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

Private Bag X313, Pretoria, 0001, Sedibeng Building, 185 Francis Baard Street, Pretoria, Tel: (012) 336-7500, Fax: (012) 326-4472/ (012) 326-2715 www.dws.gov.za

LICENCE IN TERMS OF CHAPTER 4 OF THE NATIONAL WATER ACT, 1998 (ACT NO. 36 OF 1998) (THE ACT)

I, **Mr Moses Sipho Skosana** in my capacity as Chief Director: Water Use Authorisation Management in the Department of Water and Sanitation and acting under the powers delegated to me by the Minister of Water and Sanitation, hereby authorises the following water use in respect of this licence.

Serial Number : 4684660155832600527
Chief Director: Water Use Authorisation Management
Date: Oct 22 2024 9:34AM

LICENCE NO: 11/T51C/ABCEGI/14947
FILE NO: 27/2/1/T351/1/2/4/5/8/20
REF. NO: WU33703

Licensee: Dartform Farming Trust

Postal Address: P.O. Box 199,
Underberg
3257

Physical Address: Underberg (Road P322)
3257

CD: WUAM

1. Water Uses authorised by this licence

Table 1: Summary of water uses authorised

1.1	Section 21(a) of the Act	Taking water from a water resource, subject to the conditions set out in Appendices I and II.
1.2	Section 21(b) of the Act	Storing water, subject to the conditions set out in Appendices I and III.
1.3	Section 21(c) of the Act	Impeding or diverting the flow of water in a water course; subject to the conditions set out in Appendices I and IV.
1.4	Section 21(e) of the Act	Engaging in a controlled activity subject to the conditions set out in Appendices I and V
1.5	Section 21(g) of the Act	Disposing of waste in a manner which may detrimentally impact on a water resource subject to the conditions set out in Appendices I and VI
1.6	Section 21(i) of the Act:	Altering the bed, banks, course or characteristics of a watercourse; subject to the conditions set out in Appendices I and IV.

2. Property (ies) in respect of which the water use licence is issued

Table 2: Property details where the water use(s) will take place

Activity	Farm Name	Farm Portion	Owner's Name	Title Deed Number
Section 21(a) Water Uses				
	LOT FP 173 Farm 8581	Portion 0	Dartford Farming Trust-Trustees	T7249/2012
	LOT IB Farm 7604	Portion 0	The PM and K Fraser Trust for C G B Fraser	T20199/1982
Section 21(b) Water Uses				
	LOT FP 173 Farm 8581	Portion 0	Dartford Farming Trust-Trustees	T7249/2012
	LOT IB Farm 7604	Portion 0	The PM and K Fraser Trust for C G B Fraser	T20199/1982
Section 21(c) and (i) Water Uses				
	LOT FP 173 Farm 8581	Portion 0	Dartford Farming Trust-Trustees	T7249/2012
Section 21(e) Water Uses				
	LOT IB Farm 7604	Portion 0	The PM and K Fraser Trust for C G B Fraser	T20199/1982
Section 21(g) Water Uses				
	LOT IB Farm 7604	Portion 0	The PM and K Fraser Trust for C G B Fraser	T20199/1982
Section 21(i) Water Uses				
	LOT FP 173 Farm 8581	Portion 0	Dartford Farming Trust-Trustees	T7249/2012

3. Licence and Review Period

3.1 This licence is valid for a period of **twenty (20)** year(s) from the date of issuance and it may be reviewed at intervals of not more than five (5) years.

3.2 On review of the licence, a Responsible Authority may amend any condition of the licence, other than the period of validity thereof.

4. Definitions

Any terms, words and expressions as defined in the National Water Act, 1998 (Act 36 of 1998) shall bear the same meaning when used in this licence."

4.1 The following definitions are of relevance, but not exclusive, to this licence

Act	National Water Act, 1998 (Act 36 of 1998).
Buffer zone	Buffer zone: a strip of land surrounding a wetland or riparian area in which activities are controlled or restricted, in order to reduce the impact of adjacent land uses on the wetland or riparian area. The buffer zone is measured from the edge of the delineated watercourse determined according to the Departmental guideline - "A practical field procedure for identification and delineation of wetlands and riparian areas."
CEO	The Chief Executive Officer of Catchment Management Agency
Commencement date	The date on which water use starts.
CMA	Catchment Management Agency.
Days	Calendar days.
Delegated Authority	The person that has been delegated certain functions of the Act.
Department	The Department of Water and Sanitation.
Extent of the watercourse	(a) the outer edge of the 1:100-year floodline or the delineated riparian habitat, whichever is the greatest, measured from the middle of the watercourse of a river, spring, natural channel, lake or dam; and (b) Wetlands and pans: the delineated boundary (outer temporary zone) of any wetland or pan.
Minister	Minister of the Department of Water and Sanitation.
Provincial Head	Head of Provincial Operations: Private Bag X54304, Durban, 4000, 9th Floor Southern Life Building, 88 Jo Slovo Street, Durban 4000
Regulated area of a watercourse	(a) The outer edge of the 1 in 100 year flood line and /or delineated riparian habitat, whichever is the greatest distance, measured from the middle of the watercourse of

	a river, spring, natural channel, lake or dam; (b) In the absence of a determined 1 in 100 year flood line or riparian area the area within 100m from the edge of a watercourse where the edge of the watercourse is the first identifiable annual bank fill flood bench (subject to compliance to section 144 of the Act); or (c) A 500 m radius from the delineated boundary (extent) of any wetland or pan.
Responsible Authority	"Responsible authority" in relation to a specific power or duty in respect of water uses, means (a) if that power or duty has been assigned by the Minister to a catchment management agency, that catchment management agency; or (b) if that power or duty has not been so assigned, the Minister
Sensitive riffle habitats	A pool riffle rapid sequences that occur where a mixture of flows and depth provide a variety of habitats to support fish and invertebrate life. Pools are deep with slow water. Riffles are shallow with fast, turbulent water running over rocks. Runs are deep with fast water and little or no turbulence.
Watercourse	"Watercourse" means (a) a river or spring; (b) a natural channel in which water flows regularly or intermittently; (c) a wetland, lake or dam into which, or from which, water flows; and (d) any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse, and a reference to a watercourse includes, where relevant, its bed and banks.

5. Description of activity and affected water resource(s)

This licence authorises **Dartford Farming Trust** for the water uses in terms of Section 21(a), Section 21(b), Section 21(c&i), Section 21(e) and Section 21(g) of the National Water Act 36 of 1998. The water use activities include: the abstraction of a maximum of four hundred and seven thousand an thirty cubic meters per annum (407 030 m^3/a) from the proposed Dartford Dam and storing the maximum of eight hundred and forty thousand cubic meters (840 000 m^3) in Dartford Dam on the Khamanzi River and associated wetland offsets, disposal of waste in slurry pond and irrigating with water containing waste for the Dartford Dairy. The activity is in quaternary catchment T51C which falls within Mvoti to Mzimkhulu Water Management Area

APPENDIX I

GENERAL PROVISIONS AND CONDITIONS OF THE LICENCE

1. GENERAL PROVISIONS

Legal Framework

1.1 This licence is subject to all applicable provisions of the National Water Act, 1998 (Act 36 of 1998) as amended from time to time.

