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Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

CONTINUATION OF THE INTEGRATED VAAL RIVER SYSTEM RECONCILIATION STRATEGY STUDY (PHASE 2)

INCEPTION REPORT

Final
May 2018

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CONTINUATION OF THE INTEGRATED VAAL RIVER SYSTEM RECONCILIATION STRATEGY STUDY (PHASE 2)

MAY 2018

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CONTINUATION OF THE INTEGRATED VAAL RIVER SYSTEM RECONCILIATION STRATEGY STUDY (PHASE 2)

INCEPTION REPORT

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LIST OF ABBREVIATIONS AND ACRONYMS

AMD	Acid Mine Drainage
AOA	Annual Operating Analysis
CBO	Community Based Organisations
COGTA	Department of Cooperative Government and Traditional Affairs
DAFF	Department of Agriculture, forestry and Fisheries
DM	District Municipality
DMR	Department of Mineral Resources
DMS	Dissolved Major Salts
DEA	Department of Environmental Affairs
DSS	Decision Support Systems (DSSs)
DWS	Department of Water and Sanitation
EWR	Ecological Water Requirements
HDI	Historically Disadvantaged Individual
IAP	Invasive Alien Plants
IDP	Integrated Development Plan
JV	Joint Venture
KOSH	Klerksdorp, Orkney, Stilfontein and Hartebeesfontein
NWRP	National Water Resource Planning

NWRS	National Water Resources Strategy
LED	Local Economic Development
LM	Local Municipality
MMC	Member of the Mayoral Committee
NGO	Non-Governmental Organisations
PSP	Professional Service Provider
ROD	Record of Decisions
RW	Rand Water
SDF	Spatial Development Framework
SMC	Study Management Committee
SSC	Strategy Steering Committee
TCTA	Trans-Caledon Tunnel Authority
ToR	Terms of Reference
TSG	Technical Support Group
WC/WDM	Water Conservation and Water Demand Management
WRPM	Water Resources Planning Model
WRYM	Water Resources Yield Model
WSA	Water Service Authorities
WSS	Water Supply System
WUA	Water User Associations

CONTINUATION OF THE INTEGRATED VAAL RIVER SYSTEM RECONCILIATION STRATEGY STUDY (PHASE 2)

INCEPTION REPORT

1 INTRODUCTION

1.1 Appointment

Proposals for the appointment of a Professional Services Provider (PSP) for the *Continuation of the Integrated Vaal River System Reconciliation Strategy Study Phase 2 for a 36 month Period*, were invited by the Directorate: National Water Resource Planning (NWRP) of the Department of Water and Sanitation (DWS) during June 2017. A Technical and Financial Proposal was submitted for the Study on 28 February 2017 by the BATATISE/UWP/WRP Joint Venture (JV) comprising:

- Batatise Consulting Engineers (BCE);
- UWP Consulting Engineers (UWP), and
- WRP Engineers Pty Ltd. (WRP) (Now part of the EOH group of companies).

During September 2017, BATATISE/UWP/WRP JV was notified that it was considered for appointment for the study, subject to the conclusion of a Professional Services Contract Agreement between the DWS and BATATISE/UWP/WRP JV. A Professional Services Contract Agreement was concluded and signed in December 2017.

1.2 Study Objective

The objective of the study is to update and improve the Reconciliation Strategy of the Large Bulk Water Supply System for the Integrated Vaal River System and ensure it remain relevant, by:

- Conducting technical assessments of aspects informing the water balance components and reconciliation interventions.

- Engage with relevant authorities and institutions involved in the water cycle to promote and enable the implementation of the strategy actions.
- Ensure the strategy is technically, economically and environmentally viable as well as socially acceptable.

1.3 Inception Report

In terms of the technical approach and methodology proposed in the Study Proposal, the proposed work was structured into nine (9) tasks of which an Inception Report was one of the deliverables.

This report comprises the Inception Report and Study Plan in fulfilment of the deliverables of the scope of work.

2 DEPARTMENT OF WATER AND SANITATION STUDY MANAGEMENT

To ensure the successful implementation of the study, the DWS will facilitate the establishment of a Strategy Steering Committees (SSC) for the Study. For the SSC to achieve its objectives, technical, scientific and administrative support will be required. This support will be provided by the Study Management Committee (SMC) which will include relevant DWS Directorates (National and Regional Office) and local stakeholders knowledgeable of the particular technical aspects relevant to the Study when required and the PSP who will be appointed and co-opted into the SMC. Technical Support Group (TSG) meetings will be held as the dry-run for the SSC Meetings and addition meetings may be held to address any technical issues identified at the SSC meetings if required. The TSG will consist of the SMC and any additional members coopted to assist the SMC.

The activities of the PSP will be managed by the DWS Directorate: NWRP.

3 SCOPE OF WORK: APPROACH AND METHODOLOGY

The scope of the BCE/UWP/WRP JV Study Proposal was generally adopted at the First Study Management Committee (SMC) Meeting held on 13 December 2017. The Study Programme was revised to allow the First SSC meeting to be scheduled earlier. The updated Study Programme is shown on **Figure A-2** in **Appendix A**.

3.1 STUDY AREA

The study area comprises the Vaal River Catchment and all the adjacent water resource systems linked though conveyance systems as depicted in the study area geographical map shown in **Figure 3-1** below.

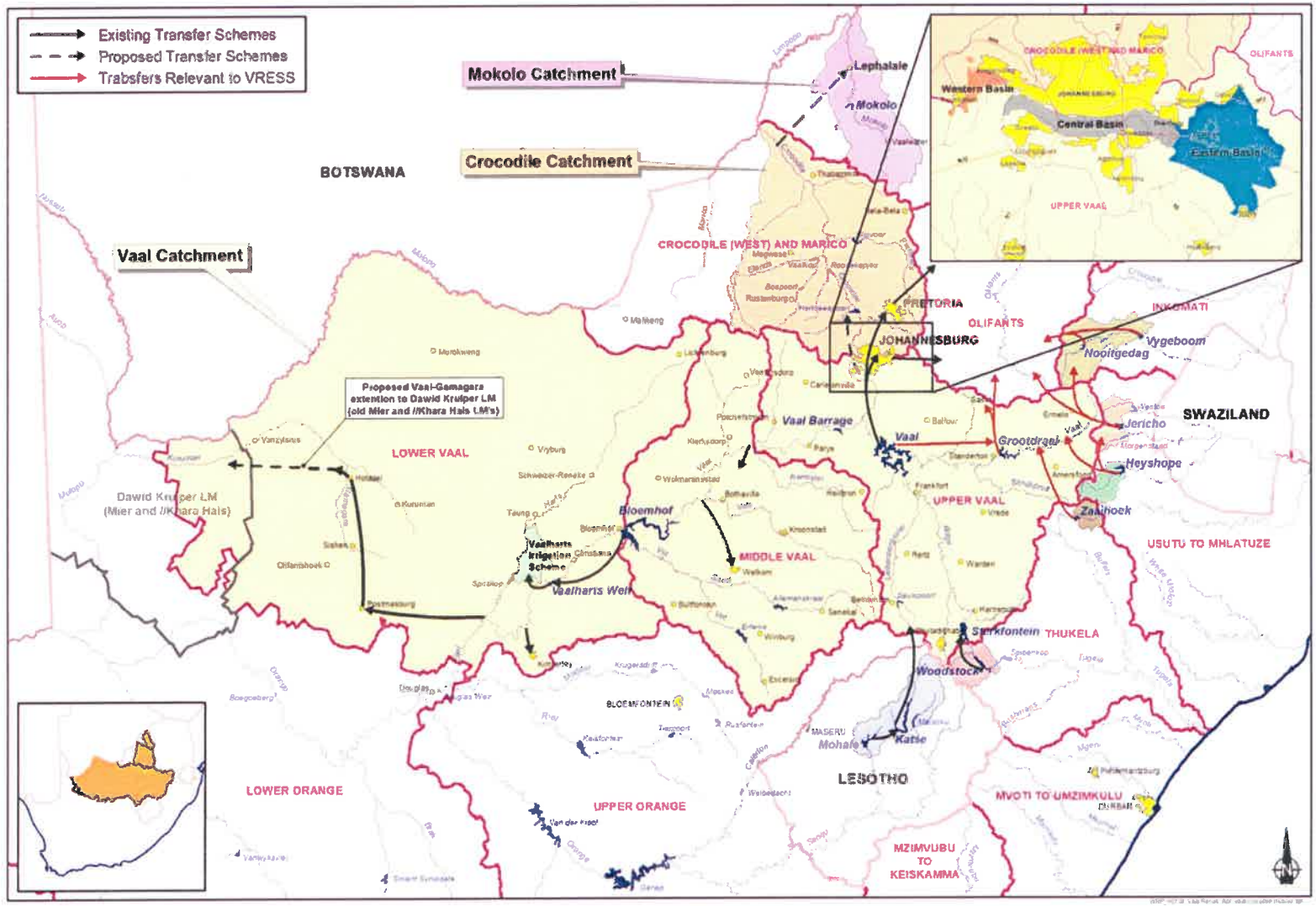

Figure 3-1: Study Area

4 OVERVIEW OF THE REVISED STUDY PROCEDURE

The study tasks are presented in **Table 4.1** below.

