

## BASIC ASSESSMENT REPORT

(For official use only)

File Reference Number:

NEAS Number:

Date Received:


**Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2014 as amended, promulgated in terms of the National Environmental Management Act, 1998(Act No. 107 of 1998), as amended.**

### CHDM TSOMO WATER TREATMENT WORKS UPGRADE

**DRAFT BAR FOR 30-DAY REVIEW & COMMENT – CLOSURE FOR COMMENTS IS 25<sup>th</sup> MAY 2022**

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 as amended and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
3. Where applicable **tick** the boxes that are applicable or **black out** the boxes that are not applicable in the report.
4. An incomplete report may be returned to the applicant for revision.
5. The use of “not applicable” in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
6. This report must be handed in at offices of the relevant competent authority as determined by each authority **unless indicated otherwise by the Department**.
7. No faxed or e-mailed reports will be accepted **unless indicated otherwise by the Department**.
8. The report must be compiled by an independent environmental assessment practitioner (EAP).
9. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
10. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.

## SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?

YES	NO
-----	----

If YES, please complete form XX for each specialist thus appointed:

Any specialist reports must be contained in Appendix D.

### 1. ACTIVITY DESCRIPTION

Describe the activity, which is being applied for, in detail

The Cluster 9 Backlog Water Project is a regional cross boundary project to provide bulk water to settlements in the Chris Hani and Amathole District Municipalities. Bulk supply infrastructure has been funded under the Regional Bulk Infrastructure Grant (RBIG) and reticulation under the Municipal Infrastructure Grant (MIG). Due to the drought induced water crisis in Butterworth and other parts of Amathole District Municipality, the existing Tsomo River Abstraction Works and Water Treatment Works (CHDM Cluster 9 Phases 3A & 3B) will be upgraded from the current capacity of 25Ml/day to its full capacity of 42Ml/day.

The WTW upgrade will be based on a conceptual modular design consisting of 4 treatment train modules, each comprising a flocculator and settler or clarifier. The 4 modules share a common filter gallery of filters and combined chlorination and clear water storage. The modules will be supplied by existing abstraction pumps (to be upgraded) located in the Tsomo River abstraction works.

The project is located with the urban edge. An area of 6.9112 ha will be subdivided from Erf 79, Tsomo (Commonage) and rezoned, however the WTW plant footprint will only cover 4.65 ha..

The sludge, which is non-hazardous cleaned from the lagoons will be deposited at the Intsika Yethu Local Municipality waste site at Cofimvaba. This is allowed as per the current Waste Management Licence for the existing Tsomo WTW.

An application will be submitted for an Integrated Environmental Authorisation and Waste Management Licence in terms of the:

- (i) NEMA, 1998 (Act 107 of 1998), as amended and the Amendments Environmental Impact Assessment Regulations, 2017; and
- (ii) NEM: Waste Act, (Act No. 59 of 2008), as amended and Government Notice 718 of 2009

The Site Sensitivity Screening Report and Site Verification Report are attached as Appendices G1 and G2 respectively.

## 1.1 NEMA ACTIVITIES IDENTIFIED

Listed activity as described in GN R.324, 325, and 327 & GN 921	Description of project activity that triggers listed activity – if activities in GN R. 324 are triggered, indicate the triggering criteria as described in the second column of GN R. 324
<b>GN 327 – 7<sup>th</sup> April 2017</b>	
GN 327 13: The development of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50 000 m <sup>3</sup> or more	<b>This Activity is not triggered</b> as the storage is linked to the water treatment process (four clarifiers) with a single reservoir of 250 m <sup>3</sup>
GN 327 19: The infilling or depositing of any material of more than 10 m <sup>3</sup> into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 m <sup>3</sup> from a watercourse	Infilling and construction of a concrete causeway requiring <20 m <sup>3</sup> of infilling and depositing of material in a watercourse to link the two water treatment plants. This activity is located within the urban edge
GN 327 25: The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of more than 2 000 m <sup>3</sup> but less than 15 000 m <sup>3</sup> .	<b>This Activity is not triggered</b> as there is <u>no treatment process</u> of effluent or wastewater
GN 327 27: The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation	The clearance of 4.65 ha of indigenous vegetation for the development of the water treatment works plant
GN 327 28: Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development:  (i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares	The development of an area zoned as “Commonage” and <u>located within the urban edge</u> for the construction of a water treatment works where the total area of land to be subdivided from the Commonage and rezoned is 6.9112 ha in extent, but the actual construction/development footprint is 4.65 ha in extent
GN 327 67: Phased activities for all activities—	Phased activities for all activities-  (i) listed in this Notice, which commenced on or after the effective date of this Notice or similarly

<p>(i) listed in this Notice, which commenced on or after the effective date of this Notice or similarly listed in any of the previous NEMA notices, which commenced on or after the effective date of such previous NEMA Notices;</p> <p>(ii) listed as activities 5, 7, 8(ii), 11, 13, 16, 27(i) or 27(ii) in Listing Notice 2 of 2014 or similarly listed in any of the previous NEMA notices, which commenced on or after the effective date of such previous NEMA Notices;</p> <p>where any phase of the activity was below a threshold but where a combination of the phases including expansions or extensions, will exceed a specified threshold.</p>	<p>listed in any of the previous NEMA notices, which commenced on or after the effective date of such previous NEMA Notices excluding the activities 24(i) and 30 listed in this Notice</p>
<p><b>GN 324 7<sup>th</sup> April 2017</b></p>	
<p>GN 324 26: Phased activities for all activities—</p> <p>i. listed in this Notice and as it applies to a specific geographical area, which commenced on or after the effective date of this Notice; or</p> <p>ii. similarly listed in any of the previous NEMA notices, and as it applies to a specific geographical area, which commenced on or after the effective date of such previous NEMA Notices—</p> <p>where any phase of the activity was below a threshold but where a combination of the phases, including expansions or extensions, will exceed a specified threshold; —</p> <p>excluding the following activities listed in this Notice—</p> <p>7; 8; 11; 13; 20; 21; and 24.</p>	<p>The site is located within an urban area (urban edge), zoned as “Commonage”. There is no bio-regional plan thus Activity 12 is not triggered.</p> <p>All the areas as identified for the specific activities listed in this Notice.</p>

<b>GN 921 – 29<sup>th</sup> November 2013</b>	
GN 921: Category A – 1- The storage of general waste in lagoons	The expansion of an existing WML where an additional two (2) sludge lagoons will be constructed with a storage capacity of 10 101 m <sup>3</sup> of water from the water treatment works process, to allow for the settling and separation of sludge
GN 921: Category A – 9- The disposal of inert waste to land in excess of 25 tons but not exceeding 25 000 tons	The expansion of an existing WML where an additional two (2) sludge lagoons will be constructed with the additional disposal of 12 000 tons per annum of sludge resulting from a water treatment works process with the dried sludge removed from the lagoons and disposed of, at a registered municipal waste site (Intsika Yethu Local Municipality – Cofimvaba)
GN 921: Category A – 13- The expansion of a waste management activity listed in Category A or B of this schedule, which does not trigger an additional waste management activity in terms of this schedule	The expansion of Category A activity numbers 1 and 9 in terms of the current WML EC/CH/A/3/001-2012 held by CHDM for the storage of waste (sludge) in lagoons and disposal of dried sludge at the Intsika Yethu Local Municipal waste site at Cofimvaba. A variation to the termination date of the WML was issued on 12 <sup>th</sup> September 2017 with an expiry date of 12 <sup>th</sup> September 2022.

## 2. FEASIBLE AND REASONABLE ALTERNATIVES

“**alternatives**”, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

Describe alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

**Paragraphs 3 – 13 below should be completed for each alternative.**

### 2.1 The property on which or location where it is proposed to undertake the activity

The “property” identified for the Tsomo Water Treat Works (existing and new upgrade) is located on an area of Erf 79 being “Commonage” surrounding Tsomo Town. The existing WTW area (Cluster 9 Phases 3A & 3B) was subdivided from Erf 79 (Commonage) for construction of the weir, abstraction works, water treatment works and three residences). Ownership of the land remains with the Intsika Yethu Local Municipality, but infrastructure and operational matters is under the jurisdiction of the CHDM.

The current WTW footprint fully utilises the available space on the existing erf and additional space and erf is required to house the expanded WTW. The only place this can be located is to the North of the existing works and at a higher elevation. The area identified for the Tsomo WTW Upgrade is immediately adjacent to the existing works and also located on Erf 79 (Commonage) requiring that an area of 6.9112 ha be subdivided from Erf 79, Tsomo (Commonage) and rezoned for the new plant. Part of the land is already transformed through past activities. Ownership of the land will remain with the Intsika Yethu Local Municipality, but infrastructure and operational matters will be under the jurisdiction of the CHDM.

There is no alternative other than to construct the WTW on this area due to its proximity to and ease of linkage to the existing Tsomo Water Treatment works.

### 2.2 Type of activity to be undertaken

The activity encompasses a water treatment works for purification of water abstracted from the Tsomo River and treated to provide potable water to communities and local towns.

No alternative activity is considered

### **2.3 Design or layout of the activity**

The design and layout of the water treatment works is a copy or repetition of the existing Tsomo WTW and based on a conceptual modular design consisting of 4 treatment train modules, each comprising a flocculator and settler or clarifier. The 4 modules share a common filter gallery of filters and combined chlorination and clear water storage. The modules will be supplied by existing abstraction pumps (to be upgraded) located in the Tsomo River abstraction works.

No alternative design or layout is considered as operators will be trained on the existing works.

### **2.4 Technology to be used in the activity**

Technology is based on a fully computerised system with a modular design consisting of 4 treatment train modules, each comprising a flocculator and settler or clarifier. The 4 modules share a common filter gallery of filters and combined chlorination and clear water storage. The modules will be supplied by existing abstraction pumps (to be upgraded) located in the Tsomo River abstraction works.

No alternative technology is considered as operators will be trained on the existing works and cannot switch between different technologies.

### **2.5 Operational aspects of the activity**

Operational aspects are linked to the design and operation of the existing CHDM Tsomo WTW and its defined methodology.

There are no operational alternatives that can be considered

### **2.6 The option of not implementing the activity**

Due to the drought induced water crisis in Butterworth and other parts of Amathole District Municipality, the existing Tsomo River Abstraction Works and Water Treatment Works (CHDM Cluster 9 Phases 3A & 3B) will be upgraded from the current capacity of 25MI/day to its full capacity of 42MI/day.

Not implementing the upgrade of the Tsomo WTW will mean that there will be insufficient potable water for drought stricken communities and towns in the ADM. The government and Water User Authorities will be failing in terms of the Constitution in not providing potable water, which is considered a basic human right.

### 3. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

List alternative sites if applicable.