1.2 The licence shall not be construed as exempting the Licensee from compliance with the provisions of any other applicable Act, Ordinance, Regulation or By-law.

Administrative duties/obligations/responsibilities of the Licensee

1.3 The responsibility for complying with the provisions of the licence is vested in the Licensee and not any other person or body.

1.4 The Licensee will be responsible for any water use charges or levies imposed by a Responsible Authority according to the pricing strategy. The levies/charges will be charged from the date of the issuance of this licence.

1.5 No water taken may be pumped, stored, diverted, or alienated for any other purpose other than as intended in this licence without the written approval of the Delegated Authority.

1.6 It is the responsibility of the Licensee to request an amendment of this licence to reflect the registered volume should the requirements change. All requests must be made to the Responsible Authority.

1.7 If the water use licence is not exercised or fully exercised within the 5 (five) year period and the extended 2 (two) year period, as referred to in condition 2.4 and condition 2.5 in appendix 1, the licence may be amended to reflect the extent of the water use that is being exercised, or the licence may be withdrawn.

Change of property details

1.8 Amendment of the licence to reflect the name of the new owner will not be approved if there are any outstanding charges or levies imposed by the Responsible Authority to the previous owner.

Issue of no guarantee of supply

1.9 This licence does not imply any guarantee that the said quantities and qualities of water will be available at present or at any time in the future.

Monitoring

1.10 The quantity of water authorised to be taken in this licence may not be exceeded.

1.11 The quality of water authorised to be disposed and discharged in this licence may not be exceeded.

1.12 Any changes to the monitoring programmes should be approved by the Provincial Head/CEO.

Reviewal of licences

1.13 The volume authorised in this licence may be reduced when the licence is reviewed.

Effecting of the Reserve

1.14 While effect must be given to the Reserve as determined in terms of the Act, where a desktop determination of the Reserve has been used in issuance of a licence, when a comprehensive determination of the Reserve has finally been made, it shall be given effect to.

Liabilities and Rights

1.15 The Department accepts no liability for any damage, loss or inconvenience, of whatever nature, suffered as a result of, shortage of water; inundations or flood; siltation of the resource; and required Reserve releases.

1.16 The Minister reserves the right to construct water storage works at any time in any watercourse and to store all surplus water reaching the storage works, as well as to control the allocation of such water.

Dam Safety Requirements

1.17 The Licensee is not indemnified from any detrimental effect that the dam(s) may have on other properties.

1.18 The Department does not accept any responsibility or liability for any damages or losses that may be suffered by any other party because of the construction and utilisation of the dams.

1.19 The Licensee is not exempted from compliance with the provisions of the Dam Safety Regulations published under Government Gazette Notice R.139 of 24 February 2012 or any amendment thereof read with Chapter 12 of the Act, which are applicable to all dams with a safety risk.

Restrictions

1.20 The Licensee must adhere to any restrictions that are gazetted and imposed on the respective water resource.

Water measurement and reporting

1.21 The Provincial Head/CEO may at any time direct a Licensee, at the Licensee's expense, to have the accuracy of the Licensee's water measuring device/s verified, in addition to the requirements of their inspection and calibration schedule by a person or an institution accredited to verify the accuracy.

Stormwater Management

1.22 Stormwater leaving the Licensee's premises shall in no way be contaminated by any substance, whether such substance is a solid, liquid, vapour or gas or a combination thereof which is produced, used, stored, dumped, spilled on the premises.

Amendments

1.23 The Licensee may apply for amendment of this licence in terms of the Act at any time during the period of validity of this licence. Applications must be submitted to the Provincial Head/CEO.

Appeals

1.24 If this licence is appealed, it is automatically suspended and the water use activities must cease upon receipt of a notification of the appeal from the Department, alternatively the Licensee may request the Minister to lift the suspension pending conclusion of the appeal via the Chief Director Legal Services at the address below:

Private Bag X313,
Pretoria,
0001.

2. GENERAL CONDITIONS

Administrative duties/obligations/responsibilities of the License

2.1 The Licensee must avail an original copy of the water use licence and the supporting reports upon request by the Department.

2.2 The conditions of the authorisation must be brought to the attention of all persons (employees, sub-consultants, contractors etc.) associated with the undertaking of these activities and the Licensee must take such measures that are necessary to bind such persons to the conditions of this licence.

Commencement of a water use licence.

2.3 The Licensee must inform the Provincial Head/CEO in writing within seven (07) days after the Licensee commences with water use licence and again within thirty (30) days upon completion of the activity/ies.

2.4 The water uses authorised in this licence must be fully exercised within five (5) years from the date of issuance of this licence.

2.5 If the Licensee cannot exercise or fully exercise the water use licence within 5 (five) years, the Licensee may request from the Provincial Head/CEO, with reasons, an extension of time to fully utilise the said water use licence, at least three months, before the expiry of the 5 (five) years. Only one request for extension of time, with maximum of 2 (two) years for commencement or of fully exercising of water use licence will be considered.

Change of details of Licensee or property

2.6 The Licensee must inform the Provincial Head/CEO of any change of ownership, name, address, premises and/or legal status within sixty (60) days of such change taking place.

2.7 If the properties in respect of this licence is/are subdivided or consolidated, the Licensee must provide full details of any change(s) in respect of the properties to the Provincial Head/CEO within sixty (60) days after the registration of title deed(s).

2.8 If the Licensee is not the end user/beneficiary of the water user related infrastructure and will not be responsible for long term maintenance and management of the infrastructure, the Licensee must provide a hand over report to the successor in title including a brief management/maintenance plan and the agreement for infrastructure along with allocation of responsibilities, within sixty (60) days after the date of change of end user or beneficiary.

Early renewal for the Licence

2.9 The Licensee must, if needed, apply for early renewal of this licence in terms of the Act within one (1) year before the expiry date of a licence. The application must be submitted to the Provincial Head/CEO.

Malfunctions, incidences, contingencies and pollution prevention

2.10 The Licensee must service all vehicles and other machinery outside the extent of the watercourse/s.

2.11 Oils and other potential pollutants must be disposed of at a licensed site, with the necessary agreement from the owner of such a site.

2.12 The Licensee must handle, transport, store and use any hazardous substances according to the relevant legislation or South African National Standards (SANS).

2.13 Any incident that causes or may cause water pollution shall be reported to the Provincial Head/CEO or the designated representative within 24 hours. Should the incident occur during a weekend or public holiday, the Licensee must report the incident on the next official working day.

2.14 The Licensee must prevent pollution from continuing or recurring.

2.15 All incidents must be recorded in an incident register.

Water Conservation and Water Demand Management (WCWDM)

2.16 The Licensee must establish and implement a continual process of raising awareness among itself, its workers and stakeholders with respect to WCWDM initiatives.

2.17 The Licensee must continually investigate new and emerging technologies and put into practice water efficient devices and /or apply technique for the efficient use of water, in an endeavour to conserve water at all times

2.18 The Licensee must develop a WCWDM Strategy and /or business plan within one (1) year of issuance of this licence, with details of the current state of water use and a plan to reduce the demand and water losses. The plan should on an annual basis be supported with proof of available budgets to implement.

2.19 The Licensee shall report on annually basis the implementation of WCWDM measures including retrofitting with water efficient technologies and devices, reduction of total water demand, improvement in water use efficiency benchmarks and targets.