Table 4.1: Study Tasks

TASK NUMBER	TASK DESCRIPTIONS
1	Inception and literature review
2	Monitor and compare water requirements and return flows
3	Track Water Conservation and Water Demand Management
4	Review reconciliation interventions
5	Review and update water balance
6	Stakeholder engagement
7	Capacity building and training
8	Ad Hoc Support
9	Study management

The Logical Flow Diagram highlighting the broad flow of information between the tasks is provided in **Appendix A (Figure A-1)**. The Study will be undertaken over a period of thirty-six (36) months from the date of appointment, with a preliminary strategy being made available within the first 12 months. The Detailed Study Programme, indicating the task duration and specific milestones, is provided in **Appendix A (Figure A-2)**.

5 DETAILED TASK DESCRIPTIONS AND DELIVERABLES

5.1 Task 1: Inception and Literature Review

The following activities were undertaken as part of this task:

- Finalisation and agreement on the SAM, SMC and the SSC members and meeting formats.
- Agreement and approval were obtained from the DWS for the study tasks approach/methodology, work processes and programmes, budget, study management and administration functions, as well as individual responsibilities of the key members of the Study Team.
- The previous *Vaal River System: Large Bulk Water Supply Reconciliation Strategy (2009)* reports and the *Maintenance of the Vaal River Reconciliation Strategy (2015)* status reports were sourced and reviewed by the team. Information and Study Reports produced ssubsequent to the previous phase were reviewed are presented in **Table 5.1**.
- Liaison with relevant authorities as part of the data and information sourcing exercise. Projects that will be undertaken parallel to this project have been inditifed and interaction with these processes is envisaged to ensure alignment. These projects include:
  - Consulting Services Acid Mine Drainage (AMD) Long-term Solution (Trans-Caledon Tunnel Authority (TCTA).
  - Consulting Services Environmental Impact Assessment for the Acid Mine Drainage (AMD) Long-term Solution (Trans-Caledon Tunnel Authority (TCTA).
  - Development of water quality prediction model for the Vaal Dam Reservoir and contributing catchment (Rand Water).
  - National Water and Sanitation Master Plan (DWS).

Table 5.1: Information and Reports Reviewed

Item	Report Name	Owner	Year	Relevance to Study
Lesotho Highlands Water Commission: Determination of the Operating Rule for the Operation of Phase II				
1	Scenarios Description Report	LHWC	2016	Water Resources Analysis, Updated Reconciliation Strategy
2	Inter Reservoir Operation Rules Description Report	LHWC	2016	Water Resources Analysis, Updated Reconciliation Strategy
3	Integrated Systems Analysis Report	LHWC	2016	Water Resources Analysis, Updated Reconciliation Strategy
Development of Annual Operating Rules for the Integrated Vaal River System				
1	WRPM Scenario Analysis Results 2015/2016	DWS	2015	Water Requirements, Water Resource Analysis
2	WRPM Scenario Analysis Results 2016/2017	DWS	2016	Water Requirements, Water Resource Analysis
3	WRPM Scenario Analysis Results 2017/2018	DWS	2017	Water Requirements, Water Resource Analysis
4	Monthly Monitoring Report 2015 - 2017	DWS	2015-2017	Water Requirements, Water Resource Analysis

The outcomes of the items listed above have been consolidated into this Inception Report, which will form the basis for the rest of the execution of the Study and will serve as the baseline against which progress of each task can be monitored and evaluated. This Inception Report becomes the Revised ToR for the remaining phases and tasks of the Study.

Task 1 Deliverables:

- *Report 1: Inception Report (this report)*

5.2 Task 2: Monitor and compare water requirements and return flows

This task consists of two activities, the first will be completed during the first 12 month where historical water use and return flow data will be collated, recent demographic trends in the main urban centers will be compiled and compared with the Strategy Scenarios applied in the 2015 Status Report. The second activity will be carried out in the second and third years of the study, focusing on monitoring and identify any significant deviations that may influence the strategy.

Initial assessment:

The growth in water use in the IVRS is driven by the expansions of activities in the urban, industrial and mining sectors where growing socio-economic developments (housing, services, products) is needed to cater for natural growth as well as the ongoing migration of people into the large urban centers – particularly in the Gauteng Province.

- Historical water requirement and return flow data will be obtained for all the Sewage Drainage Areas (as was defined in DWA, 2007) covering the years since the previous assessment.
- Tabulated and graphical comparisons of the historical volumetric data with the Strategy Scenarios will be compiled as well as the water use and return flow ratios in the model compared to historical data for each Sewage Drainage Areas.
- Available demographic data (primarily from Stats SA) will be collated, for the main urban areas and compared against the Scenarios.
- The above comparisons will be analysed and synthesised with the aim to revise or confirm the Strategy Scenario projections for the planning period up to 2040.

- Recommendations on the need to undertake a comprehensive update of the water requirement and return flow scenarios will be made based on the above assessments.
- The April 2017 Eskom water requirement projections will be evaluated to substantiate (or not) the reductions in water use from 2019 onwards. This is to decide as to what the appropriate projections should be used in the water balance projections.
- The result from the Validation and Verification process, will be assessed:
    - Data (to be provided by DWS) will be collated into quaternary catchments and modelled simulation areas for comparison with current modelled irrigation requirements.
    - Tabulated and graphical summary comparisons will be prepared.
    - Recommendations will be made based on the magnitude of the differences.

Assessments in second and third years:

Lower intensity monitoring will be carried out in the second and third years, focusing on the all the bulk water users that are monitored as part of the Annual Operating Analysis (AOA) activity for the Integrated Vaal River System. Detail monitoring will be carried out for the nine large municipalities as presented in Task 3.

Task 2 Deliverables:

- *Worksheets and WRPM model input data.*
- *Review of the Water Requirements and Return Flows will be discussed and presented in the SSC Status Reports (see Task 6 deliverables).*

5.3 Task 3 Track Water Conservation and Water Demand Management

5.3.1 Objective

The objective of this task is to review the status quo of Water Conservation and Water Demand Management (WCWDM) in the key demand centers. The review will include the update of each system's water resource and water loss balance diagram, assess the progress made with the implementation of existing WC/WDM strategies and business plans and review the savings achieved to date.

Key demand centers were identified from Rand Water consumption figures and the water use database from the National Water Resource Strategy (NWRS). Due to time and budget constraints, only the nine major demand centers, responsible for most of the urban demands in the study area, were investigated in the previous phase of the reconciliation strategy. The list will be extended to include the other key demand centers summarised in **Table 5.2** as part of this study.

Table 5.2: Summary of the Vaal River WSS municipalities

Province	District Municipality	Municipal code	Category	Municipality	Seat	Population* April 2015
Gauteng	-	JHB	A	City of Johannesburg**	Johannesburg	4 795 833
	-	TSH	A	City of Tshwane**	Tshwane	3 159 297
	-	EKU	A	Ekurhuleni**	Germiston	3 437 216
	Sedibeng	GT421	B1	Emfuleni**	Vanderbijlpark	780 416
		GT422	B2	Lesedi	Heidelberg	107 617
		GT423	B3	Midvaal	Meyerton	103 049
	West Rand	GT481	B1	Randfontein**	Randfontein	161 437
		GT482	B2	Mogale**	Krugersdorp	391 913
		GT483	B2	Westonaria	Westonaria	120 867
		GT484	B2	Merafong	Carletonville	213 590
North West	Bojanala	NW373	B1	Rustenburg**	Rustenburg	579 932
Mpumalanga	Gert Sibande	MP307	B1	Govan Mbeki**	Secunda	308 797
Free State	Lejweleputswa	FS184	B1	Matjhabeng**	Welkom	135 376
Total						14 295 340

* Population figures are from the DWS Water Services Knowledge System

** Key demand centres included in the Reconciliation Strategy of 2007

*** Randfontein and Westonaria municipalities are shown separately but were merged in August 2016 to form Rand West City municipality

5.3.2 Methodology

The following sub-tasks will be undertaken.

