



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Private Bag X 54304, Durban, 4000, Southern Life Building, 88 Joe Slovo Street, Durban, 4000

Tel: (031) 336-2700

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

I, **Ashley Starkey**, in my capacity as Provincial Head: KwaZulu-Natal Operations, acting under authority of the powers delegated to me by the Acting Director General of the Department of Water and Sanitation, hereby authorise the following water uses in respect of this licence.

SIGNED:

DATE:

26 July 2021.

LICENCE NO.: 11/U60F/CI/10772
FILE NO.: 27/2/2/U660/4/5/28

1. Licensee

eThekwini Municipality
2nd Floor
Shell House
221 Anton Lembede Street
Durban
4001

2. Water Uses

- 2.1. Section 21(c) of the Act: Impeding or diverting the flow of water in a watercourse, subject to the conditions as set out in Appendices I and II.
- 2.2. Section 21(i) of the Act: Altering the bed, banks, course or characteristics of a watercourse, subject to the conditions as set out in Appendices I and II.

3. Owners and Properties in respect to which this licence is issued

Table 1: Owners and Properties in respect to which this licence is issued

Property	Owner
Erf 2999, Queensburgh	eThekwini Municipality
Erf 379 Queensburgh	eThekwini Municipality
Rem of Erf 377, Queensburgh	eThekwini Municipality

B09854

4. Licence and Review Period

This licence is valid for a period of forty (40) years from the date of issuance and it may be reviewed at intervals of not more than five (5) years.

5. Definitions

Any word or term and expression as defined in the National Water Act, 1998 (Act No. 36 of 1998) must bear the same meaning when used in this licence, unless specifically stated otherwise.

"Act" means the National Water Act, 1998 (Act No. 36 of 1998)

"Characteristics of a watercourse/s" mean the flow regime, water quality, habitat (including the physical structure of the watercourse/s and associated vegetation) and biota found within the extent of the watercourse/s. The Resource Quality characteristics as defined in the National Water Act, 1998 (Act 36 of 1998).

"Extent of the watercourse" means the outer edge of the 1:100 year floodline or the delineated riparian habitat, whichever is the greatest.

"Regulated area of a wetland" is the use of water for section 21 (c) and (i) water uses within 500m radius from the boundary of any wetland.

"Wetland" means land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

"Report" means *Integrated Water and Waste Management Plan compiled by Enviropro, dated May 2019.*

"The Provincial Head" / "Responsible Authority" means the Provincial Head: Kwazulu-Natal, Department of Water and Sanitation (Private Bag X 54304, Durban 4000).

