Partners for Water and Sanitation

Note on project reports

The following report has been prepared by Partners for Water and Sanitation in response to a project Terms of Reference.

The content of the report is based on the opinion of the author(s) and does not necessarily represent the opinions of the wider PfWS partnership, or the project funders.

Partners for Water and Sanitation

Preparation of an Implementation Plan for Optimisation of a Water Supply Control Centre (Post –visit)

Submitted by:

Andy Cox

04/04/09

Figure 1: Control Centre Planning Workshop, Ugu District Municipality

Contents amendment record

This report has been issued and amended as follows:			
Revision	Description	Date	Signed
1.0	Post visit draft final	25/02/09	A. Cox
2.0	A. Cox following feedback	21/03/09	A. Cox
3.0	Final draft for comment	04/04/09	A. Cox

Preparation of an Implementation Plan for Optimisation of a Water Supply Control Centre

1 Introduction

1.1 Ugu District Municipality (UDM) overview

1.1.1 UDM Water Services Authority has a duty to all consumers or potential consumers in its area of jurisdiction to progressively ensure efficient, affordable, economical and sustainable access to water services (*Water Services Act, 1997 - Act No. 108, 1997*)

1.1.2 UDM has 599 staff and has the following infrastructure:

- *Dams* *4*
- *Pipelines* *3,896 km (Estimated)*
- *Reservoirs* *150*
- *Pump Stations* *120*
- *WTW* *21*
- *WWTW* *15*

1.1.3 UDM has the following customer base:

AREA	***Area (km2)***	***Population (2007)***	***Population Density (Persons per km2)***
Vulamehlo Municipality	*973*	*74,017*	*76.1*
Umdoni Municipality	*238*	*74,437*	*312.8*
Umzumbe Municipality	*1,259*	*176,287*	*140.0*
Umuziwabantu Municipality	*1,088*	*104,527*	*96.1*
Ezinqoleni Municipality	*649*	*56,369*	*86.9*
Hibiscus Coast Municipality	*837*	*224,281*	*268.0*
UGU DISTRICT MUNICIPALITY	***5,044***	***709,918***	***140.7***

1.2 Partners for Water and Sanitation (PAWS) visit

1.2.1 Wessex Water is supporting PAWS to help prepare an implementation plan for managing and operating the water supply control centre in the Ugu District Municipality, South Africa. This report discusses the methodology and approach for this project, the findings of the workshops held during the visit, and lists detailed recommendations for the implementation plan..

1.2.2 PAWS country manager Amina Ismail together with Andy Cox and Nick Mitchell from Wessex Water visited Ugu municipality on 26th January 2009 for one working week. The purpose of the visit was to hold Workshops with key UDM staff to prepare an agreed structure of an implementation plan for a new Control Centre.

2 Objectives and Deliverables

2.1 Objectives - Terms of Reference (TOR)

2.1.1 The TOR stated that a priority area for Ugu District Municipality (UDM) is the water conservation/ water demand management component comprising the optimisation of water supply control. A control centre is currently in place, but this facility is also being utilised for customer care.

2.1.2 An assessment report (August 2008 – Guy Price) was used to form the basis for preparation of an implementation plan to operate and manage the control centre and related infrastructure. In addition the scope was expanded to review potentially increasing the technical capacity of the control centre, as a part of developing its overall strategy for water demand management.

2.1.3 As stated in the TOR “The overall objective was to support UDM to prepare an implementation plan for managing and operating the water supply control centre. The implementation plan will be primarily based on the assessment that was conducted in August 2008.”

2.2 Target Deliverables - Terms of Reference (TOR)

2.2.1 Remote preparation of material and methodology for conducting a workshop to prepare the implementation plan was undertaken. A draft outline of the proposed components of the implementation plan was included in the pre-visit report.

2.2.2 A site visit of contact centre, workshops, key water treatment works and associated infrastructure were undertaken.

2.2.3 Workshops with key UDM staff to prepare a final agreed structure of the implementation plan were held, based initially on the assessment report delivered by ISLGS, but then enriched with the experiences and views of the key UDM staff.

3 Approach and Methodology

3.1 Site visits

3.1.1 Brief but useful site visits were undertaken in Durban (eThekwini Municipality) prior to travelling to Ugu. These were accompanied by Max Pawandiwa (UDM General Manager Operations) and Mthokozisi Ncube (UDM Senior Manager Operations) and principally focussed on the contact centre in Durban. The visit to the contact centre served to illustrate a modern approach to utility customer service was achievable with the use of appropriate technology, structured environment and well trained staff using scripts.