**Alternative:**

Alternative S1<sup>1</sup> (preferred or only site alternative)

Alternative S2 (if any) NONE

Alternative S3 (if any) NONE

**Latitude (S):**

**Longitude (E):**

31°	1.94'	27°	49.49'
0	'	0	'
0	'	0	'

**In the case of linear activities:**

**Alternative:**

Alternative S1 (preferred or only route alternative)

- Starting point of the activity
- Middle point of the activity
- End point of the activity

Alternative S2 (if any)

- Starting point of the activity
- Middle point of the activity
- End point of the activity

Alternative S3 (if any)

- Starting point of the activity
- Middle point of the activity
- End point of the activity

**Latitude (S):**

**Longitude (E):**

0	'	0	'
0	'	0	'
0	'	0	'
0	'	0	'
0	'	0	'
0	'	0	'
0	'	0	'
0	'	0	'

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

<sup>1</sup> "Alternative S.." refer to site alternatives.



#### 4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

**Alternative:**

Alternative A1<sup>2</sup> (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

or, for linear activities:

**Alternative:**

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

**Size of the activity:**

46 500 m <sup>2</sup>
- m <sup>2</sup>
- m <sup>2</sup>

**Length of the activity:**

m
m
m

Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

**Alternative:**

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

**Size of the site/servitude:**

69 112m <sup>2</sup>
- m <sup>2</sup>
- m <sup>2</sup>

#### 5. SITE ACCESS

Does ready access to the site exist?

If NO, what is the distance over which a new access road will be built

<b>YES</b>	<b>NO</b>
-	m

Describe the type of access road planned:

Direct brick paved linkage between the existing WTW and the new upgrade area

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

#### 6. SITE OR ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- 6.1 the scale of the plan which must be at least a scale of 1:500;
- 6.2 the property boundaries and numbers of all the properties within 50 metres of the site;
- 6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 6.4 the exact position of each element of the application as well as any other structures on the site;

<sup>2</sup> "Alternative A.." refer to activity, process, technology or other alternatives.

- 6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 6.6 all trees and shrubs taller than 1.8 metres;
- 6.7 walls and fencing including details of the height and construction material;
- 6.8 servitudes indicating the purpose of the servitude;
- 6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
  - rivers;
  - the 1:100 year flood line (where available or where it is required by DWA);
  - ridges;
  - cultural and historical features;
  - areas with indigenous vegetation (even if it is degraded or invested with alien species);
- 6.9 for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- 6.10 the positions from where photographs of the site were taken.

## **7. SITE PHOTOGRAPHS**

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this form. It must be supplemented with additional photographs of relevant features on the site, if applicable.

## **8. FACILITY ILLUSTRATION**

A detailed illustration of the activity must be provided at a scale of 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

## 9. ACTIVITY MOTIVATION

### 9(a) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R 306 mil
What is the expected yearly income that will be generated by or as a result of the activity?	R 54.75 mil
Will the activity contribute to service infrastructure?	YES NO
Is the activity a public amenity?	YES NO
How many new employment opportunities will be created in the development phase of the activity?	250
What is the expected value of the employment opportunities during the development phase?	R 45 mil
What percentage of this will accrue to previously disadvantaged individuals?	80%
How many permanent new employment opportunities will be created during the operational phase of the activity?	5
What is the expected current value of the employment opportunities during the first 10 years?	R 12 mil
What percentage of this will accrue to previously disadvantaged individuals?	100%

### 9(b) Need and desirability of the activity

Motivate and explain the need and desirability of the activity (including demand for the activity):

The project objective is to address public health and basic needs by providing potable water supply to rural communities at RDP level to address the water supply backlog.

The original Cluster 9 project plan was to provide water to settlements in the following three local municipalities within the Chris Hani and Amathole District Municipalities:

- IntsikaYethu Local Municipality (wards 3, 6, 8 & parts of 1 & 13)
- Encobo Local Municipality (wards 1 & 2)
- Mnquma Local Municipality (wards 13, 14, 15, 16, 17, 18, 19 & 8)

Due to the drought induced water crisis in Butterworth and other parts of Amathole District Municipality (ADM), the Tsomo River Abstraction Works and Water Treatment Works will be upgraded from the current capacity of 25Ml/day to its full capacity of 42Ml/day.

The Summer Daily Demands (SDD) of the projects to be served and from the Upgraded Tsomo 42Ml/day abstraction works and WTW are:

Municipal Area	Project Area	SDD Mℓ/day	Water use Licence
CHDM	Cluster 9 Regional Bulk	10.4	Approved
	Cluster 8 Water Backlog Project	6.9	Approved
ADM	Nggamakhwe RWSS	7	May 16
ADM	Butterworth and Centane Areas	17	Application 2021
<b>TOTAL (Mℓ/day)</b>		<b>41.4</b>	

Indicate any benefits that the activity will have for society in general:

Provision of potable water to communities and towns within drought stricken areas of the ADM. The project objective is to address public health and basic needs by providing potable water supply to rural communities at RDP level to address the water supply backlog.

Indicate any benefits that the activity will have for the local communities where the activity will be located:

Government and municipal funding is aimed at meeting an expenditure of 30% of the contract value on local labour and suppliers. The CHDM have a list of local material suppliers and sub-contractors from whom the main contractor can source material and skilled sub-contractors. In addition a project steering committee consisting of the Ward Councilor and community representatives are used to identify and guide employment of local unskilled workers who will learn a skill or skilled workers as may be required by the main contractor. A contract of this nature is typically of 2 years duration thus ensuring sufficient time for the transfer of skills and providing employment opportunities.

## 10. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline:	Administering authority:	Date:
NEMA, 1998 (Act 107 of 1998), as amended and associated Regulations GN 324, 325, 326 & 327	DEDEAT	1998
NEM: Biodiversity Act (Act 10 of 2004)	DEDEAT	2004
NEM: Biodiversity Act (Act 10 of 2004), Notice No. R. 1020 dated 25 <sup>th</sup> September 2020 - Alien and Invasive Species Regulations	DEDEAT	2020
NEM: Air Quality Act, 2004 (Act No. 39 of 2004) National Dust Control Regulations	CHDM	2013
NWA, 1998 (Act 36 of 1998) with Regulations	DWS	1998
NHRA, 1999 (Act 25 of 1999), as amended	EC PHRA / SAHRA	1999
Cape Land Use Planning Ordinance 15 of 1985	Province of the Eastern Cape Cooperative Governance & Traditional Affairs	1985
Spatial Planning and Land Use Management Act, Act 16 of 2013	Province of the Eastern Cape Cooperative Governance & Traditional Affairs	2013

## 11. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

### 11(a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

YES	NO
200 m <sup>3</sup>	

If yes, what estimated quantity will be produced per month?

How will the construction solid waste be disposed of (describe)?

Building or concrete waste will be disposed of at the Municipal waste site at Cofimvaba

Waste rock will be disposed of at sites where members of the community backfilling for levelling of their erven/sites. Excess rock will be disposed of at eroded areas identified by the PSC, where the rock will assist in controlling run-off and preventing erosion - placement of this waste rock shall be controlled by the Consulting Engineer, who shall ensure that such placement will not result in run-off water over-spilling donga embankments.

Where will the construction solid waste be disposed of (describe)?

Building or concrete waste will be disposed of at the Municipal waste site at Cofimvaba

Waste rock will be disposed of at sites where members of the community backfilling for levelling of their erven/sites. Excess rock will be disposed of at eroded areas identified by the PSC, where the rock will assist in controlling run-off and preventing erosion - placement of this waste rock shall be controlled by the Consulting Engineer, who shall ensure that such placement will not result in run-off water over-spilling donga embankments.

Will the activity produce solid waste during its operational phase?

YES	NO
1 100 m <sup>3</sup>	

If yes, what estimated quantity will be produced per month?

How will the solid waste be disposed of (describe)?

This solid waste is dried sludge from the sludge lagoons - The binding agent in the flocculation process is biodegradable polymer that disintegrate into a harmless residual material that gets recycled in the earth environment. The dried sludge will be transported with trucks and disposed of at the Municipal waste site at Cofimvaba in accordance with the Waste Management Licence. This is the approved practice for disposal of dried sludge from the existing Tsomo WTW under WML EC/CH/A/3/001-2012.

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

The dried sludge will be disposed of at the Municipal waste site at Cofimvaba under a WML being applied for

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation? 

YES	NO
-----	----

If yes, inform the competent authority and request a change to an application for scoping and EIA.

Is the activity that is being applied for a solid waste handling or treatment facility? 

YES	NO
-----	----

If yes, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

**NOTE:** The sludge removed from the lagoons on an annual basis is directly disposed of at the Cofimvaba Municipal Waste Site

**11(b) Liquid effluent**

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system? 

YES	NO
-----	----

If yes, what estimated quantity will be produced per month?

m <sup>3</sup>
----------------

Will the activity produce any effluent that will be treated and/or disposed of, on site? 

YES	NO
-----	----

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility? 

YES	NO
-----	----

If yes, provide the particulars of the facility:

Facility name:	/				
Contact person:					
Postal address:					
Postal code:					
Telephone:				Cell:	
E-mail:				Fax:	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

The water treatment works recovery water system ensures wastage of abstracted river water is kept to a minimum by returning supernatant water from the sludge lagoons back to the head of the works, where it goes through the treatment process and then reticulated into the potable water system.

**11(c) Emissions into the atmosphere**

Will the activity release emissions into the atmosphere?

YES	NO
YES	NO

If yes, is it controlled by any legislation of any sphere of government?

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the emissions in terms of type and concentration:

There are no emissions into the atmosphere. This is a water treatment facility. Energy for operation is via Eskom

**11(d) Generation of noise**

Will the activity generate noise?

YES	NO
YES	NO

If yes, is it controlled by any legislation of any sphere of government?

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the noise in terms of type and level:

Operation of the WTW is via electric motors and applies only to the treatment of water abstracted from the Tsomo River to render this suitable for human consumption. There is no crushing of materials etc.

The area will be re-zoned as "Industrial 1". In terms of legislation a "**controlled area**" means a piece of land designated by a local authority where, in the case of industrial noise in the vicinity of an industry the reading on an integrating impulse sound level meter, taken outdoors at the end of a period of 24 hours while such meter is in operation, exceeds 61 dBA. Excessive noise is noise of  $\geq 85$  dB in 8 hours in 24 hours for more than 5 days per week. These noise levels are usually associated with heavy machinery such as mobile stone crushers etc. and will not be exceeded at this WTW.

## 12. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es)

<input type="checkbox"/> municipal	<input type="checkbox"/> water board	<input type="checkbox"/> groundwater	<input type="checkbox"/> river, stream, dam or lake	<input type="checkbox"/> other	<input type="checkbox"/> the activity will not use water
------------------------------------	--------------------------------------	--------------------------------------	---	--------------------------------	--

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate

the volume that will be extracted per month: **42 ml/day**

1 260 000 000 litres

Does the activity require a water use permit from the Department of Water Affairs?