Status quo assessment

Municipalities to be contacted to collect and collate the latest WC/WDM information. This will be followed-up with meetings or telephone calls to ensure the information is correctly understood and to fill any gaps. WC/WDM information that will be gathered include:

- The International Water Association's (IWA) latest water balance information as prescribed by DWS for each system.
- The latest water resource balance diagram for each system which is aligned to the respective reconciliation or all town study.
- The WSA's latest WC/WDM strategy and business plan.
- Progress and completion reports on WC/WDM interventions.

Assessment of results

Based on the results from the status quo assessments, conclusions and recommendations will be made on the way forward, which may include:

- Progress made with the reduction of water losses, non-revenue water and improvement of water use efficiency.
- The impact or potential impact of WC/WDM on water security in terms available supply and demand.
- Provide recommendations on updating the status quo, targets, interventions, budgets, funding, savings, cost benefits, lessons learnt, sustainability, political support, timelines and way forward.

WSA feedback

Reconciliation progress meetings are often not attended by Water Services Authorities (WSAs) which is a problem in terms of the implementation of WC/WDM. The objective of this task is to arrange biannual feedback sessions for the WSAs specifically on WCWDM. The project team will ensure the meeting is attended by at least the technical director, Member of the Mayoral Committee (MMC) for Infrastructure (water), finance department, DWS head office and regional office.

Reporting

The results from the above tasks will be compiled in a single report for each WSA which will be updated biannually.

Task 3 Deliverables:

- *Informed decision makers on the progress made with the implementation of WC/WDM in each WSA and actions required to ensure water security in the Integrated Vaal River Water Supply System (WSS).*
- *A WC/WDM status quo assessment report for each WSA summarising existing WC/WDM information, conclusion and recommendations (standalone report or presented in the SSC Status Reports (see Task 6 deliverables))*

5.4 Task 4: Review reconciliation interventions

The TOR highlighted three aspects need to be evaluated namely:

- Bloemhof Dam excess utilisation investigation.
- Acid Mine Drainage (AMD) management option implementation monitoring of the Witwatersrand and KOSH (Klerksdorp, Orkney, Stilfontein and Hartebeesfontein) areas.
- Monitor process of eradicating unlawful irrigation water use.

Additional items that have been identified for evaluation include:

- Implications of reduced operational capacity on sustainable yield.
- Evaluate the need to activate further planning of Thukela Water Project if required.

The methodology for the evaluation of each of the above items is summarised in the sub-sections below.

5.4.1 Bloemhof Dam excess utilisation investigation

The implication of applying the dilution release rule to maintain the Dissolved Major Salts (DMS) in and downstream of Vaal Barrage to not to exceed 600 mg/ℓ, coupled to the increasing volumes of return flows discharged into the Vaal Barrage Catchment (treated wastewater) results (under certain assumptions) in excess or unutilised water in Bloemhof Dam.

Two conditions will be considered for this investigation, the periods before and after the long term AMD desalination treatment solution is in place.

For the period prior to Desalination of AMD the following will be considered:

- Increase the dilution threshold above 600 mg/ℓ to reduce the dilution releases (discussions will be held with DWS water quality planners to determine the viability and select the alternative DMS dilution targets of this option).
- Temporary reuse of water through abstractions from Vaal Barrage.
- Combination of the above two options.

For the period after the Desalination of AMD the following will be considered:

- Establish the potential long term future excess through Water Resources Planning Model (WRPM) simulations of selected scenarios (scenario will be defined in consultation with the Client).
- Identify reuse options - conceptual level.
- Simulate WRPM with selected reuse option and evaluate implications on the risk of drought restrictions.

5.4.2 AMD management option implementation monitoring of the Witwatersrand and KOSH areas

The AMD management option parameters are essential input variables for the Bloemhof Dam excess investigation as well as the water supply risk assessments. The envisaged activities include:

- Liaise with the AMD planners (projects undertaken un parallel to this study) to determine the best estimates of, discharge volumes, DMS concentrations, timing of the implementation of the Long-term Solution, as well as associated opportunities for Reuse.
- Undertake revised risk analysis once a year if the above inputs change significantly.
- Highlight supply and other risks in the status reports.

5.4.3 Implications of reduced operational capacity on sustainable yield

During the past three years' Annual Operating Analyses it was reported that the conveyance infrastructure being operated significantly below their design capability. This has been identified as a risk to the assurance of supply of the system, in particular during the period prior to delivery of water from LWHP Phase 2. The as a result the following activities will be undertaken:

- Collate information from the AOA process on the capacity targets set by the system operators.
- Undertake scenarios risk analysis with the WRPM to determine the assurance of supply implications and carry out high level indicative comparative economic (loss of production) analysis.

In addition, progress will be tracked on the implementation of the other interventions: WC/WDM, Eradication of Unlawful Irrigation, Implementation programme of LWHP Phase 2, Planning in the Crocodile (West) and Olifants River system that may influence this Reconciliation Strategy.

5.4.4 Evaluate the need to activate further planning of Thukela Water Project if required

Recent water balance projection results indicated carried out for the 2017 Vaal Tariff Calculations (using high water demand projection scenario) indicated the Thukela Water Project could be required to deliver water by 2033 (see **Table 5.1**).

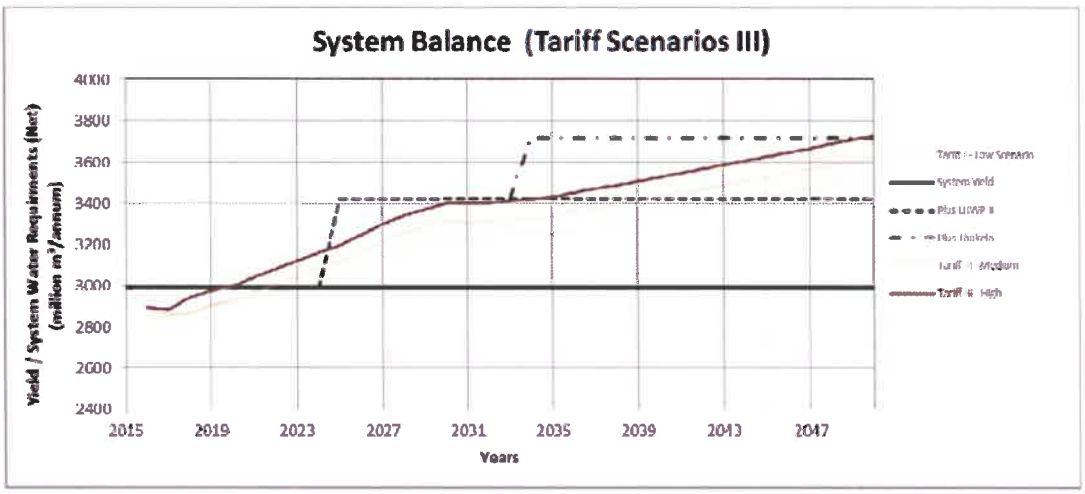

Figure 5-1: IVRS System Balance

The following activities will be undertaken:

- Apply the projection water balances (from Task 5) to determine the required delivery dates of the Thukela Water Project.
- Compare the implementation programme of the Thukela Water Project with the time until it is required and identify any planning activities that need to be initiated to ensure timeous delivery.
- Present the findings.

Level (intensity) of Assessment:

- Conceptually description the options.
- Undertake WRPM risk analysis.
- Identify if there are any fatal flaws - on a conceptual level of assessment.
- Prepare recommendations for further investigations if required.
- All options will be formulated in consultation with the Client and relevant role players.

Task 4 Deliverables:

- *Worksheets and WRPM configuration data.*
- *Review of Reconciliation Interventions will be discussed and presented in the SSC Status Reports (see Task 6 deliverables).*

5.5 Task 5: Review and update water balance

This task entails the following activities:

- Updating the projected annual water balance based on the detailed WRPM analyses carried out in Task 4 for a selected set of scenarios.
- Undertake alternative (to those listed in Task 4) scenario analysis with WRPM if required.
- Undertake difference analysis to present the water balance implication of various future planning variable settings.
- Prepare (descriptive and narrative) information for the Status Reports of the SSC.

- Prepare slides to present the projected system water balance situations to SSC, SMC and other fora.

Task 5 Deliverables:

- *Worksheet.*
- *The water balances task products will be discussed and presented in the SSC Status Reports (see Task 6 deliverables).*

5.6 Task 6: Stakeholder Engagement

The stakeholder engagement activities will provide stakeholders with meaningful information to assist them too.