3.1.2 A further day and a half was spent in meetings with key personnel from UDM and DWAF and exemplar sites. The meetings also enabled me to meet local politicians including the Mayor and Deputy Mayor. Sites visits with the Senior manager of Operations included a river abstraction source, a 20Ml/d Water Treatment Works, the Mechanical & Electrical Workshops (housing the "control room"), the contact centre and the building site for the new Control Centre.

3.2 Workshops

3.2.1 One and half days of workshop were set up to include key UDM staff. Amongst the attendees over the 2 days were the General Manager, Senior Managers, Area Managers and Site Managers, senior call centre staff, Mechanical & Electrical manager, and Electrical Supervisor.

3.2.2 The 2 days of work shop were set out as follows:

Day 1 – Issues Workshop

- *Setting the scene*
- *Review of Wessex control room and customer services (presentations)*
- *Issues and Challenges perceived by the Workshop team*

Day 2 – Planning Workshop

- *Implementation Plan*

4 Workshop Findings

4.1 Issues Workshop – Contact Centre

4.1.1 The team discussed staffing issues:

- *Competence (Recommendation: levels need setting in Implementation Plan)*
- *Training (Recommendation: needs defining in Implementation Plan)*
- *Retention/ Turnover – currently up to a maximum 0f 4 years (not considered too big a problem)*
- *Recruitment selection criteria (Recommendation: needs setting in Implementation Plan)*

4.1.2 The team discussed system issues:

- *3 systems (Customer database, Customer Incident, Work)*
- *Recommendation: Need to link connected jobs*
- *Recommendation: Integration required*

4.1.3 The team discussed information issues:

- *Poor flow of information (to customers, to operations)*
- *Poor quality of information from customer system*
- *Educating the customer (Recommendation: publish Standard of Services to customer)*
- *Recommendation: Relay info when customer on hold*
- *Recommendation: Target customers with info when/before problems known*

4.1.4 The team discussed reporting issues:

- *Lack of useful info reports (Recommendation: Review as part of Implementation Plan)*
- *Info not categorised (inability to sort/ drill)*
- *Data rich/ info poor*
- *Are reporting expectations clear? (Recommendation: Set in Implementation Plan)*
  - *Exceptions (yes)*
  - *Link to requirements (Recommendation: Implement dashboard approach set by Senior Ops Manager)*
  - *Group to Zones, then drill down to plumber*

4.2 Issues Workshop – Control Room

4.2.1 The team discussed staffing issues:

- *Not presently manned (Recommendation: Set in Implementation Plan)*
- *No clear responsibilities (Recommendation: Set in Implementation Plan)*
- *Need to establish CR and document strategy (Recommendation: Set in Implementation Plan)*

- *Establish staffing and hours of coverage (Recommendation: Set in Implementation Plan)*

4.2.2 The team discussed system issues:

- *No back up on system (servers) - this should be in place when new building commissioned*
- *Insufficient UPS on server - this should be in place when new building commissioned*
- *Back up generator needed - this should be in place when new building commissioned*

4.2.3 The team discussed information and reporting issues:

- *Lack of information around the business (Recommendation: distribute real time info to the field and Call takers – set in Implementation Plan)*
- *Alarm visibility (Recommendation: Route all alarms via Control Centre)*
- *Telemetry information (Recommendation: Make telemetry available on all lap-tops)*
- *Reporting Suite (Recommendation: Transfer reporting requirements to Implementation Plan)*

4.2.4 The team discussed information and telemetry strategy issues:

- *Recommendation: Establish alarm levels by priority*
- *Recommendation: Establish reporting systems (alarm history, etc)*
- *Recommendation: Establish alert systems for managers and Customer Services Unit (CSU)*
- *Recommendation: Implement rate of change alarms (res levels, pumps)*
- *Recommendation: Take in to account seasonal change (decision logic)*
- *Control Centre to enable PPM schedules to be instigated*
- *Recommendation: Capture knowledge on mimics*
- *Recommendation: Calculate key business measures from telemetry info (hours storage from flow and volume)*
- *Recommendation: Establish "Plant out of Action" report*
- *Last update on mimic*
- *Consider a "Ticker tape" type screen feed to CSU for operational updates*