YES  NO

If yes, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this application if it has been submitted.

The WULA is being undertaken by Mr Mbikwana of Londi & Associates WULA Consulting; see proof of e-WULAAS – WUL Application referenced WU23674 hereunder

3/29/22, 11:11 AM

Applicant - Main Menu

Mr Noel Mlondolozzi Mbikwana (Director) e-Mail: mlondolozzi@icloud.com

e-WULAAS - Water Use Licence Applications

[HOME \(https://www.dws.gov.za/ewulaas/\)](https://www.dws.gov.za/ewulaas/) [How To](#) [Consultant](#) [Client](#) [Applications](#) [Withdraw](#) [Cancel Licence](#) [Status](#) [Correspondence](#)

[Support](#) [Logout](#)

### Application Status



Water User

WSP : CHRIS HANI DISTRICT MUNICIPALITY

Application

WU23674 - Cluster 9 Backlog Water Supply Project-Upgrade of Tsomo River A

Duration: Day 0 of 90

Current Status: Applicant : Prepares WUL Application for submission

#	Date	Applicant	Department	Duration in Days
1	Mar 10 2022 1:53PM	Applicant : Prepares WUL Application for submission		19 Days (Current)
2	Feb 15 2022 8:40AM		Pre Application Enquiry	23 Days
3	Feb 14 2022 11:50PM		Pre Application Enquiry	1 Day
4	Feb 13 2022 10:46PM	Applicant : Prepares Pre-application for submission		1 Day



**13. ENERGY EFFICIENCY**

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

The operation of the WTW is Eskom dependent

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

No alternative energy source have been included into the design

DRAFT 1st ITERATION

## SECTION B: SITE/AREA/PROPERTY DESCRIPTION

**Important notes:**

- For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C Copy No. (e.g. A):

- Paragraphs 1 - 6 below must be completed for each alternative.

- Has a specialist been consulted to assist with the completion of this section?

YES	NO
-----	----

If YES, please complete form XX for each specialist thus appointed:

All specialist reports must be contained in Appendix D. The following specialist reports are included in appendix D:

- (i) NWA-WULA
- (ii) Aquatic & wetland
- (iii) Terrestrial
- (iv) Archaeology and Cultural Heritage
- (v) Palaeontology

### 1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

**Alternative S1:**

Flat	1:50 — 1:20	1:20 — 1:15	1:15 — 1:10	<b>1:10 — 1:7,5</b>	1:7,5 — 1:5	Steeper than 1:5
------	-------------	-------------	-------------	---------------------	-------------	------------------

**Alternative S2 (if any):**

Flat	1:50 — 1:20	1:20 — 1:15	1:15 — 1:10	1:10 — 1:7,5	1:7,5 — 1:5	Steeper than 1:5
------	-------------	-------------	-------------	--------------	-------------	------------------

**Alternative S3 (if any):**

Flat	1:50 — 1:20	1:20 — 1:15	1:15 — 1:10	1:10 — 1:7,5	1:7,5 — 1:5	Steeper than 1:5
------	-------------	-------------	-------------	--------------	-------------	------------------

## 2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

- 2.1 Ridgeline
- 2.2 Plateau
- 2.3 Side slope of hill/mountain
- 2.4 Closed valley
- 2.5 Open valley**
- 2.6 Plain
- 2.7 Undulating plain / low hills
- 2.8 Dune
- 2.9 Seafront

## 3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following (tick the appropriate boxes)?

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	YES	NO	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES	NO	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO	YES	NO	YES	NO
An area sensitive to erosion	YES	NO	YES	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

#### 4. GROUNDCOVER

Indicate the types of groundcover present on the site:

- 4.1 Natural veld – good condition<sup>E</sup>
- 4.2 Natural veld – scattered aliens<sup>E</sup>**
- 4.3 Natural veld with heavy alien infestation<sup>E</sup>
- 4.4 Veld dominated by alien species<sup>E</sup>
- 4.5 Gardens
- 4.6 Sport field
- 4.7 Cultivated land
- 4.8 Paved surface
- 4.9 Building or other structure
- 4.10 Bare soil

The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition <sup>E</sup>	<b>Natural veld with scattered aliens<sup>E</sup></b>	Natural veld with heavy alien infestation <sup>E</sup>	Veld dominated by alien species <sup>E</sup>	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

If any of the boxes marked with an “E” is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn’t have the necessary expertise.

#### **Natural veld with scattered aliens<sup>E</sup>**

Extract from Terrestrial Biodiversity Assessment; **see Appendix D3.1** - A single vegetation unit, **Tsomo Grassland** is primarily affected by the proposed project (Mucina & Rutherford, 2006), having a *Least Concern* conservation status.

The vegetation unit occurring in the vicinity of the site is characterised by the Tsomo Grassland on undulating to moderately steep slopes, sometimes in shallow, incised drainage valleys. Open savanna characterised by small trees of *Acacia natalitia* with a short to medium, dense, sour grassy understorey, usually dominated by *Themeda triandra* when in good condition. A diversity of other woody species also occur, often increasing under conditions of overgrazing. This vegetation offers habitat for a limited suite of animal species, although animals have largely been displaced by people within the rural landscape. The vegetation present on site can be categorised as follows:

- **Grassland with Bushveld elements**– Predominant vegetation on the site, comprising a grassy vegetation with scattered trees (*Vachellia (Acacia) natalitia*, *Combretum caffrum*, *Celtis africana*, and *Coddia rudis*) as well as *Aloe ferox* being common. Scattered shrubs and herbs are also present. A few rocky areas also provide habitat for several succulent species
- **Riparian Thicket** – a band of tree dominated vegetation occurring along the banks of the Tsomo River, dominated by *Vachellia (Acacia) natalitia* and *Combretum caffrum*. A portion at the northern end of the site being disturbed, possibly mined for sand historically and evidence of erosion present.

- **Transformed** – previously cleared areas and disturbed areas having secondary grassy vegetation

The habitats and microhabitats present on the project site are not unique and are widespread in the general area, hence the localised impact associated with the site footprint would in general be of low to very low significance with implementation recommended mitigation measures.

In summary, the site is located on the edge of an urban centre (Tsono) along the banks of the Tsono River. The vegetation is generally intact, having a widespread distribution, hence the status is not elevated. The proposed WTW expansion is situated adjacent to an existing WTW. While there are several range-restricted endemic species in the surrounding area and the vegetation types, there are no known species within the site that will be directly affected and it is highly unlikely that they would be present within the site, other than transient manner for faunal species (i.e., flying over or foraging). The site assessment has physically screened for the presence of these, and other possible species not identified in the screening tool.

Several endemic and range restricted species of flora are known from the surrounding area. None are likely to be present. Note, there is a residual very-low possibility that these species could be present, and cannot be discounted without extensive seasonal sampling, which is generally outside the scope of such an assessment, unless a specific risk is identified. Due to the localised nature of the impact, as well as the level of degradation of the site, the risk of a species suffering any significant loss is low.

**Alien species** - Several exotic invasive and other weed species were noted within the site, although they are mostly present in low numbers, sometimes proliferating in disturbed areas. Species such as *Lantana camara*, and *Zinnia peruviana* are noted to be more prevalent within the disturbed areas as well as the occasional *Acacia mearnsii* (Black Wattle) tree. A few other ruderal weed species are also present in disturbed areas, although none are problematic. A weed management programme, as part of the construction contract including an after-care period will be required.

### **Recommendation**

- (i) It is the conclusion of this terrestrial biodiversity assessment that the WTW can be constructed within acceptable terrestrial biodiversity impact limits providing the recommended mitigation actions are adhered to.
- (ii) The portion of riparian thicket on the eastern side of the site must be retained and excluded from the development footprint as recommended in the development plan.

## 5. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

### 5.1 Natural area

5.2 Low density residential

### 5.3 Medium density residential

5.4 High density residential

5.5 Informal residential

5.6 Retail commercial & warehousing

5.7 Light industrial

5.8 Medium industrial <sup>AN</sup>

5.9 Heavy industrial <sup>AN</sup>

5.10 Power station

5.11 Office/consulting room

5.12 Military or police base/station/compound

5.13 Spoil heap or slimes dam<sup>A</sup>

5.14 Quarry, sand or borrow pit

5.15 Dam or reservoir

5.16 Hospital/medical centre

### 5.17 School

5.18 Tertiary education facility

5.19 Church

5.20 Old age home

5.21 Sewage treatment plant<sup>A</sup>

5.22 Train station or shunting yard <sup>N</sup>

5.23 Railway line <sup>N</sup>

5.24 Major road (4 lanes or more) <sup>N</sup>

5.25 Airport <sup>N</sup>

5.26 Harbour

5.27 Sport facilities

5.28 Golf course

5.29 Polo fields

5.30 Filling station <sup>H</sup>

5.31 Landfill or waste treatment site

5.32 Plantation

5.33 Agriculture

### 5.34 River, stream or wetland

5.35 Nature conservation area

5.36 Mountain, koppie or ridge

5.37 Museum

5.38 Historical building

5.39 Protected Area

5.40 Graveyard

### 5.41 Archaeological site

5.42 Other land uses (describe)

If any of the boxes marked with an "N" are ticked, how will this impact / be impacted upon by the proposed activity.  
NONE

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity.  
If YES, specify and explain:

If YES, specify:

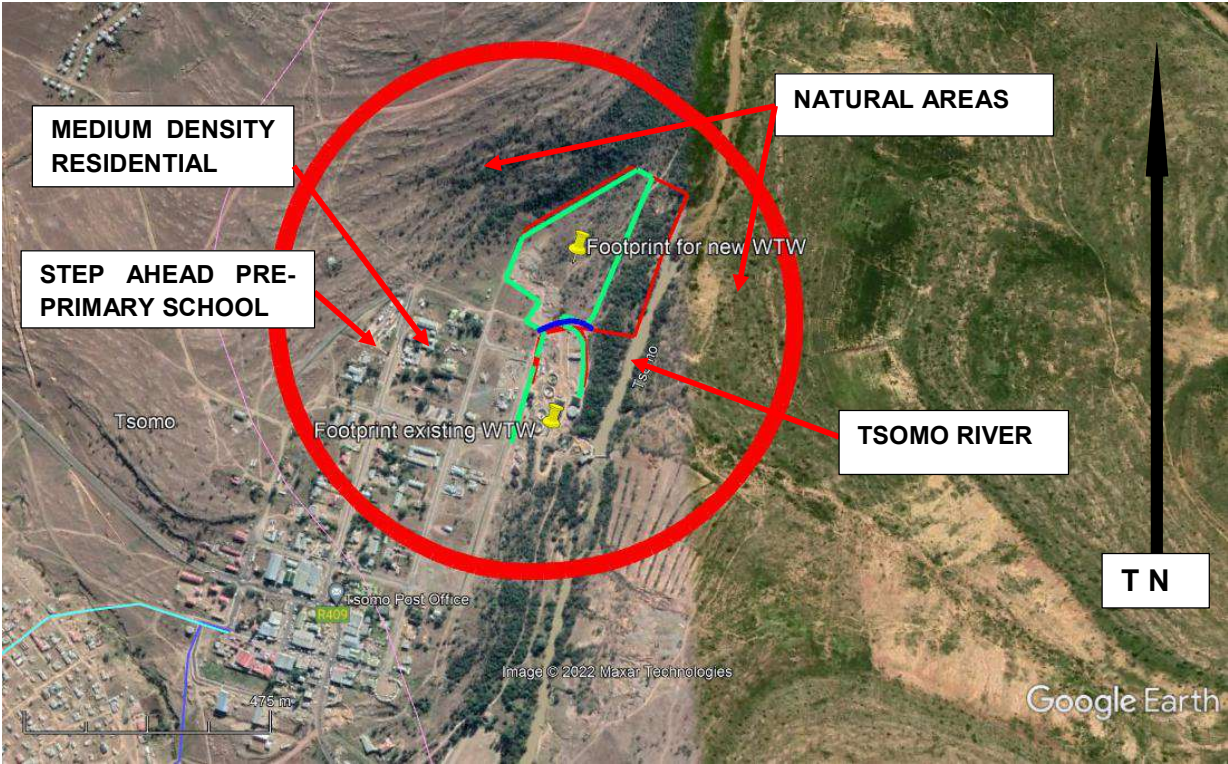
NONE

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity.  
If YES, specify and explain:

If YES, specify:

NONE

**DISCUSSION ON LAND USES OR PROMINENT FEATURES 500 m FROM THE SITE**



**Natural area**

The proposed WTW site is located adjacent to a "Commonage" area within the defined urban edge of Tsomo Town. This natural area is used on an ad-hoc basis by grazing livestock, which stray on to the area and is not considered as formal land use. The area to be sub-divided from the Commonage is 6.9112 ha in extent of which, the actual construction/development footprint measures 4.65 ha with the remainder not impacted upon. The area to the west, north and east of the site will remain in its natural state.

### Medium density residential

There is an existing residential area of Tsomo Town located within 250 m of the site. No comments or objections were raised during the PPP.

### School

The Step Ahead Pre-primary School is located 250 m from the WTW site. No comments or objections were raised during the PPP.

### River, stream or wetland

The site is located within 100 m of the Tsomo River – see extract from the Aquatic and Wetland Impact Assessment Report:

#### Classification of the rivers within the study area.

Classification	Description
NFEPA Classification (2011-2014)	The Tsomo River adjacent to the site has not been classified according to NFEPA.
NBA Classification 2018	<p>NBA (2018) classifies the reach of the Tsomo River adjacent to the site as Critically Endangered.</p> <p>Critically endangered ecosystems are ecosystem types that have very little of their original extent left in natural or near-natural condition. Most of the ecosystem type has been heavily, severely or critically modified from its natural state. Any further loss of natural habitat or deterioration in condition of the remaining healthy examples of these ecosystem types must be avoided, and the remaining healthy examples should be the focus of urgent conservation action.</p>
DWS PES EIS data (2014)	<p>The reach of the Tsomo River has been classified as PES <b>Class D Largely modified</b> whereby a large loss of natural habitat, biota and basic ecosystem functions has occurred. The EI is classified as moderate and ES as moderate.</p> <p>The PES class is assigned based on alteration to riparian habitat and flow by upstream sediment inputs, gauging weir and crossings, abstraction to WTW. Catchment degradation has resulted in some erosion. Bush encroachment is evident. The Tsomo River flows past the Tsomo WWTW which was in Critical Risk at the time of the DWS assessment.</p>
Aquatic Assessment (Laughing Waters and Dr Anton Bok, 2011)	<p>An initial aquatic assessment was undertaken in 2011 in support of the EIA for the development of the initial Tsomo WTW south of the proposed expansion site (forming the discussion of this report). This initial assessment covered the assessment of the abstraction weir as part of the initial Tsomo WTW construction. The instream and riparian zone habitat integrity received scores of C. The EIS was considered moderate and an Ecstatus of C.</p>



## Wetlands

### NBA (2018) classification and delineation of wetlands within the study area

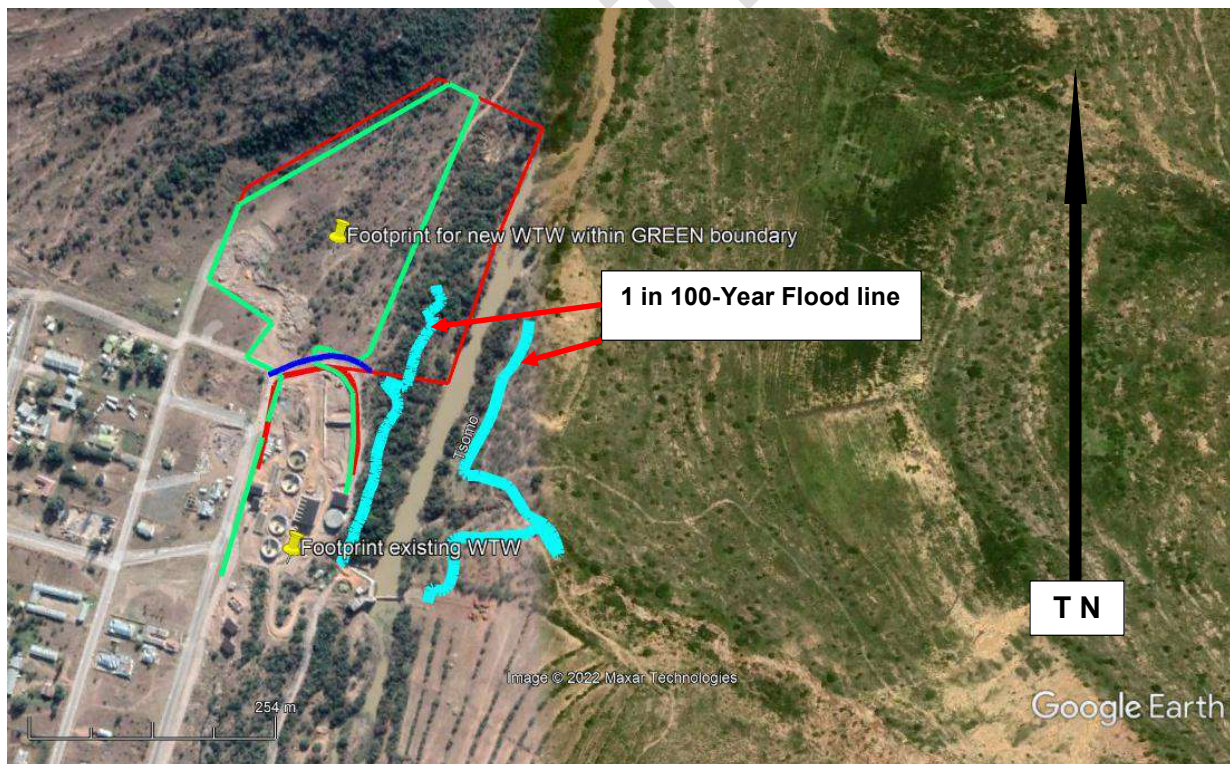
According to NBA (2018), there is a natural riverine wetland associated with the Tsomo River east of the proposed development footprint. No artificial wetlands were identified within 500m of the proposed development site.

### NBA Classification of the natural wetlands within the study area according to the Classification System for Wetlands and other Aquatic Ecosystems in South Africa (Ollis et al., 2013).

Wetland	Level 1: System	Level 2: Regional Setting	Level 3: Landscape Unit	Level 4: HGM Unit	Ecosystem Threat Status	Condition
NBA Wetland 1	Inland	River	Valley floor	Riverine	N/A	N/A

The proposed Tsomo WTW site occurs on areas of transformed land adjacent to the existing Tsomo WTW site. The Tsomo River occurs east of the site and outside of the project footprint and provided, the mitigation measures in this report are implemented, is unlikely to be affected by any adverse impacts associated with the development proposals.

**NOTE:** The project construction footprint is above the 1 in 100-Year flood line. The boundary fence position is depicted by the green line. Riparian (riverine) vegetation is thus protected and outside of the construction area.



### **Archaeological sites**

Two possible cultural/heritage sites (graves not excluded) are located within the project footprint. This is addressed in the Archaeological and Cultural Heritage Impact Assessment Report as is subject to on-going evaluation by the specialist; see Section B-6 hereunder.

DRAFT 1st ITERATION

## 6. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including

YES	NO
-----	----

Archaeological or palaeontological sites, on or close (within 20m) to the site?

Uncertain
-----------

If YES, explain:

**Extract from Archaeological and Cultural Impact Assessment (App D4.1)**

Two (2) archaeological and cultural heritage resources, as defined and protected by the NHRA 1999, were identified during the field assessment of the study site viz Sites TWU-S1 and TWU-S2. It is recommended that development proceeds as applied for, provided developer compliance to the recommended Phase 2 archaeological programme for the two sites. The proposed development poses no Fatal Flaws in its layout or design with regard protected archaeological and cultural heritage resources – provided Phase 2 heritage compliance requirements are met – and consideration of a No Development option is, resultantly, not warranted from a said heritage perspective. Compliance with the recommended Phase 2 archaeological programme will result in a positive cumulative impact of the Cluster 9 Tsomo Water Treatment Works Upgrade development with regard to protected archaeological and cultural heritage resources, during the construction phase of development, but more importantly with reference to the long-term responsible management of affected heritage resources throughout the course of the development’s implementation phase.

**Extract from Palaeontological Impact Assessment (App D5.1)**

A Medium Palaeontological Significance has been allocated to the proposed development. It is considered that the proposed development will not lead to detrimental impacts on the palaeontological reserves of the area, and it is recommended that no further palaeontological heritage studies, ground truthing and/or specialist mitigation are required pending the discovery of newly discovered fossils.

If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist:

\_\_\_\_\_

Will any building or structure older than 60 years be affected in any way?