Water measurement and reporting

2.20 The Licensee shall install appropriate water measuring devices to measure the amount of water abstracted prior use of water.

2.21 The Licensee shall ensure that all measuring and monitoring devices are properly maintained and in good working order as per design specification and must be easily accessible. This shall include a programme of checking, calibration, and/ or renewal of measuring devices.

2.22 Calibration /verification certificates of the flow measuring, recording and integrating devices must be available for inspection by the Provincial Head/CEO or the representative upon request.

Membership to a Water Users Association

2.23 If a water user association exists or is established in the area to manage the resource, it is compulsory for the Licensee to be a member of the water user association. The Licensee must adhere to the rules, regulations and water management stipulations of the water user association.

Stormwater Management

2.24 Increased runoff due to vegetation clearance and/or soil compaction must be managed, and steps must be taken to ensure that storm water does not lead to erosion and excessive levels of silt entering the stream.

Restrictions on access

2.25 Strict access procedures must be developed and followed in order to control access to the property

2.26 Notices prohibiting unauthorised persons from entering the areas as well as internationally acceptable signs indicating the risks involved in case of an unauthorised entry must be displayed along the boundary fence of these areas. Such notices must be worded in the official languages applicable in the area.

Auditing and reporting

2.27 The Licensee must conduct annual internal audits on compliance with the conditions of this licence. The first audit must be conducted within ninety (90) calendar days from the date of commencement of water use entitlement. A report on internal audits must be submitted to the Provincial Head/CEO within sixty (60) calendar days of the finalisation of the audits.

2.28 The Licensee must appoint an independent external auditor to conduct biennial (every two (2) years) external audits on compliance with the conditions of this licence. The first audit must be conducted and finalised within one (1) year after commencement of a water use. A report on the audit must be submitted to the Provincial Head/CEO within sixty (60) calendar days of the finalisation of each audit.

Compensative measures

2.29 The Licensee must prevent adverse effects on other water users. All complaints must be recorded in complaints register and be investigated by a suitable qualified person, accredited by an institution/ registration body, appointed by the Licensee and if investigations prove that the Licensee has impaired the rights of other water users, the Licensee must implement appropriate compensative measures as determined by the Minister.

APPENDIX II

Section 21 (a) of the Act – Taking water from a water resource

1. Taking water from a resource

1.1. This licence authorises **Dartford Farming Trust** to take a maximum of four hundred and seven thousand an thirty cubic meters per annum (407 030 m^3/a) from the proposed Dartford Dam on the Khamanzi River as detailed in Table 1.

Table 1: Details of water uses authorised

Water use(s) activities	Purpose	Capacity/ Volume (m^3, tonnes and/or m^3/annum)/ dimension	Property Description	Co-ordinates
Section 21(a)				
Abstraction of surface water from a proposed dam for irrigation at 8581 Portion 0	Irrigation of 33 ha of pastures at 8581 Portion 0	132 878 m^3/a	Portion 0 of LOT FP 173 Farm 8581	-29.879362° 29.493804°
Abstraction of surface water from proposed dam for irrigation at 7604 Portion 0	Irrigation of 68 ha of pastures at 7604 Portion 0	274 152 m^3/a	Portion 0 of LOT IB Farm 7604	-29.879878° 29.490510°
TOTAL	**101 HA**	**407 030 m^3/a**		

2. Water measurement.

2.1. All water taken from the resource shall be measured, recorded and reported as follows:

2.1.1 The daily quantity of water taken must be metered or gauged and the total recorded at the last day of each month; and

2.1.2 The Licensee shall keep record of all water taken and a copy of the records shall be forwarded to the Provincial Head/CEO on or before 25 January and 25 July of each.

3. Drinking Water Quality

3.1 The Licensee must ensure that the drinking water quality supplied meets South African National Standards for Drinking Water: SANS 0241.

4. Reporting

4.1 The Licensee must report on an annual basis in a format approved by the Provincial Head/CEO on the following:

4.1.1 Details of crops; and

4.1.2 Irrigation system type.

5. Transformation/ Equity/ Redress

5.1 The Licensee must set up a Workers Trust that would be funded by the proceeds from the dairy farm operations which would be beneficial to the employees. There would be a 100% distribution to employees for the Trust Income and Interest as dividends to the qualifying employees at the end of December of every year. This is an initiative to the upliftment of the HDI to acquire extra financial muscle to use on either education to their offspring or to any other intents. The annual contribution towards to the Workers Trust is estimated at 20% profit share (2 cents per litre of milk sold).

5.2 The Licensee must ensure that all members of the Workers' Trust are furnished with copies of the water use licence and proof thereof must be furnished to the Provincial Head/CEO within three (3) months of issuance of this licence, one the trust has been set up.

5.3 A report on Equity compliance must be submitted annually to the Regional Head with the annual audit report. The Licensee must also note that redress of past racial inequalities, Equity and transformation does not include employment opportunities.

5.4 The Licensee must submit, to the Provincial Head/CEO, annual audited financial statements of the enterprise in respect of this licence, for the full duration of this licence within sixty (60) calendar days after the end of each financial year of the enterprise. Should the annual turnover of the said enterprise exceed R10 000 000.00, the Licensee must contribute to need to redress the results of the past gender and racial discrimination in a way the Responsible Authority deems acceptable.

5.5 All Historically Disadvantaged workers or employees on the farm should be registered in accordance with the Labour Relations Act, 1995 (Act 66 of 1995) as well as the Unemployment Insurance Act, 2001 (Act 63 of 2001). Proof of registration of employees with the Department Labour for all related matters must be submitted with the annual audit and the equity compliance report sent to the Provincial Head. The proof must be in a form of a copy from the Department of Labour.

5.6 Once the legislation on minimum wage is passed to law, it must be implemented. Proof thereof must be submitted to the Provincial Head with the annual audit report and the equity compliance report.

APPENDIX III

Section 21 (b) of the Act: Storing water

1. Storing water

1.1. The Licensee is authorised to store a maximum quantity of eight hundred and forty thousand cubic metres **(840 000 m³)** of water in the proposed Dartford Dam in stream of the Khamanzi River and 1000m³ in stock watering dam as summarised in Table 1.

Table 1*:* Details of the water use(s) authorised

Water use(s) activities	Purpose	Capacity/ Volume (m³, tonnes and/or m³/annum)/ dimension	Property Description	Co-ordinates
Section 21(b)				
Storage of surface water in a Proposed Dartford Dam	Irrigation of 33 ha of pastures at 8581 Portion 0, 68 ha of pastures at 7604 Portion 0, 7 ha of potatoes' seeds at 9161 Portion 0 and 140 ha of maize and 143 ha of at 9162 Portion 0	840 000 m³	Portion 0 of LOT FP 173 Farm 8581	-29.877591, 29.496010°
Stock watering dam	Livestock watering	1 000 m³	Portion 0 of LOT FP 173 Farm 8581	-29.891227°, 29.480297°

1.2. The quantity of water stored must be recorded at the last day of each month and the records must be submitted to the Provincial Head/CEO annually.

2. Monitoring requirements

2.1. The Licensee must install appropriate measuring devices to measure the levels of the dam. Should the dam level reach a critical level then protective measures should be implemented. The report must submit to the Provincial Head on annual basis

3. Dam safety requirements

3.1 The construction, enlargement, alteration, or repair of a dam with a safety risk, must be carried out under a licence issued in terms of the above Regulations.