5.6.1 Database of Interested and Affected Parties

The stakeholder list for previous studies undertaken by the DWS in the study area (e.g. the SSC for the *Continuation of the Integrated Vaal River System Reconciliation Strategy (Phase 1*) has been obtained from the DWS and has been updated. The following sectors of society will be identified and/or updated so as to afford them the opportunity to comment (the Stakeholder Database will be categorised accordingly) and participate in this study:

- National government (e.g. DWS, DMR, DAFF, DEA, CoGTA).
- Provincial government.
- Local government.
- Reference groups (e.g. WUAs, Irrigation Boards, Forestry SA, SANParks, and existing forums).
- Agriculture and farmers' organisations (e.g. Agri-SA, co-operations).
- Regional and local media.
- Business and commerce (Eskom, Sasol).
- Environmental bodies, both as authorities and NGOs.
- Community representatives, CBOs, development bodies.

Relevant stakeholders from previous and existing studies have been included in the stakeholder database.

Relevant stakeholders from previous and existing studies will be included in the Stakeholder Database. It is assumed that this information will be made available by the DWS.

5.6.2 Announce the Study

The Study will be widely announced and a Background Information Document (BID) will be prepared as a basis for discussion with stakeholders about the Study. The BID will communicate information about the:

- Background to the Study (who, why, where) and motivation for the continuation and maintenance of the Reconciliation Strategy.
- Description of the Study Process that will be followed (who can participate in the process, how and when).

The BID will be accompanied by a comment sheet, inviting stakeholders to provide their comments upfront and also to name additional stakeholders who should participate in the Study.

5.6.3 Strategy Steering Committee

SSC will be established to guide the continuation and implementation of the Reconciliation Strategy. The membership of the previously formed SSC will form the basis to ensure a representative SSC consisting of various sectors in the study area. The purpose of the SSC would be to provide guidance in the progressive maintenance and implementation of the Reconciliation Strategy. With the announcement of the study, stakeholders will be requested to nominate members for the SSC. A Draft ToR for the SSC has been compiled (**Appendix C**). The Draft ToR for the SSC will be discussed and agreed to at the first meeting of the SSC for members to understand their roles and responsibilities.

Six (6) SSC meetings (a meeting every six months during the 36-month contract period) have been scheduled for the Study.

5.6.4 Media Releases and Newsletters

Apart from the verbal presentation of information during meetings, information about the study will be presented in other formats such as media releases and newsletters. Media releases will be compiled at key milestones of the project to report via the media to the broader stakeholder base. Newsletters will be compiled to coincide, where possible, with

each SSC meeting. The purpose of the newsletters will be to report on progress and to keep the broader body of stakeholders informed of the study, and to provide them with the opportunity to make comments on the milestones and findings.

5.6.5 Web Access

All public information (minutes of the SSC meetings, presentations, news releases, newsletters, etc.) will be made available to the DWS in electronic format to be uploaded on the DWS Website. The link where the information can be accessed will be disseminated to all the stakeholders.

5.6.6 Liaison with Water Forums

The liaison with Water Forums (16 Forums, 14 is active) will be undertaken as follows:

- Engage with forum conveners to obtain activity programs, recent meeting proceedings and reports.
- Review information obtained from the Forums and prepare consolidated reports based on forum information summarising issues of concern.
- Compile and agree with the Client on the reporting format to consolidate water quality information from forums.
- In the second and third years obtain meeting schedules to track forum activities, evaluate proceedings to identify additional water quality problem areas.
- Explore the use of green drop reporting information to augment the report.

5.6.7 Other Liaison need defined in TOR that will be addresses when required

- Liaison with provincial and local departments involved in development planning.
- Coordinate with planning in the Orange River System.
- Municipal liaison – exchange information.
- Communicate to Decision makers.
- SOF liaison
- Present to management of institutions involved in water cycle.
- TTG groups to support SSC.

Task 6 Deliverables:

- *Announcement letter*
- *Database of IAP's*
- *Media Releases*
- *Agendas and Minutes of SSC meetings*
- *Web Access Arrangements*
- *Water Forum Report*

5.7 Task 7: Capacity Building and Training

Training and capacity building of staff both from the DWS and other Stakeholders is an important component of the study. It is understood that other Reconciliation Strategy studies are also underway, and it is recommended that a coordinated approach to Training and Capacity Building be undertaken across all the studies. Budgets will be better utilized if generic aspects of training are divided up amongst all the studies for the training components generic to all studies. However, it is also important to train and build capacity on specific matters related to the Integrated Vaal River System as part of this study. This could either be addressed through spate specific training sessions and/or the secondment of staff.

5.7.1 Objectives

The objectives of the training task are as follows:

- To capacitate DWS Staff and team members in specialist aspects specifically relating to the Integrated Vaal River System Reconciliation Strategy.
- To capacitate DWS staff (focusing on GTs) in the operations and use of the systems models used to produce elements of the strategy.
- To transfer knowledge and background information to Stakeholders such that they can better understand the approach to determining the Water Reconciliation Strategy.

5.7.2 Approach and Logistics

The following training approaches are recommended, and associated logistics are recommended:

- **DWS Formal Training:** This will take place as part of the training task for this study. This would be in the form on lecture style training to transfer knowledge as well as specifically designed practical training related to the various technical steps or themes associated with the development of reconciliation strategies. It is recommended that such a training event is coordinated with the different reconciliation strategy studies where specialists for each of the teams can contribute. Five or six training modules are envisaged at a suitable venue selected in Pretoria. Such a training event is form a foundation from which further study specific training can be facilitated through formalized training or secondment of staff to the team depending on the need. Training modules could include:
    - Module 1: Overview of Water Resource Management
    - Module 2: Water Requirements Determination
    - Module 3: Water Conservation and Water Demand Management
    - Module 3: Surface Water Assessments & Allocation
    - Module 4: Groundwater Assessments
    - Module 5: Intervention Planning
    - Module 6: Infrastrustructure Options Assessment
- **Stakeholder Formal Training**: The objective of this training will be to capacitate Stakeholders on the technical components or themes associated with the development of reconciliation strategies can be arranged. It is suggested that this session be the day after the final SSC Meeting.
- **DWS Staff Secondment & Further Training**: During the course of the study, a situation may arise where the client may express a need for the DWS official to gain further experience in a specific study related activity. In such cases a secondment arrangement will be discussed and agreed with the Client. This will occur on an ad hoc basis according to the client's needs. This process will assist in training the identified trainee on the practical aspects of the project through a periodic short-term secondment to the offices of the team. The technical processes and application of the models will be the main focus and that key areas of involvement include:
    - **Discussions**, where technical processes are discussed in a workshop environment. It is important that the identified trainees attend the SMC Meetings and it is recommended that a brief "question and answer" session

is associated with the meetings, where the trainees will have an opportunity to discuss certain aspects of the meeting (clarification of technical discussions, why a certain decision was made etc.). Interactive discussions regarding the identified processes and model applications will take place prior to the subsequent "hands on" training component (demonstration and application)

- **Demonstrations** where a specific process or model application is demonstrated by a specialist for the benefit of the trainee. The relevant technical processes and the model applications where the trainees will require involvement will be discussed and confirmed in the inception phase. Once these are confirmed, the relevant timeframes of the applicable tasks will be identified in the programme to ensure that the trainees are seconded during those specific phases of the Task to ensure technology transfer. A discussion will be scheduled for the confirmed topics which will then be followed by a demonstration.
- **Applications**, where the trainee applies the model practically, under supervision of the specialist. The application phase will directly follow the demonstration phase where the applicant physically applies the model or identified process practically under the guidance of the specialist.

Task 7 Deliverables:

- *Training Material*
- *Training Report*

5.8 Task 8: Ad Hoc Support

During the course of the study, the client may request the study team to undertake any other *ad hoc* investigations as may be required in support of the strategy. The study leader will assess the scope of work, the resources and time that will be required to do the work and make an estimate of the costs involved. On approval by the client the work will then be undertaken.

Task 8 Deliverables:

- *Ad Hoc Support Memo 1*
- *Ad Hoc Support Memo 2*

5.9 Task 9: Study Management

The success of the study of this nature, involving a multi-disciplinary team of professionals preparing specialist reports for the client as well as stakeholders who become part owners of the Strategy to be developed requires good communication skills and acknowledged champions with a strategic vision and sound technical understanding of the issues at hand.