YES	NO
-----	----

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

YES	NO
-----	----

If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

- (i) **AIA & PIA submitted to EC PHRA for assessment; see proof of submission hereunder**
- (ii) **Archaeologist has been appointed to undertake a Phase 2 archaeological testing to be done prior to construction site establishment. Archaeological testing must be done under an EC PHRA-APM Unit**

# PROOF OF SUBMISSION OF AIA & PIA TO EC PHRA

SAHRIS CaseID 18207

<https://sahris.sahra.org.za/cases/cluster-9-tsomo-water-treatment-works-wtw-upgrade-chris-hani-district-municipality-eastern>

The screenshot displays the SAHRIS web application interface. At the top, a navigation bar includes 'Home', 'My account', 'Messages', 'MyDashboard', 'MyComments', and 'Log out'. A green notification banner states: 'Heritage Cases Cluster 9 Tsomo Water Treatment Works (WTW) Upgrade, Chris Hani District Municipality, Eastern Cape has been updated.' Below this, the 'Heritage Cases' section shows a card for the case 'Cluster 9 Tsomo Water Treatment Works (WTW) Upgrade, Chris Hani District Municipality, Eastern Cape'. The card includes social media sharing options (Like 0, Tweet, In) and a 'VIEW' button. The case details are as follows:

- Status:** Studies Submitted
- HeritageAuthority(s):** ECPHRA
- Case Type:** Section 38 (8) - Statutory Comment Required
- Development Type:** Municipal Infrastructure
- ProposalDescription:** Cluster 9 Tsomo Water Treatment Works (WTW) Upgrade, Chris Hani District Municipality, Eastern Cape

The 'AdditionalDocuments' section lists one document: '1. BID-CHDM Cluster 9 WTW Upgrade (1).pdf'. The bottom of the screenshot shows a Windows taskbar with the date 23/03/2022 and time 11:41.



# SECTION C: PUBLIC PARTICIPATION

## 1. ADVERTISEMENT

On 10<sup>th</sup> February 2022 a Notice and/or BID was distributed to I&APs'; **see Appendix E2**. It provided information on the proposed project to encourage stakeholders to register as I&APs as well as to assist them to provide preliminary issues and/or concerns regarding the proposed project for consideration in the EIA process. The notice also outlined the legal requirements regarding environmental authorisation as well as explained the EIA process, and in particular focussed on how I&APs could become involved at the requisite stages. Notices/BID included a registration form to be completed and returned to confirm I&AP interest and registration. The Notice/BID stated clearly that subsequent correspondence and or opportunity to comment on draft documents would be limited to those I&APs who registered and reports would be made available in electronic format. In addition the Notice/BID stated clearly that a public site meeting would be held on Tuesday 15<sup>th</sup> March 2022.

(a) Fixing a notice board

Signage was erected at the proposed project area on 10th February 2022. The signage was in Xhosa and English languages; **see Appendix E2.2**



(b) Written notice was provided to—

NAME & CONTACT NUMBER	ADDRESS	E-MAIL ADDRESS	I&AP RESPONSE YES OR NO
DEDEAT Mrs N Mdekazi-Nkqubezelo Tel: 045 808 4000	Komani Office Park Queenstown	Nondwe.Mdekazi@dedea.gov.za	YES – Receipt acknowledged
Department Water & Sanitation East London Mrs L Fourie Tel: 043 701 0248	42 Moore St Ocean View Terrace Quigney East London, 5201	FourieL4@dws.gov.za	NO
Department Water & Sanitation East London Mrs E van Rooyen Tel: 043 701 0229	42 Moore St Ocean View Terrace Quigney East London, 5201	VanRooyenE2@dws.gov.za	NO
Eastern Cape Provincial Heritage Resources Authority Mr M Madita Tel: 043 492 1942	16 Commissioner Street, East London, 5201	markm@ecphra.org.za info@ecphra.org.za	YES – Receipt acknowledged
Chris Hani D M Municipal Manager Mr G Mashiyi Tel: 045 808 4610	Bells Road Queenstown	gmashiyi@chrishanidm.gov.za	NO
Chris Hani D M Technical director Mr L Govo	Cathcart Road Queenstown	luzukog03@gmail.com	NO
Chris Hani D M Environmental Management Mr Q Mpotulo Tel: 045 808 9000	Tylden Street Queenstown	qmpotulo@chrishanidm.gov.za	YES – Receipt acknowledged
Chris Hani D M Project Manager Ms T Ncokazi	Cathcart Road Queenstown	tncokazi@chrishanidm.gov.za	NO
Intsika Yethu L M Municipal Manager (Acting); and Technical Director Mr K Clock Tel: 047 874 8700	201 Main Street Cofimvaba	kulileclock@gmail.com	NO
Intsika Yethu L M Ward Councillor (Ward 8) Mr M Ngwane Tel: 073 117 5308	Main Street Tsomo	mncedisi.wisemann@gmail.com	YES – Receipt acknowledged

Copies of correspondence included in **Appendices E**

- (c) Placing an advertisement in one local newspaper; or

An advertisement for the EIA process appeared in the local newspaper (The Representative) on 11<sup>th</sup> February 2022. The advertisement briefly described the proposed project and the legal requirements associated with the EIA process in terms of NEMA and invited members of the public to register as I&APs and raise any initial issues or concerns about the proposed project. The advertisement stated clearly that subsequent correspondence and or opportunity to comment on draft documents would be limited to those I&APs who registered and would be via electronic media. In addition the Notice/BID stated clearly that a public site meeting would be held on 15<sup>th</sup> March 2022. Copy of the advertisement is included in **Appendix E**

- (d) Placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or local municipality in which it is or will be undertaken.

**Not applicable in respect of this project**

- (e) Using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—
  - (i) illiteracy;
  - (ii) disability; or
  - (iii) any other disadvantage.

**Not applicable in respect of this project**

**2. CONTENT OF ADVERTISEMENTS AND NOTICES**

A notice board, advertisement or notices must:

- (a) indicate the details of the application which is subjected to public participation; and
- (b) state—
  - (i) that the application has been submitted to the competent authority in terms of these Regulations, as the case may be;
  - (ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;
  - (iii) the nature and location of the activity to which the application relates;
  - (iv) where further information on the application or activity can be obtained; and
  - (iv) the manner in which and the person to whom representations in respect of the application may be made.

**See copies of advertisement, site notice and BID in Appendix E2.1, 2.2 & 2.3**

### 3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the competent authority in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of the EIA regulations.

Advertisements and notices must make provision for all alternatives.

**Advertisements placed in the local newspaper – The Representative (Queenstown)  
Signage erected at project site in two languages viz. Xhosa and English**

### 4. DETERMINATION OF APPROPRIATE MEASURES

The practitioner must ensure that the public participation is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees, ratepayers associations and traditional authorities where appropriate. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

### 5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before the application is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to this application. The comments and response report must be attached under Appendix E.

**The comments and response report is included in Appendix E1**

### 6. AUTHORITY PARTICIPATION

Authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of the application at least 30 (thirty) calendar days before the submission of the application.

List of authorities informed:

- |  |
|--|
| <ul style="list-style-type: none"><li>(i) Department Economic Development, Environment Affairs &amp; Tourism</li><li>(ii) Department Water &amp; Sanitation (DWS)</li><li>(iii) Eastern Cape Provincial Heritage Resources Authority</li></ul> |
|--|

List of authorities from whom comments have been received:

- |  |
|--|
| <ul style="list-style-type: none"><li>(i) Department Water &amp; Sanitation (DWS) - Consultation with DWS is dealt with by Mr Mbikwana of Londi &amp; Associates WULA Consulting, who is handling the application for the Water Use Licence and additional abstraction of water from the Tsomo River; <b>see Section A-12</b>. DWS have not corresponded directly with the EAP</li></ul> |
|--|



## 7. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for linear activities, or where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Any stakeholder that has a direct interest in the site or property, such as servitude holders and service providers, should be informed of the application at least 30 (thirty) calendar days before the submission of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders?

YES	NO
-----	----

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

- (i) Intsika Yethu Local Municipality (IYLM) provided an extract from the Minutes of a Special Council meeting held on 31<sup>st</sup> January 2022, indicating that the use of the land for the proposed Tsomo WTW Upgrade, had been approved; **see Appendix G2**
- (ii) Mr M Ntlahla a representative of the Zamani Mawethu Agricultural Cooperative Ltd submitted a letter of objection (**See appendix E3.1.1**) to the use of the proposed site and indicated that his organisation had a formal lease agreement with the IYLM dated 1<sup>st</sup> January 2015 and termination date on 31<sup>st</sup> December 2035 for an area of land measuring 20 000 m<sup>2</sup> and that this area of land was part of the site identified for the CHDM Tsomo WTW Upgrade.

Mr Ntlahla presented copies of:

- Memorandum of Agreement of Lease; **see Appendix E3.1.6**
- Environmental authorisation NREC 135-010-2009; **see Appendix E3.1.7**
- Letter dated 14/06/2010 from IYLM indicating approval of the infrastructure plans; **see Appendix E3.1.2**
- Water use Certificate No. 28077456 with start date of 1<sup>st</sup> June 2009, for the abstracting of 80 m<sup>3</sup>/annum from the Tsomo River; **see Appendix E3.1.8**

During the site meeting on 15<sup>th</sup> March 2022, Mr Ntlahla indicated that he was prepared to negotiate with the IYLM for an alternative section of land, so that the CHDM Tsomo WTW Upgrade project could continue. Mr S Manona of Phuhlisani has been appointed to deal with the land issue; see correspondence from Mr Manona to the EAP in this regard **attached as Appendix E3.3**. There has been no formal interaction between Mr Manona and the three parties at the time of compiling this DBAR and this will be addressed in the Final BAR.

## 8. MEETING WITH WARD COUNCILLOR

The EAP met with the Ward Councillor Mr Ngwane on 10<sup>th</sup> February 2022; **see Appendix E2.4**. Mr Ngwane confirmed that he was aware of the project as it had been discussed in the IYLM Council Meeting held on 31<sup>st</sup> January 2022 and IYLM had confirmed support for the project; **see Appendix G2**. Mr Ngwane advised the EAP that an adjoining section of land had been identified by the IYLM for the development of a livestock pound – this land did not encroach on the land identified for the Tsomo WTW Upgrade project. Copies of the EIA process notice and BID were provided to Mr Ngwane who indicated that he would add this to the agenda for his scheduled community meeting.

## 9. PUBLIC MEETING

A meeting on site, to which all I&APs were invited to attend (see EIA notice and BID), was held on 15<sup>th</sup> March 2022; **see Appendix E2.1, 2.2 & 2.3.**

The EAP could not attend as he had been exposed to the Covid-19 virus. Mr Tholang Lebusa, a representative of the consulting engineer Maluti GSM chaired the meeting on behalf of the EAP.

The meeting was only attended by three (3) representatives of the Zamani Mawethu Agricultural Cooperative Ltd and two (2) representatives from the consulting engineer, Maluti GSM; **see Appendix E4**

Mr Lebusa (Chair) summarized the discussions of the meeting in an e-mail dated 16<sup>th</sup> March 2022; **see Appendix E4.1.** The discussion focused on the land issue raised by Mr Ntlahla representing the Zamani Mawethu Agricultural Cooperative Ltd. Mr Lebusa (Chair) indicated that this matter would be investigated with IYLM. Mr Ntlahla indicated that Zamani Mawethu Agricultural Cooperative Ltd was open to negotiations to move their project to an alternative site. The issues Mr Ntlahla raised against IYLM cannot be addressed by the EAP or Consulting Engineer.