6. Description of the activity

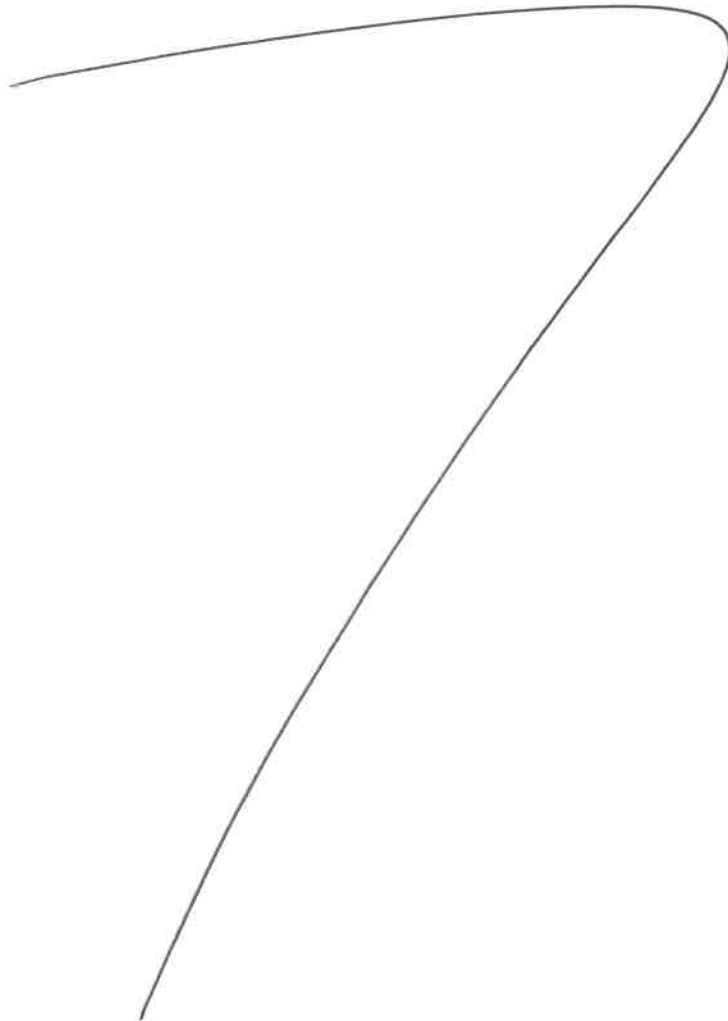
The license authorises eThekweni Municipality for the Northpark Sewer Reticulation Pipeline, located on Erf 377, 379 and 2999 Queensburgh. The purpose of the scheme is to provide a waterborne sewer connection to residents in Northdene, neighbouring the North Park Nature Reserve, eThekweni Municipality, KwaZulu-Natal. Club Seaton will comprise of new uPVC reticulation pipelines which will tie into existing bulk sewer pipelines within the North Park Nature Reserve. Sewage will be transported to and treated at the existing Umhlatuzana Waste Water Treatment Works. Activities to be undertaken on the site as part of the development will include: construction of Crossing 1 (WC1) across the Mhlatuzana River, construction of Crossing 2 (WC2) across the Tributary of the Mhlatuzana River, construction of North Park Sewer pipeline within the Mhlatuzana River 1:100-year floodline, construction of North Park Sewer pipeline within the Tributary of the Mhlatuzana River 1:100-year floodline, the North Park Sewer Pipeline within 500m of the Channelled Valley Bottom Wetland (HGM1), and the North Park Sewer Pipeline within 500m of the Channelled Valley Bottom Wetland (HGM2) Water Treatment Works (WWTWs).

APPENDIX I

GENERAL CONDITIONS FOR THE LICENCE

1. This licence is subject to all applicable provisions of the National Water Act, 1998 (Act No. 36 of 1998).
2. The responsibility for complying with the provisions of the licence is vested in the Licensee and not any other person or body.
3. The Licensee must immediately inform the Provincial Head of any change of name, address, premises and/or legal status.
4. If the property in respect of which this licence is issued is subdivided or consolidated, the Licensee must provide full details of all changes in respect of the property to the Provincial Head of the Department within sixty (60) days of the said change taking place.
5. If a Water User Association is established in the area to manage the resource, membership of the Licensee to this association is compulsory.
6. The Licensee must be responsible for any water use charges or levies imposed by a Provincial Head.
7. 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.
8. 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.
9. The licence and amendment of this licence are also subject to all the applicable procedural requirements and other applicable provisions of the Act, as amended from time to time.
10. The Licensee must appoint an independent external auditor to conduct an annual external audit on compliance with the conditions of this licence. The first audit must be conducted within three (3) months of the date of issuance of this licence and a report on the audit shall be submitted to the Provincial Head within one month of finalization of the audit.
11. Any incident that causes or may cause water pollution must be reported to the Provincial Head or his/her designated representative within 24 hours.
12. All waste must be stored in designated areas which are isolated from surface drains. Waste storage facilities should be covered to prevent dust and litter from leaving the containment area and rainwater accumulation.
13. No activity must take place within the 1:100 year flood line or the riparian habitat whichever is the greatest, or within 100m from a borehole or well, unless authorised by this licence.
14. A copy of the water use licence must be on site at all times.
15. A suitably qualified person/s, appointed by the Licensee, and approved in writing by the Provincial Head, must be responsible for ensuring that the activities are undertaken in compliance with the specifications as set out in reports submitted to the Department or the Provincial Head and the conditions of this licence.
16. Please note the following regarding the proposed water use activities:
 - 16.1 No fundamental alterations of the work method statements, site plan(s) and drawings are allowed, unless a modification is requested and granted by the Provincial Head in writing; and
17. If the Licensee is not the end user/beneficiary of the water use related infrastructure and will not be responsible for long term maintenance and management of the infrastructure, the Licensee must provide a programme for hand over to the successor-in-title including a brief management / maintenance plan and the agreement for infrastructure along with allocation of responsibilities, within three (3) months of the date of issuing of this licence.
18. The water user must ensure that there is a budget sufficient to complete and maintain the water use and for successful implementation, maintenance and liabilities associated with the activities as set out in this licence.
19. The Department may at any stage of the process request proof of budgetary provisions for the activities as set out in this licence.