3.2 The Licensee must supply any information, drawings, specifications, design assumptions, calculations, documents, and test results when requested by the Provincial Head/CEO.

4. Ecological Water Requirements

4.1 The dam must allow for the Reserve releases as per approved designs.

5 Site Specific conditions

5.1 The dam must allow for the Reserve releases of 9l/s.

5.2 Stormwater management facilities should be encased on concrete and contacted to the parent rock if constructed on loose or unstable soils.

5.3 Prevent excavated material from running into water bodies and other sensitive areas; and edge effects of activities including erosion and alien/ weed control need to be strictly managed in the wetland area. As per the storm water management report compiled by Emanzini consultants “The establishment and maintenance of grass and plants adjacent to any newly constructed infrastructure and graded roads” is supported.

5.4 Prevent run-off from dirty water areas entering the wetland habitat.

5.5 Any discharge of runoff into the wetland system must be done in such a way as to prevent erosion. In this regard special mention is made of the use of energy dissipating structures in storm water discharge.

5.6 Stormwater control infrastructure and related measures must ensure the separation of clean and dirty (operational) water.

5.7 The dam infrastructure must be monitored and maintained.

5.8 The applicant, over and above these recommendations, is advised to comply with the DWS dam safety regulations.

5.9 Unnecessary encroachment into riparian zone, wetlands and/or river/stream is not permitted.

5.10 Applicant should minimise disturbance of wetlands/ riparian zone as per wetland specialist recommendations or motivation.

5.11 A professional Civil engineering person must supervise all work related to construction.

5.12 A registered professional environmental specialist to be appointed to be part of master planning, site layout at watercourses and supervise work through water courses and rehabilitation.

5.13 As build drawings approved by professional civil engineering person must be submitted for noting to the Provincial Head, KZN operations. Engineering designs should cater for current wetland conditions to ensure limited impact on the functioning of the wetland.

5.14 All plans and drawings must be signed by a competent person for a category one dam and an Approved Professional Person for a category two dam, including a set of as-built drawings, which must be sent to this office.

5.15 The installed flood outlets on all clean water dams, must be sized and modified to comply with the SANCOLD guidelines for the SEF for dams with a safety risk

and the 1:50 year flood for dams smaller than 5m and which can store less than 50 000m^3.

5.16 The dams should be constructed in accordance with SANS1200 DE.

5.17 The dams should be maintained to incorporate, at least, the minimum criteria set out in the design guidelines for a category 1 earth fill dam wall by DWAF, May 1995.

5.18 Any deviation in the construction method statements, or alteration of dam dimensions for the development must be communicated and approved by this office.

5.19 The dam owner must report any significant defects on the dam wall to this office, within 7 days and request written approval prior to repair.

5.20 All water systems should always be kept clear of matter which may cause obstruction or hinder efficiency.

5.21 All structures should be equipped with a means of releasing water to:

a) Draw down the water level, within the prescribed period, to different depths between full and ten percent of the maximum water depth and
b) Clean water dams also need to cater for the provision of low flows release for the reserve needs and ecological water requirements.

5.22 This license does not guarantee the issuance or approval of a dam safety license, therefore prior to any construction works related to dams with a safety risk, the dam owner must, ensure compliance to both; Chapter 12 of the National Water Act, Act 36 of 1998 and the Regulations in relation to the safety of dams as published in Gazette No. 35062 Notice R. 139 of 24 February 2012.

5.23 Within 30 days of receiving this Water Use License, the dam owner must apply to this Department for classification of the Proposed Dam as a dam with a safety risk, to determine the requirements to be complied with relating to design, construction, operation, maintenance, monitoring, dam safety inspections, dam safety evaluations, and decommissioning of the dam.

5.24 The dam owner must also apply for a dam safety license, prior to construction, alteration, repair or decommissioning of any dam with a safety risk, by submitting to the Director-General a proposed design complying with acceptable dam engineering practices and criteria, which is not limited to the following minimum documents required by the regulations:

a) Official application form obtained from the Department, signed by the applicant.
b) A design reports.
c) Engineering drawings.
d) Project specifications and
e) An evaluation of the safety of existing development (including river crossings) that could be affected by the dam and must be included in the design report.

APPENDIX IV

Section 21(c) water use: Impeding or diverting the flow of water in a watercourse/s
Section 21(i) water use: Altering the bed, banks, course or characteristics of a watercourse/s

1. Section 21 (c) and (i) water uses

1.1 This license authorises the Section 21(c) or (i) water use activities as set out in Table 1 and in the water use licence application reports submitted to the Provincial Head/CEO (refer condition 1.2):

Table 1: Details of water uses authorized

Water use(s) activities	Purpose	Capacity/ Volume (m^3, tonnes and/or m^3/annum)/ dimension	Property Description	Co-ordinates
Section 21(a)				
Section 21 (c) & (i)				
Dam Abstraction point within regulated area	for irrigation of 33 ha of pastures at 8581 Portion 0	L=143 m W=2 m H= 1.2 m	Portion 0 of LOT FP 173 Farm 8581	**Start** -29.879362° 29.493804° **End** -29.879561° 29.492496°
Irrigation Pipeline crossing wetland & bordering drainage line	For transporting water to irrigation fields	L=345 m W=1 m H=1.2 m	Portion 0 of LOT FP 173 Farm 8581	**Start** -29.880379° 29.492297° **End** -29.883939° 29.491039°
Offset Target 1_ (HGM1)	For rehabilitation, improving of ecosystem and make up of lost wetlands from proposed dam	6.69 ha L= 1 200 m W=65 m H=0 m	Portion 0 of LOT FP 173 Farm 8581	**Start** -29.880017° 29.492719° **End** -29.885641° 29.484168°
Offset Target 2_ (HMG2)	For rehabilitation, improving of ecosystem and make up of lost wetlands from proposed dam	9.9 ha L= 870 m W= 172 m H=0 m	Portion 0 of LOT FP 173 Farm 8581	**Start** -29.883396° 29.494653° **End** -29.889808° 29.494060°
Offset Target 3_ (HMG3)	For rehabilitation, improving of ecosystem	8.1 ha	Portion 0 of LOT FP 173	**Start** -29.883022°

Water use(s) activities	Purpose	Capacity/ Volume (m^3, tonnes and/or m^3/annum)/ dimension	Property Description	Co-ordinates
	and make up of lost wetlands from proposed dam	L=760 m W=177 m H=0 m	Farm 8581	29.497353° **End** -29.889853° 29.497742°

1.2 The Licensee must carry out and complete all the activities listed under condition 1.1 according to the following:

1.2.1 Water Use licence application Summary Report compiled by Emanzini WULA Consulting dated February 2024.

1.2.2 Wetland Impact Assessment for a water use licence application for a proposed dam, irrigation and the use of sludge dams for The Dartford Farming Trust prepared by Land Matters Environmental Consulting (Pty) Ltd dated January 2024.

1.2.3 Hydropedological impact assessment for a water use licence application for a proposed dam for irrigation and the use of sludge dams in The Dartford Farming Trust prepared by Land Matters Environmental Consulting (Pty) Ltd dated 2024.