## 10. I&AP REGISTER

NAME & CONTACT NUMBER	ADDRESS	E-MAIL ADDRESS
DEDEAT Mrs N Mdekazi-Nkqubezelo Tel: 045 808 4000	Komani Office Park Queenstown	Nondwe.Mdekazi@dedea.gov.za
Department Water & Sanitation East London Mrs L Fourie Tel: 043 701 0248	42 Moore St Ocean View Terrace Quigney East London, 5201	FourieL4@dws.gov.za
Department Water & Sanitation East London Mrs E van Rooyen Tel: 043 701 0229	42 Moore St Ocean View Terrace Quigney East London, 5201	VanRooyenE2@dws.gov.za
Eastern Cape Provincial Heritage Resources Authority Mr M Madita Tel: 043 492 1942	16 Commissioner Street, East London, 5201	markm@ecphra.org.za info@ecphra.org.za
Chris Hani D M Municipal Manager Mr G Mashiyi Tel: 045 808 4610	Bells Road Queenstown	gmashiyi@chrishanidm.gov.za
Chris Hani D M Technical director Mr L Govo	Cathcart Road Queenstown	luzukog03@gmail.com
Chris Hani D M Environmental Management Mr Q Mpotulo Tel: 045 808 9000	Tylden Street Queenstown	qmpotulo@chrishanidm.gov.za
Chris Hani D M Project Manager Ms T Ncokazi	Cathcart Road Queenstown	tncokazi@chrishanidm.gov.za
Intsika Yethu L M	201 Main Street Cofimvaba	kulileclock@gmail.com

Municipal Manager (Acting); and Technical Director Mr K Clock Tel: 047 874 8700		
Intsika Yethu L M Ward Councillor (Ward 8) Mr M Ngwane Tel: 073 117 5308	Main Street Tsomo 5400	mncedisi.wisemann@gmail.com
Zamani Mawethu Agricultural Cooperative Ltd Mr M Ntlahla Tel: 083 586 4359	Erf 17 Hartley Street Tsomo 5400	ntlahlamonde@gmail.com

DRAFT 1st ITERATION

## SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014 as amended, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

### 1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

Mr M Ntlahla a representative of the Zamani Mawethu Agricultural Cooperative Ltd submitted a letter of objection (**See Appendix 33.1.1**) to the use of the proposed site. Mr M Ntlahla indicated that his organisation had a formal lease agreement with the IYLM dated 1<sup>st</sup> January 2015 with termination date on 31<sup>st</sup> December 2035 for an area of land measuring 20 000 m<sup>2</sup> and that this area of land was part of the site identified for the CHDM Tsomo WTW Upgrade. Mr Ntlahla presented copies of:

- Memorandum of Agreement of Lease; **see Appendix E3.1.6**
- Environmental authorisation NREC 135-010-2009; **see Appendix E3.1.7**
- Letter dated 14/06/2010 from IYLM indicating approval of the infrastructure plans; **see Appendix E3.1.2**
- Water use Certificate No. 28077456 with start date of 1<sup>st</sup> June 2009, for the abstracting of 80 m<sup>3</sup>/annum from the Tsomo River; **see Appendix E3.1.8**

Mr Ntlahla raised a number of other issues directed to IYLM and which are not applicable to the EIA process and need to be resolved by the parties.

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached to this report):

During the site meeting on 15<sup>th</sup> March 2022, Mr Ntlahla indicated that he was prepared to negotiate with the IYLM for an alternative section of land, so that the CHDM Tsomo WTW Upgrade project could continue. It is worth noting that the EA NREC 135-010-2009 will have expired and that Zamani Mawethu Agricultural Cooperative Ltd will have to go through a new EIA process. Mr S Manona of Phuhlisani has been appointed to deal with the land issue; see correspondence from Mr Manona to the EAP in this regard **attached as Appendix E3.3**. There has been no formal interaction between Mr Manona and the three parties at the time of compiling this DBAR and the outcome will be addressed in the Final BAR. The issues Mr Ntlahla raised against IYLM cannot be addressed by the EAP or Consulting Engineer.

**2. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES**

List the potential direct, indirect and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed.

**NOTE:**

- (i) The impacts listed in the Table 2-1 hereunder are summarised from the following specialist reports, included in Appendix D viz.
  - Aquatic & Wetland Assessment
  - Terrestrial Biodiversity Assessment;
  - Agricultural compliance statement (see App G1.2 Section 8.1.4) - Site sensitivity verification report compiled by the EAP); and
  - Archaeology & Cultural Heritage impact assessment
- (ii) No impacts were identified through Palaeontological Impact Assessment; **see Appendix D5.1**
- (iii) Impacts, the significance thereof and mitigation measures are discussed in section 2.2 hereunder and are an extract from the respective specialist reports

**Table 2-1: Direct, Indirect and Cumulative Impacts**

<b>Alternative (preferred alternative)</b>
<p><b>Direct impacts:</b></p> <p><b><i>Aquatic &amp; wetland</i></b></p> <ul style="list-style-type: none"> <li>• Loss of riparian habitat;</li> <li>• Water quality issues and pollution; and</li> <li>• Change in hydrology and increase in erosion and sedimentation</li> </ul> <p><b><i>Terrestrial biodiversity</i></b></p> <ul style="list-style-type: none"> <li>• Permanent or temporary loss of indigenous vegetation cover because of site clearing</li> <li>• Loss of flora species of special concern during pre-construction site clearing activities</li> <li>• Loss of Faunal Habitat, impact on faunal processes and loss of faunal SCC may lead to increased mortalities among faunal species</li> </ul> <p><b><i>Agriculture</i></b></p> <ul style="list-style-type: none"> <li>• Loss of natural grazing</li> </ul> <p><b><i>Archaeology &amp; Cultural Heritage</i></b></p> <ul style="list-style-type: none"> <li>• Impact on two sites, being potential graves or "Izivivane"</li> </ul>

**Indirect impacts:**

- Susceptibility of post construction disturbed areas to invasion by exotic and alien invasive species
- Susceptibility of some areas to erosion because of construction related disturbances

**Cumulative impacts:**

The cumulative impacts identified during this study include impacts on the environment (within the study area) caused by the combined impact of past, present and future human activities and natural processes. Cumulative impacts associated with the development proposals relate to the possible loss of riparian habitat and water quality issues, erosion and sedimentation associated with inappropriate storm water infrastructure and design and poor construction methodology.

## 2.1 IMPACT ASSESSMENT AND MITIGATION MEASURES

### **CONSOLIDATED IMPACT ASSESSMENT & SIGNIFICANCE RATING (ALL IMPACTS) BY EAP AND GUIDED BY IMPACT ASSESSMENTS AND MITIGATION MEASURES AS COMPILED BY RELEVANT SPECIALISTS**

To ensure a direct comparison between various specialist studies, standard rating scales are defined and used to assess and quantify the identified impacts. This is necessary since impacts have several parameters that need to be assessed.

**NOTE:** This consolidated impact assessment is based on the EAP's interpretation of the assessments conducted by the respective specialist studies and the mitigation measures contained in the reports.

The impacts to be assessed relate to those listed in Table 2-1 supra and are as follows:

- (i) **Aquatic & Wetland**
- (ii) **Terrestrial Biodiversity**
- (iii) **Agriculture**
- (iv) **Archaeology & Cultural Heritage**

## Factors affecting significance of impacts

Four factors need to be considered when assessing the significance of impacts, namely:

- 1. Relationship of the impact to temporal scales** - the temporal scale defines the significance of the impact at various time scales, as an indication of the duration of the impact.
- 2. Relationship of the impact to spatial scales** - the spatial scale defines the physical extent of the impact.
- 3. The severity of the impact** - the severity/beneficial scale is used in order to scientifically evaluate how severe negative impacts would be, or how beneficial positive impacts would be on a particular affected system (for ecological impacts) or a particular affected party. The severity of impacts can be evaluated with and without mitigation in order to demonstrate how serious the impact is when nothing is done about it. The word "mitigation" means not just "compensation", but also the ideas of containment and remedy. For beneficial impacts, optimization means anything that can enhance the benefits. However, mitigation or optimization must be practical, technically feasible and economically viable.
- 4. The likelihood of the impact occurring** - the likelihood of impacts taking place as a result of project actions differs between potential impacts. There is no doubt that some impacts would occur (e.g. loss of vegetation), but other impacts are not as likely to occur (e.g. vehicle accident), and may or may not result from the proposed development. Although some impacts may have a severe effect, the likelihood of them occurring may affect their overall significance.

Each criterion is ranked with scores assigned to determine the overall significance of an activity. The criterion is then considered in two categories, viz. effect of the activity and the likelihood of the impact. The total scores recorded for the effect and likelihood are then read off the matrix, to determine the overall significance of the impact. The overall significance is either negative or positive. The environmental significance scale is an attempt to evaluate the importance of a particular impact. This evaluation needs to be undertaken in the relevant context, as an impact can either be ecological or social, or both. The evaluation of the significance of an impact relies heavily on the values of the person making the judgment. For this reason, impacts of especially a social nature need to reflect the values of the affected society.

The significance scale is an attempt to evaluate the importance of a particular impact. This evaluation needs to be undertaken in the relevant context, as an impact can either be ecological or social, or both. The evaluation of the significance of an impact relies heavily on the values of the person making the judgment. For this reason, impacts of a social nature need to reflect the values of the affected society.

## Ranking of Evaluation Criteria

EFFECT	<b>Temporal Scale</b>		<b>Score</b>	
	Short term	<5 years	1	
	Medium term	Between 5 and 20 years	2	
	Long term	Between 20 and 40 years (a generation) and from a human perspective almost permanent	3	
	Permanent	Over 40 years and resulting in a permanent and lasting change that will always be there	4	
	<b>Spatial Scale</b>			
	Localised	At a localised scale and a few hectares in extent	1	
	Study area	The proposed site and its immediate environs	2	
	Regional	District and Provincial level	3	
	National	Country	3	
	International	Internationally	4	
	<b>Severity</b>	<b>Negative</b>	<b>Benefit (minus score)</b>	
	Slight / Slightly Beneficial	Slight impact on the affected system(s) or party(ies)	Slightly beneficial to the affected system(s) or party(ies)	1
	Moderate / Moderately Beneficial	Moderate impacts on the affected system(s) or party(ies)	An impact of real benefit to the affected system(s) or party(ies)	2
	Severe / Beneficial	Severe impacts on the affected system(s) or party(ies)	A substantial benefit to the affected system(s) or party(ies)	4
Very Severe / Very Beneficial	Very severe change to the affected system(s) or party(ies)	A very substantial benefit to the affected system(s) or party(ies)	8	
LIKELIHOOD	<b>Likelihood</b>			
	Unlikely	The likelihood of these impacts occurring is slight	1	
	May Occur	The likelihood of these impacts occurring is possible	2	
	Probable	The likelihood of these impacts occurring is probable	3	
	Definite	The likelihood is that this impact will definitely occur	4	

*\*In certain cases it may not be possible to determine the severity of an impact thus it may be determined: Don't know / Can't know*



The matrix that will be used for the impacts and their likelihood of occurrence

Likelihood	Effect															
	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
1	4	5	6	7	8	9	10	11	12	13	14	15	16	17		
2	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
3	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
4	7	8	9	10	11	12	13	14	15	16	17	18	19	20		

The temporal/spatial/severity scales and likelihood of occurrence for impacts is used to determine the ranking in terms of environmental significance. Each impact is assessed and then the ranking determined, without and with mitigation.