5.9.1 Client Liaison Meetings

Liaison with the DWS Study Manager will include the following activities:

- Convening approximately twelve (12) Study Administration Meetings (SAMs) which will coincide with the six (6) Study Management Committee Meetings (SMCs). Internal administrative and financial related matters will be addressed at the SAM's. The SMC meetings will be facilitated by DWS: NWRP (with support from the PSP) and will include relevant DWS Directories and other relevant stakeholders. The purpose of the SMC is to provide technical, scientific and administrative support to the Study Steering Committee (SSC). It has been assumed that at least half of the SMC Meetings will be held at a stakeholder venue to further rejuvenate stakeholder engagement if required.
- Convening approximately six (6) Technical Support Group (TSG) meetings as dry-run meetings for the SSC Meetings. Additional meetings may be held if and when required to address any technical issues identified at the SSC meetings that may require focused and technical discussions with identified parties. The TSG will consist of the SMC and any additional members coopted to assist the SMC.
- Attend and facilitate six (6) Study Steering Committee (SSC) Meetings.
- Interim communication (between meetings) has been established to advise the Study Manager of, inter alia, important events or problem situations, possible changes to the scope of work, appointment of sub-consultants, etc.
- Compile and update the "Record of Decisions" and "Record of Requests" and ensuring that all recorded actions are attended to within the specified budget and time limits.

- Motivate the appointment of proposed new members of the consultant team to the Study Manager as and when required.
- Coordination of Study Team.

The designated study management functions will be undertaken as follows:

- The Study Leader and Deputy Study Leader are responsible to provide direction to the Study Team in the execution of the various tasks and interaction with the DWS as well as all the other stakeholders.
- The Deputy Study Leader is responsible for the day-to-day coordination of the Study Team and activities will include:
  - Serve as link between the DWS Study Manager and Study Team on administrative matters.
  - Ensure that the sub-consultants and/or co-consultants as well as specialists are properly briefed by the various Task Leaders prior to commencing with their work.
  - Convene regular meetings with the Task Leaders as dictated by the Study Programme and progress.
  - Render guidance and assistance to the Task Leaders.
  - Monitor and control of performance, programming and cost of the Study, including revision of the Study Plan if and when necessary.

5.9.2 Financial Control

A Budget Monitoring System comprising basically an interactive Microsoft Excel Spreadsheet Model will be used to monitor and control the costs. Budgets have been assigned to each of the deliverables (refer to **Table 8.1** below). Actual costs incurred will be correlated with completion targets to ensure compliance with progress.

Should deviations from the allocated costs for the key deliverables become evident, the Study Leader shall assess the reason/s and impact/s thereof and institute corrective action as required.

Where additional work may be required, the Study Leader shall obtain a detailed motivation and budget (both time and costs) from the relevant Task Leader for such additional activities for assessment and submission to the DWS Study Manager for

consideration and approval. It is understood that no additional expenses outside the approved budget will be allowed without the prior written approval from the DWS.

5.9.3 Study Administration

Study administration duties to be performed will include the following:

- Compile, certify and submit invoices to the DWS from inputs received from the various Task Leaders as per delivery schedule.
- Draft minutes of meetings with the DWS and other stakeholders and distribute to the interested parties.
- Ensure that all Study files are kept up to date and to be readily accessible to the DWS if and when required.
- Coordinate the close-out procedures for the Study that will, inter alia, include compilation and submission of Study data for record purposes as required by the DWS.

Task 9 Deliverables:

- *Study Administration Meetings (12 meetings)*
- *Technical Support Group Meetings (12 meetings)*
- *Strategy Steering Committee Meetings (6 meetings)*
- *Periodic progress and financial reports will be submitted to the Study Manager throughout the duration of the study.*
- *Minutes of meetings as well as lists of administrative and study decisions will be maintained throughout the duration of the Study.*

6 STUDY PROGRAMME

The Study Programme of the tasks is provided in **Appendix A** on **Figure A-2.**

7 STUDY TEAM

The names and rates of the Study Team members and further details of the key personnel are presented in **Table** 7.1 below. The organogram for the Study is presented in **Annexure A** on **Figure A-3.**

Table 7.1: Study Team

Name	Project Designation	Company	Hourly rate	HDI	
			(R/h)	Status	Category
Bambise, S	Task leader	WRP	600	Y	BF
Barnard, S	Task leader	WRP	750	Y	WF
Cele, S	Support	WRP	400	Y	BM
de Jager, L	Deputy Study Leader	UWP	1350	N	WM
Esterhuizen, M	Key Support	UWP	1100	Y	WF
Grove,G	Key Support	Batatise	1300	N	WM
Lekalakala, J	Support	UWP	650	Y	BM
Mamphitha, T	Task Leader	WRP	1000	Y	BM
Modley, N	Support	Batatise	920	Y	BM
Seago, C	Task leader	WRP	1350	Y	WF
Shandu, W	Support	WRP	400	Y	BF
Sithole,S	Project Director	Batatise	1350	Y	BM
Talanda, C	Study leader	WRP	1350	N	WM
van Rooyen, P	WRP Study Director	WRP	1600	N	WM
van Zyl, F	Key Support	UWP	1300	N	WM
Wegelin, W	Key support	WRP	1400	N	WM
Zondo, N	Support	WRP	750	Y	BM
Aird, R	Specialist	Specialist	1050	N	WM

8 STUDY BUDGET

The costs presented in this document (**Appendix B**) are based on the scope of work and the Study Programme originally included in the proposal. The Study has been programmed for thirty six (36) months and commenced in October 2017.

The estimated Study Costs are summarised in **Appendix B** as follows:

- Table B-1: Summary of Study costs
- Table B-2: Summary of costs per task
- Table B-3: Historical Disadvantaged Individual (HDI) participation rate and professional fees earned
- Table B-4: Summary of Costs per Study Team member

The Deliverable Invoicing Schedule, which has been included in the Contract and according to the Study Team dates when invoices will be submitted to the DWS, is given in **Table 8.1** below.

Table 8.1: Deliverable Invoicing Schedule

Item	Deliverables	Months	Cost (incl. VAT)
1	Inception Report	Feb 2018	111 948
2	Technical Module 1	Feb 2018	87 520
3	Status Report 1	May 2018	210 047
4	Technical Module 2(a)	Jul 2018	246 468
5	Technical Module 2(b)	Nov 2018	169 371
6	Status Report 2	Jan 2019	279 488
7	Technical Module 3	May 2019	148 360
8	Status Report 3	Jul 2019	148 360
9	Technical Module 4	Nov 2019	181 659
10	Status Report 4	Jan 2020	181 659
11	Technical Module 5	Apr 2020	134 611
12	Status Report 5	Jun 2020	134 611
13	Technical Module 6	Oct 2020	180 918
14	Status Report 6	Dec 2020	180 918
15	Ad Hoc Support Memo 1	Dec 2018	114 000
16	Ad Hoc Support Memo 2	Jun 2019	114 000
17	Ad Hoc Support Memo 3	Dec 2019	114 000

18	Ad Hoc Support Memo 4	Jun 2020	114 000
19	Ad Hoc Support Memo 5	Oct 2020	114 000
20	Training 1	Oct 2018	71 136
21	Training 2	Apr 2019	71 136
22	Training 3	Oct 2019	71 136
23	Training 4	Sep 2020	71 136
24	**SSC & Public Meetings:**		
	SSC Meeting 1 (Progress Statement, Newsletter, Agenda and Minutes)	Feb 2018	117 572
	SSC Meeting 2 (Progress Statement, Newsletter, Agenda and Minutes)	Dec 2018	68 552
	SSC Meeting 3 (Progress Statement, Newsletter, Agenda and Minutes)	Jun 2019	68 552
	SSC Meeting 4 (Progress Statement, Newsletter, Agenda and Minutes)	Dec 2019	66 728
	SSC Meeting 5 (Progress Statement, Newsletter, Agenda and Minutes)	May 2020	67 184
	SSC Meeting 6 (Progress Statement, Newsletter, Agenda and Minutes)	Nov 2020	65 360
24	**SM & TSB Meetings**		
	SAM & SAM 1&2 (Progress Statement & Minutes)	Feb 2018	86 640
	SAM 3 & TSG 3 (Progress Statement & Minutes)	Jun 2018	79 344
	SAM 4 & TSG 4 (Progress Statement & Minutes)	Aug 2018	73 188
	SAM 5 & TSG 5 (Progress Statement & Minutes)	Nov 2018	73 188
	SAM 6 & TSG 6 (Progress Statement & Minutes)	Feb 2019	50 388
	SAM 7 & TSG 7 (Progress Statement & Minutes)	May 2019	50 388
	SAM 8 & TSG 8 (Progress Statement & Minutes)	Aug 2019	50 388
	SAM 9 & TSG 9 (Progress Statement & Minutes)	Nov 2019	50 388
	SAM 10 & TSG 10 (Progress Statement & Minutes)	Apr 2020	62 700
	SAM 11 & TSG 11 (Progress Statement & Minutes)	Jul 2020	50 388
	SAM 12 & TSG 12 (Progress Statement & Minutes)	Oct 2020	52 896
	SAM 13 & TSG 13 (Progress Statement & Minutes)	Dec 2020	28 272
			4 412 598