4.3 Issues Workshop – Operations

4.3.1 The team discussed general operational issues concerning the control centre:

- *Lack of information on the business (scale of problems)*
- *Control Centre and call staff need to see GIS for utility maps and terrain (Recommendation: Include in Implementation Plan)*
- *Need a snap shot report with what ops are doing real time*
- *Use C track (Recommendation: Implement when new Control Centre is commissioned)*
- *Need to close ALL jobs with cause information (Recommendation: Include in Implementation Plan)*

4.4 Planning Workshop – Vision

4.4.1 The team discussed Business Requirements (Regulatory, Commercial, Environmental etc):

- *Supply – 2.4m pressure*
- *Interruptions not more than 24hours*
- *Leaks repaired in 48hrs*
- *Quality (Supply & Discharge)*
- *Pollutions – Communications*
- *Customer calls – future*
- *New connections/ reconnections 48 hrs*
- *Cost of tankering*
- *8 Principles BATHO PELE*
- *Supply levels (Bylaws) – first 3*
- *Correspondence*
- *Volumes – abstractions and discharges*
- *Recommendation: Bring complete list together to set targets and constraints in Implementation Plan and control centre business plan*

4.4.2 The team discussed Targets, Critical Success Factors (CSFs), Key Performance Indicators (KPIs), Measures:

- *Alarm handling*
- *Work Control targets (scheduling, ops performance)*
- *Closing calls at source*
- *Repeat contacts*
- *Scheduling targets vs time (jobs)*
- *Business Compliance (Regulatory and internal)*
- *Keep customers informed (texts, letters)*
- *Satisfaction Survey*
- *Reactive/Planned work*
- *Reporting on events (operational exceptions)*
- *Recommendation: Compile comprehensive list CSFs for Implementation Plan and produce set of business and internal CSFs and KPIs for a control centre business plan*
- *Recommendation: Implement dashboard approach set by Senior Ops Manager*

4.5 Planning Workshop – Infrastructure

4.5.1 The team discussed the building (Control Room and Call Centre)

- *Big screen TV on front wall – display telemetry, C Track , GIS, Weather, etc*
- *Ocean View – make use of it*
- *Consider noise particularly for call takers (background, distraction)*
- *Sound proof equipment – separate comms room*
- *Display of all info (telemetry)*
- *Supervisor – provide an elevated overview*
- *Set out Control Centre as a company showpiece*
- *Call centre and Control Room adjacent*
- *Provide an area for Incident Room – Managers should operate from here during crisis or emergency situations.*

- *Recommendation: Bring these requirements forward to the planning stage of the Control Centre. Add list to Implementation Plan.*

4.5.2 The team discussed the Systems for the Control Centre (IT and Telemetry)

- *Consider the number of monitor screens per person (3 -4)*
- *Server Room, panels in separate room*
- *Use of Headsets vs Handsets*
- *Record all phone calls*
- *Special phone – emergency "red" phone on separate standalone landline*
- *Radio Frequency RF restraints on telemetry*
- *Recommendation: Bring these requirements forward to the planning stage of the Control Centre. Add list to Implementation Plan.*

4.5.3 The team discussed the types of Field Equipment:

- *Pager*
- *Message Pager*
- *Radio system*
- *Mobile phone*
- *Laptop*
- *Ruggedised Laptop*
- *GPS*
- *TomTom*
- *Recommendation: match the above hierarchy of equipment to field roles and type and volumes of data to be transferred.*

4.6 Planning Workshop – People

4.6.1 The team discussed the Skill Requirements for Control Centre staff:

- *Overnight Person (Controller) needs the combined skills sets of the daytime control centre staff*
- *Call taking – computer skills, interview "test" calls, fluency in languages,*
- *Attributes – self confidence, warm, communication skills*
- *Ideally recruit from Operations people*
- *Use Business Experts in the control centre*
- *Refer to Wessex Job Descriptions*
- *Constraints – ability to be able to employ the best*
- *Recommendation: Bring these requirements forward to the recruitment stage of the Control Centre. Shape into Job Descriptions and adverts. Put manpower profile into Implementation Plan.*

4.6.2 The team discussed the Roles (Responsibilities and Authorities) for Control Centre staff:

- *Adopt a Command and Control philosophy from the centre – The Control Centre manages the work, the Field supervisors manage the staff.*
- *Use "Magic Funnel" approach to turn information from customers or alarms into job attributes – skills and time.*
- *2 approaches – everything to craft direct OR everything to Supervisor to distribute (Recommendation: Decide on approach and put into a Control Centre Business Plan)*

