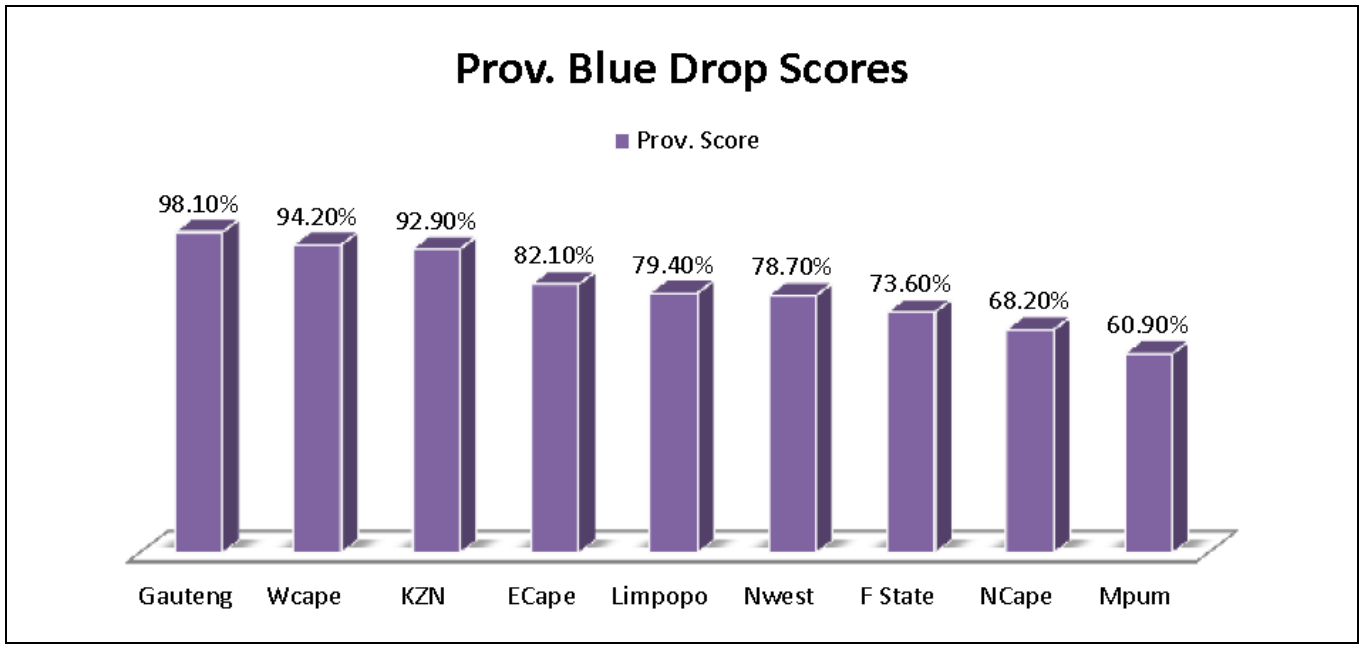

Figure 3 Provincial Blue Drop Performances based on the scores of the individual Water Services institutions within their respective provinces.

5.2 System Performance in Mohokare

During the DWA periodical assessments, each water supply system is audited individually for Blue Drop performance. The performance of each of the Mohokare water supply systems is summarized below in Tables 2-4. One of the fundamental principles that DWA impresses during the implementation of this programme is that of continuous improvement across the WSA water supply systems. To this end DWA is consistently on the lookout to introduce key performance criteria that will assist the WSAs in demonstrating continuous improvement in their respective constituencies. The DWA BD scorecard has thus evolved over the four year period as stipulated below:

2011 – Changes within the Blue Drop Scorecard which placed Failure Response Management as a sub-requirement under the Water Safety Planning Process named the Incident Management Protocol and an Incident Register. A Management Accountability and Local Regulation performance area was introduced and the Data Submission to DWA as well as Publication of Performance criteria were sorted under this requirement.

2012 - The Maintenance competency performance area was moved from the Process Control performance area to the Asset Maintenance performance area

2012 - Credibility of sample analysis was moved to form part of the Water Safety Planning Process Performance Area.

All these changes are indicated in Table 2 to Table 4 as italicised performance areas but for the comparison of performance for these 3 systems, similar requirements are compared against each other for each system (Table 2 – Table 4) for each of the previous four system assessments.

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Table 2 Blue Drop Performance of Zastron Water Supply System

Performance Area	2009	2010	2011	2012
Water Safety Planning Process	n/a	G	85	93
Failure Response/ Incident Management	G	E		
Process control and *maintenance competency*	C	E	70	90
Efficiency of monitoring program	C	B	75	
Credibility of samples analysis	F	F	59	
Compliance with national standard	E	G	93	64
Management Accountability & Local Regulation	n/a	n/a	n/a	93
Data submission to DWA	G	C	100	
Responsible publication of performance	n/a	G	75	
Efficacy of Asset Management	n/a	E	45	69
Microbiological DWQ Compliance	n/a	96.46% (11 months data)	97.22%	96.9%
Chemical DWQ Compliance	n/a	99.99% (3 months data)	100% (11 months data)	>99.9%
Blue Drop Score	27%	30.38% ↑	80.28% ↑	79.8% ↓

Table 3 Blue Drop Performance of the Rouxville Water Supply System

Performance Area	2009	2010	2011	2012
Water Safety Planning Process	n/a	G	86	21
Failure Response/ Incident Management	G	F		
Process control and maintenance competency*	C	E	70	90
Efficiency of monitoring program	C	B	75	
Credibility of samples analysis	F	F	62	
Compliance with national standard	E	B	93	23
Management Accountability & Local Regulation	n/a	n/a	n/a	93
Data submission to DWA	G	C	100	
Responsible publication of performance	n/a	G	75	
Efficacy of Asset Management	n/a	E	45	69
Microbiological DWQ Compliance	n/a	99.99% (11 months data)	99.1%	90.7%
Chemical DWQ Compliance	n/a	99.99% (1 months data)	100% (11 months data)	>99.9%
Blue Drop Score	55%	54.38% ↓	80.38% ↑	65.63% ↓

Table 4 Blue Drop Performance of the Smithfield Water Supply System

Performance Area	2009	2010	2011	2012
Water Safety Planning Process	n/a	G	85	93
Failure Response/ Incident Management	G	E		
Process control and *maintenance competency*	C	E	60	80
Efficiency of monitoring program	C	B	75	
Credibility of samples analysis	F	F	61	
Compliance with national standard	A	B	93	78

Performance Area	2009	2010	2011	2012
Management Accountability & Local Regulation	n/a	n/a	n/a	**93**
Data submission to DWA	G	**C**	**100**	
Responsible publication of performance	n/a	**G**	**75**	
Efficacy of Asset Management	n/a	**E**	**45**	**69**
Microbiological DWQ Compliance	n/a	99.99% (11 months data)	98.70%	99.2%
Chemical DWQ Compliance	n/a	99.99% (01 months data)	100% (11 months data)	>99.9%
Blue Drop Score	**55%**	**54.38%** ↓	**79.47%** ↑	**82.97%** ↑

6. ZASTRON WATER SUPPLY SYSTEM

This water supply system provides drinking water to the Zastron Town and the Matlakeng Township with an estimated population of 18 000. Overall, constant updating of the BDS should be observed together with the development of the Blue Drop File which will be of value during the formal DWA BD Audits.
Below are the key findings on the water supply system.

6.1 Raw Water

There are two Pump Stations that pump the raw water from the Kloof Dam. The primary challenges experienced are:

- Low dam levels outside of the rainy season
- Algae accumulation on the dam water surface
- Faulty pump station raw water pumps primarily due to lack of planned maintenance
- A huge amount of water is diverted onto an overflow dam from the 2nd Pump Station due low pressure of the pumps – lack of maintenance. This, together with leaks at the pumps, should result in huge water losses for the WSA.
- The raw water flow meters have not been operational for over five years

6.2 Zastron Treatment Works

The Process Controllers display a fair understanding of the Works' process units functionality. There is 24 hours operations at the Works – 3 manned shifts of operations.

The operations record keeping requires revision and consolidation into a practical and ease-of-use type recording system.

Operational & compliance monitoring is conducted in accordance the programmes that have been developed. The WSA is urged to ensure that compliance data is loaded on the BDS on monthly basis, else the "In-time Submission Compliance" will be compromised.

The instrumentation utilised during operational monitoring should be calibrated annually or the water quality standards be kept up to date, i.e. no usage of expired standards.

The WSA should consider the installation of a standby generator that will cater for all of the Works functions, not only the final water chlorination process.

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible?	Completion date?	Budget allocation
(1) WATER SAFETY PLANNING	(1.1) WATER SAFETY PLANNING PROCESS	**a.)** The Water Safety Planning Process is steered by a group of people that includes the technical, financial and management staff of the municipality. Where a WSP arrangement exist the WSA and WSP should partake in this process. **b.)** There should be clear indication that the water services institution conducted a water safety planning process and not only drafted a document. **c.)** There should be clear reference to the specific water supply system at hand and not only global risk management measurements put in place.	>Fully complying = 100% > Complying only with B&C = 0.7 > Complying only with A&C = 0.6 > Complying only with A&B = 0.5 > Complying only with one of the sub-requirements = 0.3	a. Review Team: WQ Technician, EHP from District, Mohokare Risk Management Officer, Mohokare H & Safety Reps - WQ Technician kept voice recording of meetings, no other proof of team engagement. b. Review was only a desktop one, no physical visits to sites. Should include HR, Finance, SCM. c. Same as b. Above. d. process should not be desktop only, physical access of facilities & records.	**0.00**	The WSP planning process to be followed should include proper documentation & sufficient evidence of what transpired. Commitment from all members is paramount. a) A multi-disciplinary team representative of all key stakeholders within & outside of the WSA should be constituted. b) There should be evidence that a process was followed in the development or review of the Water Safety Plan, not a desktop review as indicated during discussion. c) The Water Safety Plan review should be specific to the particular system under review, this should include actual process, operations, hazards & risk at the respective water supply system. d) Proof of implementation needs to be provided.	**1.00**	Moshe	Q4 2013	no budget required