Ranking

RATING		Temporal Scale		Spatial Scale		Severity of Impact		Risk Likelihood or		Matrix Total
	Without Mitigation	Permanent	4	Localised	1	Severe	4	Definite	4	13
With Mitigation	Permanent	4	Localised	1	Substantial benefit	4	Definite	4	13	
<b>Overall Significance without mitigation</b>									<b>High</b>	
<b>Overall Significance with mitigation</b>									<b>High +</b>	

The overall environmental significance (without and with mitigation) is then determined from the table hereunder and resulting in a significance statement by the EAP.

### Ranking Matrix to provide an Environmental Significance

Environmental Significance		Pos +	Neg -
Low	An acceptable impact for which mitigation is desirable but not essential. The impact by itself is insufficient even in combination with other low impacts to prevent development. These impacts will result in either positive or negative medium to short term effects on the social and/or natural environment	4 - 7	4 - 7
Moderate	An important impact which requires mitigation. The impact is insufficient by itself to prevent implementation of the project but, which in conjunction with other impacts may prevent its implementation. These impacts will result in either positive or negative medium to long term effects on the social and/or natural environment	8 - 11	8 - 11
High	If negative a serious impact, which if not mitigated, may prevent implementation of the project. These impacts would be considered by society as constituting a major and usually long term change to the natural and/or social environment and result in severe negative or beneficial effects.	12 - 15	12 - 15
Very High	If negative a very serious impact, which may be sufficient by itself to prevent the implementation of the project. The impact may result in permanent change. Very often these impacts are unmitigable and usually result in very serious effects or very beneficial effects	16 - 20	16 - 20

DRAFT 1st ITERATION

## 2.1.1 Aquatic & wetland biodiversity

### Impacts

- Loss of riparian habitat;
- Water quality issues and pollution; and
- Change in hydrology and increase in erosion and sedimentation
- Increase in abstraction from the Tsomo River

### Mitigation and Management Measures

The development proposals will not result in the loss of riparian habitat considering that the development footprint falls outside of the riparian areas with sufficient buffer to ensure this area is not affected

The boundary fence (along the eastern portion of the site adjacent to the Tsomo River riparian area) should be prioritised during the construction phase and undertaken prior to construction of the WTW infrastructure, if possible. This will ensure to some degree, that a barrier is implemented to ensure construction activities do not encroach into adjacent riparian area

Storm water design has allowed for the development of an earth berm above the WTW site to capture runoff upslope and discharge north of the site. The storm water design also allows capture of runoff from the WTW site itself via drains and sub-surface pipes. Storm water will be diverted to existing storm water infrastructure associated with the existing WTW where possible.

The sludge lagoons within the existing WTW are on hard rock with concrete side walls and it is anticipated that the sludge lagoons on the expansion site will follow the same design. If geology does not allow, then appropriate impermeable material will be utilised. The sludge is not considered hazardous as the binding agent to remove river silt is a biodegradable polymer that breaks down naturally in the soil environment. The little sludge that is produced at the existing WTW site is disposed off site as per the existing Waste Licence. It should be noted, given the non-hazardous nature of the sludge and the confirmation of engineering design of the sludge lagoons it is unlikely to result in any surface or groundwater pollution.

All hazardous substances and hazardous waste must be stored in impermeable structures placed in secondary impermeable bunded structures 110% the volume of the primary structure.

All hazardous substances and hazardous waste should be placed outside of the high sensitivity areas and more than 32m from riparian areas as indicated in Figure 6.1.

Emergency response plan must be drawn up to deal with any hazardous spillages/accidental leakages.

Spill kit and drip tray must be kept on site at all times during the construction phase.

All chemical toilets/ablution facilities must be properly secured so that they cannot be windblown, be regularly serviced and should be placed outside of and more than 32m from the high sensitivity riparian area

Material stockpiles should be placed more than 50m from the nearby watercourses, should not exceed 1,5m in height, should be covered during windy periods and monitored for any erosion channels

Implementation of the reserve operational rules water supply and drought management as per DWS Final Report no. P RSA 000/00/20114/2: Southern Cluster, dated 2015 through controlled releases at the Ncora Dam. This would further be achieved by complying with the signed back-to-back agreement (Memorandum of Understanding or MOU) between CHDM, ADM and DWS Eastern Cape region.

## Ranking

RATING		Temporal Scale		Spatial Scale		Severity of Impact		Risk Likelihood	or	Matrix Total
	Without Mitigation	Permanent	4	Localised	1	Moderate	2	May occur	2	9
With Mitigation	Permanent	4	Localised	1	Slight	1	Unlikely	1	7	
<b>Overall Significance without mitigation</b>									<b>Moderate-</b>	
<b>Overall Significance with mitigation</b>									<b>Low</b>	

### 2.1.2 Terrestrial biodiversity

#### Impacts

- Permanent and temporary loss of indigenous vegetation cover because of site clearing
- Loss of flora species of special concern during pre-construction site clearing activities
- Loss of Faunal Habitat, impact on faunal processes and loss of faunal SCC may lead to increased mortalities among faunal species

#### Mitigation and Management Measures

Vegetation	<ul style="list-style-type: none"> <li>• Blanket clearing of vegetation must be limited to the site. No clearing outside of footprint to take place.</li> <li>• Topsoil must be striped and stockpiled separately during site preparation and replaced on completion where revegetation will take place.</li> <li>• Any site camps and laydown areas requiring clearing must be located within already disturbed areas away from watercourses.</li> </ul>
Flora Species	<ul style="list-style-type: none"> <li>• The protected species (PNCO) that are present are common and widespread. Respective PNCO permits will be required before construction commences.</li> <li>• Since the flora species are common and widespread, a flora search and rescue is unlikely to be required. It is however recommended that the protected species (i.e. Aloes) are removed before construction and replanted in surrounding areas, or used for landscaping after construction is completed.</li> </ul>
Alien Invasive Species	<ul style="list-style-type: none"> <li>• Alien trees and weeds must be removed from the site as per CARA/NEMBA requirements.</li> </ul>

	<ul style="list-style-type: none"> <li>• A suitable weed management strategy to be implemented in construction and operation phases.</li> <li>• After clearing and construction is completed, an appropriate cover may be required, should natural re-establishment of grasses not take place in a timely manner. This will also minimise dust on the site.</li> </ul>
Erosion	<ul style="list-style-type: none"> <li>• Suitable measures must be implemented in areas that are susceptible to erosion. Areas must be rehabilitated, and a suitable cover crop planted once construction is completed.</li> <li>• Topsoil must be stripped and stockpiled separately and replaced on completion.</li> <li>• If natural vegetation re-establishment does not occur, a suitable grass must be applied.</li> </ul>
Ecological Processes	<ul style="list-style-type: none"> <li>• Blanket clearing of vegetation must be limited to the development footprint, and the area to be cleared must be demarcated before any clearing commences.</li> </ul>
Aquatic and Riparian processes	<ul style="list-style-type: none"> <li>• While the site is situated close to the Tsomo River, a corridor of vegetation will be retained and the impacts to the river or any riparian vegetation are likely to be negligible.</li> </ul>
Faunal Habitat	<ul style="list-style-type: none"> <li>• Blanket clearing of vegetation must be limited to the footprint.</li> <li>• It is important that clearing activities are kept to the minimum and take place in a phased manner, where applicable. This allows any smaller animal species to move into safe areas and prevents wind and water erosion of the cleared areas.</li> </ul>
Faunal Processes	<ul style="list-style-type: none"> <li>• The habitats and microhabitats present on the project site are not unique and are widespread in the general area, hence the local impact associated with the footprint would be of low significance if mitigation measures are adhered to.</li> <li>• Small mammals within the habitat on and around the affected area are generally mobile and likely to be transient to the area. They will most likely vacate the area once construction commences. As with all construction sites there is a latent risk that there will be some accidental mortalities. Specific measures are made to reduce this risk. The risk of species of special concern is low, and it is unlikely that there will be any impact to populations of such species because of the activity.</li> <li>• Reptiles such as lizards are less mobile compared to mammals, and some mortalities could arise. It is recommended that a faunal search and rescue be conducted before construction commences, although experience has shown that there could still be some mortalities as these species are mobile and may thus move onto site once construction is underway. A reptile handler should be on call for such circumstances.</li> </ul>
Faunal species	<ul style="list-style-type: none"> <li>• A faunal search and rescue is unlikely to be required.</li> <li>• No animals are to be harmed or killed during the course of operations.</li> <li>• Workers are NOT allowed to snare any faunal species</li> </ul>

## Ranking

RATING		Temporal Scale		Spatial Scale		Severity of Impact		Risk Likelihood or		Matrix Total
	Without Mitigation	Permanent	4	Localised	1	Moderate	2	May occur	2	9
With Mitigation	Permanent	4	Localised	1	Slight	1	Unlikely	1	7	
<b>Overall Significance without mitigation</b>									<b>Moderate-</b>	
<b>Overall Significance with mitigation</b>									<b>Low</b>	

### 2.1.3 Agriculture

#### Impacts

Loss of indigenous vegetation on the 4,65 ha of the Tsomo WTW footprint can impact on the grazing potential of the area and possibly reduce the opportunity for cultivation on the area in the long term

#### Mitigation and Management Measures

The area is currently part of the greater “commonage” area surrounding Tsomo Town. The natural vegetation as described in the Terrestrial Biodiversity Impact Report is “Tsomo Grassland” and the conservation status of this vegetation type is least concern. 0.8 ha of the area is transformed due to past activities with secondary grass growth with little or no grazing value. The remaining 3.85 ha although described as Tsomo Grassland is impacted upon by the invasion of bush clumps and *Acacia* with a carrying capacity not exceeding 4 ha/LSU (large stock unit). Thus the carrying capacity would be reduced by 1.1 LSU, which is regarded as insignificant in comparison to the greater remaining “commonage” area. The area is not grazed or utilised under any formal livestock farming programme and use is on an ad-hoc basis with livestock passing over the area.