- *Risks – Supervisors may not want to work in control room therefore don't under value the control centre controller and scheduler roles (financially)*
- *Adopt a "Shoot first tell later" approach (tell supervisor what you have sent to the plumber)*
- *Recommendation: Appoint from top downward – there is currently a senior post vacancy in UDM*
- *Recommendation: Bring these requirements forward to the recruitment stage of the Control Centre. Shape into Job Descriptions and adverts. Put manpower profile in to Implementation Plan.*

4.6.3 The team discussed Training for Control Centre staff:

- *Call centre staff – send them to the field to learn operations*
- *Proper Induction training – company overview*
- *Aim for a month training before taking up the headsets - first month to cover all operational areas (include M&E)*
- *Include training in accounts department, billing, stores, procurement etc.*
- *Feedback required from trainees to check understanding – report or quiz*
- *Adopt a Mentor or Buddy system – draw on experienced staff to help*
- *Train against scripts – reference book*
- *Schedulers (recruited from scratch) – train in the above plus technical training for telemetry (external)*
- *Train schedulers in reports analysis*
- *Schedulers should look for the next problem*
- *Schedulers (recruited from field) will need the above without the Ops training.*
- *Recommendation: Bring these requirements forward to the recruitment stage of the Control Centre. Shape into Job Descriptions and adverts. Put manpower profile in to Implementation Plan*

4.7 Planning Workshop – Management Systems

4.7.1 The team discussed the introduction of Procedures, Work Instructions, and Forms for the Control Centre:

- *Recommendation: Identify an essential task list*
- *When producing Procedure and work instructions remember H&S*
- *As an example a simple instruction can consist of only 4 task lines for lifting pump*
- *Produce scripts and standard call centre Work Instructions*
- *Consider internal Service Level Agreements between Call Centre and Field Ops*
- *Consider a code of conduct for Control Centre staff (include dress code)*
- *Why use Management systems –to control, improve, reduce time taken, and If things go wrong then it's a system problem*
- *Refer to Wessex pro formas*
- *Recommendation: Assign responsibilities for producing management system documents. Write management system documents for new Control Centre Processes. Include provision and control of Management System documentation in Implementation Plan*

4.7.2 The team discussed the introduction of Emergency Planning and Disaster Recovery Plans Procedures for the Control Centre:

- *What happens if the building burns down?*
- *Wessex to provide exemplars*
- *Recommendation: Assign responsibilities for producing emergency plans. Include provision and control of Emergency Planning documentation in Implementation Plan*

4.8 Planning Workshop – Communications and Reporting

4.8.1 The team discussed Exception Reporting for the Control Centre and the wider Ops business:

- *Laboratory exceptions – report daily*
- *Major Shutdowns (planned & Unplanned) – report daily*
- *Reservoir levels below 60% or above 96% (spec) – report daily*
- *Hi level alarms on sanitation – report daily*
- *Examples of other exception (daily reports) include Plant out of action, Major burst pipes, H&S, Security, Process Issues, Power Outages (planned, duration)*
- *Recommendation: Develop list for central reporting and decide whether it should be an incorporated function of the new Control Centre. Develop a case and pro forma for daily report and implement. Include Control Centre reporting approach in Implementation Plan*

4.8.2 The team discussed Daily Reporting for the Control Centre:

- *Performance reports for operational activities – refer to KPIs*
- *Snapshot of who's doing what and where*
- *Overtime night before*
- *Outstanding/ overdue work*
- *Sickness/ leave rota changes/ sleep time – fatigue shift*
- *Recommendation: Develop list for Control Centre reporting. Include Control Centre reporting approach in Implementation Plan*

4.8.3 The team discussed Management Reporting for the Control Centre and wider Ops business:

- *Produce monthly*
- *Focus on performance KPIs*
- *Use Safety Quality, Time, and Cost approach - to measure effectiveness*
- *Use productivity reports – to measure efficiency*
- *Recommendation: Implement dashboard approach set by Senior Ops Manager*
- *Include a structured communication approach for Team Brief and Notices*
- *Recommendation: Develop list for central reporting and decide whether it should be an incorporated function of the new Control Centre. Develop a case and pro forma for management report and implement. Include Control Centre reporting approach in Implementation Plan*

4.9 Planning Workshop – Strategy for Implementation Plan

4.9.1 The team discussed the strategy for producing an implementation plan for the Control Centre:

- *Cost implications of the above recommendations for prioritisation. Many recommendations are very low cost. Cost avoidance is possible by implementation at planning stage – ie infrastructure changes whilst Control Centre is still being built*
- *Perform Cost benefit analysis of all recommendations*
- *Recommendation: Crude prioritisation model for implementation plan (Low cost with high benefit = high priority)*
- *Recommendation: Appoint a project Manager in charge of producing and managing the implementation plan*
- *Recommendation: Include cultural considerations in implementation plan – ie. Communication, training and resistance to change*