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible?	Completion date?	Budget allocation
35	(1.2) RISK ASSESSMENT	**a.)** The Risk Assessment must cover both treatment and reticulation . **b.)** The Water Services Institution (WSI) must provide information on findings of the Risk Assessment (and detail Risk Prioritisation method followed) for the specific water supply system including water resource quality. Format not important but it should be proven not to be a desktop study. **c.)**The Water Safety Planning process must include (adequate) Control Measures for each significant hazard or hazardous event identified. **d.)** A Water Quality Risk Assessment conducted for at least 80% of the SANS 241 list of determinands. This is to verify whether treatment technology is adequate to treat the raw water to comply with national standard level.	> 100% complying with Requirement = 1 > Fully complying with process but not covering 1 risk element identified = 0.9 > Fully complying with process but not covering 2 or more risk elements identified = 0.8 > lacking control measures for which there is no plan in place =0.7 > WSP does not cover 1 of the following elements: Catchment, Treatment Works or Reticulation Risks = 0.6 > Partially complying with process in two elements and then not covering 2 or more risk elements identified = 0.5 > Further deduct points for: Risk Prioritisation not indicated = -0.2 Full SANS 241 Analyses not included as part of the Risk Assessment = -0.2 For any other major shortcoming identified = -0.2	a. The current Risk Register covers elements of the catchment, treatment, & distribution, however, these are historical risks identified in the past. b. Risk assessment method is adequate, however lacks specificity. c. Current Register - historical one - does not contain sufficient & conclusive Control Measures. d. no full SANS conducted as yet, and no Water Quality Risk Assessment conducted.	**0.00**	a). Risk Assessment should encompass catchment, treatment, & reticulation network. b). The Risk Assessment method utilised should be clear and documented, clear elaboration on the specific findings should be included. c). Up to date Control Measures & their efficacy for every significant hazard/risk should be included in the register. d). WSA to conduct a full SANS 241 WQ compliance on the following: raw, final & distribution; then conduct a Water Quality Risk Assessment from the resultant output.	**1.00**	Moshe	Q4 2013	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible?	Completion date?	Budget allocation
1.4	1.3) RISK-BASED MONITORING PROGRAMME	**a.)** Prove **Operational Monitoring** is: i) Informed by the Risk Assessment ii) Required sites to monitor: Raw water, after filtration (per process unit) and final water. iii) Determinands: pH, turbidity and disinfectant residual iv) Frequency of analyses: at least once per shift (i.e. every 8 hours) v) Equipment used + Evidence of calibration (or any other means of ensuring credible readings for the past 3 years).	> Fully complying = 100% > Complying with 4/5 = 0.8 > Complying with 3/5 = 0.6 > Complying with 2/5 = 0.4 > Complying with 1/5 = 0.2 Should there be any other shortcoming identified during the assessment a further -0.2 will apply with good motivation.	1. no Full SANS 241 Risk assessment yet, therefore not informed by Risk Assessment. 2. Sites monitored: Raw Water, after flocculation, sedimentation, filtration, then final water. 3. determinands: Turbidity, Temp, pH, EC, Free Chlorine. Coagulant residuals - Aluminium - not tested due to financial constraints - no instrumentation tools to conduct the test. 4. Frequency - every 4 hrs, through all shifts. 5. Turbidity - use calibration standards & WQ Technician ensures that they are within operational qualification, not expired, i.e. quality preservation standards are followed. EC; Turbidity meter, Pre-Chlorine meter. Note: PCs to attach signature on each form filled.	**0.60**	**NOTE: BDS to be updated with current information - e.g. *process unit operational monitoring not recorded on BDS*** 1. Full SANS 241 to be conducted & results used to inform Operational Monitoring Pgm. 2. Sites well identified, unless Risk Assessment identifies other. 3. Determinands ok unless Risk Assessment identifies other. Appropriate WTW instrumentation to be sourced to conduct coagulant residual monitoring, Aluminium in particular. 4. Frequency appropriate - ensure that the PCs fully understand the monitoring & sampling process, in particular should be able to interpret the results. 5. Calibration standards to be well stored & preserved. 6. The Operations record keeping system & process requires review, particularly how the PCs enter the information, store & pack the various record keeping sheets.	**1.00**	Moshe	Q4 2013	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible?	Completion date?	Budget allocation
		b.) Prove **Compliance Monitoring** is: i) Informed by the Risk Assessment. ii) Monitoring programme is registered on BDS. iii) Actual monitoring occur according to registered BDS monitoring programme (80%). iv) Required sites monitored: Water works final & distribution network + Frequency of analyses: Water works final according SANS 241; distribution monthly. v) Coverage of population served must at least be 80%	> Fully complying = 100% > Complying with 4/5 = 0.8 > Complying with 3/5 = 0.6 > Complying with 2/5 = 0.4 > Complying with 1/5 = 0.2 Should there be any other shortcoming identified during the assessment a further -0.2 will apply with good motivation.	i) Compliance monitoring has not been done according to the findings of the risk assessment - no full SANS 241. ii) Monitoring programme is registered on BDS - to be confirmed iii) Actual data on BDS does not reflect the monitoring programme iv) sites: monitoring conducted by WQ Technician - WTW final water, distribution network - only 1 point; 3 point of use - 1 furthest point in Matlakeng t/ship, 1 at clinic, 1 municipal office. Frequency is 2 X per month. EHP conducts sample audits on same sampling points - will check on where the info is loaded/kept. v) coverage is more than sufficient, relative to population.		**NOTE: BDS to be updated with current information, actual sampling to adhere to Compliance Pgm loaded on the BDS.** i). Full SANS 241 to be conducted & used to inform Risk Assessment ii). Confirm BDS data iii). WSA to provide proof of alignment of actual monitoring against the registered BDS programme, at least at 80%. Iv). WSA to provide proof of sampling points & frequency, e.g. coordinates or GIS Map. v). Keep tabs of population variances & align coverage. NOTE: WSA to explain, with physical evidence, Compliance Monitoring Pgm: monitoring sites (final not listed on BDS Compliance Mon Pgm), differing sampling numbers. WSA to provide actual IGS sampling monitoring results - hard copy.		Moshe	Q4 2013	Budget to be determined
	1.4) CREDIBILITY OF DWQ DATA	**a)** Certificate of Accreditation for applicable methods OR Z-scores results (z-scores must be ≥–2 & ≤ 2 are acceptable) in a recognised Proficiency Testing Scheme. **b)** DWQ Data credibility on the BDS (Blue Drop Certified Data)	Complying with both requirements = 100% Comply only with (a) = 0.6 Complying only with (b) more than 80% = 0.6 Complying only with (b) >60% <80% = 0.4	IGS Lab at OFS, participates in PTS, will load on BDS.	**0.00**	a) WSA to provide proof of IGS Lab accreditation & load on BDS b) Check credibility of the results on the BDS - make sure that each method is listed, and each analyst is registered.	**0.60**	Moshe	Q4 2013	No budget required

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible?	Completion date?	Budget allocation
	(1.5) INCIDENT MANAGEMENT	**Protocol to specify:** (1) alert levels, (2) response times, (3) required actions, (4) roles & responsibilities, (5) communication vehicles and (6) must include response on possible risks identified in the Risk Assessment of the Water Safety Planning process **Incident Register to include :** (7) Date, location and description of incident (8) Action taken and date of resolution (9) Outcome of cause investigation	> Fully complying = 1 > Complying with 8 of the 9 requirements = 0.9 > Complying with 7 of the 9 requirements = 0.85 > Complying with 6 of the 9 requirements = 0.75 > Complying with 5 or 4 of the 9 requirements = 0.5 > Complying with 3 or 2 of the 9 requirements = 0.25 > Complying with 1 of the 9 requirements = 0.15	Incident register is not available. IMP is on BDS, apparently only focusses on WQ.	**0.00**	**Draft an Incident Management Protocol which stipulates:** (1) alert levels, (2) response times, (3) required actions, (4) roles & responsibilities, (5) communication vehicles and (6) responses on possible risks identified in the Risk Assessment of the WSP process **Draft an Incident Register which must include :** (7) Date, location and description of incident (8) Action taken and date of resolution (9) Outcome of cause investigation **There should be proof that this Incident Management Protocol is used regularly during daily operations in the water supply system.**		Moshe	Q4 2013	No budget required
	SAMPLER'S BONUS:	To be eligible for this bonus, WSI's must provide proof of training of samplers or Sampling Quality Control measures (Name the Sampling Training Course, Duration, Service Provider, and detail of Attendees) 1) Evidence of relevant sampling training that will ensure credibility of the sampling process; or 2)Evidence of control measures to ensure sampling credibility	>Complying with both requirements = 100% >Complying with only 1 = 0.75 > If measures are in place but not fully effective then score = 0.5	No relevant training conducted	**0.00**	Training courses for water samplers and process controllers should be investigated & implemented to ensure good sampling and analysis.	**0.00**	Moshe	**Q4 2013**	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible?	Completion date?	Budget allocation
(2) DWQ PROCESS MANAGEMENT & CONTROL	(2.1) WORKS CLASSIFICATION COMPLIANCE	Works classified according to Regulation 2834 requirements. Evidence uploaded on BDS or Copy presented at the assessment.	> Compliance = 100%	Class C, registration certificate on the BDS	**1.00**	Print out latest (new) certificate every year	**1.00**	Moshe	Q4 2013	no budget required
10	(2.2) PROCESS CONTROL REGISTRATION COMPLIANCE	**a)** Process Controllers must be Registered according to Regulation 2834. **b)** The Process Controllers' Classification is complying with legislative requirements i.t.o.: i) Number of process Controllers ii) Complying with the required Classification levels. **c)** The Supervisor must comply with legislative requirements.	> Fully complying = 100% > Complying with all requirements for more than 70% of the Process Controllers = 70% > All PCs registered but >50% <70% PCs complying with standards = 60%. > Supervisor not complying but most PCs complying = 50%. > Only Supervisor complying = 50%.	7 PC: Class V - roaming (WQ Technician), Class I, Class 0 (5 PCs registered as Class 0 due to insufficient information). - not complying. Supervisor (part of the Class 0 PCs) is not complying. 3 Shifts, 24 hrs operation No evidence of the constitution of the PCs. Data loaded on the BDS is the year 2011 version/status.	**0.20**	WSA to load the latest status of staff component on the BDS. An up to date & proper organogram - sanctioned by the HR Dept - should be put in place. NOTE: The industry is moving toward compliance regulation, this includes PC regulation, e.g. the grand parenting process in R17 to manage the transition, & the recognition of NQF based training. a) In order to comply with Regulation 2834 ---- Regulation 17 requires a Class V Process Controller (Supervisor) and 3 x Class III Process Controllers. The supervisor can be shared with another plant.		Moshe	Q4 2013	no budget required

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible?	Completion date?	Budget allocation
3.95	(2.3) AVAILABILITY OF WATER TREATMENT WORKS LOGBOOK	**a)** A logbook is in place to record all incidents at the water treatment works. **b)** Evidence is presented that the logbook process is being implemented. (It is NOT required to be implemented for the entire assessment period)	> Fully complying = 100% > Complying only with a) = 70%	a) Logbook is available but insufficient checks and balanced are in place. It is not signed by the Process Controller / Supervisor b)Implemented but insufficient information	**0.50**	a) Implement a checklist and incident reporting structure. b) Supervisor to sign off the daily report each day	**0.75**	Moshe	Q4 2013	no budget required
	PROCESS CONTROL BONUS	**BONUS**: Proof of Process Controller staff being subjected to relevant training the past 12 months	Name the Process Controlling Training Course, Duration, Service Provider, detail of Attendees > All information provided (>50% of PC staff subjected to training) = 1 > All information except accreditation (<50% of PC staff subjected to training) = 0,5 > Zero score if any other evidence is lacking	No training information provided	**0.00**	Investigate the training needs of the Process Controllers		Moshe	Q4 2013	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible?	Completion date?	Budget allocation
(3) DRINKING WATER QUALITY COMPLIANCE	(3.1.1) DWQ COMPLIANCE (MICROBIOLOGICAL)	The Microbiological Quality of water supply must comply with the South African National Standard (SANS241) as per the Excellent Requirements set by the Blue Drop Programme.	**>100 000 population served by the water supply system:** 99% Microbiological Compliance =100% (1) ≥98 <99% micro compliance = 75% (0.75) ≥97 <98% micro compliance = 50% (0.5) ≥96 <97% micro compliance = 30% (0.3) <96% micro compliance = 0% (0) **<100 000 population served by the water supply system:** 97% Compliance =100% (1) ≥96 < 97% micro compliance = 75% (0.75) ≥95 < 96% micro compliance = 50% (0.5) ≥94 < 95% micro compliance = 30% (0.3) <94% micro compliance = 0% (0)	Microbiological: analysis - 98; failures - 2; compliance - 98.0%; preferred determinand : *E.coli*	**0.00**	a)BDS "**In-Time Submission Compliance" is at 23% due to months of no data submission.** Load all available data onto the system IMMEDIATELY on availability. b)Review sampling program c) Compile an Excel spreadsheet to facilitate data capturing. d) contact Maryna Niemand at DWA helpdesk to assist with the format of the excel spreadsheet upload into the BD system.	**0.00**	Moshe	Q4 2013	no budget required
			NB! Recorded 12 months' Microbiological Compliance	**64.5%**						

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible?	Completion date?	Budget allocation
30	(3.1.2) DWQ COMPLIANCE (CHEMICAL)	The Chemical Quality of water supply must comply with the South African National Standard (SANS241) as per the Excellent Requirements set by the Blue Drop Programme. **a)** Chemical - Acute Health: - Excellent Comp. (97% for <100 000) & (99% for >100 000) - Good Compliance (95% for 100 000) & (97% for >100 000) **b)** Chemical - Chronic Health: -Excellent Compliance (95% for <100 000) & (97% for 100 000) -Good Compliance (93% for <100 000) & (95% for 100 000)	>Excellence Compliance on both = 100% > Excellence in (a) & Good in (b) = 0.8 >Excellence in (b) and Good in (a) = 0.7 >Good compliance in both categories = 0.6 >Good compliance in (a) only = 0.4 >Good compliance in (b) only = 0.3	Chemical: analysis - 85; failures - 0; compliance - >99.0%;	0.00	a)**BDS "In-Time Submission Compliance" is at 25% due to months of no data submission.** Load all available data onto the system IMMEDIATELY on availability. Load all available data onto the system IMMEDIATELY b)Review sampling program c) Compile an Excel spreadsheet to facilitate data capturing. d) contact Maryna Niemand at DWA helpdesk to assist with the format of the excel spreadsheet upload into the BD system.	0.30	Moshe	Q4 2013	no budget required
			NB! Recorded 12 months' Chemical Compliance	**60.0%**						
0.75	(3.2) RISK REFINED COMPLAINCE	The Compliance of all Determinands identified during the Risk Assessment Process to be included in the risk-defined monitoring programme, must comply with the requirements set in the SANS 241. a) Excellent Compliance (95% for <100 000 & 97% for >100 000) b) Good Compliance (93% for <100 000 & 95% for >100 000)	>Excellence = 100% (1) >Good = 60% (0.6)	No Risk Refined Monitoring Program in place	0.00	Full SANS 241 to be conducted. Review the sampling program - informed by the full SANS 241 - to identify risks and to monitor for these risks in the sampling programme.	0.20	Moshe	Q4 2013	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible?	Completion date?	Budget allocation
	(3.3) OPERATIONAL EFFICIENCY INDEX	The compliance of operational determinands as monitored at the Final Water sampling point must comply with the SANS 241 Requirements. a) Excellent Compliance (93% for <100 000 & 95% for >100 000) b) Good Compliance (90% for <100 000 & 93% for >100 000)	>Excellence = 100% (1) >Good = 60% (0.6)	Low percentage compliance across all determinands primarily due to no data submission.	**0.60**	**BDS "In-Time Submission Compliance" is at 5% due to months of no data submission.** Load all available data onto the system IMMEDIATELY on availability. Review Operational Monitoring Pgm to ensure all risk identified operational determinands are included. Ensure WTW instrumentation & standards are up to date.	**0.60**	Moshe	Q4 2013	Budget to be determined
	PENALTY (1): Data Difference	Should there be a **difference between data** available on BDS and that which is presented in hardcopy for verification the penalty will apply.		Yes there would be a penalty if all available date is not loaded.	**-1.00**	Load all available data onto the BD System as soon as possible	**0.00**	Moshe	Q4 2013	no budget required
	PENALTY (2): <11 Months' Data	**Less than 11 months data** available to assess Microbiological and Chemical compliance		Yes there would be a penalty if all available date is not loaded.	**-1.00**	Load all available data onto the BD System as soon as possible	**0.00**	Moshe	Q4 2013	no budget required
	PENALTY (3) Notification Failure	If there is any **significant (sustained) failure** with no evidence of a Water Quality Alert Notice (Boil Water Notice) being issued, this penalty will apply.		No Incident Register in place however the water quality compliance is between 50-80%		Implement the Incident Register and Incident Management Protocol as per Requirement 1.5. above.	**0.00**	Moshe	**Q4 2013**	**no budget required**