1.2.4 Hydrological Assessment for the Proposed Dam for the Dartford Farming Trust in Underberg, KwaZulu-Natal prepared by Hunts Green Consulting (Pty) Ltd dated December 2023.

1.2.5 Construction Method Statement for the proposed dam LOT FP 173 farm 8581 Portion 0 in Underberg dated February 2024.

1.2.6 Darford farming Stormwater Management plan for the proposed dam and existing slurry ponds at LOT FP 173 farm 8581 Portion 0 & LOT IB 7604 portion 0 in Underberg dated February 2024.

1.2.7 Wetland-Offset Plan and Rehabilitation Plan for a proposed dam located on portion 0 of the Farm LOT FP 173 NO. 8581, within the Dr. Nkosazane Dlamini Zuma Local Municipality, KwaZulu-Natal prepared by Land Matters Environmental Consultants (Pty) Ltd dated November 2023.

1.3 No activity must take place within the extent of a watercourse/s, unless authorised by this licence.

1.4 No fundamental alterations of the work method statement, site plan/s and drawings are allowed, unless a modification is requested and granted by the Responsible Authority in writing.

2. FURTHER REQUIREMENTS

2.1 For all the activities listed under condition 1.1, Table 1, “as-built” plans and engineering

drawings prepared by a registered professional engineer, must be submitted to the Responsible Authority within six (6) months of completion of construction for both new and existing water uses from the date of issuance of this licence. These plans and drawings must indicate the watercourse/s including wetland boundaries and layout and structure location/s of all infrastructure impeding and/or diverting flow of water in the watercourse/s as well as alterations to watercourse/s on the property/ies.

3. PROTECTIVE MEASURES

3.1 Storm Water Management

3.1.1 Storm water management practices must be constructed, operated and maintained in a sustainable manner throughout the project and for the water use activities set out in condition 1.1 and as detailed in the Storm Water Management Plan;

3.1.2 Increased runoff due to vegetation clearance and/or soil compaction must be managed, and steps must be taken to ensure that storm water does not lead to bank instability and excessive levels of silt entering any watercourse/s;

3.1.3 Storm water must be diverted from construction works and roads and must be managed in such a manner as to disperse runoff and to prevent the concentration of storm water flow;

3.1.4 The velocity of storm water discharges must be attenuated and the banks of the watercourse/s protected; and

3.1.5 Storm water leaving the Licensee's premises must in no way be contaminated by any substance, whether such substance is a solid, liquid, vapour or gas or a combination thereof which is produced, used, stored, dumped or spilled on the premises.

3.2 Structures, Construction Plant and Materials

3.2.1 Structures must withstand a 1:100 year flood.

3.2.2 Structures must be non-erosive, structurally stable and must not induce any flooding or safety hazard.

3.2.3 Structures must be inspected for a minimum of once a quarter for accumulation of debris, blockage, erosion of abutments and overflow areas - debris must be removed and damages must be repaired and reinforced within a reasonable time.

3.3 Water Quality

3.3.1 In-stream water quality must be analysed on a two-weekly basis during construction otherwise monthly at monitoring points both upstream and downstream of the activities for the following variables until pre-construction water quality levels have been reached:

3.3.1.1 pH;
3.3.1.2 Electrical conductivity (mS/M);
3.3.1.3 Suspended solids (mg/l);
3.3.1.4 Turbidity;

3.3.1.5 Total dissolved solids (mg/l)

3.3.2 Monitoring must be undertaken as set out in condition 4.

3.3.3 Activities must be scheduled to take place during the dry seasons when flows are lowest where reasonably possible.

3.3.4 The Licensee must ensure that the quality of the water to downstream water users does not decrease because of the water use activities listed under condition 1.1.

3.4 Flow

3.4.1 The diversion activities must be conducted in a manner that does not negatively affect the yield of the water course where the activity will take place. The Licensee must ensure that the overall magnitude and frequency of flow in the watercourse/s does not decrease, other than for natural evaporative losses and authorised attenuation volumes.

3.4.2 Where flow in watercourse/s is permanent, the trench must be staged across part of the channel to maintain flows. Flows must not be stopped unless essential, if necessary to stop flows it must be for a minimal time only.

3.5 Riparian and Instream Habitat (Vegetation and Physical Structure)

3.5.1 Activities must start up-stream and proceed into a down-stream direction where feasible, so that the recovery processes can start immediately, without further disturbance from upstream works.

3.5.2 Operation and storage of equipment within the riparian habitat must only take place within the approved limits of disturbance indicated in the site plans and work method statements.

3.5.3 Activities must not occur in sensitive riffle habitats unless authorised by this licence.

3.5.4 Indigenous riparian vegetation, including dead trees, outside the limits of disturbance indicated in the site plans referred must not be removed from the area.

3.5.5 Alien and invader vegetation must not be allowed to further colonise the area, and all new alien vegetation recruitment must be sustainably eradicated or controlled.

3.5.6 Soils that have become compacted through the water use activities must be loosened to an appropriate depth to allow seed germination.

3.5.7 Stockpiling of removed soil and sand must be stored outside the extent of the watercourse/s, to prevent being washed into the watercourse/s and must be covered to prevent wind and rain erosion.

3.5.8 The use of machinery within the instream and riparian habitat will lead to compaction of soils and vegetation and must be restricted to demarcated areas only.

3.6 Trenching

3.6.1 A buffer zone of 10m must be implemented for each wetland and construction within the buffer zone must be restricted to the trench line and working side of the trench.

3.7 Biota

3.7.1 The Licensee must allow movement of aquatic species, including migratory species where applicable.

3.7.2 Ensure implementation of all mitigation measures not to disturb the breeding, nesting and/or feeding habitats and natural movement patterns of aquatic biota.

3.8 Rehabilitation and Management

3.8.1 The Licensee must implement the rehabilitation programme to restore the watercourse/s to environmentally acceptable and sustainable conditions after completion of the activities as outlined in the rehabilitation plan.

3.8.2 The rehabilitation must be implemented according to the approved Rehabilitation Plan <refer to the Rehabilitation and Management Programme and date>.

3.8.3 A photographic record must be kept as follows and submitted with reports as set out in condition 4 in monitoring condition below.

3.8.4 Dated photographs of all the sites to be impacted before construction commences:

3.8.5 Dated photographs of all the sites during construction monthly; and

3.8.6 Dated photographs of all the sites after completion of construction, seasonally.; and

3.8.7 All disturbed areas must be re-vegetated with indigenous plants in consultation with an indigenous plant expert, ensuring that during rehabilitation only indigenous shrubs, trees and grasses are used in restoring the biodiversity.

4. MONITORING AND REPORTING

4.1 The monitoring plan must be implemented and reporting for the Provincial Head/CEO be done as stipulated in condition 4.2.

4.2 Six (6) monthly monitoring reports must be submitted to the Provincial Head/CEO for the duration of the construction phase and yearly thereafter or until otherwise agreed in writing with the Provincial Head/CEO.

5. SITE SPECIFIC CONDITIONS

5.1 All structures must be constructed under the supervision of a professional Civil Engineer, registered under the Engineering Profession of South Africa Act, 1990 (Act 114 of 1990), as approved by the designer.

5.2 All structures must be constructed under the supervision of a professional Civil Engineer, registered under the Engineering Profession of South Africa Act, 1990 (Act 114 of 1990), as approved by the designer.