4.9.2 The team discussed the strategy for producing review and evaluation mechanisms of the implementation plan for the Control Centre:

- *Recommendation: Progress to monitored against plan progress*
- *Recommendation: Success to be monitored against Control Centre KPIs*

5 Summary or Recommendations

5.1 Recommendation Table

Key: Type **IP** = Implementation Plan, **BP** = Business Plan, **QW** = Quick Win

Quick wins can be implemented now at little or no cost.
Business Plan recommendations should be incorporated into a 1-5 year Business Plan
Implementation Plan recommendations should be incorporated into the Control Centre Implementation Plan with ascribed time scales and action owners (typically 6 months to 3 years)

Number	Recommendation	Paragraph Reference	Type
1	*Competence levels need setting in Implementation Plan*	4.1.1	IP
2	*Training requirements need defining in Implementation Plan*	4.1.1	IP
3	*Recruitment selection criteria needs setting in Implementation Plan*	4.1.1	IP
4	*Systems - Need to link connected jobs*	4.1.2	IP
5	*Systems - Integration required between the 3 IT systems*	4.1.2	IP
6	*Publish Standard of Services to customer*	4.1.3	QW
7	*Relay info when customer on hold*	4.1.3	QW

8	*Target customers with info when/before problems known*	4.1.3	QW
9	*Lack of useful info reports - Review as part of Implementation Plan*	4.1.4	IP
10	*Set reporting expectations in Implementation Plan*	4.1.4	IP
11	*Reporting link to requirements - Implement dashboard approach set by Senior Ops Manager*	4.1.4	IP
12	*Control Room not presently manned - Set in Implementation Plan*	4.2.1	IP
13	*No clear responsibilities for Control Room - Set in Implementation Plan*	4.2.1	IP
14	*Need to establish CR and document strategy - Set in Implementation Plan*	4.2.1	IP
15	*Establish staffing and hours of coverage in Implementation Plan*	4.2.1	IP
16	*Lack of information around the business - distribute real time info to the field and Call takers – set in Implementation Plan*	4.2.3	IP
17	*Alarm visibility - Route all alarms via Control Centre*	4.2.3	IP
18	*Telemetry information make telemetry available on all lap-tops*	4.2.3	QW
19	*Reporting Suite - Transfer reporting requirements to Implementation Plan*	4.2.3	IP
20	*Establish alarm levels by priority*	4.2.4	IP
21	*Establish reporting systems (alarm history, etc)*	4.2.4	IP
22	*Establish alert systems for managers and CSU*	4.2.4	IP
23	*Implement rate of change alarms (res levels, pumps)*	4.2.4	IP
24	*Take in to account seasonal change (decision logic)*	4.2.4	IP
25	*Capture knowledge on mimics*	4.2.4	IP
26	*Calculate key business measures from telemetry info (hours storage from flow and volume)*	4.2.4	IP
27	*Establish "Plant out of Action" report*	4.2.4	QW
28	*Control Centre and call staff need to see GIS for utility maps and terrain - Include in Implementation Plan*	4.3.1	IP
29	*Use C track - Implement when new Control Centre is commissioned*	4.3.1	QW
30	*Need to close ALL jobs with cause information - Include in Implementation Plan*	4.3.1	IP
31	*Bring complete list together to set targets and constraints in Implementation Plan and control centre business plan*	4.4.1	IP/ BP
32	*Compile comprehensive list CSFs for Implementation Plan and produce set of business and internal CSFs and KPIs for a control centre business plan*	4.4.2	IP/ BP
33	*Implement dashboard approach set by Senior Ops Manager*	4.4.2, 4.8.3	QW