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible?	Completion date?	Budget allocation
(4) MANAGEMENT, ACCOUNTABILITY, & LOCAL REGULATION	**(4.1) MANAGEMENT COMMITMENT**	Management's commitment to effective Drinking Water Quality Operations and Management should be portrayed by Proof of signature approval of the: **a)** Water Safety Plan; **b)** DWQ Monitoring Programme **c)** Water Treatment Plant Logbook **d)** Operations and Maintenance Budget **e)** Water Services Development Plan	> Full Compliance = 100% > 4/5 = 80% > 3/5 = 60% > 2/5 = 40% > 1/5 = 20%	No proof of management commitment provided as required in the KPA 4.1.	**0.00**	WSA to ensure that Senior Management reads & attaches their signatures at least on the ff. documents: a) Water Safety Plan; b) DWQ Monitoring Programme c) Water Treatment Plant Logbook d) Operations and Maintenance Budget e) Water Services Development Plan	**1.00**	Technical Director	Dec 20th 2013	No budget required

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible?	Completion date?	Budget allocation
10	(4.2) PUBLICATION OF PERFORMANCE	Evidence should be provided on the various means of drinking water quality information made public to the constituencies supplied with drinking water from this specific water supply system. Forms of Publication: >Newspaper publication >Municipal Billing >Annual Report >Posters & Pamphlets >Population and Promotion of "My Water" >Electronic Webpage The Water Services Authority must ensure that evidence of adequate marketing of Existing Blue Drop Certified water supply systems are presented during the audit.	> Newspaper publication = 100% (1) > Displayed on municipal Billing = 90% (0.9) > Populating & promoting "My Water" municipal information = 80% (0.8) > Municipal Annual Report + Ward Committee Distribution &/ Posters = 60% (0.6) > Municipal Annual Report = 50% (0.5) > Electronic (Web-page) Information = 40% (0.4) > Should the municipality utilise two or more means of communication, 100% scoring will apply (1) > Should it be a water supply system that is currently Blue Drop Certified, and no evidence can be given of Blue Drop marketing/awareness, a full score cannot be applied. Maximum score = 80% (0.8)	The WSA Communication Officer: publication in local newspaper & annual report, however, no evidence provided.	0.00	Evidence of whatever DWQ Performance publication is in place, else, WSA to follow the suggested approach from KPA 4.2		Moshe	Q4 2013	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible?	Completion date?	Budget allocation
0	(4.3) SERVICE LEVEL AGREEMENT/ PERFORMANCE AGREEMENT	Should there be a institutional arrangement between Water Services Authority and Water Services Provider the it is essential that the legislatively required contract stipulate Service Level Agreements between the two entities. A copy of this document is required. **OR** Should the Water Services Authority fulfil the function of Water Services Provider as per Section 78 arrangements, then it is required that the responsible manager (official) have a Performance Agreement (Workplan) in place which stipulates Drinking Water Quality Management Responsibilities.	Fully complying = 100% > Agreement in-place but with minor shortcomings = 0.75 >Agreement in place but with significant Shortcomings = 0.5	WSA to make available the current performance agreements for its water & technical staff.		WSA to make available the current performance agreements for its water & technical staff.		Technical Director	Q4 2013	No budget required
	(4.4) SUBMISSION OF DWQ DATA	**a)** 12 months of data submitted on the Blue Drop System (BDS). WSI's must ensure that 12 months' sets of results are recorded on the BDS (DWA will only consider data available on the BDS) **b)** Note: **All** Compliance Monitoring test results are required to be submitted.	> 12 months = 100% (1) > 11 months = 50% (0.5) > 10 months = 20% (0.2) > <10months = 0% (0)	Not submitted monthly due to IGS account not well managed - insufficient payment for services rendered, Jun-Oct 2013.	**0.00**	Load all available data onto the BDS. It is imperative to load data as it becomes available, avoid skipping data loading periods as this constitutes non-compliance.		Moshe	Monthly	No budget required
	Bonus: Publication of Perfor-mance	Availing information on Drinking Water to relevant public in 3 or more forms listed.	Full score or "no" bonus	No Bonus	**0.00**	Consider publication of information on the internet, Municipal Billing and the local newspaper or radio station.		Moshe	Annually	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible?	Completion date?	Budget allocation
	Bonus: Performance Agreement	Workplans of Process Controllers aligned to Operations and Maintenance Manual	Full score or "no" bonus	No Bonus	**0.00**	Human Resources, Technical and Plant Manager to ensure that the Workplans of the Process Controllers are aligned to the O & M Manuals		Moshe	Annually	Budget to be determined
	Penalty: Submission of DWQ Data	Penalty will apply should the Department find proof during / post assessment that the WSI are guilty of an offence as per Section 82 of the Water Services Act, by only submitting partial information in order to present a false impression of DWQ Performance and/or compliance.				WSA to ensure that all available information, in its entirety, is submitted for evaluation.		Moshe	Monthly	No budget required
(5) ASSET MANAGEMENT	**(5.1) ANNUAL PROCESS AUDIT**	Process Audit Report on technical inspection/assessment of treatment facility and evidence of implementation of findings This process assessment should've been done within the 12-month assessment period	> Fully complying (Technical report in-place and findings implementation proof/plan provided = 1 > Report in place with evidence of findings implementation but with shortcomings = 0.75 > Only Technical Report in-place = 0.5 > A report is in place but with shortcomings = 0.25	No Process Audit has been conducted	**0.00**	Process Audit to be conducted for current period with evidence of implementation.	**0.70**	Technical Director	Q4 2013	R75K
15	**(5.2) ASSET REGISTER**	The Institution must present a complete Asset Register. The asset register must : **a)** detail relevant equipment and infrastructure **b)** indicate asset description **c)** location **d)** condition (remaining life) **e)** replacement value	> Full score (1) for proof of adequate Asset Register >comply with 4/5 = 0.8 >comply with 3/5 = 0.6 >comply with 2/5 = 0.4 >comply with 1/5 = 0.2 **OR** > If only a list of assets = 0.2	No Asset Register provided during assessment review	**0.00**	An Asset register to be provided as evidence, should at least include: a) detail relevant equipment and infrastructure b) indicate asset description c) location d) condition (remaining life) e) replacement value	**1.00**	Moshe	Q4 2013	no budget required

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible?	Completion date?	Budget allocation
0	(5.3) AVAILABILITY & COMPETENCE OF MAINTENANCE TEAM	**a)** The Institution must present evidence of a competent Maintenance Team (in form of Organogram; Contract or Invoice). Logbook with maintenance entries will serve as adequate evidence. **b)** Additional prove required on team competency (e.g. Qualification & Experience & Trade-test)	>Fully complying = 100% > Only complying with **(a)** = 0.6 > Only complying with **(b)** = 0.5	No evidece of a competent Maintenance Team nor Logbook provided. Work relationship with Maintenance Team is at a very low level, e.g. installation of flow meters has taken more that 2 months. Relationship between the PCs at Works & the Maintenance Supervisors to be explained. Pumps at the two Pump Stations are not 100% operational: i) PStation 1: at the Dam - 2 Pumps: the one has been out of commission since Feb 2013. The commissioned one has high leakage. Flow meter is not working - more than 5 years. Algae manifestation on the dam water, enough water supply though. These are primarily symptoms of poor maintenance - very little of maintenance work performed. ii) PStation 2: Faulty pump - only 1 is fully operations - resulting in overall low pressure, hence overflow onto balance dam. Cost of volume of water pumped from source & invoiced by DWA, what % is lost onto balance dam?	**0.00**	WHO, WHAT, HOW, WHEN, WHERE questions to be answered about the maintenance team with hard evidence. a) Evidence of a competent Maintenance Team - Organogram (co-signed by HR Dept) - together with a Logbook with practical maintenance entries/activities to be provided. b) Maintenance Team competency evidence to be provided as well. c) In the event that external maintenance contracts exists, a contract & competencies of the team to be provided.	**1.00**	Technical Director	Q1 2014	To be assessed

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible?	Completion date?	Budget allocation
	(5.4) OPERATIONS & MAINTENANCE MANUAL	O&M manual to contain: **a)** civil, mechanical, electrical detail of plant, **b)** design capacity of plant, **c)** reference to drawings, **d)** operational schedules, maintenance schedules, **e)** process detail and control, **f)** instrumentation specification/type, **g)** fault finding, **h)** monitoring, **i)** pump curves, **g)** supportive appendices	> Fully complying = 100% > Complying with 9/10 = 90% > Complying with 8/10 = 80% > Complying with 7/10 = 70% > Complying with 6/10 = 60% > Complying with 5/10 = 50% > Complying with 4/10 = 40% > Complying with 3/10 = 30% > Complying with 2/10 = 20% > Complying with 1/10 = 10% The inspector may deduct points for other shortcomings identified in the document. Should there be reason to believe that the document is a "cut & paste" job then a full score shall not apply (at most 75%)	An identical O&M Manual is found at all the WTW. It is not site-specific & lacks certain technical & engineering components (civils, mechanical, electrical) of the Works.	**0.60**	The WSA is adviced to formally go out on Tender for proper O&M Manual development for the WTW. Ensure the manual will include the items listed in the KPA.	**1.00**	Moshe	Q2 2014	Budget to be finalised
	(5.5) OPERATIONS & MAINTENANCE BUDGET AND EXPENDITURE	The Institution must present credible evidence of: **a)** Maintenance Budget (as part of Operations Budget) **b)** Maintenance Expenditure (as part of the Operations Expenditure) **c)** Maintenance Expenditure should be more than 5% of the Operations Expenditure in Total for the preceding Financial Year.	> Fully complying = 100% > With available info expenditure percentage must be calculated; If less than 5% = 0.6 > Only complying with **(a)** = 0.4	No Budget provided during the assessment review.	**0.00**	Please add this information to the Blue Drop File under Section 5.5. a) Maintenance Budget (as part of Operations Budget) b) Maintenance Expenditure (as part of the Operations Expenditure) c) Work out the Maintenance Expenditure as a percentage of the Operations Expenditure for the preceding Financial Year. This should be MORE than 5%	**0.60**	Technical Director	Q4 2013	no budget required

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible?	Completion date?	Budget allocation
	(5.6) DESIGN CAPACITY vs.. OPERATIONAL CAPACITY	Proof to be submitted of the documented design capacity and documented daily operating capacity over the past 12 months Groundwater dependant systems must have an acceptable plan which stipulates abstraction patterns that will prevent aquifer damage Flow meters must be calibrated at least annually	> 1 = evidence of verified plant capacity/aquiver utilisation plan + daily flow measurements + calibrated flow meters + peak flows under design capacity. > 0.75 = evidence of verified plant capacity + daily flow measurements + peak flows under design capacity. > 0.4 = should Peak Flows exceed Design Capacity. > 0.25 = Providing recorded pumping rate from aquifer but exceeds geohydrolical recommendation i.t.o Yield	WQ Technician will supply original design capacity & the 12 months daily operating capacity documentation for the Works.		1. Confirm that all flow meters are operational & well calibrated annually. Include flow meter reading as part of the Operational Monitoring Pgm - institute a simplistic & easy to enter & interpret flow measurement & recording process. Compile a spreadsheet which draws a graph of daily operating capacity over the preceding 12 months against the design capacity. Determine Average, Maximum and Minimum flows and dates. 2. Confirm if there are any borehole water supplies in the system. 3. Installation of flow meters at the Works, been lying around for +- 2 months.		Moshe	Q4 2013	no budget required
	(6.) NO DROP Water conservation and Water demand Management	Provide evidence of the in and outputs of the Bulk Water System by providing a IWA Water Balance. a)Total volume of water into the system (monthly and annual) b)Total billed authorised volume(per month) c)Total unbilled authorised volume(per month) d) Number of connections e) Number of households f) Total unbilled unauthorised volume (per month) g) Water Losses %		New BD Criteria		Fill in the No Drop form which will be sent to you as part of your invitation to the assessment. Ensure that documentary proof is kept and available when required during the assessment.				