20. The Licensee is fully responsible and accountable for any negative impacts on the watercourse(s) and the modeling, monitoring and mitigation thereof; until such time that no negative impacts are experienced and/or foreseen.
21. The methods of analysis shall not be changed without prior notification to and written approval by the Provincial Head.
22. This Licence is issued subject to the Umhlatazuna Waste Water Treatment Works being authorised by this Department. Should a complete Water Use Licence Application (which contains the minimum crucial information as required in terms of Section 41 of the National Water Act to process the application) not be submitted for the Umhlatazuna Waste Water Treatment Works within twelve (12) months from the date of issuance of this Licence, it will be rescinded.
23. Should the Licensee require any amendment(s) to the licence, an application for such must be submitted to the Department within six (6) months of issuance of the licence.
24. The Licensee must apply for a new Water Use Licence twenty-four (24) months prior to the expiration of this licence.



APPENDIX II

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

1. GENERAL

1.1. This licence authorises eThekweni Municipality for Section 21(c) & (i) water uses for the Northpark Sewer Reticulation Pipeline Project as tabulated below.

Table 2: Section 21(c) & (i) Water Use Activities

Water use(s)	Purpose	Dimensions	Property Description	Co-ordinates
Mhlatuzana River				
Section 21(c) & (i)	Construction of Crossing 1 (WC1) across the Mhlatuzana River	Length:92m Width:160mm Height:160mm	Erf 2999 Queensburgh	Entry: 29°52'10.39"S 30°52'44.33"E Exit: 29°52'12.99"S 30°52'42.74"E
Section 21(c) & (i)	Construction of Crossing 2 (WC2) across the Tributary of the Mhlatuzana River	Length:14.6m Width:160mm Height:160mm	Erf 2999 Queensburgh	Entry: 29°52'8.18"S 30°52'48.00"E Exit: 29°52'8.00"S 30°52'47.53"E
Section 21(c) & (i)	Construction of North Park Sewer pipeline within the Mhlatuzana River 1:100-year floodline.	Length:82m Width:160mm Height:160mm	Rem of Erf 377 Queensburgh Erf 379 Queensburgh	Entry: 29°52'0.48"S 30°52'53.40"E Exit: 29°52'3.40"S 30°52'53.11"E
Section 21(c) & (i)	Construction of North Park Sewer pipeline within the Tributary of the Mhlatuzana River 1:100-year floodline.	Length:82m Width:160mm Height:160mm	Erf 2999 Queensburgh	Entry: 29°52'0.48"S 30°52'53.40"E Exit: 29°52'3.40"S 30°52'53.11"E
Section 21(c) & (i)	Construction of North Park Sewer pipeline within the Tributary of the Mhlatuzana River 1:100-year floodline.	Length:87m Width:160mm Height:160mm	Erf 2999 Queensburgh	Entry: 29°51'56.20"S 30°52'54.44"E Exit: 29°51'58.97"S 30°52'53.80"E
Wetlands				
Section 21(c) & (i)	The North Park Sewer Pipeline within 500m of the Channelled Valley Bottom Wetland (HGM1)	Length in wetland: 71m Width in wetland: 160mm Height in wetland: 160mm	Erf 2999 Queensburgh	Entry: 29°52'8.20"S 30°52'47.70"E Exit: 29°52'7.99"S 30°52'47.51"E
Section 21(c) & (i)	The North Park Sewer Pipeline within 500m of the Channelled Valley Bottom Wetland (HGM2)	Length in wetland: 9m Width in wetland: 160mm Height in wetland: 160mm	Erf 2999 Queensburgh	Entry: 29°52'10.85"S 30°52'44.01"E Exit: 29°52'12.89"S 30°52'42.88"E