34	*Bring the listed infrastructure requirements forward to the planning stage of the Control Centre. Add list to Implementation Plan*	4.5.1	IP
35	*Bring the listed systems requirements forward to the planning stage of the Control Centre. Add list to Implementation Plan*	4.5.2	IP
36	*Match the listed hierarchy of equipment to field roles and type and volumes of data to be transferred*	4.5.3	IP
37	*Bring the listed staffing requirements forward to the recruitment stage of the Control Centre. Shape into Job Descriptions and adverts. Put manpower profile into Implementation Plan*	4.6.1	IP
38	*2 approaches – everything to craft direct OR everything to Supervisor to distribute - Decide on approach and put into a Control Centre Business Plan*	4.6.2	BP
39	*Appoint from top downward – there is currently a senior post vacancy in UDM*	4.6.2	QW
40	*Bring the roles list of requirements forward to the recruitment stage of the Control Centre. Shape into Job Descriptions and adverts. Put manpower profile in to Implementation Plan*	4.6.2	IP
41	*Bring the training requirements forward to the recruitment stage of the Control Centre. Shape into Job Descriptions and adverts. Put manpower profile in to Implementation Plan*	4.6.3	IP/ QW
42	*Assign responsibilities for producing management system documents. Write management system documents for new Control Centre Processes. Include provision and control of Management System documentation in Implementation Plan*	4.7.1	IP
43	*Assign responsibilities for producing emergency plans. Include provision and control of Emergency Planning documentation in Implementation Plan*	4.7.2	IP
44	*Develop list for central reporting and decide whether it should be an incorporated function of the new Control Centre. Develop a case and pro forma for daily report and implement. Include Control Centre reporting approach in Implementation Plan*	4.8.1	IP/ QW
45	*Develop list for Control Centre reporting. Include Control Centre reporting approach in Implementation Plan*	4.8.2	IP
46	*Develop list for central reporting and decide whether it should be an incorporated function of the new Control Centre. Develop a case and pro forma for management report and implement. Include Control Centre reporting approach in Implementation Plan*	4.8.3	IP/ QW
47	*Crude prioritisation model for implementation plan (Low cost with high benefit = high priority)*	4.9.1	IP
48	*Appoint a project Manager in charge of producing and managing the implementation plan*	4.9.1	IP/ QW

49	*Include cultural considerations in implementation plan – ie. Communication, training and resistance to change*	4.9.1	IP
50	*Progress to monitored against plan progress*	4.9.2	IP
51	*Success to be monitored against Control Centre KPIs*	4.9.3	IP

6 Next Steps

6.1 Next Steps Table

Recommendation	**Timescale**
Appoint a project manager for the ownership, authorship and co-ordination of the Control Centre Implementation plan. This person should have sufficient authority to undertake budgetary and personnel recommendations.	*June 09*
Re-convene the Control Centre Project Workshops (using the same personnel as in this visit). The chair should be the project manager (above) and the frequency monthly. The agenda is set around implementation plan vision and progress with reports on KPIs.	*August 09*
Place the 51 recommendations in section 5 into the various action categories: Quick wins can be implemented now at little or no cost. Business Plan recommendations should be incorporated into a 1-5 year Business Plan Implementation Plan recommendations should be incorporated into the Control Centre Implementation Plan with ascribed time scales and action owners (typically 6 months to 3 years) *Further refine the recommendations and table subsets at Control Centre workshops. This is the responsibility of the Project Manager.*	September 09 ongoing

Wessex Water, through Andy Cox, offer ongoing support to UDM via PAWS. As required by UDM, Andy Cox will comment on reports and meeting minutes remotely both by email and telephone. It is also suggested that Andy Cox visit UDM after a four month period to review / evaluate progress.

7 Contact Details

PAWS

Amina Ismail
PAWS in Country Manager
E mail ismaila@dwaf.gov.org
Mobile +27 84 252 1013

Ugu District Municipality

Max Pawandiwa
General Manager
E mail max@ugu.org.za
Mobile +27 82 552 8591

Mthokozisi Ncube
Senior Manager
E mail mthokozisi.ncube@ugu.org.za
Mobile +27 71 603 1513

Johan Van der Walt
Senior Manager
E mail Johan.vanderwalt@ugu.org.za
Mobile +27 71 603 1491

Dave Macintosh
Manager Administration
E mail dave.macintosh@ugu.gov.za
Mobile +27 82 552 0244

DWAF

Angela Masefield
Senior Manager
E mail angelam@dwaf.gov.za
Mobile +27 83 625 6247

WaterGroup

Marlene van der Merwe-Botha
WaterGroup Specialist: Water and Wastewater
E Mail marlene@watergroup.co.za
DD +27-11-954 0242 / 0575

Wessex Water

Nick Mitchell
Business Development Manager
E mail nick.mitchell@wessexwater.co.uk
DD +44 1225 424749
Mobile +7831 141950

Andy Cox
Group Manager – Business Continuity
E mail andy.cox@wessexwater.co.uk
DD +44 1225 526000
Mobile +447831 139341