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible?	Completion date?	Budget allocation
		A Water Conservation and Water Demand Management Plan should be presented as well as proof of implementation		New BD Criteria		Fill in the No Drop form which will be sent to you as part of your invitation to the assessment. Ensure that documentary proof is kept and available when required during the assessment.				
		Proof of competency (Qualifications and Experience) of the technical Manager in charge of WC /WDM		New BD Criteria		Fill in the No Drop form which will be sent to you as part of your invitation to the assessment. Ensure that documentary proof is kept and available when required during the assessment.				

7. ROUXVILLE WATER SUPPLY SYSTEM

This water supply system provides drinking water to the Rouxville Town and the Roleleathunya Township with an estimated population of 12 000. Overall, constant updating of the BDS should be observed together with the development of the Blue Drop File which will be of value during the formal DWA BD Audits. The WSA is in the process of constructing a new water treatment works next to the current Rouxville Works.
Operational & compliance monitoring is conducted in accordance the programmes that have been developed. The WSA is urged to ensure that compliance data is loaded on the BDS on monthly basis, else the “In-time Submission Compliance” will be compromised.

Below is the BDIP for the supply system.

P. O. Box 20, Zastron, 9950
Tel: 051 673 9600
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E-mail info@mohokare.gov.za
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Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is Responsible?	Completion Date?	Budget Allocation
(1) WATER SAFETY PLANNING	(1.1) WATER SAFETY PLANNING PROCESS	**a.)** The Water Safety Planning Process is steered by a group of people that includes the technical, financial and management staff of the municipality. Where a WSP arrangement exist the WSA and WSP should partake in this process. **b.)** There should be clear indication that the water services institution conducted a water safety planning process and not only drafted a document. **c.)** There should be clear reference to the specific water supply system at hand and not only global risk management measurements put in place.	>Fully complying = 100% > Complying only with B&C = 0.7 > Complying only with A&C = 0.6 > Complying only with A&B = 0.5 > Complying only with one of the sub-requirements = 0.3	a. Review Team: WQ Technician, EHP from District, Mohokare Risk Management Officer, Mohokare H & Safety Reps - WQ Technician kept voice recording of meetings, no other proof of team engagement. B. Review was only a desktop one, no physical visits to sites. Should include HR, Finance, SCM. C. Same as b. Above. d. process should not be desktop only, physical access of facilities & records.	**0.00**	The WSP planning process to be followed should include proper documentation & sufficient evidence of what transpired. Commitment from all members is paramount. a) A multi-disciplinary team representative of all key stakeholders within & outside of the WSA should be constituted. b) There should be evidence that a process was followed in the development or review of the Water Safety Plan, not a desktop review as indicated during discussion. c) The Water Safety Plan review should be specific to the particular system under review, this should include actual process, operations, hazards & risk at the respective water supply system. d) Proof of implementation needs to be provided.	**1.00**	Moshe	Q4 2013	no budget required

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Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is Responsible?	Completion Date?	Budget Allocation
35	(1.2) RISK ASSESSMENT	**a.)** The Risk Assessment must cover both treatment and reticulation . **b.)** The Water Services Institution (WSI) must provide information on findings of the Risk Assessment (and detail Risk Prioritisation method followed) for the specific water supply system including water resource quality. Format not important but it should be proven not to be a desktop study. **c.)**The Water Safety Planning process must include (adequate) Control Measures for each significant hazard or hazardous event identified. **d.)** A Water Quality Risk Assessment conducted for at least 80% of the SANS 241 list of determinands. This is to verify whether treatment technology is adequate to treat the raw water to comply with national standard level.	> 100% complying with Requirement = 1 > Fully complying with process but not covering 1 risk element identified = 0.9 > Fully complying with process but not covering 2 or more risk elements identified = 0.8 > lacking control measures for which there is no plan in place =0.7 > WSP does not cover 1 of the following elements: Catchment, Treatment Works or Reticulation Risks = 0.6 > Partially complying with process in two elements and then not covering 2 or more risk elements identified = 0.5 > Further deduct points for: Risk Prioritisation not indicated = -0.2 Full SANS 241 Analyses not included as part of the Risk Assessment = -0.2 For any other major shortcoming identified = -0.2	a. The current Risk Register covers elements of the catchment, treatment, & distribution, however, these are historical risks identified in the past. b. Risk assessment method is adequate, however lacks specificity. c. Current Register - historical one - does not contain sufficient & conclusive Control Measures. d. no full SANS conducted as yet, and no Water Quality Risk Assessment conducted.	**0.00**	a). Risk Assessment should encompass catchment, treatment, & reticulation network. b). The Risk Assessment method utilised should be clear and documented, clear elaboration on the specific findings should be included. c). Up to date Control Measures & their efficacy for every significant hazard/risk should be included in the register. d). WSA to conduct a full SANS 241 WQ compliance on the following: raw, final & distribution; then conduct a Water Quality Risk Assessment from the resultant output.	**1.00**	Moshe	Q4 2013	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is Responsible?	Completion Date?	Budget Allocation
1.4	1.3) RISK-BASED MONITORING PROGRAMME	**a.)** Prove **Operational Monitoring** is: i) Informed by the Risk Assessment ii) Required sites to monitor: Raw water, after filtration (per process unit) and final water. iii) Determinands: pH, turbidity and disinfectant residual iv) Frequency of analyses: at least once per shift (i.e. every 8 hours) v) Equipment used + Evidence of calibration (or any other means of ensuring credible readings for the past 3 years).	> Fully complying = 100% > Complying with 4/5 = 0.8 > Complying with 3/5 = 0.6 > Complying with 2/5 = 0.4 > Complying with 1/5 = 0.2 Should there be any other shortcoming identified during the assessment a further -0.2 will apply with good motivation.	1. no Full SANS 241 Risk assessment yet, therefore not informed by Risk Assessment. 2. Sites monitored: Raw Water, after flocculation, sedimentation, filtration, then final water. 3. determinands: Turbidity, Temp, pH, EC, Free Chlorine. Coagulant residuals - Aluminium - not tested due to financial constraints - no instrumentation tools to conduct the test. 4. Frequency - every 4 hrs, through all shifts. 5. Turbidity - use calibration standards & WQ Technician ensures that they are within operational qualification, not expired, i.e. quality preservation standards are followed. EC; Turbidity meter, Pre-Chlorine meter. Note: PCs to attach signature on each form filled.	**0.60**	**NOTE: BDS to be updated with current information - e.g. *process unit operational monitoring not recorded on BDS*** 1. Full SANS 241 to be conducted & results used to inform Operational Monitoring Pgm. 2. Sites well identified, unless Risk Assessment identifies other. 3. Determinands ok unless Risk Assessment identifies other. Appropriate WTW instrumentation to be sourced to conduct coagulant residual monitoring, Aluminium in particular. 4. Frequency appropriate - ensure that the PCs fully understand the monitoring & sampling process, in particular should be able to interpret the results. 5. Calibration standards to be well stored & preserved. 6. The Operations record keeping system & process requires review, particularly how the PCs enter the information, store & pack the various record keeping sheets.	**1.00**	Moshe	Q4 2013	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is Responsible?	Completion Date?	Budget Allocation
		b.) Prove **Compliance Monitoring** is: i) Informed by the Risk Assessment. ii) Monitoring programme is registered on BDS. iii) Actual monitoring occur according to registered BDS monitoring programme (80%). iv) Required sites monitored: Water works final & distribution network + Frequency of analyses: Water works final according SANS 241; distribution monthly. v) Coverage of population served must at least be 80%	> Fully complying = 100% > Complying with 4/5 = 0.8 > Complying with 3/5 = 0.6 > Complying with 2/5 = 0.4 > Complying with 1/5 = 0.2 Should there be any other shortcoming identified during the assessment a further -0.2 will apply with good motivation.	i) Compliance monitoring has not been done according to the findings of the risk assessment - no full SANS 241. ii) Monitoring programme is registered on BDS - to be confirmed iii) Actual data on BDS does not reflect the monitoring programme iv) sites: monitoring conducted by WQ Technician - WTW final water, distribution network - only 1 point; 3 point of use - 1 furthest point in Matlakeng t/ship, 1 at clinic, 1 municipal office. Frequency is 2 X per month. EHP conducts sample audits on same sampling points - will check on where the info is loaded/kept. v) coverage is more than sufficient, relative to population.		**NOTE: BDS to be updated with current information, actual sampling to adhere to Compliance Pgm loaded on the BDS.** i). Full SANS 241 to be conducted & used to inform Risk Assessment ii). Confirm BDS data iii). WSA to provide proof of alignment of actual monitoring against the registered BDS programme, at least at 80%. Iv). WSA to provide proof of sampling points & frequency, e.g. coordinates or GIS Map. v). Keep tabs of population variances & align coverage. NOTE: WSA to explain, with physical evidence, Compliance Monitoring Pgm: monitoring sites (final not listed on BDS Compliance Mon Pgm), differing sampling numbers. WSA to provide actual IGS sampling monitoring results - hard copy.		Moshe	Q4 2013	Budget to be determined
	1.4) CREDIBILITY OF DWQ DATA	**a)** Certificate of Accreditation for applicable methods OR Z-scores results (z-scores must be ≥–2 & ≤ 2 are acceptable) in a recognised Proficiency Testing Scheme. **b)** DWQ Data credibility on the BDS (Blue Drop Certified Data)	Complying with both requirements = 100% Comply only with (a) = 0.6 Complying only with (b) more than 80% = 0.6 Complying only with (b) >60% <80% = 0.4	IGS Lab at OFS, participates in PTS, will load on BDS.	**0.00**	a) WSA to provide proof of IGS Lab accreditation & load on BDS b) Check credibility of the results on the BDS - make sure that each method is listed, and each analyst is registered.	**0.60**	Moshe	Q4 2013	no budget required

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is Responsible?	Completion Date?	Budget Allocation
	(1.5) INCIDENT MANAGEMENT	**Protocol to specify:** (1) alert levels, (2) response times, (3) required actions, (4) roles & responsibilities, (5) communication vehicles and (6) must include response on possible risks identified in the Risk Assessment of the Water Safety Planning process **Incident Register to include :** (7) Date, location and description of incident (8) Action taken and date of resolution (9) Outcome of cause investigation	> Fully complying = 1 > Complying with 8 of the 9 requirements = 0.9 > Complying with 7 of the 9 requirements = 0.85 > Complying with 6 of the 9 requirements = 0.75 > Complying with 5 or 4 of the 9 requirements = 0.5 > Complying with 3 or 2 of the 9 requirements = 0.25 > Complying with 1 of the 9 requirements = 0.15	Incident register is not available. IMP is on BDS, apparently only focusses on WQ.	**0.00**	**Draft an Incident Management Protocol which stipulates:** (1) alert levels, (2) response times, (3) required actions, (4) roles & responsibilities, (5) communication vehicles and (6) responses on possible risks identified in the Risk Assessment of the WSP process **Draft an Incident Register which must include :** (7) Date, location and description of incident (8) Action taken and date of resolution (9) Outcome of cause investigation **There should be proof that this Incident Management Protocol is used regularly during daily operations in the water supply system.**		Moshe	Q4 2013	no budget required
	SAMPLER'S BONUS:	To be eligible for this bonus, WSI's must provide proof of training of samplers or Sampling Quality Control measures (Name the Sampling Training Course, Duration, Service Provider, and detail of Attendees) 1) Evidence of relevant sampling training that will ensure credibility of the sampling process; or 2)Evidence of control measures to ensure sampling credibility	>Complying with both requirements = 100% >Complying with only 1 = 0.75 > If measures are in place but not fully effective then score = 0.5	No relevant training conducted	**0.00**	Training courses for water samplers and process controllers should be investigated & implemented to ensure good sampling and analysis.	**0.00**	Moshe	Q4 2013	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is Responsible?	Completion Date?	Budget Allocation
(2) DWQ PROCESS MANAGEMENT & CONTROL	(2.1) WORKS CLASSIFICATION COMPLIANCE	Works classified according to Regulation 2834 requirements. Evidence uploaded on BDS or Copy presented at the assessment.	> Compliance = 100%	Works Certificate provided - Class C works	**1.00**	Print out latest (new) certificate every year	**1.00**	Moshe	Q4 2013	no budget required
10	(2.2) PROCESS CONTROL REGISTRATION COMPLIANCE	**a)** Process Controllers must be Registered according to Regulation 2834. **b)** The Process Controllers' Classification is complying with legislative requirements i.t.o.: i) Number of process Controllers ii) Complying with the required Classification levels. **c)** The Supervisor must comply with legislative requirements.	> Fully complying = 100% > Complying with all requirements for more than 70% of the Process Controllers = 70% > All PCs registered but >50% <70% PCs complying with standards = 60%. > Supervisor not complying but most PCs complying = 50%. > Only Supervisor complying = 50%.	a) Process Controllers are registered but are all Class 0 and 1 x Class 1. b) The process controllers do not comply with the relevant legislation as all are Class 0 and 1 x Class 1. (i) Number of process controllers = X (ii) Compliant Process Controllers = Y c) The Supervisor does not comply with the legislation	**0.20**	WSA to load the latest status of staff component on the BDS. An up to date & proper organogram - sanctioned by the HR Dept - should be put in place. NOTE: The industry is moving toward compliance regulation, this includes PC regulation, e.g. the grand parenting process in R17 to manage the transition, & the recognition of NQF based training. a) In order to comply with Regulation 2834 ---- Regulation 17 requires a Class V Process Controller (Supervisor) and 3 x Class III Process Controllers. The supervisor can be shared with another plant.		Moshe	Q4 2013	no budget required