- 1.2. The Licensee must carry out and complete all the activities according to the following:
 - a. Integrated Water and Waste Management Plan compiled by Enviropro, dated May 2019
 - b. Environmental Management Plan compiled by Enviropro, dated May 2017
 - c. Environmental Management Programme for Maintenance of Wastewater Infrastructure in Sensitive and/or Protected Environmental Areas by EThekwini Municipality dated 11 September 2018.
 - d. Geotechnical study compiled by Geomeasure (Pty) Ltd, dated 09 October 2017
 - e. Aquatic and wetland assessment compiled by Biodiversity company, dated February 2017
 - f. Contingency Plans compiled by Enviropro, dated 23 May 2019.
 - g. Method Statement compiled by Enviropro, dated 23 May 2019.
 - h. Storm Water Management Plan compiled by Enviropro, dated 23 May 2019.
 - i. Engineering Services Report and Civil designs by BVI Engineers, dated 24 April 2017.
 - j. Floodline determination by BVI engineers, dated 01 August 2017.
- 1.3. The conditions of this authorisation must be brought to the attention of all persons (employees, contractors etc.) associated with the undertaking of this activity and the applicant must take such measures that are necessary to bind such persons to the conditions of this authorisation.
- 1.4. For all the activities listed under condition 1.1, "as-built" plan(s) and engineering drawing(s) prepared by a registered professional engineer, must be submitted to the Provincial Head within six (6) months of completion of new activities and for existing water uses within six (6) months of the date of issuing of this licence. These plan(s) and drawing(s) must indicate the watercourse(s) including wetland boundaries and layout and structure location(s) of all infrastructure impeding and/or diverting flow of watercourses as well as alterations to watercourse(s) on the properties.

2. PROTECTIVE MEASURES

- 2.1. **Stormwater management and erosion control**
 - 2.1.1. The Stormwater Management Plan must be updated to separate clean and dirty water, and submitted to the Provincial Head within six (6) months from the date of issuing of this licence and implemented.
 - 2.1.2. The stormwater management water discharge points must be designed as bio-retention ponds as natural as possible outside the wetlands.
 - 2.1.3. Stormwater 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 must include but are not limited to the following:
 - 2.1.3.1. 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 the watercourse(s);
 - 2.1.3.2. Stormwater must be diverted from construction works, infrastructure areas, impoundments and roads and must be managed in such a manner as to disperse runoff and to prevent the concentration of stormwater flow;
 - 2.1.3.3. The velocity of stormwater discharges must be attenuated and the banks of the watercourses protected, notably in this environment of high rainfall;
 - 2.1.3.4. Stormwater 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;
 - 2.1.3.5. Sheet runoff from paved, compacted, hardened surfaces and access roads need to be curtailed;