5.3 A registered environmental professional like a botanist or wetland specialist must be appointed to be part of removal of vegetation control plan and site layout at watercourses, rehabilitation, and to supervise work through watercourses.

5.4 The Hydropedological assessment must be continuously undertaken in order to determine in part, the risk posed by the development or land use change to water resources around the jurisdiction area of proposed site.

5.5 The Applicant has applied for Offset Targets, but not any wetland destruction, which also triggers Section 21(c) and (i) water uses. The wetland destruction activities must be applied for accordingly prior to issuance of the Water Use Licence.

5.6 As the proposed dam will be situated within a wetlands, thereby destroying the wetland, this activity must be applied for accordingly prior to issuance of the Water Use Licence.

5.7 The Licensee must ensure that no cultivation takes place within the 1:10-year floodline and/or the 10m buffer from the flood area.

5.8 The trench and pipe used to convey the slurry are must always be kept clear and free of litter and substances that may cause blockages and potentially reduce the effectiveness of the conveyance of slurry.

5.9 The grass cover associated with the trench must always be maintained to prevent erosion and sedimentation build up in the slurry dams.

5.10 Should there be an expansion of the herd size in future, which would increase inputs into the slurry dams and spillages occur more frequently, the storage capacity of the slurry dam must be evaluated to ensure that the impacts of excess nutrient rich water remains minimal, with no significant impacts to the environment and downstream water users. Should any expansion of the slurry dam be required, the Licensee must apply for an amendment to the Water Use Licence.

5.11 No irrigation may take place within 100m of a watercourse.

5.12 Further comments in regards to the trench and pipe used to convey the slurry, slurry dam and disposal of waste by irrigation must also be obtained from the Water Quality and Geohydrological Specialists, prior to issuance of the Water Use Licence.

5.13 The measures contained in the Hydropedology Impact Assessment for a Water Use Licence Application for a Proposed Dam for Irrigation and the use of Sludge Dams in the Dartford Farming Trust (Land Matters Environmental Consulting (Pty) Ltd, 2024) to reduce overland flow, encourage the recharge of the soils, and stop soil contamination must be implemented.

5.14 During the construction phase, sandbags and temporary berms must be used to manage stormwater runoff (if storms do occur).

5.15 Monitoring of the rehabilitated wetland system must be undertaken by a suitably qualified wetland ecologist bi-annually for a period of one year after the completion and the implementation of the rehabilitation process.

5.16 A wetland audit report must be produced for these site visits, providing an indication of the success of the wetland rehabilitation plan and recommendations to improve the management of the rehabilitated systems.

5.17 Construction materials needed for the proposed dam must not be stockpiled within the watercourse buffer, to prevent substances such as sand, cement, bricks or rubble from being washed into the watercourses.

5.18 Any removal of existing materials must be done with careful consideration for the surrounding and/or adjacent watercourses, to avoid spilling substances such as rubble and concrete into the watercourses, which would then be washed downstream.

5.19 Any existing material that is removed from the project area must be placed outside of the buffer area of the watercourse and should be removed from the site area within 52 hours (3 days).

5.20 Construction vehicles must not be parked within the watercourse buffer, unless specifically needed at that point in time for construction activities taking place around the watercourse.

5.21 Appropriate ablution facilities as well as abundant supplies of waste collection bins must be provided for construction workers on site, to prevent the watercourses from becoming degraded and contaminated with both organic effluent and inorganic litter / rubbish.

5.22 Any concrete mixing taking place on site must be conducted on impermeable plastic sheets to prevent cement from entering watercourses through seepage or accidental spillage. Alternatively, cement mixing can take place within the footprint where permanent concreting will occur.

5.23 Follow-up watercourse assessments must be undertaken during the construction phase as well as the operational phase to ensure that the watercourses within the project area are not being polluted as a result of the proposed development activities.

5.24 The identified watercourses must be cleared of alien and invasive species to restore the potentially natural condition that could be achieved and maintained.

APPENDIX V

Section 21 (e) of the Act: Engaging in a controlled activity; irrigation of any land with waste or water containing waste

1. QUANTITY OF WATER CONTAINING WASTE FOR IRRIGATION

1.1 This licence authorises **Dartford Farming Trust** for the irrigation of land with waste or water containing waste to the maximum of five thousand four hundred and seventy-five cubic meters per annum (5 475 m^3/a) and the operation of the hydro-power plant as detailed in Table 1.

Table 1: Water use activities

Water use(s) activities	Purpose	Capacity/ Volume (m^3, tonnes and/or m^3/annum)/ dimension	Property Description	Co-ordinates
Section 21 (e)				
Supplementary irrigation with wastewater from solids slurry pond	Irrigation of about 5 ha of pastures with treated waste (solids)	5 475 m^3/a	Portion 0 of LOT IB Farm 7604	-29.887237° 29.477867°

1.2 The quantity of wastewater authorised to be irrigated in terms of this licence must not be exceeded.

2. CROP TYPE AND AREA IRRIGATED

2.1 This licence authorises to irrigate a total surface area of ninety hectares (5 ha) of pastures.

3. QUALITY OF WATER TO BE IRRIGATED.

The quality of the wastewater to irrigate with must not exceed special effluent standard (GNR 10 991) detailed in Table 2.

Table 2: **Quality of wastewater to irrigate**

Parameter	Limits
pH	5.5-9.5 pH
Electrical Conductivity	70 mS/m
Suspended solids	25 mg/l
Chemical oxygen demand (COD)	75 mg/l
Orthophosphates (as Ortho-P)	10 mg/l
Nitrate (as N)	15 mg/l
Ammonia (as N)	6 mg/l
E. coli (counts/100ml)	150 mg/l

4. MONITORING

4.1 Quantity

4.1.1 The quantity of water containing waste irrigated must be metered and recorded daily.

4.1.2 Monitoring for the quantity of the water containing waste for irrigation must be done at the point where the effluent is piped into the irrigation dam.

4.1.3 Water quantity measuring, recording and integrating devices must be maintained in a sound state of repair and calibrated by a competent person at intervals of not less than two years. Calibration certificates must be available for inspection by the Provincial Head or his/her representative upon request.

4.2 Quality

4.2.1 Monitoring points for quality must be at the outlet point of the irrigation dam where the wastewater will be abstracted for irrigation.

4.2.2 The date, time and monitoring point in respect of each sample taken must be recorded together with the results of the analysis.

4.2.3 Monitoring points must not be changed prior to notification to and written approval by the Head of Provincial Operation.

4.2.4 The samples taken at outlet point of the irrigation dam shall be analysed for the variables at the following required frequencies:

Table 3: **Monitoring variables and frequency**

Variable	Frequency
pH	Monthly
Electrical Conductivity (EC) (ms/m)	Monthly
Chemical oxygen demand (COD) (mg/l)	Monthly
Faecal Coliforms(as FCU)(count/100ml)	Monthly
Ammonia (as N) (mg/l)	Monthly
Nitrate (as N)(mg/l)	Monthly
Ortho-Phosphate (as P) (mg/l)	Monthly
Suspended solids (mg/l)	Monthly

4.3 Ground water monitoring shall be undertaken as set out in condition 4.2 of Appendix VI.

5. General Irrigation Practices

5.1 Irrigation shall be practiced in accordance with the guidelines prescribed in the document titled "*Guide: Permissible Utilisation and Disposal of Treated Sewage Effluent"*, issued by the former Department of Health under reference 11/2/5/3 and dated 30 May 1978, or in accordance with any relevant regulations promulgated under section 26 of the Act.