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is Responsible?	Completion Date?	Budget Allocation
3.95	(2.3) AVAILABILITY OF WATER TREATMENT WORKS LOGBOOK	**a)** A logbook is in place to record all incidents at the water treatment works. **b)** Evidence is presented that the logbook process is being implemented. (It is NOT required to be implemented for the entire assessment period)	> Fully complying = 100% > Complying only with a) = 70%	a) Logbook is available but insufficient checks and balanced are in place. It is not signed by the Process Controller / Supervisor b)Implemented but insufficient information	**0.50**	a) Implement a checklist and incident reporting structure. b) Supervisor to sign off the daily report each day	**0.75**	Moshe	Q4 2013	no budget required
	PROCESS CONTROL BONUS	**BONUS**: Proof of Process Controller staff being subjected to relevant training the past 12 months	Name the Process Controlling Training Course, Duration, Service Provider, detail of Attendees > All information provided (>50% of PC staff subjected to training) = 1 > All information except accreditation (<50% of PC staff subjected to training) = 0,5 > Zero score if any other evidence is lacking	No training information provided	**0.00**	Investigate the training needs of the Process Controllers		Moshe	Q4 2013	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is Responsible?	Completion Date?	Budget Allocation
(3) DRINKING WATER QUALITY COMPLIANCE	(3.1.1) DWQ COMPLIANCE (MICROBIOLOGICAL)	The Microbiological Quality of water supply must comply with the South African National Standard (SANS241) as per the Excellent Requirements set by the Blue Drop Programme.	**>100 000 population served by the water supply system:** 99% Microbiological Compliance =100% (1) ≥98 <99% micro compliance = 75% (0.75) ≥97 <98% micro compliance = 50% (0.5) ≥96 <97% micro compliance = 30% (0.3) <96% micro compliance = 0% (0) **<100 000 population served by the water supply system:** 97% Compliance =100% (1) ≥96 < 97% micro compliance = 75% (0.75) ≥95 < 96% micro compliance = 50% (0.5) ≥94 < 95% micro compliance = 30% (0.3) <94% micro compliance = 0% (0)	Microbiological: analysis - 101; failures - 1; compliance - 99.0%; preferred determinand : *E.coli*	**0.00**	a)**BDS "In-Time Submission Compliance" is at 22% due to months of no data submission.** Load all available data onto the system IMMEDIATELY on availability. b)Review sampling program c) Compile an Excel spreadsheet to facilitate data capturing. d) contact Maryna Niemand at DWA helpdesk to assist with the format of the excel spreadsheet upload into the BD system.	**0.00**	Moshe	Q4 2013	no budget required
			NB! Recorded 12 months' Microbiological Compliance	**25.0%**						

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is Responsible?	Completion Date?	Budget Allocation
30	(3.1.2) DWQ COMPLIANCE (CHEMICAL)	The Chemical Quality of water supply must comply with the South African National Standard (SANS241) as per the Excellent Requirements set by the Blue Drop Programme. **a)** Chemical - Acute Health: - Excellent Comp. (97% for <100 000) & (99% for >100 000) - Good Compliance (95% for 100 000) & (97% for >100 000) **b)** Chemical - Chronic Health: -Excellent Compliance (95% for <100 000) & (97% for 100 000) -Good Compliance (93% for <100 000) & (95% for 100 000)	>Excellence Compliance on both = 100% > Excellence in (a) & Good in (b) = 0.8 >Excellence in (b) and Good in (a) = 0.7 >Good compliance in both categories = 0.6 >Good compliance in (a) only = 0.4 >Good compliance in (b) only = 0.3	Chemical: analysis - 84; failures - 0; compliance - >99.0%;	0.00	a)**BDS "In-Time Submission Compliance" is at 23% due to months of no data submission.** Load all available data onto the system IMMEDIATELY on availability. Load all available data onto the system IMMEDIATELY b)Review sampling program c) Compile an Excel spreadsheet to facilitate data capturing. d) contact Maryna Niemand at DWA helpdesk to assist with the format of the excel spreadsheet upload into the BD system.	0.30	Moshe	Q4 2013	no budget required
			NB! Recorded 12 months' Chemical Compliance	**85.0%**						
0.75	(3.2) RISK REFINED COMPLAINCE	The Compliance of all Determinands identified during the Risk Assessment Process to be included in the risk-defined monitoring programme, must comply with the requirements set in the SANS 241. a) Excellent Compliance (95% for <100 000 & 97% for >100 000) b) Good Compliance (93% for <100 000 & 95% for >100 000)	>Excellence = 100% (1) >Good = 60% (0.6)	No Risk Refined Monitoring Program in place	0.00	Full SANS 241 to be conducted. Review the sampling program - informed by the full SANS 241 - to identify risks and to monitor for these risks in the sampling programme.	0.20	Moshe	Q4 2013	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is Responsible?	Completion Date?	Budget Allocation
	(3.3) OPERATIONAL EFFICIENCY INDEX	The compliance of operational determinands as monitored at the Final Water sampling point must comply with the SANS 241 Requirements. a) Excellent Compliance (93% for <100 000 & 95% for >100 000) b) Good Compliance (90% for <100 000 & 93% for >100 000)	>Excellence = 100% (1) >Good = 60% (0.6)	Low percentage compliance across all determinands primarily due to no data submission.	**0.60**	**BDS "In-Time Submission Compliance" is at 3% due to months of no data submission.** Load all available data onto the system IMMEDIATELY on availability. Review Operational Monitoring Pgm to ensure all risk identified operational determinands are included. Ensure WTW instrumentation & standards are up to date.	**0.60**	Moshe	Q4 2013	Budget to be determined
	PENALTY (1): Data Difference	Should there be a **difference between data** available on BDS and that which is presented in hardcopy for verification the penalty will apply.		Yes there would be a penalty if all available date is not loaded.	**-1.00**	Load all available data onto the BD System as soon as possible	**0.00**	Moshe	Q4 2013	no budget required
	PENALTY (2): <11 Months' Data	**Less than 11 months data** available to assess Microbiological and Chemical compliance		Yes there would be a penalty if all available date is not loaded.	**-1.00**	Load all available data onto the BD System as soon as possible	**0.00**	Moshe	Q4 2013	no budget required
	PENALTY (3) Notification Failure	If there is any **significant (sustained) failure** with no evidence of a Water Quality Alert Notice (Boil Water Notice) being issued, this penalty will apply.		No Incident Register in place however the water quality compliance is between 50-80%		Implement the Incident Register and Incident Management Protocol as per Requirement 1.5. above.	**0.00**	Moshe	Q4 2013	no budget required

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is Responsible?	Completion Date?	Budget Allocation
(4) MANAGEMENT, ACCOUNTABILITY, & LOCAL REGULATION	(4.1) MANAGEMENT COMMITMENT	Management's commitment to effective Drinking Water Quality Operations and Management should be portrayed by Proof of signature approval of the: **a)** Water Safety Plan; **b)** DWQ Monitoring Programme **c)** Water Treatment Plant Logbook **d)** Operations and Maintenance Budget **e)** Water Services Development Plan	> Full Compliance = 100% > 4/5 = 80% > 3/5 = 60% > 2/5 = 40% > 1/5 = 20%	No proof of management commitment.	**0.00**	WSA to ensure that Senior Management reads & attaches their signatures at least on the ff. documents: a) Water Safety Plan; b) DWQ Monitoring Programme c) Water Treatment Plant Logbook d) Operations and Maintenance Budget e) Water Services Development Plan	**1.00**	Technical Director	Dec 20th 2013	No budget required
10	(4.2) PUBLICATION OF PERFORMANCE	Evidence should be provided on the various means of drinking water quality information made public to the constituencies supplied with drinking water from this specific water supply system. Forms of Publication: >Newspaper publication >Municipal Billing >Annual Report >Posters & Pamphlets >Population and Promotion of "My Water" >Electronic Webpage The Water Services Authority must ensure that evidence of adequate marketing of Existing Blue Drop Certified water supply systems are presented during the audit.	> Newspaper publication = 100% (1) > Displayed on municipal Billing = 90% (0.9) > Populating & promoting "My Water" municipal information = 80% (0.8) > Municipal Annual Report + Ward Committee Distribution &/ Posters = 60% (0.6) > Municipal Annual Report = 50% (0.5) > Electronic (Web-page) Information = 40% (0.4) > Should the municipality utilise two or more means of communication, 100% scoring will apply (1) > Should it be a water supply system that is currently Blue Drop Certified, and no evidence can be given of Blue Drop marketing/awareness, a full score cannot be applied. Maximum score = 80% (0.8)	The WSA Communication Officer: publication in local newspaper & annual report, however, no evidence provided.	**0.00**	Evidence of whatever DWQ Performance publication is in place, else, WSA to follow the suggested approach from KPA 4.2		Moshe	Q4 2013	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is Responsible?	Completion Date?	Budget Allocation
0	(4.3) SERVICE LEVEL AGREEMENT/ PERFORMANCE AGREEMENT	Should there be a institutional arrangement between Water Services Authority and Water Services Provider the it is essential that the legislatively required contract stipulate Service Level Agreements between the two entities. A copy of this document is required. **OR** Should the Water Services Authority fulfil the function of Water Services Provider as per Section 78 arrangements, then it is required that the responsible manager (official) have a Performance Agreement (Workplan) in place which stipulates Drinking Water Quality Management Responsibilities.	Fully complying = 100% > Agreement in-place but with minor shortcomings = 0.75 >Agreement in place but with significant Shortcomings = 0.5	WSA to make available the current performance agreements for its water & technical staff.		WSA to make available the current performance agreements for its water & technical staff.		Technical Director	Q4 2013	No budget required
	(4.4) SUBMISSION OF DWQ DATA	**a)** 12 months of data submitted on the Blue Drop System (BDS). WSI's must ensure that 12 months' sets of results are recorded on the BDS (DWA will only consider data available on the BDS) **b)** Note: **All** Compliance Monitoring test results are required to be submitted.	> 12 months = 100% (1) > 11 months = 50% (0.5) > 10 months = 20% (0.2) > <10months = 0% (0)	Not submitted monthly due to IGS account not well managed - insufficient payment for services rendered, Jun-Oct 2013.	**0.00**	Load all available data onto the BDS. It is imperative to load data as it becomes available, avoid skipping data loading periods as this constitutes non-compliance.		Moshe	Monthly	No budget required

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is Responsible?	Completion Date?	Budget Allocation
	Bonus: Publication of Perfor-mance	Availing information on Drinking Water to relevant public in 3 or more forms listed.	Full score or "no" bonus	No Bonus	**0.00**	Consider publication of information on the internet, Municipal Billing and the local newspaper or radio station.		Moshe	Annually	Budget to be determined
	Bonus: Performanc e Agreement	Workplans of Process Controllers aligned to Operations and Maintenance Manual	Full score or "no" bonus	No Bonus	**0.00**	Human Resources, Technical and Plant Manager to ensure that the Workplans of the Process Controllers are aligned to the O & M Manuals		Moshe	Annually	Budget to be determined
	Penalty: Submission of DWQ Data	Penalty will apply should the Department find proof during / post assessment that the WSI are guilty of an offence as per Section 82 of the Water Services Act, by only submitting partial information in order to present a false impression of DWQ Performance and/or compliance.				WSA to ensure that all available information, in its entirety, is submitted for evaluation.		Moshe	Monthly	No budget required
(5) ASSET MANAGEMENT	**(5.1) ANNUAL PROCESS AUDIT**	Process Audit Report on technical inspection/assessment of treatment facility and evidence of implementation of findings This process assessment should've been done within the 12-month assessment period	> Fully complying (Technical report in-place and findings implementation proof/plan provided = 1 > Report in place with evidence of findings implementation but with shortcomings = 0.75 > Only Technical Report in-place = 0.5 > A report is in place but with shortcomings = 0.25	No Process Audit has been conducted	**0.00**	Process Audit to be conducted for current period with evidence of implementation.	**0.70**	Technical Director	Q4 2013	R75K