- 2.1.3.6. Erosion control measures must be implemented to avoid erosion in areas that are prone to erosion, such as the steep slopes and drainage lines;
- 2.1.3.7. All erosion control mechanisms need to be regularly inspected and maintained;
- 2.1.3.8. Stormwater discharge points with energy dissipaters must be constructed strategically in and around infrastructure to discharge storm water into the surrounding area to avoid concentration of discharges;
- 2.1.3.9. Reduce runoff from hardened surfaces by strategically placing structures such as grassed swales, Hyson Cells or grass blocks to enhance infiltration; and
- 2.1.3.10. All pipeline trenches dug within the 1:100 year floodlines for the watercourse must be stabilized with Reno mattresses or similar after the placing of the pipe and the partial backfilling of the trench.
- 2.1.4. The Licensee must ensure that stormwater does not ingress into the wastewater system, and that wastewater does not ingress into the stormwater system.
- 2.1.5. Wastewater systems must be properly maintained on a continuous basis.
- 2.1.6. Sediment and debris / litter must be trapped before entering the main drainage system by constructing retention structures. These structures should be regularly maintained.
- 2.2. Structures, construction site and materials**
 - 2.2.1. All sensitive areas must be demarcated and protected prior to construction.
 - 2.2.2. The necessary erosion prevention and protection mechanisms must be employed to ensure the sustainability of structures and activities and to prevent sedimentation within the watercourses.
 - 2.2.3. The height, width and length of structures must be limited to the minimum dimensions necessary to accomplish the intended function.
 - 2.2.4. Structures must not be damaged by floods exceeding the magnitude of floods occurring on average once in every 100 years.
 - 2.2.5. Structures must be non-erosive, structurally stable and must not induce any flooding or safety hazard.
 - 2.2.6. All structures must be inspected regularly for accumulation of debris, blockage, instabilities, erosion of abutments and overflow areas – debris must be removed and damages must be repaired and reinforced immediately.
 - 2.2.7. The construction and transit camps, equipment and material stockpiles must be located outside the extent of the watercourse/s and must be recovered and removed within a period of 1 (one) month after completion of activity.
 - 2.2.8. All areas affected by construction should be rehabilitated upon completion of the construction phase of the development. Areas should be reseeded with indigenous vegetation species as required and the use of seed nets is recommended to prevent erosion.
 - 2.2.9. No construction is allowed within the 1:100 year floodline and/or delineated riparian habitat, whichever is the greatest, or within 500 m radius from the boundary of any wetland unless authorised in this licence.
 - 2.2.10. With respect to any access roads, haul roads or crossings (temporary or permanent) please note the following:
 - 2.2.10.1. Any damage must be repaired immediately to prevent further damage;
 - 2.2.10.2. These must be non-polluting with respect to silt and litter that can be deposited into a watercourse;
 - 2.2.10.3. These must facilitate the movement of aquatic and non-aquatic organisms and fauna where watercourses are crossed; and
 - 2.2.10.4. These must be tarred or concreted in such a way that it minimizes impacts on the characteristics of any watercourses that are crossed.
 - 2.2.11. Where possible, construction activities should be scheduled for dry winter months to decrease the risk of erosion during heavy thunderstorms.

- 2.2.12. Natural drainage lines and wetlands outside of the structure footprint must be treated as sensitive areas, with highly restricted use. Permissible activities inside these areas must be clearly stipulated and treated as unique situations and exceptions.
- 2.2.13. The Licensee must:
- 2.2.13.1. Protect all areas susceptible to erosion and ensure that there is no undue soil erosion resultant from activities within and adjacent to the construction and transit camps and work areas;
 - 2.2.13.2. Not permit vehicular or pedestrian access into the wetland areas;
 - 2.2.13.3. Retain natural indigenous trees, shrubbery and grass species wherever possible;
 - 2.2.13.4. Not drain, fill or alter in any way, any wetland or drainage line, including the riverbanks unless this forms part of the construction works authorised in this licence;
 - 2.2.13.5. Not allow erosion to develop on a large scale before effecting repairs. When in doubt, seek advice from the Environmental Officer / Environmental Control Officer; and
 - 2.2.13.6. Install sedimentation barriers for construction close to the wetland buffers and fence sensitive areas during construction.
- 2.2.14. The method used for crossing must prevent the concentration of flow and thus the risk of soil erosion.
- 2.2.15. Stock piles must be re-vegetated to stabilise the soil, reduce run-off and minimise erosion.
- 2.2.16. A low temporary berm between the wetlands and stockpiles must be constructed to intercept flows with transported sediment and allow them to settle out.
- 2.2.17. The volume of stormwater run-off should be minimised by limiting the area of impermeable surfaces and compacting soils.
- 2.2.18. Gabion structures must be used to reduce the velocity and volume which would dissipate the energy of storm water movement and disperse the flows over a wider area.
- 2.2.19. Culvert discharges must include a rock packed mattress to prevent gully erosion.
- 2.2.20. Upslope of the authorised culverts drop down weirs should be incorporated in the construction of the culverts to prevent the formation of head cuts.
- 2.2.21. Hazardous material must be stored outside the extent of the watercourse and disposed of at a registered landfill site.
- 2.2.22. No development may be constructed within the delineated (temporary zone) boundary of the wetlands unless authorised in this licence.
- 2.3. **Water Quality**
- 2.3.1. Activities that lead to elevated levels of turbidity of any watercourse(s) must be prevented, reduced, or otherwise remediated.
 - 2.3.2. The Licensee must:
 - 2.3.2.1. Ensure that the quality of the water to downstream water users does not decrease because of the of the water use activity undertaken by the Licensee; and
 - 2.3.2.2. Actively participate in any Catchment Management Agency's related activity including Catchment Management Forums.
 - 2.3.3. A qualified person must be appointed to assess the quality of water both upstream and downstream of the activities prior to commencement of construction.
 - 2.3.4. Pollution caused by any disposal/spillage of any material into the watercourse must be prevented, reduced, or otherwise remediated through proper operation, maintenance and effective protective measures especially near watercourse(s).
 - 2.3.5. Construction vehicles and other machinery must be serviced well above the 1:100 year flood line or delineated riparian habitat, whichever is the greatest. Oils and other potential pollutants must be disposed of at an appropriate licensed site, with the necessary agreement from the owner of such a site.