5.2. Irrigation with waste shall be practiced in a systematic manner and precautions shall be taken to prevent -

5.2.1 Water logging and pooling of waste in any location
5.2.2 Pollution of underground water or surface water due to seepage or otherwise
5.2.3 Fly breeding, public health hazard, odour or secondary pollution
5.2.4 Runoff from the irrigation area because of wet weather or any other conditions whatsoever and
5.2.5 The site of the irrigation area shall be adequately fenced to prevent the entry of animals and unauthorised persons.

5.3 Notices manufactured of durable weatherproof material prohibiting unauthorised entry and warning against the use of water containing waste for drinking and washing purposes shall be displayed at prominent places along the fence and at entrance gates. Such notices shall be worded in the official languages applicable in the area.

6. Pipelines

6.1 Pipelines used for the conveyance of waste shall be painted in a conspicuous colour or manufactured of a coloured material distinctly different from the colour of the pipelines in which drinking water is flowing to avoid the possibility of any cross-connections of the different pipelines.

6.2 All stop-valves and taps on the pipelines conveying the effluent shall be of a type that can be opened and closed by means of a loose wrench. This wrench shall be in the safekeeping of a responsible member of the staff to prevent unauthorised use thereof.

6.3 Notices manufactured of a durable weatherproof material warning against the use of water containing waste for drinking and washing purposes shall be displayed at prominent places where the waste is being reused and at all taps. Such notices shall be worded in the official languages applicable in the area.

7. Site Specific Conditions

7.1 The Licensee must only re-use process water for irrigation provided that the water quality meets irrigation standards.

7.2 The Licensee must undertake continued, regular monitoring of sludge dams which contain process water to ensure that the water quality is appropriate for re-use.

7.3 All mitigation measures must be implemented to ensure that water quality in nearby watercourses will not deteriorate due to contaminated effluent from the dairy farm.

7.4 Water Quality Monitoring must determine whether there is an increase above the baseline. This must be measured by a Hydrology Specialist on a monthly basis during construction.

7.5 The Monitoring Programme must monitor water quality upstream and downstream of the construction site and the results must be provided at the specified frequencies to the Environmental Control Officer. If the Environmental Control Officer deems the construction

methods or rehabilitation of any of the areas to be non-compliant, then corrective measures must be applied, and must be monitored, where necessary.

7.6 Considering the proximity of private boreholes and streams to the proposed development, monitoring (water quality and water level) should be conducted quarterly to reflect influences of wet and dry seasons. The sampling frequency for the proposed dam and slurry irrigation could be further adjusted following the trend analysis and absence of any impact from the project area.

APPENDIX VI

Section 21(g) of the Act: Disposing of waste in a manner which may detrimentally impact on a water resource

1 QUANTITY OF WASTE TO BE DISPOSED

1.1 This Licensee is authorised for the disposal of slurry (cow manure, wash water) from the dairy into a slurry lagoon system on Dartford Farming in terms of water uses activities detailed in Table 1.

Table 1: **Water use activities**

Water use(s) activities	Purpose	Capacity/ Volume (m^3, tonnes and/or m^3/annum)/ dimension	Property Description	Co-ordinates
Section 21 (g)				
Slurry Pond A (Liquid)	For storage and treatment of wastewater	3 285 m^3/a	Portion 0 of LOT IB Farm 7604	-29.890273°, 29.475818°
Slurry Pond B (Solids)	For storage treatment of wastewater and irrigation to pastures.	2 190 m^3/a	Portion 0 of LOT IB Farm 7604	-29.890668°, 29.475629°

1.2 The quantity of waste/wastewater authorised to be disposed of in terms of this licence must not be exceeded.

2.2. Groundwater Monitoring

2.2.1 The Licensee shall conduct ground water monitoring on a quarterly basis for the variables shown in Table 2 and the results must be submitted to the Provincial Head.

Table 2: Monitoring Frequency

Variables	Frequency
Electrical Conductivity (mS/m)	Quarterly
Sodium (mg/l)	Quarterly
Magnesium (mg/l)	Quarterly
Calcium (mg/l)	Quarterly
Chloride (mg/l)	Quarterly
Sulphate (mg/l)	Quarterly
Nitrate (mg/l)	Quarterly
Fluoride (mg/l)	Quarterly
pH	Quarterly
Ecoli	Count/100ml
Ortho-Phosphate (as P) (mg/l)	Monthly
Ammonia (as N) (mg/l)	Monthly

2.2.2 Monitoring network must be set up as an early warning system to detect any polluted seepage that might occur from the wastewater system.

2.2.3 If ground water pollution have occurred or may possibly occur, the Licensee must conduct necessary investigations and implement additional monitoring and rehabilitation measures which must be to the satisfaction of the Provincial Head.

3.3 Bio-Monitoring

3.3.1 The Licensee must develop and submit to the Provincial Head within six (6) months of issuance of the Licence a bio-monitoring programme that will include the compilation of an initial database from which the scope and frequency of future bio-monitoring can be developed. This initial assessment must lead to the establishment of a reliable site-specific long-term bio-monitoring programme. This programme must be able to qualify and quantify the impact on biological systems in the water environment in the area directly affected by activities as well as downstream from these activities.

3.3.2 A competent and capable aquatic scientist must be appointed by the Licensee to submit a monitoring programme for aquatic macro-invertebrates and habitat integrity. Aquatic macro-invertebrates must be sampled using the latest SASS (South African Scoring System) method. Habitat Integrity must be assessed using the Rapid Bio-assessment Analysis (C.J. Kleynhans 1999) method described by the Department (SASS 2002).

3.3.3 After any incident, SASS surveys must be conducted annually in autumn, spring and summer at a site upstream and downstream of the disturbance until the impacts of the incident are not noticeable anymore. An annual report on the SASS surveys must be submitted to the Provincial Head.

4. STORMWATER

4.1 Storm water leaving the Licensee’s premises shall in no way be contaminated by any substance, whether such substance is a solid, liquid, vapour or gas of a combination thereof which is produced, used, stored dumped of spilled on the premises.

4.2 Increased runoff due to vegetation clearance and soil compaction must be managed, and steps must be taken to ensure that storm water does not lead to bank instability and excessive levels of silt entering the streams.

4.3 The Licensee shall ensure that no stormwater will ingress into the wastewater system and that no wastewater ingress into the stormwater system.

4.4 Wastewater impoundments must be designed, constructed and managed to ensure that there is sufficient capacity to contain the 1:50 year flood event, with a minimum of 0.8 m freeboard. Freeboard will be defined as the difference between the water level and the crest of the overflow.

4.5 Wastewater systems must be properly maintained on a continuous basis.

4.6 Storm water shall be diverted from the impoundments and roads and shall be managed in such a manner as to disperse runoff and to prevent the concentration of the stormwater flow.

4.7 Cut-off drains shall be provided around the properties to prevent storm-water ingress into the surrounding of the works. These drains shall be designed to contain the maximum runoff, which could be expected over a period of 24 hours with a frequency of once in every 20 years.