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is Responsible?	Completion Date?	Budget Allocation
15	(5.2) ASSET REGISTER	The Institution must present a complete Asset Register. The asset register must : **a)** detail relevant equipment and infrastructure **b)** indicate asset description **c)** location **d)** condition (remaining life) **e)** replacement value	> Full score (1) for proof of adequate Asset Register >comply with 4/5 = 0.8 >comply with 3/5 = 0.6 >comply with 2/5 = 0.4 >comply with 1/5 = 0.2 **OR** > If only a list of assets = 0.2	No Asset Register provided during assessment review	**0.00**	An Asset register to be provided as evidence, should at least include: a) detail relevant equipment and infrastructure b) indicate asset description c) location d) condition (remaining life) e) replacement value	**1.00**	Moshe	Q4 2013	no budget required
0	(5.3) AVAILABILITY & COMPETENCE OF MAINTENANCE TEAM	**a)** The Institution must present evidence of a competent Maintenance Team (in form of Organogram; Contract or Invoice). Logbook with maintenance entries will serve as adequate evidence. **b)** Additional prove required on team competency (e.g. Qualification & Experience & Trade-test)	>Fully complying = 100% > Only complying with **(a)** = 0.6 > Only complying with **(b)** = 0.5	No evidence of a competent Maintenance Team nor Logbook provided. Work relationship with Maintenance Team is at a very low level. Relationship between the PCs at Works & the Maintenance Supervisors to be explained.	**0.00**	WHO, WHAT, HOW, WHEN, WHERE questions to be answered about the maintenance team with hard evidence. a) Evidence of a competent Maintenance Team - Organogram (co-signed by HR Dept) - together with a Logbook with practical maintenance entries/activities to be provided. b) Maintenance Team competency evidence to be provided as well. c) In the event that external maintenance contracts exists, a contract & competencies of the team to be provided.	**1.00**	Technical Director	Q1 2014	To be assessed

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is Responsible?	Completion Date?	Budget Allocation
	(5.4) OPERATIONS & MAINTENANCE MANUAL	O&M manual to contain: **a)** civil, mechanical, electrical detail of plant, **b)** design capacity of plant, **c)** reference to drawings, **d)** operational schedules, maintenance schedules, **e)** process detail and control, **f)** instrumentation specification/type, **g)** fault finding, **h)** monitoring, **i)** pump curves, **g)** supportive appendices	> Fully complying = 100% > Complying with 9/10 = 90% > Complying with 8/10 = 80% > Complying with 7/10 = 70% > Complying with 6/10 = 60% > Complying with 5/10 = 50% > Complying with 4/10 = 40% > Complying with 3/10 = 30% > Complying with 2/10 = 20% > Complying with 1/10 = 10% The inspector may deduct points for other shortcomings identified in the document. Should there be reason to believe that the document is a "cut & paste" job then a full score shall not apply (at most 75%)	An identical O&M Manual is found at all the WTW. It is not site-specific & lacks certain technical & engineering components (civils, mechanical, electrical) of the Works.	**0.60**	The WSA is advised to formally go out on Tender for proper O&M Manual development for the WTW. Ensure the manual will include the items listed in the KPA.	**1.00**	Moshe	Q2 2014	Budget to be finalised
	(5.5) OPERATIONS & MAINTENANCE BUDGET AND EXPENDITURE	The Institution must present credible evidence of: **a)** Maintenance Budget (as part of Operations Budget) **b)** Maintenance Expenditure (as part of the Operations Expenditure) **c)** Maintenance Expenditure should be more than 5% of the Operations Expenditure in Total for the preceding Financial Year.	> Fully complying = 100% > With available info expenditure percentage must be calculated; If less than 5% = 0.6 > Only complying with **(a)** = 0.4	No Budget provided during the assessment review	**0.00**	Please add this information to the Blue Drop File under Section 5.5. a) Maintenance Budget (as part of Operations Budget) b) Maintenance Expenditure (as part of the Operations Expenditure) c) Work out the Maintenance Expenditure as a percentage of the Operations Expenditure for the preceding Financial Year. This should be MORE than 5%	**0.60**	Technical Director	Q4 2013	no budget required

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is Responsible?	Completion Date?	Budget Allocation
	(5.6) DESIGN CAPACITY vs.. OPERATIONAL CAPACITY	Proof to be submitted of the documented design capacity and documented daily operating capacity over the past 12 months Groundwater dependant systems must have an acceptable plan which stipulates abstraction patterns that will prevent aquifer damage Flow meters must be calibrated at least annually	> 1 = evidence of verified plant capacity/aquiver utilisation plan + daily flow measurements + calibrated flow meters + peak flows under design capacity. > 0.75 = evidence of verified plant capacity + daily flow measurements + peak flows under design capacity. > 0.4 = should Peak Flows exceed Design Capacity. > 0.25 = Providing recorded pumping rate from aquifer but exceeds geohydrolical recommendation i.t.o Yield	WQ Technician will supply original design capacity & the 12 months daily operating capacity documentation for the Works.		1. Confirm that all flow meters are operational & well calibrated annually. Include flow meter reading as part of the Operational Monitoring Pgm - institute a simplistic & easy to enter & interpret flow measurement & recording process. Compile a spreadsheet which draws a graph of daily operating capacity over the preceding 12 months against the design capacity. Determine Average, Maximum and Minimum flows and dates. 2. Confirm if there are any borehole water supplies in the system. 3. Installation of flow meters at the Works, been lying around for +- 2 months.		Moshe	Q4 2013	no budget required
	(6.) NO DROP Water conservation and Water demand Management	Provide evidence of the in and outputs of the Bulk Water System by providing a IWA Water Balance. a)Total volume of water into the system (monthly and annual) b)Total billed authorised volume(per month) c)Total unbilled authorised volume(per month) d) Number of connections e) Number of households f) Total unbilled unauthorised volume (per month) g) Water Losses %		New BD Criteria		Fill in the No Drop form which will be sent to you as part of your invitation to the assessment. Ensure that documentary proof is kept and available when required during the assessment.				

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is Responsible?	Completion Date?	Budget Allocation
		A Water Conservation and Water Demand Management Plan should be presented as well as proof of implementation		New BD Criteria		Fill in the No Drop form which will be sent to you as part of your invitation to the assessment. Ensure that documentary proof is kept and available when required during the assessment.				
		Proof of competency (Qualifi-cations and Experience) of the technical Manager in charge of WC /WDM		New BD Criteria		Fill in the No Drop form which will be sent to you as part of your invitation to the assessment. Ensure that documentary proof is kept and available when required during the assessment.				

8. SMITHFIELD WATER SUPPLY SYSTEM

This water supply system provides drinking water to the Smithfield Town and the Mofulatshepe Township with an estimated population of 10 000. Overall, constant updating of the BDS should be observed together with the development of the Blue Drop File which will be of value during the formal DWA BD Audits. The WSA is in the process of constructing a new water treatment works next to the current Rouxville Works.
Operational & compliance monitoring is conducted in accordance the programmes that have been developed. The WSA is urged to ensure that compliance data is loaded on the BDS on monthly basis, else the “In-time Submission Compliance” will be compromised.

Below is the BDIP for the supply system.

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible ?	Completion date?	Budget allocation
(1) WATER SAFETY PLANNING	(1.1) WATER SAFETY PLANNING PROCESS	**a.)** The Water Safety Planning Process is steered by a group of people that includes the technical, financial and management staff of the municipality. Where a WSP arrangement exist the WSA and WSP should partake in this process. **b.)** There should be clear indication that the water services institution conducted a water safety planning process and not only drafted a document. **c.)** There should be clear reference to the specific water supply system at hand and not only global risk management measurements put in place.	>Fully complying = 100% > Complying only with B&C = 0.7 > Complying only with A&C = 0.6 > Complying only with A&B = 0.5 > Complying only with one of the sub-requirements = 0.3	a. Review Team: WQ Technician, EHP from District, Mohokare Risk Management Officer, Mohokare H & Safety Reps - WQ Technician kept voice recording of meetings, no other proof of team engagement. B. Review was only a desktop one, no physical visits to sites. Should include HR, Finance, SCM. C. Same as b. Above. d. process should not be desktop only, physical access of facilities & records.	**0.00**	The WSP planning process to be followed should include proper documentation & sufficient evidence of what transpired. Commitment from all members is paramount. a) A multi-disciplinary team representative of all key stakeholders within & outside of the WSA should be constituted. b) There should be evidence that a process was followed in the development or review of the Water Safety Plan, not a desktop review as indicated during discussion. c) The Water Safety Plan review should be specific to the particular system under review, this should include actual process, operations, hazards & risk at the respective water supply system. d) Proof of implementation needs to be provided.	**1.00**	Moshe	Q4 2013	no budget required

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible ?	Completion date?	Budget allocation
35	(1.2) RISK ASSESSMENT	**a.)** The Risk Assessment must cover both treatment and reticulation . **b.)** The Water Services Institution (WSI) must provide information on findings of the Risk Assessment (and detail Risk Prioritisation method followed) for the specific water supply system including water resource quality. Format not important but it should be proven not to be a desktop study. **c.)**The Water Safety Planning process must include (adequate) Control Measures for each significant hazard or hazardous event identified. **d.)** A Water Quality Risk Assessment conducted for at least 80% of the SANS 241 list of determinands. This is to verify whether treatment technology is adequate to treat the raw water to comply with national standard level.	> 100% complying with Requirement = 1 > Fully complying with process but not covering 1 risk element identified = 0.9 > Fully complying with process but not covering 2 or more risk elements identified = 0.8 > lacking control measures for which there is no plan in place =0.7 > WSP does not cover 1 of the following elements: Catchment, Treatment Works or Reticulation Risks = 0.6 > Partially complying with process in two elements and then not covering 2 or more risk elements identified = 0.5 > Further deduct points for: Risk Prioritisation not indicated = -0.2 Full SANS 241 Analyses not included as part of the Risk Assessment = -0.2 For any other major shortcoming identified = -0.2	a.The current Risk Register covers elements of the catchment, treatment, & distribution, however, these are historical risks identified in the past. b. Risk assessment method is adequate, however lacks specificity. c. Current Register - historical one - does not contain sufficient & conclusive Control Measures. d. no full SANS conducted as yet, and no Water Quality Risk Assessment conducted.	**0.00**	a). Risk Assessment should encompass catchment, treatment, & reticulation network. b). The Risk Assessment method utilised should be clear and documented, clear elaboration on the specific findings should be included. c). Up to date Control Measures & their efficacy for every significant hazard/risk should be included in the register. d). WSA to conduct a full SANS 241 WQ compliance on the following: raw, final & distribution; then conduct a Water Quality Risk Assessment from the resultant output.	**1.00**	Moshe	Q4 2013	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible ?	Completion date?	Budget allocation
1.4	1.3) RISK-BASED MONITORING PROGRAMME	**a.)** Prove **Operational Monitoring** is: i) Informed by the Risk Assessment ii) Required sites to monitor: Raw water, after filtration (per process unit) and final water. iii) Determinands: pH, turbidity and disinfectant residual iv) Frequency of analyses: at least once per shift (i.e. every 8 hours) v) Equipment used + Evidence of calibration (or any other means of ensuring credible readings for the past 3 years).	> Fully complying = 100% > Complying with 4/5 = 0.8 > Complying with 3/5 = 0.6 > Complying with 2/5 = 0.4 > Complying with 1/5 = 0.2 Should there be any other shortcoming identified during the assessment a further -0.2 will apply with good motivation.	1. no Full SANS 241 Risk assessment yet, therefore not informed by Risk Assessment. 2. Sites monitored: Raw Water, after flocculation, sedimentation, filtration, then final water. 3. determinands: Turbidity, Temp, pH, EC, Free Chlorine. Coagulant residuals - Aluminium - not tested due to financial constraints - no instrumentation tools to conduct the test. 4. Frequency - every 4 hrs, through all shifts. 5. Turbidity - use calibration standards & WQ Technician ensures that they are within operational qualification, not expired, i.e. quality preservation standards are followed. EC; Turbidity meter, Pre-Chlorine meter. Note: PCs to attach signature on each form filled.	**0.60**	**NOTE: BDS to be updated with current information - e.g. *process unit operational monitoring not recorded on BDS*** 1. Full SANS 241 to be conducted & results used to inform Operational Monitoring Pgm. 2. Sites well identified, unless Risk Assessment identifies other. 3. Determinands ok unless Risk Assessment identifies other. Appropriate WTW instrumentation to be sourced to conduct coagulant residual monitoring, Aluminium in particular. 4. Frequency appropriate - ensure that the PCs fully understand the monitoring & sampling process, in particular should be able to interpret the results. 5. Calibration standards to be well stored & preserved. 6. The Operations record keeping system & process requires review, particularly how the PCs enter the information, store & pack the various record keeping sheets.	**1.00**	Moshe	Q4 2013	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible ?	Completion date?	Budget allocation
		b.) Prove **Compliance Monitoring** is: i) Informed by the Risk Assessment. ii) Monitoring programme is registered on BDS. iii) Actual monitoring occur according to registered BDS monitoring programme (80%). iv) Required sites monitored: Water works final & distribution network + Frequency of analyses: Water works final according SANS 241; distribution monthly. v) Coverage of population served must at least be 80%	> Fully complying = 100% > Complying with 4/5 = 0.8 > Complying with 3/5 = 0.6 > Complying with 2/5 = 0.4 > Complying with 1/5 = 0.2 Should there be any other shortcoming identified during the assessment a further -0.2 will apply with good motivation.	i) Compliance monitoring has not been done according to the findings of the risk assessment - no full SANS 241. ii) Monitoring programme is registered on BDS - to be confirmed iii) Actual data on BDS does not reflect the monitoring programme iv) sites: monitoring conducted by WQ Technician - WTW final water, distribution network - only 1 point; 3 point of use - 1 furtherst point in Matlakeng t/ship, 1 at clinic, 1 municipal office. Frequency is 2 X per month. EHP conducts sample audits on same sampling points - will check on where the info is loaded/kept. v) coverage is more than sufficient, relative to population.		**NOTE: BDS to be updated with current information, actual sampling to adhere to Compliance Pgm loaded on the BDS.** i). Full SANS 241 to be conducted & used to inform Risk Assessment ii). Confirm BDS data iii). WSA to provide proof of alignment of actual monitoring against the registered BDS programme, at least at 80%. Iv). WSA to provide proof of sampling points & frequency, e.g. coordinates or GIS Map. v). Keep tabs of population variances & align coverage. NOTE: WSA to explain, with physical evidence, Compliance Monitoring Pgm: monitoring sites (final not listed on BDS Compliance Mon Pgm), differing sampling numbers. WSA to provide actual IGS sampling monitoring results - hard copy.		Moshe	Q4 2013	Budget to be determined
	1.4) CREDIBILITY OF DWQ DATA	**a)** Certificate of Accreditation for applicable methods OR Z-scores results (z-scores must be ≥–2 & ≤ 2 are acceptable) in a recognised Proficiency Testing Scheme. **b)** DWQ Data credibility on the BDS (Blue Drop Certified Data)	Complying with both requirements = 100% Comply only with (a) = 0.6 Complying only with (b) more than 80% = 0.6 Complying only with (b) >60% <80% = 0.4	IGS Lab at OFS, participates in PTS, will load on BDS.	**0.00**	a) WSA to provide proof of IGS Lab accreditation & load on BDS b) Check credibility of the results on the BDS - make sure that each method is listed, and each analyst is registered.	**0.60**	Moshe	Q4 2013	**no budget required**