2.3.6. Any hazardous substances must be handled according to the relevant legislation relating to transport, storage and use of the substance and all storage facilities must be equipped with large, clearly readable material safety data sheets (MSDS).

2.4. Flow regime

2.4.1. The Licensee must determine flood lines (1:50 and 1:100 year) prior to construction to ensure risks are adequately managed. Flood lines must be clearly indicated on the site plan(s) and drawings along with all wetland boundaries.

2.5. Riparian and In-stream Habitat (Vegetation and Morphology)

2.5.1. Activities (including spill clean-up) must start up-stream and proceed into a down-stream direction, so that the recovery processes can start immediately, without further disturbance from upstream works.

2.5.2. Operation and storage of equipment must not take place within the 1:100 year flood line or delineated riparian habitat, whichever is the greatest unless authorised in this license.

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

2.5.4. 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.

2.5.5. Existing vegetation composition must be maintained or improved by maintaining the natural variability in flow fluctuations. Rehabilitated areas must have vegetation basal cover of at least 15% at all times.

2.5.6. Recruitment and maintenance of a range of size classes of dominant riparian species in perennial channels must be stimulated.

2.5.7. Encroachment of additional exotic species and terrestrial species within the wetland area and the riparian habitat must be discouraged.

2.5.8. All reasonable steps must be taken to:

2.5.8.1. Minimise noise and mechanical vibrations in the vicinity of the watercourses and especially during night time (17:30 – 06:30) to keep noise below 35 dB within the wetland buffer zone and the riparian habitat; and

2.5.8.2. Maintain the wilderness qualities of the river. In particular, visual impacts as seen from a boat in the river should be minimized.

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

2.5.10. Slope / bank stabilisation measures must be implemented with a 1:3 ratio or flatter and vegetated with indigenous vegetation immediately after the shaping.

2.5.11. The indiscriminate use of machinery within the watercourse areas (including the riparian habitat) will lead to compaction of soils and vegetation and must therefore be strictly controlled.

2.5.12. Operation activities and storage of equipment in the riparian habitat must be prevented as far as possible.

2.5.13. Stockpiles of removed soil and sand must be stored outside of the 1:100 year flood line or 100 m from the delineated riparian habitat, whichever is the greatest distance, to prevent being washed into the river; and must be covered to prevent wind and rain erosion.

2.5.14. The overall macro-channel structures and mosaic of cobbles and gravels must be maintained by ensuring a balance (equilibrium) between sediment deposition and sediment conveyance maintained. A natural flooding and sedimentation regime must thus be ensured as far as reasonably possible.

2.5.15. As much indigenous vegetation growth as possible should be promoted within the proposed development area in order to protect soil and to reduce the percentage of the surface area which is paved.