The soils are relatively shallow with gradient of  $\pm 12\%$  and susceptible to erosion if disturbed/cultivated and would require the implementation of water run-off control measures to prevent erosion. Without irrigation, dry land cropping would be regarded as high risk from an agricultural economic point of view and would not be recommended.

## Ranking

RATING		Temporal Scale		Spatial Scale		Severity of Impact		Risk Likelihood or		Matrix Total
	Without Mitigation	Permanent	4	Localised	1	Low	1	Unlikely	1	7
With Mitigation	Permanent	4	Localised	1	Low	1	Unlikely	1	7	
<b>Overall Significance without mitigation</b>									<b>Low</b>	
<b>Overall Significance with mitigation</b>									<b>Low</b>	

## 2.1.4 Archaeology and cultural heritage

### Impacts

Two (2) archaeological and cultural heritage resources, as defined and protected by the NHRA 1999, were identified during the field assessment of the study site viz Sites TWU-S1 and TWU-S2. From the initial field investigation it is thought that these could be graves or “Izivivane”.

### Mitigation and Management Measures

The archaeologist has recommended that development proceeds as applied for, provided developer compliance to the recommended Phase 2 archaeological programme for the two sites. The proposed development poses no Fatal Flaws in its layout or design with regard protected archaeological and cultural heritage resources – provided Phase 2 heritage compliance requirements are met – and consideration of a No Development option is, resultantly, not warranted from a said heritage perspective. Compliance with the recommended Phase 2 archaeological programme will result in a positive cumulative impact of the Cluster 9 Tsomo Water Treatment Works Upgrade development with regard to protected archaeological and cultural heritage resources, during the construction phase of development, but more importantly with reference to the long-term responsible management of affected heritage resources throughout the course of the development’s implementation phase.

### Ranking

RATING		Temporal Scale		Spatial Scale		Severity of Impact		Risk Likelihood or		Matrix Total
	Without Mitigation	Permanent	4	Localised	1	Moderate	2	May occur	2	9
With Mitigation	Permanent	4	Localised	1	Low (with permanent conservation)	1	Unlikely	1	7	
<b>Overall Significance without mitigation</b>									<b>Moderate-</b>	
<b>Overall Significance with mitigation</b>									<b>Low</b>	

## 2.2 POTENTIAL IMPACT OF THE LISTED ACTIVITIES ON ENVIRONMENTAL AND SOCIO-ECONOMIC ATTRIBUTES PRIOR TO MITIGATION

The potential impact of the listed activities on environmental and socio-economic attributes identified during the assessment phase (prior to mitigation) is evaluated against the potential impact of the no-go option (the option wherein the listed activity is not licensed) on the same attributes. The summary of this assessment is provided in the table below.

### Development vs. No-Go Option

ATTRIBUTES	DEVELOPMENT OPTION	NO-GO OPTION (STATUS QUO)
<b>NATURAL ENVIRONMENT</b>		
Air pollution	0	0
Noise pollution	0	0
Traffic	0	0
Visual aesthetics	-1	0
<b>Economic Environment</b>		
Process efficiency	1	0
Job creation	1	0
<b>Social Environment</b>		
Employment opportunities & skills development	1	0
<b>Development / Implementation</b>		
Technology	1	0
Infrastructure	1	0
Safety, security & provision of services to communities	1	0
<b>TOTALS</b>	<b>5</b>	<b>0</b>

Note: Positive Impact = 1, No Impact = 0 and Negative Impact = -1

The positive environmental and social impacts of the Development option outweigh the negative impacts. The consideration of the “no-go” option can be dismissed as a sustainable alternative as the development option results in an overall positive impact of 4.

## 2.3 CONCLUSION

No impacts with a ranking of “high” were identified in the independent specialist reports or by the EAP.

Impacts ranked as “moderate” before mitigation were all ranked as “low” to “low +” after mitigation.

All specialists concluded that the proposed development should proceed providing prescribed mitigation measures are implemented.

The development option outweighs the “no-go” option when considered in terms of environmental and socio-economic attributes.



Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

---

**Alternative A (preferred alternative)**

The Cluster 9 Backlog Water Project is a regional cross boundary project to provide bulk water to settlements in the Chris Hani and Amathole District Municipalities. Due to the drought induced water crisis in Butterworth and other parts of Amathole District Municipality extending as far east as Kentane, the existing Tsomo River Abstraction Works and Water Treatment Works (CHDM Cluster 9 Phases 3A & 3B) will be upgraded from the current capacity of 25Ml/day to its full capacity of 42Ml/day. The project is thus required to supply potable water to towns and communities to meet Authority commitments as contained in the Constitution of the RSA.

The construction of the Tsomo WTW upgrade project is within the defined urban edge and will have a permanent impact on the area. The site in terms of the ECBCP 2019, is not located within a Terrestrial or Freshwater CBA but intersects with a designated Ecological Support Area (ESA 1). The proposed development is not deemed to be consistent with the land management objectives for this designation, however the small footprint of the proposed WTW is unlikely to significantly affect ecological processes or loss of habitat. In addition, the retention of the thicket buffer (riparian habitat) between the site and the river will maintain ecological connectivity.

The result of the assessment of identified impacts has shown that all impacts associated with aquatic and wetland, terrestrial biodiversity, agriculture and archaeology and cultural significance are of low significance post-mitigation.

The need to abstract an additional 17 ML/day is being addressed through a WULA to link to the existing WUL approved on 26/06/2010. The weir and abstraction works already exist (6 pumps) and the only change will be to remove two (2) of the existing pumps and replace these with larger pumps to abstract the additional water. It is recommended that the implementation of the reserve operational rules water supply and drought management as per DWS Final Report no. P RSA 000/00/20114/2: Southern Cluster, dated 2015 through controlled releases at the Ncora Dam be applied. This would further be achieved by complying with the signed back-to-back agreement (Memorandum of Understanding/MOU) between CHDM, ADM and DWS, Eastern Cape region.

Construction has no direct impact on the Tsomo River as the area of riparian vegetation between the project footprint and the Tsomo River will be permanently fenced off, with the recommendation that this fence be constructed prior to commencement of construction of the WTW, thus providing protection to the thicket/riparian/riverine habitat.

The primary impact on the selected site is the clearance of natural vegetation on 4.65 ha, which will lead to loss of natural vegetation and faunal habitat and expose the area to erosion during

the construction period of 12 months. The ecologist who conducted the terrestrial assessment is of the opinion that the habitats and microhabitats present on the project site are not unique and are widespread in the general area, hence the local impact associated with the footprint will be of low significance if mitigation measures are adhered to. Small mammals within the habitat on and around the affected area are generally mobile and likely to be transient to the area and will most likely vacate the area once construction commences. The risk of species of special concern (SSC) is low, and it is unlikely that there will be any impact to populations of such species because of the activity.

Although the site will be cleared of vegetation, it is unlikely that erosion will occur as the consulting engineer has planned for an earth berm (permanent) to be constructed above the project area to remove run-off from above the site and discharge this safely. Storm water drains and sub-surface pipes will be put in place on the actual WTW site to discharge run-off from the site into an existing drainage system. It is recommended that there be no blanket clearance of the WTW footprint and vegetation clearing should be in line with the planned construction programme. If blanket clearance takes place then the contractor shall implement erosion control measures as prescribed by the consulting engineer.

With regard to the storage of sludge in the lagoons, this sludge is deemed to be non-hazardous as the binding agent to remove river silt is a biodegradable polymer that breaks down naturally in the soil environment. Given the non-hazardous nature of the sludge and the confirmation of engineering design of the sludge lagoons it is unlikely to result in any surface or groundwater pollution. The sludge that is produced at the existing WTW site will be disposed of, off site at the Municipal waste site at Cofimvaba as allowed under the current WML for the existing works. This BAR is in support of an integrated application for an EA and WML for this proposed project.

The matter of the two graves/cultural sites is regarded as being of low significance by the archaeologist providing that the Phase 2 process is followed as prescribed and is of the opinion that the proposed development poses no Fatal Flaws in its layout or design with regard to protected archaeological and cultural heritage resources – provided Phase 2 heritage compliance requirements are met – and consideration of a “No Development” option is, resultantly, not warranted from a heritage perspective.

No impacts with a ranking of “high” were identified in the independent specialist reports or by the EAP. Impacts ranked by specialists as “moderate” before mitigation, were all ranked as “low” to “low +” after mitigation. All specialists concluded that the proposed development should proceed providing prescribed mitigation measures are implemented.

The development option outweighs the “no-go” option when considered in terms of environmental and socio-economic attributes.

Considering the mitigating factors and recommendations, the project will not have any negative impact on the environment but is highly beneficial in terms of long term potable water provision to towns and communities and job creation, both long and short term and it is the opinion of the EAP that the environmental authorisation be issued.

---

---

**No-go alternative (compulsory)**

The “no-go” or “no-action” option would entail maintaining the *status quo*. This would result in continuing current land use, namely ‘commonage’ with no formal land use other than ad-hoc natural grazing for livestock passing through with no water source to serve the target areas.

The much needed potable water for towns and communities would have to be sourced from alternative areas resulting in great increase in construction costs as additional abstraction works will have to be developed whereas in terms of the preferred site, the existing abstraction works are utilised requiring only the upgrade of two of the existing six pumps.

The “no-go” alternative will have a significant negative impact on the broader population as they will not have access to potable water.

DRAFT 1st ITERATION

## SECTION E. RECOMMENDATIONS OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?

YES	NO
YES	NO

Is an EMPr attached?

The EMPr must be attached as Appendix F.

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment):

NOT APPLICABLE

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

The following recommendations to be included in any environmental authorisation (EA):

- (i) All necessary authorisations in the form of a GA or WUL in terms of the NWA must be obtained prior to construction.
- (ii) All necessary authorisations in the form of a permit must be obtained from ECPHRA prior to construction.
- (iii) Subdivision and rezoning of the land from Erf 79 must be complied with temporary authorisation from the Province of the Eastern Cape Cooperative Governance & Traditional Affairs to proceed, should process not be formally authorised at the time of commencement of construction
- (iv) Implementation of the reserve operational rules water supply and drought management as per DWS Final Report no. P RSA 000/00/20114/2: Southern Cluster, dated 2015 through controlled releases at the Ncora Dam should be applied. This would further be achieved by complying with the signed back to back agreement (Memorandum of Understanding or MOU) between CHDM, ADM and DWS Eastern Cape region.
- (v) An ECO must be appointed for the duration of the construction period to monitor the compliance with conditions of the EA, GA/WUL and any other permits.
- (vi) The ECO should conduct a survey of the development footprint prior to construction to identify any potential plant SCC and apply for the necessary permits for removal, for example *Aloe ferox*.

## SECTION F: APPENDICES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

Appendix E: Comments and responses report

Appendix F: Environmental Management Programme (EMPr)

Appendix G: Other information

DRAFT 1st ITERATION

DRAFT 1st ITERATION