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible ?	Completion date?	Budget allocation
	(1.5) INCIDENT MANAGEMENT	**Protocol to specify:** (1) alert levels, (2) response times, (3) required actions, (4) roles & responsibilities, (5) communication vehicles and (6) must include response on possible risks identified in the Risk Assessment of the Water Safety Planning process **Incident Register to include :** (7) Date, location and description of incident (8) Action taken and date of resolution (9) Outcome of cause investigation	> Fully complying = 1 > Complying with 8 of the 9 requirements = 0.9 > Complying with 7 of the 9 requirements = 0.85 > Complying with 6 of the 9 requirements = 0.75 > Complying with 5 or 4 of the 9 requirements = 0.5 > Complying with 3 or 2 of the 9 requirements = 0.25 > Complying with 1 of the 9 requirements = 0.15	Incident register is not available. IMP is on BDS, apparently only focusses on WQ.	**0.00**	**Draft an Incident Management Protocol which stipulates:** (1) alert levels, (2) response times, (3) required actions, (4) roles & responsibilities, (5) communication vehicles and (6) responses on possible risks identified in the Risk Assessment of the WSP process **Draft an Incident Register which must include :** (7) Date, location and description of incident (8) Action taken and date of resolution (9) Outcome of cause investigation **There should be proof that this Incident Management Protocol is used regularly during daily operations in the water supply system.**		Moshe	Q4 2013	**no budget required**
	SAMPLER'S BONUS:	To be eligible for this bonus, WSI's must provide proof of training of samplers or Sampling Quality Control measures (Name the Sampling Training Course, Duration, Service Provider, and detail of Attendees) 1) Evidence of relevant sampling training that will ensure credibility of the sampling process; or 2)Evidence of control measures to ensure sampling credibility	>Complying with both requirements = 100% >Complying with only 1 = 0.75 > If measures are in place but not fully effective then score = 0.5	No relevant training conducted	**0.00**	Training courses for water samplers and process controllers should be investigated & implemented to ensure good sampling and analysis.	**0.00**	Moshe	**Q4 2013**	**Budget to be determined**

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible ?	Completion date?	Budget allocation
(2) DWQ PROCESS MANAGEMENT & CONTROL	(2.1) WORKS CLASSIFICATION COMPLIANCE	Works classified according to Regulation 2834 requirements. Evidence uploaded on BDS or Copy presented at the assessment.	> Compliance = 100%	Works Certificate provided - Class C works	**1.00**	Print out latest (new) certificate every year	**1.00**	Moshe	Q4 2013	no budget required
10	(2.2) PROCESS CONTROL REGISTRATION COMPLIANCE	**a)** Process Controllers must be Registered according to Regulation 2834. **b)** The Process Controllers' Classification is complying with legislative requirements i.t.o.: i) Number of process Controllers ii) Complying with the required Classification levels. **c)** The Supervisor must comply with legislative requirements.	> Fully complying = 100% > Complying with all requirements for more than 70% of the Process Controllers = 70% > All PCs registered but >50% <70% PCs complying with standards = 60%. > Supervisor not complying but most PCs complying = 50%. > Only Supervisor complying = 50%.	a) Process Controllers are registered but are all Class 0 and 1 x Class 1. b) The process controllers do not comply with the relevant legislation as all are Class 0 and 1 x Class 1. (i) Number of process controllers = X (ii) Compliant Process Controllers = Y c) The Supervisor does not comply with the legislation	**0.20**	WSA to load the latest status of staff component on the BDS. An up to date & proper organogram - sanctioned by the HR Dept - should be put in place. NOTE: The industry is moving toward compliance regulation, this includes PC regulation, e.g. the grand parenting process in R17 to manage the transition, & the recognition of NQF based training. a) In order to comply with Regulation 2834 ---- Regulation 17 requires a Class V Process Controller (Supervisor) and 3 x Class III Process Controllers. The supervisor can be shared with another plant.		Moshe	Q4 2013	no budget required

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible ?	Completion date?	Budget allocation
3.95	(2.3) AVAILABILITY OF WATER TREATMENT WORKS LOGBOOK	**a)** A logbook is in place to record all incidents at the water treatment works. **b)** Evidence is presented that the logbook process is being implemented. (It is NOT required to be implemented for the entire assessment period)	> Fully complying = 100% > Complying only with a) = 70%	a) Logbook is available but insufficient checks and balanced are in place. It is not signed by the Process Controller / Supervisor b)Implemented but insufficient information	**0.50**	a) Implement a checklist and incident reporting structure. b) Supervisor to sign off the daily report each day	**0.75**	Moshe	Q4 2013	no budget required
	PROCESS CONTROL BONUS	**BONUS**: Proof of Process Controller staff being subjected to relevant training the past 12 months	Name the Process Controlling Training Course, Duration, Service Provider, detail of Attendees > All information provided (>50% of PC staff subjected to training) = 1 > All information except accreditation (<50% of PC staff subjected to training) = 0,5 > Zero score if any other evidence is lacking	No training information provided	**0.00**	Investigate the training needs of the Process Controllers		Moshe	Q4 2013	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible ?	Completion date?	Budget allocation
(3) DRINKING WATER QUALITY COMPLIANCE	(3.1.1) DWQ COMPLIANCE (MICROBIOLOGICAL)	The Microbiological Quality of water supply must comply with the South African National Standard (SANS241) as per the Excellent Requirements set by the Blue Drop Programme.	**>100 000 population served by the water supply system:** 99% Microbiological Compliance =100% (1) ≥98 <99% micro compliance = 75% (0.75) ≥97 <98% micro compliance = 50% (0.5) ≥96 <97% micro compliance = 30% (0.3) <96% micro compliance = 0% (0) **<100 000 population served by the water supply system:** 97% Compliance =100% (1) ≥96 < 97% micro compliance = 75% (0.75) ≥95 < 96% micro compliance = 50% (0.5) ≥94 < 95% micro compliance = 30% (0.3) <94% micro compliance = 0% (0)	Microbiological: analysis - 96; failures - 2; compliance - 97.9%; prefered determinand : E.coli	**0.00**	a)**BDS "In-Time Submission Compliance" is at 23% due to months of no data submission.** Load all available data onto the system IMMEDIATELY on availability.Load all available data onto the system IMMEDIATELY b)Review sampling program c) Compile an Excel spreadsheet to facilitate data capturing. d) contact Maryna Niemand at DWA helpdesk to assist with the format of the excel spreadsheet upload into the BD system.	**0.00**	Moshe	Q4 2013	no budget required
			NB! Recorded 12 months' Microbiological Compliance	**25.0%**						

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible ?	Completion date?	Budget allocation
30	(3.1.2) DWQ COMPLIANCE (CHEMICAL)	The Chemical Quality of water supply must comply with the South African National Standard (SANS241) as per the Excellent Requirements set by the Blue Drop Programme. **a)** Chemical - Acute Health: - Excellent Comp. (97% for <100 000) & (99% for >100 000) - Good Compliance (95% for 100 000) & (97% for >100 000) **b)** Chemical - Chronic Health: -Excellent Compliance (95% for <100 000) & (97% for 100 000) -Good Compliance (93% for <100 000) & (95% for 100 000)	>Excellence Compliance on both = 100% > Excellence in (a) & Good in (b) = 0.8 >Excellence in (b) and Good in (a) = 0.7 >Good compliance in both categories = 0.6 >Good compliance in (a) only = 0.4 >Good compliance in (b) only = 0.3	Chemical: analysis - 83; failures - 0; compliance - >99.0%;	0.00	a)**BDS "In-Time Submission Compliance" is at 23% due to months of no data submission.** Load all available data onto the system IMMEDIATELY on availability. Load all available data onto the system IMMEDIATELY b)Review sampling program c) Compile an Excel spreadsheet to facilitate data capturing. d) contact Maryna Niemand at DWA helpdesk to assist with the format of the excel spreadsheet upload into the BD system.	0.30	Moshe	Q4 2013	no budget required
			NB! Recorded 12 months' Chemical Compliance	**85.0%**						
0.75	(3.2) RISK REFINED COMPLAINCE	The Compliance of all Determinands identified during the Risk Assessment Process to be included in the risk-defined monitoring programme, must comply with the requirements set in the SANS 241. a) Excellent Compliance (95% for <100 000 & 97% for >100 000) b) Good Compliance (93% for <100 000 & 95% for >100 000)	>Excellence = 100% (1) >Good = 60% (0.6)	No Risk Refined Monitoring Program in place	0.00	Full SANS 241 to be conducted. Review the sampling program - informed by the full SANS 241 - to identify risks and to monitor for these risks in the sampling programme.	0.20	Moshe	Q4 2013	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible ?	Completion date?	Budget allocation
	(3.3) OPERATIONAL EFFICIENCY INDEX	The compliance of operational determinands as monitored at the Final Water sampling point must comply with the SANS 241 Requirements. a) Excellent Compliance (93% for <100 000 & 95% for >100 000) b) Good Compliance (90% for <100 000 & 93% for >100 000)	>Excellence = 100% (1) >Good = 60% (0.6)	Low percentage compliance across all determinands primarily due to no data submission.	**0.60**	**BDS "In-Time Submission Compliance" is at 23% due to months of no data submission**. Load all available data onto the system IMMEDIATELY on availability.Review Operational Monitoring Pgm to ensure all risk identified operational determinands are included. Ensure WTW instrumentation & standards are up to date.	**0.60**	Moshe	Q4 2013	Budget to be determined
	PENALTY (1): Data Difference	Should there be a **difference between data** available on BDS and that which is presented in hardcopy for verification the penalty will apply.		Yes there would be a penalty if all available date is not loaded.	**-1.00**	Load all available data onto the BD System as soon as possible	**0.00**	Moshe	Q4 2013	no budget required
	PENALTY (2): <11 Months' Data	**Less than 11 months data** available to assess Microbiological and Chemical compliance		Yes there would be a penalty if all available date is not loaded.	**-1.00**	Load all available data onto the BD System as soon as possible	**0.00**	Moshe	Q4 2013	no budget required
	PENALTY (3) Notification Failure	If there is any **significant (sustained) failure** with no evidence of a Water Quality Alert Notice (Boil Water Notice) being issued, this penalty will apply.		No Incident Register in place however the water quality compliance is between 50-80%		Implement the Incident Register and Incident Management Protocol as per Requirement 1.5. above.	**0.00**	Moshe	Q4 2013	no budget required