- 2.5.16. Where applicable, disturbed riparian zone (i.e. for those areas that will not form part of the operational footprint, but that were disturbed as part of the construction activities) should be re-vegetated using site-appropriate indigenous vegetation.
- 2.5.17. Rehabilitation of the disturbed riparian zone must occur during and after completion of construction. An aquatic specialist and/or ecologist must oversee this process.
- 2.5.18. Toilet facilities must be located at least 100 m from the edge of the riparian zone.
- 2.5.19. Slope / bank stabilization measures must be implemented where necessary, to prevent erosion during both the construction and operational phases.
- 2.5.20. The use of machinery within the riparian zone may lead to compaction of soils and vegetation. This will lead to decrease of infiltration of rain water, increases in run-off water and will limit re-vegetation from taking place. It is thus recommended that all compacted areas that do not form part of the footprint activity be ploughed, landscaped to approximately the natural slope of the area and aerated followed by re-vegetation.
- 2.5.21. Methods used during construction of infrastructure must limit turbidity, sedimentation and chemical changes to the composition of the water.
- 2.5.22. Any disturbance to the riparian zone that can cause undercutting and/or bank slumping must be prevented. Disturbed areas must be rehabilitated.
- 2.5.23. Alien invasive vegetation must be eradicated and not be allowed to colonize the disturbed riparian and instream areas.
- 2.5.24. No harvesting of indigenous plants and animals in and adjacent to the construction area.
- 2.5.25. The possibility of spillages should be catered for in the design of the infrastructure where for example, attenuation ponds prior to the discharge of storm water could be designed in such a way that it can be easily sealed off after the occurrence of a spill. If a spill occurs during the operational phase of the infrastructure, a suitability qualified team of experts will need to be consulted and rehabilitation plan drawn up and implemented.
- 2.5.26. Construction must take place during the low flow / winter months in order to minimize the risk of sediment and debris being washed into the streams and rivers. Natural instream hydrology must be used to determine which months constitute the low flow months.
- 2.5.27. Stockpiles and overburden must be removed or rehabilitated after construction.
- 2.5.28. During the construction and operation phase, erosion and siltation measures such as the use of temporary silt traps must be implemented.
- 2.5.29. Alteration of the river channel outside of the construction footprint must be avoided.
- 2.5.30. Where permanent stream diversions lead to a shorter length of river / loss in aquatic habitat; the loss in aquatic habitats must be compensated by an improvement in habitat quality.

2.6. **Biota**

- 2.6.1. The Licensee must take all reasonable steps to:
 - 2.6.1.1. Allow movement of aquatic species, including migratory species; and
 - 2.6.1.2. Not to disturb the breeding, nesting and/or feeding habitats and natural movement patterns of aquatic biota.
- 2.6.2. The current level of diversity of biotopes and communities of animals, plants and microorganisms must be maintained.
- 2.6.3. The Licensee must ensure that any invasive species are not introduced to any quaternary catchment due to its associated activities.
- 2.6.4. Any instream structures used for construction purposes should not stop the natural flow in the river or obstruct to the normal flow of water, impounding water upstream thereof.
- 2.6.5. The structure of the river crossings / river diversions must maintain flows across the width of the natural river channel (or mimic it) without significantly increasing velocities.

- 2.6.6. Instream structures must be constructed in such a way that it prevents the build-up of debris.
- 2.6.7. Culverts must be constructed to allow for instream organisms to migrate during both high-and low flow conditions.
- 2.6.8. Infrastructure should not prevent the lateral movement of flood waters.

3. REHABILITATION AND MANAGEMENT

- 3.1. A river rehabilitation plan must be implemented to enhance the river ecological functioning.
- 3.2. All disturbed areas must be re-vegetated with an indigenous seed mix in consultation with an indigenous plant expert, ensuring that during rehabilitation only indigenous shrubs, trees and grasses are used in restoring the biodiversity.
- 3.3. An active campaign for controlling invasive species must be implemented within disturbed zones to ensure that it does not become a conduit for the propagation and spread of invasive exotic plants.
- 3.4. Rehabilitation must be concurrent with construction.
- 3.5. Shaping of spoils to the original topography is compulsory.
- 3.6. The Provincial Head must sign off on rehabilitation after he/she is satisfied that it was done according to specifications as per this licence.
- 3.7. A photographic record must be kept as follows and submitted with reports:
 - 3.7.1. Dated photographs of all the sites to be impacted before construction commences;
 - 3.7.2. Dated photographs of all the sites during construction on a monthly basis; and
 - 3.7.3. Dated photographs of all the sites after completion of construction, seasonally.
- 3.8. Riparian habitat crossing(s) must be visited by a(n) aquatic and/or ecological specialist prior to construction to determine baseline conditions. This should be repeated during and after rehabilitation measures have been implemented to assess the success of rehabilitation and erosion control measure. Areas in and around the watercourses must not be cleared, graded and ditched/trenched more than a week before construction. The aim is to prevent erosion and sedimentation and the collection of run-off trench water that has high sediment content.
- 3.9. The wetland buffer and other wetland specialist mitigation measures must be implemented to protect the wetlands.