Table 8-2: Monthly Invoicing Schedule

Year	Month	Deliverable	Monthly Invoice (Incl. VAT)
2018	February	Inception Report	111 948
		Technical Module 1	87 520
		SSC Meeting 1 (Progress Statement, Newsletter, Agenda and Minutes)	117 572
		SAM & SAM 1&2 (Progress Statement & Minutes)	86 640
	May	Status Report 1	210 047
	June	SAM 3 & TSG 3 (Progress Statement & Minutes)	79 344
	July	Technical Module 2(a)	246 468
	August	SAM 4 & TSG 4 (Progress Statement & Minutes)	73 188
	October	Training 1	71 136
	November	Technical Module 2(b)	169 371
	December	SAM 5 & TSG 5 (Progress Statement & Minutes)	73 188
		SSC Meeting 2 (Progress Statement, Newsletter, Agenda and Minutes)	68 552
		Ad Hoc Support Memo 1	114 000
2019	January	Status Report 2	279 488
	February	SAM 6 & TSG 6 (Progress Statement & Minutes)	50 388
	April	Training 2	71 136
	May	Technical Module 3	148 360
		SAM 7 & TSG 7 (Progress Statement & Minutes)	50 388
	June	SSC Meeting 3 (Progress Statement, Newsletter, Agenda and Minutes)	68 552
		Ad Hoc Support Memo 2	114 000
	July	Status Report 3	148 360
	August	SAM 8 & TSG 8 (Progress Statement & Minutes)	50 388
	October	Training 3	71 136
	November	Technical Module 4	181 659
		SAM 9 & TSG 9 (Progress Statement & Minutes)	50 388
	December	SSC Meeting 4 (Progress Statement, Newsletter, Agenda and Minutes)	66 728
		Ad Hoc Support Memo 3	114 000
2020	January	Status Report 4	181 659

	April	Technical Module 5	134 611
		SAM 10 & TSG 10 (Progress Statement & Minutes)	62 700
	May	SSC Meeting 5 (Progress Statement, Newsletter, Agenda and Minutes)	67 184
	June	Status Report 5	134 611
		Ad Hoc Support Memo 4	114 000
	July	SAM 11 & TSG 11 (Progress Statement & Minutes)	50 388
	September	Training 4	71 136
	October	Technical Module 6	180 918
		Ad Hoc Support Memo 5	114 000
		SAM 12 & TSG 12 (Progress Statement & Minutes)	52 896
	November	SSC Meeting 6 (Progress Statement, Newsletter, Agenda and Minutes)	65 360
	December	Status Report 6	180 918
		SAM 13 & TSG 13 (Progress Statement & Minutes)	28 272
		TOTAL	**4 412 598**