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible ?	Completion date?	Budget allocation
(4) MANAGEMENT, ACCOUNTABILITY, & LOCAL REGULATION	(4.1) MANAGEMENT COMMITMENT	Management's commitment to effective Drinking Water Quality Operations and Management should be portrayed by Proof of signature approval of the: **a)** Water Safety Plan; **b)** DWQ Monitoring Programme **c)** Water Treatment Plant Logbook **d)** Operations and Maintenance Budget **e)** Water Services Development Plan	> Full Compliance = 100% > 4/5 = 80% > 3/5 = 60% > 2/5 = 40% > 1/5 = 20%	No proof of management commitment.	**0.00**	WSA to ensure that Senior Management reads & attaches their signatures at least on the ff. documents: a) Water Safety Plan; b) DWQ Monitoring Programme c) Water Treatment Plant Logbook d) Operations and Maintenance Budget e) Water Services Development Plan	**1.00**	Technical Director	Dec 20th 2013	No budget required
10	(4.2) PUBLICATION OF PERFORMANCE	Evidence should be provided on the various means of drinking water quality information made public to the constituencies supplied with drinking water from this specific water supply system. Forms of Publication: >Newspaper publication >Municipal Billing >Annual Report >Posters & Pamphlets >Population and Promotion of "My Water" >Electronic Webpage The Water Services Authority must ensure that evidence of adequate marketing of Existing Blue Drop Certified water supply systems are presented during the audit.	> Newspaper publication = 100% (1) > Displayed on municipal Billing = 90% (0.9) > Populating & promoting "My Water" municipal information = 80% (0.8) > Municipal Annual Report + Ward Committee Distribution &/ Posters = 60% (0.6) > Municipal Annual Report = 50% (0.5) > Electronic (Web-page) Information = 40% (0.4) > Should the municipality utilise two or more means of communication, 100% scoring will apply (1) > Should it be a water supply system that is currently Blue Drop Certified, and no evidence can be given of Blue Drop marketing/awareness, a full score cannot be applied. Maximum score = 80% (0.8)	The WSA Communication Officer: publication in local newspaper & annual report, however, no evidence provided.	**0.00**	Evidence of whatever DWQ Performance publication is in place, else, WSA to follow the suggested approach from KPA 4.2		Moshe	Q4 2013	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible ?	Completion date?	Budget allocation
0	**(4.3) SERVICE LEVEL AGREEMENT/ PERFORMANCE AGREEMENT**	Should there be a institutional arrangement between Water Services Authority and Water Services Provider the it is essential that the legislatively required contract stipulate Service Level Agreements between the two entities. A copy of this document is required. **OR** Should the Water Services Authority fulfil the function of Water Services Provider as per Section 78 arrangements, then it is required that the responsible manager (official) have a Performance Agreement (Workplan) in place which stipulates Drinking Water Quality Management Responsibilities.	Fully complying = 100% > Agreement in-place but with minor shortcomings = 0.75 >Agreement in place but with significant Shortcomings = 0.5	WSA to make available the current performance agreements for its water & technical staff.		WSA to make available the current performance agreements for its water & technical staff.		Technical Director	Q4 2013	No budget required
	(4.4) SUBMISSION OF DWQ DATA	**a)** 12 months of data submitted on the Blue Drop System (BDS). WSI's must ensure that 12 months' sets of results are recorded on the BDS (DWA will only consider data available on the BDS) **b)** Note: **All** Compliance Monitoring test results are required to be submitted.	> 12 months = 100% (1) > 11 months = 50% (0.5) > 10 months = 20% (0.2) > <10months = 0% (0)	Not submitted monthly due to IGS account not well managed - insufficient payment for services rendered, Jun-Oct 2013.	**0.00**	Load all available data onto the BDS. It is imperative to load data as it becomes available, avoid skipping data loading periods as this constitutes non-compliance.		Moshe	Monthly	No budget required
	Bonus: Publication of Perfor-mance	Availing information on Drinking Water to relevant public in 3 or more forms listed.	Full score or "no" bonus	No Bonus	**0.00**	Consider publication of information on the internet, Municipal Billing and the local newspaper or radio station.		Moshe	Annually	Budget to be determined

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible ?	Completion date?	Budget allocation
	Bonus: Performance Agreement	Workplans of Process Controllers aligned to Operations and Maintenance Manual	Full score or "no" bonus	No Bonus	**0.00**	Human Resources, Technical and Plant Manager to ensure that the Workplans of the Process Controllers are aligned to the O & M Manuals		Moshe	Annually	Budget to be determined
	Penalty: Submission of DWQ Data	Penalty will apply should the Department find proof during / post assessment that the WSI are guilty of an offence as per Section 82 of the Water Services Act, by only submitting partial information in order to present a false impression of DWQ Performance and/or compliance.				WSA to ensure that all available information, in its entirety, is submitted for evaluation.		Moshe	Monthly	No budget required
(5) ASSET MANAGEMENT	**(5.1) ANNUAL PROCESS AUDIT**	Process Audit Report on technical inspection/assessment of treatment facility and evidence of implementation of findings This process assessment should've been done within the 12-month assessment period	> Fully complying (Technical report in-place and findings implementation proof/plan provided = 1 > Report in place with evidence of findings implementation but with shortcomings = 0.75 > Only Technical Report in-place = 0.5 > A report is in place but with shortcomings = 0.25	No Process Audit has been conducted	**0.00**	Process Audit to be conducted for current period with evidence of implementation.	**0.70**	Technical Director	Q4 2013	R75K
15	**(5.2) ASSET REGISTER**	The Institution must present a complete Asset Register. The asset register must : **a)** detail relevant equipment and infrastructure **b)** indicate asset description **c)** location **d)** condition (remaining life) **e)** replacement value	> Full score (1) for proof of adequate Asset Register >comply with 4/5 = 0.8 >comply with 3/5 = 0.6 >comply with 2/5 = 0.4 >comply with 1/5 = 0.2 **OR** > If only a list of assets = 0.2	No Asset Register provided during assessment review	**0.00**	An Asset register to be provided as evidence, should at least include: a) detail relevant equipment and infrastructure b) indicate asset description c) location d) condition (remaining life) e) replacement value	**1.00**	Moshe	Q4 2013	no budget required

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible ?	Completion date?	Budget allocation
0	(5.3) AVAILABILITY & COMPETENCE OF MAINTENANCE TEAM	**a)** The Institution must present evidence of a competent Maintenance Team (in form of Organogram; Contract or Invoice). Logbook with maintenance entries will serve as adequate evidence. **b)** Additional prove required on team competency (e.g. Qualification & Experience & Trade-test)	>Fully complying = 100% > Only complying with **(a)** = 0.6 > Only complying with **(b)** = 0.5	No evidece of a competent Maintenance Team nor Logbook provided. Work relationship with Maintenance Team is at a very low level. Relationship between the PCs at Works & the Maintenance Supervisors to be explained.	**0.00**	WHO, WHAT, HOW, WHEN, WHERE questions to be answered about the maintenance team with hard evidence. a) Evidence of a competent Maintenance Team - Organogram (co-signed by HR Dept) - together with a Logbook with practical maintenance entries/activities to be provided. b) Maintenance Team competency evidence to be provided as well. c) In the event that external maintenance contracts exists, a contract & competencies of the team to be provided.	**1.00**	Technical Director	Q1 2014	To be assessed
	(5.4) OPERATIONS & MAINTENANCE MANUAL	O&M manual to contain: **a)** civil, mechanical, electrical detail of plant, **b)** design capacity of plant, **c)** reference to drawings, **d)** operational schedules, maintenance schedules, **e)** process detail and control, **f)** instrumentation specification/type, **g)** fault finding, **h)** monitoring, **i)** pump curves, **g)** supportive appendices	> Fully complying = 100% > Complying with 9/10 = 90% > Complying with 8/10 = 80% > Complying with 7/10 = 70% > Complying with 6/10 = 60% > Complying with 5/10 = 50% > Complying with 4/10 = 40% > Complying with 3/10 = 30% > Complying with 2/10 = 20% > Complying with 1/10 = 10% The inspector may deduct points for other shortcomings identified in the document. Should there be reason to believe that the document is a "cut & paste" job then a full score shall not apply (at most 75%)	An identical O&M Manual is found at all the WTW. It is not site-specific & lacks certain technical & engineering components (civils, mechanical, electrical) of the Works.	**0.60**	The WSA is adviced to formally go out on Tender for proper O&M Manual development for the WTW. Ensure the manual will include the items listed in the KPA.	**1.00**	Moshe	Q2 2014	Budget to be finalised

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible ?	Completion date?	Budget allocation
	(5.5) OPERATIONS & MAINTENANCE BUDGET AND EXPENDITURE	The Institution must present credible evidence of: **a)** Maintenance Budget (as part of Operations Budget) **b)** Maintenance Expenditure (as part of the Operations Expenditure) **c)** Maintenance Expenditure should be more than 5% of the Operations Expenditure in Total for the preceding Financial Year.	> Fully complying = 100% > With available info expenditure percentage must be calculated; If less than 5% = 0.6 > Only complying with **(a)** = 0.4	No Budget provided during the assessment review	**0.00**	Please add this information to the Blue Drop File under Section 5.5. a) Maintenance Budget (as part of Operations Budget) b) Maintenance Expenditure (as part of the Operations Expenditure) c) Work out the Maintenance Expenditure as a percentage of the Operations Expenditure for the preceding Financial Year. This should be MORE than 5%	**0.60**	Technical Director	Q4 2013	no budget required
	(5.6) DESIGN CAPACITY vs.. OPERATIONAL CAPACITY	Proof to be submitted of the documented design capacity and documented daily operating capacity over the past 12 months Groundwater dependant systems must have an acceptable plan which stipulates abstraction patterns that will prevent aquifer damage Flow meters must be calibrated at least annually	> 1 = evidence of verified plant capacity/aquiver utilisation plan + daily flow measurements + calibrated flow meters + peak flows under design capacity. > 0.75 = evidence of verified plant capacity + daily flow measurements + peak flows under design capacity. > 0.4 = should Peak Flows exceed Design Capacity. > 0.25 = Providing recorded pumping rate from aquifer but exceeds geohydrolical recommendation i.t.o Yield	WQ Technician will supply original design capacity & the 12 months daily operating capacity documentation for the Works.		1. Confirm that all flow meters are operational & well calibrated annually. Include flow meter reading as part of the Operational Monitoring Pgm - institute a simplistic & easy to enter & interpret flow measurement & recording process. Compile a spreadsheet which draws a graph of daily operating capacity over the preceding 12 months against the design capacity. Determine Average, Maximum and Minimum flows and dates. 2. Confirm if there are any borehole water supplies in the system. 3. Installation of flow meters at the Works, been lying around for +- 2 months.		Moshe	Q4 2013	no budget required

Blue Drop Criteria	Requirements	Sub-Requirements	Scoring Information	Assessor's Comment	Current BD Score	Blue Drop Improvement Action Required	Target Score	Who is responsible ?	Completion date?	Budget allocation
	(6.) NO DROP Water conservation and Water demand Management	Provide evidence of the in and outputs of the Bulk Water System by providing a IWA Water Balance. a)Total volume of water into the system (monthly and annual) b)Total billed authorised volume(per month) c)Total unbilled authorised volume(per month) d) Number of connections e) Number of households f) Total unbilled unauthorised volume (per month) g) Water Losses %		New BD Criteria		Fill in the No Drop form which will be sent to you as part of your invitation to the assessment. Ensure that documentary proof is kept and available when required during the assessment.				
		A Water Conservation and Water Demand Management Plan should be presented as well as proof of implementation		New BD Criteria		Fill in the No Drop form which will be sent to you as part of your invitation to the assessment. Ensure that documentary proof is kept and available when required during the assessment.				
		Proof of competency (Qualifications and Experience) of the technical Manager in charge of WC /WDM		New BD Criteria		Fill in the No Drop form which will be sent to you as part of your invitation to the assessment. Ensure that documentary proof is kept and available when required during the assessment.				