4.8 The Licensee shall conduct regular inspections upstream to ensure that stormwater does not ingress into the wastewater system.

5. MALFUNCTIONS/ABNORMAL CONDITIONS

5.1 Accurate and up-to-date records must be kept of all system malfunctions resulting in non-compliance with the requirements of this licence. The records must be available for inspection by the Provincial Head upon request.

5.2 The records shall be tabulated under the following headings with a full explanation of all the contributory circumstances:

5.2.1 Operating errors
5.2.2 Mechanical failures (including design, installation or maintenance)
5.2.3 Environmental factors (e.g. floods)
5.2.4 Loss of supply services (e.g. power failure)
5.2.5 Other causes

5.3 The Licensee must, within 14 days, or a shorter period of time, as specified by the Provincial Head, from the occurrence or detection of any incident referred above, submit an action plan, which must include a detailed time schedule, to the satisfaction of the Provincial Head of measures taken to:

5.3.1 Correct the impacts resulting from the incident
5.3.2 Prevent the incident from causing any further impacts and
5.3.3 Prevent a recurrence of a similar incident.

5.4 The Licensee must notify by the Provincial Head within 24 hours of the occurrence or potential occurrence of any incident which has the potential to cause, or has caused water and environmental pollution, health risks or which is a contravention of the licence conditions

6. CONTINGENCY PLANS AND INCIDENT REPORTING

6.1 The Licensee must develop and implement an Emergency and Contingency Plan.

6.2 The Licensee must implement and promote an environmental call and reporting centre where the following can be reported:

6.2.1 Illegal disposals of waste and/or littering
6.2.2 Broken, ruptured or leaking pipelines wasting potable water
6.2.3 Open or leaking taps on the property of the Licensee
6.2.4 Open manholes
6.2.5 Leaking or broken sewerage lines and pipes
6.2.6 Overflowing manholes and pump stations
6.2.7 Possible offenders of any environmental regulations, by-laws and/or ordinances and

6.2.8 Any other aspect that might hamper the effective management of the water resources.

6.3 The Licensee must compile an environmental call and reporting centre protocol, that must be included in the Plan, and which will investigate every complaint within 24 hours of it being reported.

6.4 The Licensee must rectify all valid issues reported within 7 days of the issue being reported to the Licensee. All incidents shall be recorded in an incident register which will include reasons for non-rectification of issues raised.

6.5 Statistical summary of malfunctions and incidents shall be included in the Annual Report.

7. ACCESS CONTROL, FENCING AND NOTICES

7.1 The sites must be adequately fenced to prevent entry of animals and unauthorised persons.

7.2 Strict access procedures must be followed in order to gain access to property. Access must be limited to authorised employees of the Licensee and their Contractors only.

7.3 Notices manufactured of durable weatherproof material prohibiting unauthorised entry and warning against the use of water containing waste for drinking and washing purposes must be displayed at prominent places along all fences and at entrance gates. Such notices must be worded in the official languages applicable in the area.

8 SITE SPECIFIC CONDITIONS

8.1 The applicant must ensure they monitor the production borehole. A comprehensive pump test and water quality analysis must be conducted, and this data must be instituted as the baseline value for pre-operational water quality.

8.2 The pump test must provide static water levels, maximum drawdown, recommended abstraction rates, recovery water level and critical water levels. The results from the monitoring network must be compiled into a report and should be made available upon request.

8.3 No major lowering of the water table should take place due to excessive groundwater abstraction as this could increase the hydraulic gradient and therefore accelerate pollutant transport times into the borehole.

8.4 The monitoring of the production borehole should take place monthly, particularly if they are equipped with an automated electrical submersible pump to optimize abstraction and protect the borehole from over exploitation. The result collected must be compiled into a report and should be made available upon request.

8.5 It must be emphasized that the borehole should never be over pumped. Either initially or at any other stage as this could seriously damage the borehole and aquifer and impact future abstractions.

8.6 The safe abstraction rates for each borehole must not be exceeded under no circumstances.

8.7 The monitoring facility installed in the production borehole should be a 32mm conduit PVC pipe adjacent to the pump to easily put in a dip meter and water sample collector for monitoring.

8.8 If surface and/or groundwater pollution continues to occur, the Licensee must conduct, and/or appoint specialists to conduct the necessary investigations and implement additional monitoring, pollution prevention and remediation measures to the satisfaction of the Provincial Head.

8.9 Any property or land in respect of which this licence has been issued must be made accessible for inspection by any Responsible Authority in terms of section 125 of the Act.

8.10 The construction of the facilities containing waste must be carried out under the supervision of a professional Civil Engineer, registered under the Engineering Profession of South Africa Act, 1990 (Act 114 of 1990), as approved by the designer.

8.11 No water taken may be pumped, stored, diverted, or alienated for purposes other than intended in this licence.

8.12 Wastewater streams generated by facility contain high levels of pollutants, but the facility must minimise the impact of waste and wastewater on water resources by handling, treating, and disposing the waste correctly.

8.13 The applicant must show evidence of applying the waste hierarchy (waste prevention, waste minimization, waste re-use, waste recycling and only then waste discharge or land disposal, at prescribed wastewater quality standards.

8.14 The applicant must drill an additional three shallow monitoring wells (piezometers) downstream of the waste facilities to ensure any potential leakage are detected in time. These wells must be of uPVC or HDPE material and have an internal diameter of at least 50mm. One up gradient and two down gradient wells must be installed. The depth of the well must be at least 3 m below the depth of the waste facilities.

a) Shallow well 1 (upstream of the site)
b) Shallow well 2 [downstream of the waste facilities, 21 (g)'s]
c) Shallow well 3 [downstream of the waste facilities, 21 (g)'s]

8.15 These monitoring boreholes will serve as an early warning leak detection system and should the facilities be found to be leaking and creating unacceptable levels of pollution and contamination, such as elevated concentration of Total Coliform Bacteria, Faecal Coliform Bacteria or E-coli they must be drained and refurbished accordingly.

8.16 The conditions of this licence must be brought to the attention of all persons (employees, sub-consultants, contractors etc.) associated with the undertaking of these activities and the Licensee must take such measures that are necessary to bind such persons to the conditions of this licence.

8.17 The Licensee shall monitor all wastewater and final effluent every month for the first six months to establish the baseline wastewater quality. Thereafter monitoring must be conducted at least once every six months. The minimum determinants to be monitored are listed below in the Table 3.

Table 3: Water Quality Variables to be monitored.

pH
Electrical Conductivity (EC) at 25°C
Nutrients (Nitrate, Phosphate)
Total Alkalinity
Chloride
Fluoride (F)
Sulphate (SO4)
Soap, oil or grease
Calcium as Ca
Sodium as Na
Potassium as K
Total dissolved salts (TDS)

8.18 Irrigation shall be practiced in accordance with the guidelines prescribed in the document titled “Guide: Permissible Utilisation and Disposal of Treated Sewage Effluent”, issued by the former Department of Health under the reference number 11/2/5/3 dated 30 May 1978. Precautions must be taken to prevent:

a) Water logging and surface ponding of wastewater in any location.
b) Pollution of underground water or surface water due to seepage or otherwise.
c) Fly breeding, public health, odour, or secondary pollution.
d) Runoff from the irrigated field because of wet weather or any other conditions.

[END OF LICENCE]