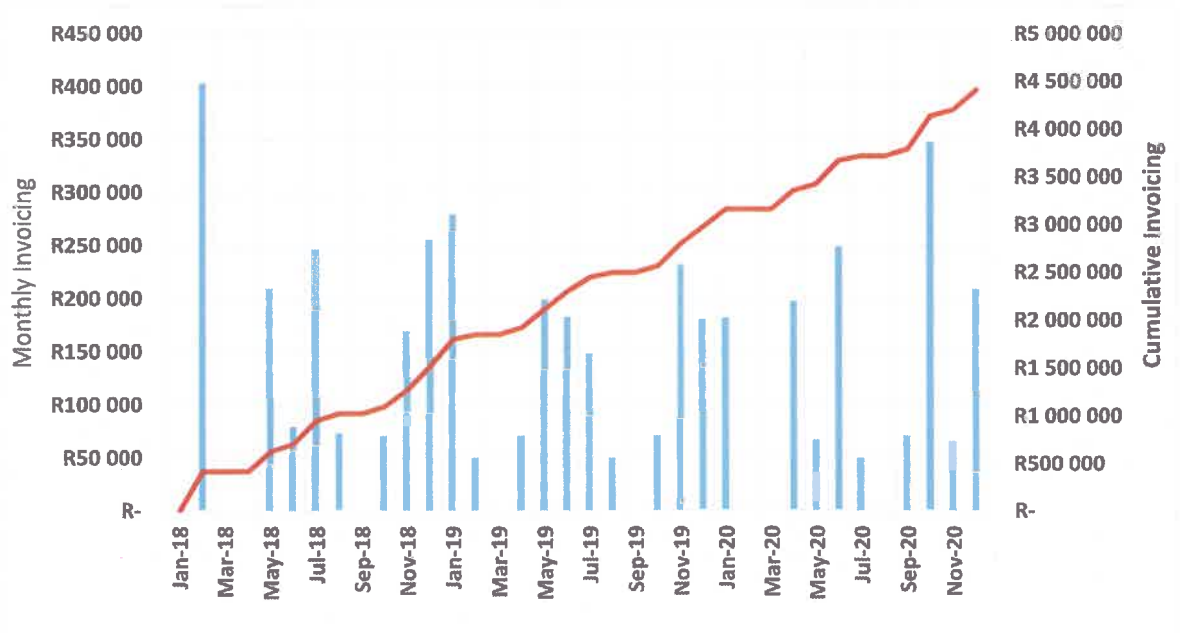

Figure 8-1: Monthly Invoicing Schedule

APPENDIX A: Logical Flow Diagram, Programme and Organogram

Figure A-1: **Logical Flow diagram**

Figure A-2: **Study Programme**

Figure A-3: **Organogram**

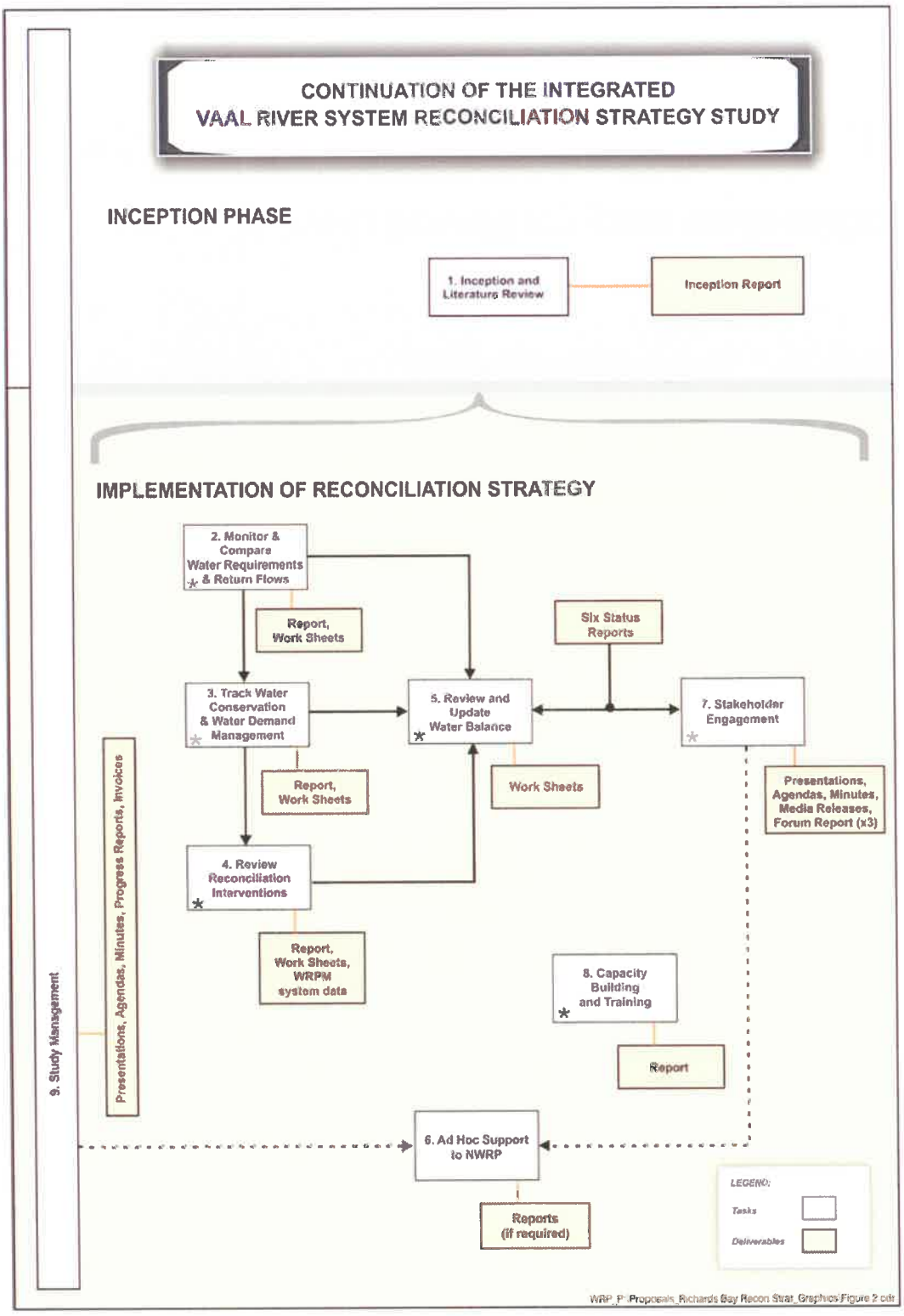

Figure A-1: Logical Flow Diagram

NO.	TASKS DESCRIPTION	YEAR 1												YEAR 2												YEAR 3											
		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1	Inception and Literature Review	■	■																																		
	Report (1) Inception Report		●																																		
2	Monitor and Compare Water Requirements and Return Flows			■	■	■	■	■	■	■	■	■			■	■	■					■	■	■			■	■	■				■	■	■		
3	Track WC/WDM (9 Large Municipalities)				■	■	■	■	■	■	■	■				■	■						■	■				■	■					■	■		
4	Review Reconciliation Interventions				■	■	■	■	■	■	■	■	■			■	■	■	■	■			■	■	■			■	■	■				■	■	■	
5	Review and Update Water Balance				■	■	■			■	■	■	■	■			■	■	■	■				■	■		■			■	■				■	■	■
	Report: Status Reports							●						●						●						●					●						●
6	Ad Hoc Support to NWRP						■	■	■	■										■	■	■	■								■	■	■	■			
7	Stakeholder Engagement			■	■	■	■					■	■					■	■					■	■				■	■					■	■	
	Strategy Steering Committee (SSC) Meetings			●								●						●						●					●						●		
	Newsletters			●								●						●						●					●						●		
8	Capacity Building and Training								■	■	■	■				■	■					■	■	■	■					■	■	■	■	■			
9	Study Management	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Study Administration Committee (SAM)	●	●			●			●			●			●			●			●			●						●			●			●		●
	Study Management Committee (SMC) meetings	●				●			●						●						●											●					●
	Technical Support Groupt (TSG) meetings		●									●						●						●					●					●			

Figure A-2: Study Programme

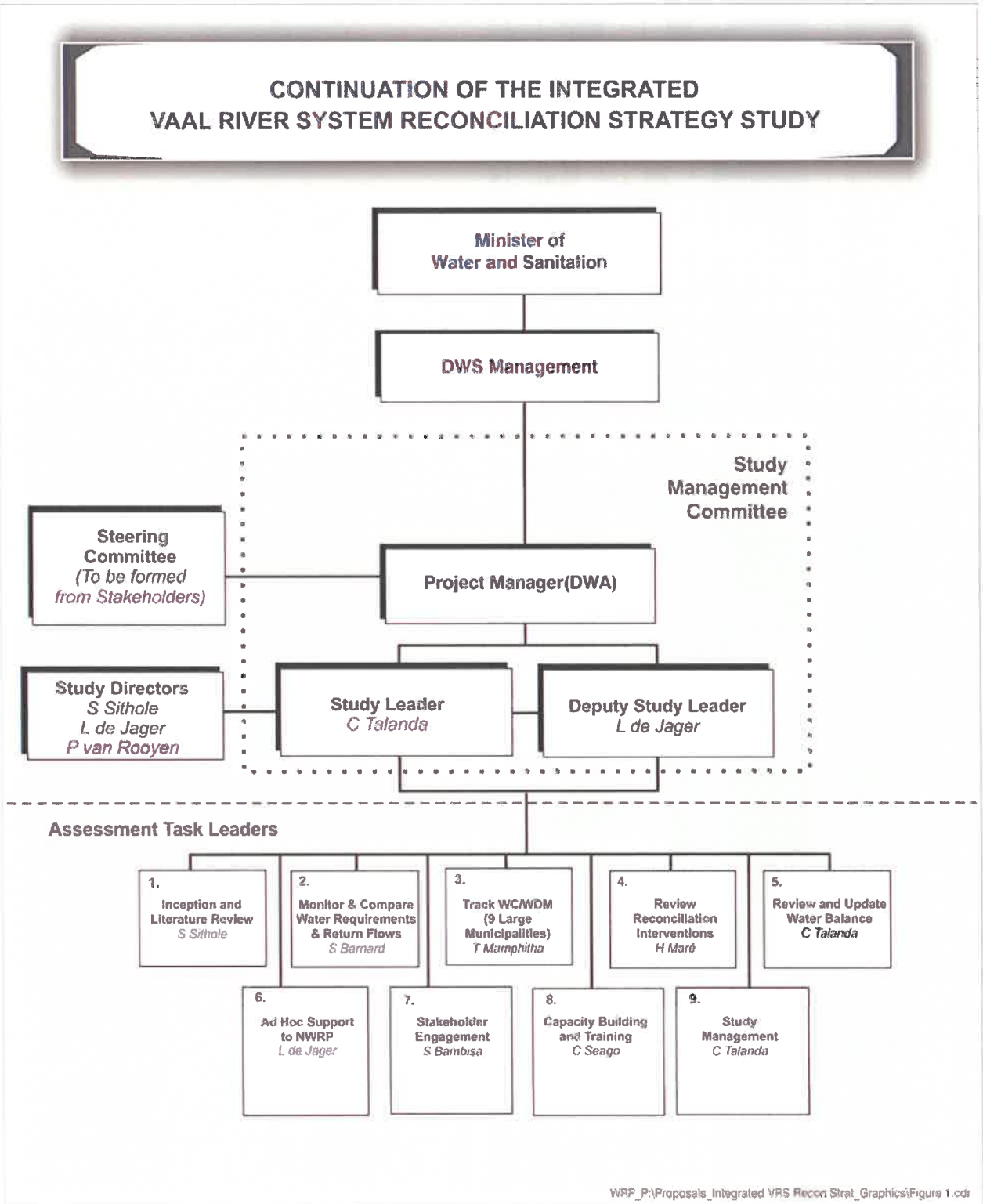

Figure A-3: Organogram

APPENDIX B: Financials

Table B-1: Summary of Study Cost

Cost item	Cost (R)			% of total
	Excl VAT	VAT	Incl VAT	
Professional fees	3 272 700	458 178	3 730 878	84.6%
Disbursement costs	98 000	13 720	111 720	2.5%
Provisional Sum (Ad Hoc support to NWRP)	500 000	70 000	570 000	12.9%
TOTAL	3 870 700	541 898	4 412 598	100.0%

Table B-2: Summary of costs per task

Task		Cost (R)			% of
No.	Description	Excl. VAT	VAT	Incl. VAT	total
1	Inception and Literature Review	98 200	13 748	111 948	2.5
	Disbursement costs Task 1	2 000	280	2 280	0.1
2	Monitor and Review Water Requirements and Return Flows	523 550	73 297	596 847	13.5
	Disbursement costs Task 2	2 000	280	2 280	0.1
3	Track WC/WDM	360 550	50 477	411 027	9.3
	Disbursement costs Task 3	2 000	280	2 280	0.1
4	Review Reconciliation Strategy	699 380	97 913	797 293	18.1
	Disbursement costs Task 4	2 000	280	2 280	0.1
5	Review and Update Water Balance	500 020	70 003	570 023	12.9
	Disbursement costs Task 5	2 000	280	2 280	0.1
6	Ad Hoc Support to NWRP	(Provisional Sum - see under Total)			
	Disbursement costs Task 6				
7	Stakehdoler Engagement	300 200	42 028	342 228	7.8
	Disbursement costs Task 7	80 000	11 200	91 200	2.1
8	Capacity Building and Training	249 600	34 944	284 544	6.4
	Disbursement costs Task 8		-	-	0.0
9	Study Management	541 200	75 768	616 968	14.0
	Disbursement costs Task 9	8 000	1 120	9 120	0.2
Total	**Professional fees**	**3 272 700**	**458 178**	**3 730 878**	**84.6**
	Disbursement costs	**98 000**	**13 720**	**111 720**	**2.5**
	Provisional Sum (Ad Hoc Support to NWRP)	**500 000**	**70 000**	**570 000**	**12.9**
TOTAL		**3 870 700**	**541 898**	**4 412 598**	**100.0**

Table B-3: HDI participation rate and professional fees earned

HDI status	Professional fee expenditure (R, incl. VAT)	% of total
Black male	845 538	23%
Black female	424080	11%
White female	585 447	16%
Disabled person	0	0%
Sub-total	**1 855 065**	**50%**
White male	1 875 813	50%
Total	**3 730 878**	**100%**

Table B-4: Summary of costs per staff member

Name	Study Responsibility	Company	Hourly rate (R/h)	Hours	Professional fees (R)			% of total
					Exl VAT	VAT	Incl VAT	
Bambise, S	Task leader	WRP	600	272	163200	22848	186048	5.0%
Barnard, S	Task leader	WRP	750	443	332250	46515	378765	10.2%
Cele, S	Support	WRP	400	248	99200	13888	113088	3.0%
de Jager, L	Deputy Study Leader	UWP	1350	290	391500	54810	446310	12.0%
Esterhuizen, M	Key Support	UWP	1100	101	111100	15554	126654	3.4%
Grove,G	Key Support	Batatise	1300	48	62400	8736	71136	1.9%
Lekalakala, J	Support	UWP	650	55	35750	5005	40755	1.1%
Mamphitha, T	Task Leader	WRP	1000	160	160000	22400	182400	4.9%
Modley, N	Support	Batatise	920	160	147200	20608	167808	4.5%
Seago, C	Task leader	WRP	1350	52	70200	9828	80028	2.1%
Shandu, W	Support	WRP	400	522	208800	29232	238032	6.4%
Sithole,S	Project Director	Batatise	1350	148	199800	27972	227772	6.1%
Talanda, C	Study leader	WRP	1350	473	638550	89397	727947	19.5%
van Rooyen, P	WRP Study Director	WRP	1600	192	307200	43008	350208	9.4%
van Zyl, F	Key Support	UWP	1300	55	71500	10010	81510	2.2%
Wegelin, W	Key support	WRP	1400	72	100800	14112	114912	3.1%
Zondo, N	Support	WRP	750	133	99750	13965	113715	3.0%
Aird, R	Specialist	Specialist	1050	70	73500	10290	83790	2.2%
			Total	**3494**	**3272700**	**458178**	**3730878**	**100.0%**
			HDI component	**2294**	**1627250**	**227815**	**1855065**	**50%**

APPENDIX B: Strategy Steering Committee Terms of Reference

water & sanitation
Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Directorate: National Water Resource Planning

VAAL RIVER SYSTEM

STRATEGY STEERING COMMITTEE

Terms of Reference

STRATEGY STEERING COMMITTEE
VAAL RIVER SYSTEM

GENERAL INFORMATION AND TASK DESCRIPTION (TERMS OF REFERENCE)

1. INTRODUCTION

In 2009 the Department of Water Affairs and Sanitation (DWS) and relevant Stakeholders, developed a strategy to the ongoing reconciliation of water supply and requirements for the Integrated Vaal River System (IVRS). The Continuation of the Integrated Vaal River System Reconciliation Strategy (Phase 1), which followed the original strategy was finalised in 2015. One of the recommendations which came out of these studies was that a Strategy Steering Committee is required be established with a clearly defined mandate and scope of work.

The primary function of the Strategy Steering Committee will be is to ensure the implementation of the strategy and to make recommendations, on an annual basis, on long-term planning activities required to ensure ongoing reconciliation of requirement and available water supply in the Mbombela area Vaal River System.

The DWS has commenced with Phase 2 of the Continuation of the Integrated Vaal River System Reconciliation Strategy study in 2018 and will maintain the functioning of the Strategy Steering Committee through this phase.

A number of organizations receive water from the Integrated Vaal River System. The main role players to date being the Department of Water and Sanitation (DWS), Eskom, Sasol, Rand Water, Department of Agriculture, Forestry and Fisheries, etc. These organizations must play a significant role in decisions regarding the operation of the Vaal River System and need a forum to ensure that their requirements can be met. Organizations represented on the Steering Committee must ensure that recommendations made in the Strategy documents are implemented and assume a collective responsibility for ensuring the ongoing reconciliation of supply and requirement.

2. OBJECTIVES

The objectives of the Strategy Steering Committee are:

- Ensure the implementation of the recommendations of the Vaal River Reconciliation Strategy.
- To update and maintain the Strategy to ensure that it remains relevant.
- Ensure that the Strategy and its recommendations are appropriately communicated.

2.1 Implementation of Strategy Recommendations

- Monitor the implementation of the recommendations contained in the VRS Reconciliation Strategy (2015).
- Monitor and address the progress and compliance with set targets and objectives, e.g.
  - Water use compliance enforcement to eradicate unlawful water use
  - Implementation and effectiveness of Water Conservation and Water Demand Management interventions toward meeting set targets
  - Utilization of treated effluent and other discharges, especially those from the mines
  - Implementation of infrastructure augmentation options
  - Implementation of other interventions
  - Target dates for initiating and completing studies
- Assess the implications of deviations from targeted progress.
- Make recommendations on mitigation measures and adjustments to ensure the ongoing reconciliation of supply and requirements.

2.2 Updating of the Strategy

- Review and revise the Vaal River Reconciliation Strategy as required.
- Monitor and update water requirements on an annual basis.
- Reassess the available resources and the existing system yield.
- Undertake an annual reconciliation of supply and requirements.
- Update the Scenario Planning Process to cater for changes in water requirements, yield and potential delays in the implementation of selected interventions.
- Finalize the process for the selection of interventions for implementation.
- Make recommendations to DWS and the relevant Water Services Authorities (WSAs) for further studies required to update the water requirement and system yield, as well as on the need to implement interventions.

2.3 Communication

- Communicate annually, as and when required, the progress on the implementation of the recommendations of the Vaal River Reconciliation Strategy Study to the following Authorities and Stakeholders:
  - DWS
  - Eskom
  - Sasol
  - Rand Water
  - Sedibeng Water
  - Midvaal Water
  - SALGA
  - Gauteng Provincial Government
  - Northern Cape Provincial Government
  - Free State Provincial Government
  - North West Provincial Government
  - Organised Agriculture
  - The general public

  - Environmental NGO's
- Liaise with Departments involved in producing National and Provincial Strategies and provide input into Provincial Strategies.
- Brief relevant municipalities and Water User Associations (WUAs) on imminent decisions.
- Inform politicians of press releases relating to the reconciliation of supply and requirement.
- Receive input from the Annual Operations Forum as required.
- Provide information for the DWS websites.

3. ARRANGEMENTS

The Vaal River System Strategy Steering Committee was formed to ensure ongoing water quality management and the reconciliation of water supply and requirement. Whilst the committee comprises representatives from national government, provincial government, local government, the CMAs and WUAs, the meetings will be facilitated and chaired by DWS: Integrated Water Resource Planning.

4. ADMINISTRATIVE AND TECHNICAL SUPPORT GROUP

An Administrative and Technical Support Group will be appointed to support the Strategy Steering Committee. The Support Group will provide administrative, scientific and technical support. This support will be facilitated through DWS: National Water Resource Planning.

5. REPRESENTATION

The institution / agencies to be represented on the Strategy Steering Committee are listed in as follows:

- National, provincial and local government;
  - Department of Water and Sanitation (DWS)
  - Department of Mineral Resources (DMR)
  - Department of Cooperative Governance and Traditional Affairs (COGTA)
  - Department of Agriculture, Forestry and Fisheries (DAFF)
  - Department of Environmental Affairs (DEA)
  - Northern Cape Department of Environment and Nature Conservation (DENC)
  - Gauteng Department of Agriculture and Rural Development (GDARD)
  - Offices of the Premiers
  - Municipalities (metropolitan and local) in the study area
  - South African Local Government Association (SALGA)
  - National Energy Regulator of South Africa (NERSA)
  - Lesotho Highlands Water Commission (LHWC)

- Relevant residents' associations, rates payers' organisations, community-based organisations, agricultural organisations and Non-government organisations (NGOs):
  - Agri SA

- Farmers' Associations
- Chamber of Mines South Africa

- Environmental and water bodies, forums, groups and associations:
  - Earthlife Africa
  - Federation for Sustainable Environment (FSE)
  - Gauteng Water Sector Forum
  - Birdlife Africa
  - Working for Water
  - Vaal Environmental Justice Alliance
  - Sub Catchment Forums
  - WESSA
  - Water User Associations
  - Rand Water
  - Sedibeng Water
  - Midvaal Water Company

- Private sector (business, industries, etc) in the study area:
  - Sappi
  - Sasol

- Parastatals:
  - Eskom
  - Trans-Caledon Tunnel Authority (TCTA)
  - Water Research Commission (WRC)

- Other:
  - WITS
  - SAICE

6. STRATEGY STEERING COMMITTEE MEETINGS

It is envisaged that two meetings will be held, at six monthly intervals, each year:

- Meeting 1
  - To consider / review progress with implementation
  - To consider implications from the Annual Operations System Analysis
  - To update the Vaal River Reconciliation Strategy
  - To identify further investigative work to be done
  - To deal with communication (media release)

- Meeting 2
  - To consider / review progress with implementation
  - To consider findings of investigations identified earlier
  - To deal with communications (media release and newsletter)