4. MONITORING AND REPORTING

- 4.1. The Provincial Head must be notified in writing one (1) week prior to commencement of the licensed activities and again one (1) week after completion of the activities.
- 4.2. Six (6) monthly monitoring reports must be submitted to the Provincial Head until otherwise agreed in writing with the Provincial Head.
- 4.3. The Licensee must:
 - 4.3.1. Retain a qualified and responsible person who must give effect to the various licence conditions and to ensure compliance thereof pertaining to the activities impeding and/or diverting flow of watercourses as well as alterations to watercourses on the properties;
 - 4.3.2. Apply in writing to the Provincial Head for alternative reporting arrangements for which written approval must be provided; and
 - 4.3.3. Submit a long term wetland and river monitoring and audit plan for approval before construction starts. This monitoring and auditing must be ongoing.
- 4.4. Install flow meters which will need to be maintained and calibrated accordingly.
- 4.5. The audit reports must include but are not limited to:
 - 4.5.1. Reporting in respect of the monitoring programme referred to in condition 4.2 and all other reporting and compliance conditions outlined in this licence;
 - 4.5.2. A record of implementation of all mitigation measures including a record of corrective actions; and

- 4.5.3. Compensation measures for damage where mitigation measures have failed to adequately protect the in-stream and riparian habitat or any other characteristics of the watercourses.
- 4.6. A(n) wetland, aquatic and/or ecological specialist must be appointed to monitor the compliance to the wetland and riparian habitat management and rehabilitation plan and conditions in this licence pertaining to impacts on wetlands and the riparian habitat and provide specialist advice for corrective actions and compile audit reports which must be submitted to the Provincial Head.

5. OTHER WATER USERS

- 5.1. The Licensee must attempt to prevent adverse effect on other water users. All complaints must be investigated by a suitable qualified person and if investigations prove that the Licensee has impaired the rights of other water users, the Licensee must initiate suitable compensative measures.

6. POLLUTION PREVENTION, INCIDENTS AND MALFUNCTIONS

- 6.1. Pollution incidents must be dealt with in accordance with Section 19 and 20 of the Act.
- 6.2. If surface and/or groundwater pollution has occurred or may possibly 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.
- 6.3. The Licensee must:
- 6.4. Keep all records relating to the compliance or non-compliance with the conditions of this licence in good order. Such records must be made available to the Provincial Head upon request by the Department for such records; and
- 6.5. Keep an incident report and complaints register, which must be made available to any external auditors and the Department.

7. SOLID WASTE MANAGEMENT

- 7.1. In the event of a spill, solid waste must be handled, stored, transported, or disposed of in such a manner as not to cause any odour, flies, health hazard, secondary pollution or other nuisance.

8. SEWER PIPELINES

- 8.1. The pipelines used for the conveyance of effluent must 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.
- 8.2. All stop-valves and taps on the pipelines conveying water containing waste must be of a type that can be opened and closed by means of a loose wrench. This wrench must be in the safekeeping of a responsible member of the staff to prevent unauthorised use thereof.
- 8.3. Notices manufactured of a durable weather-proof material warning against the use of water containing waste for drinking and washing purposes must be displayed at prominent places where the waste is being reused and at all taps. Such notices must be worded in the official languages applicable in the area.

9. MANHOLES

- 9.1. The Licensee must ensure that:
 - 9.1.1. Manholes are covered at all times with a suitable cover that cannot be removed by unauthorised persons;
 - 9.1.2. Manhole covers of a material that is less prone to theft are used; and

- 9.1.3. No new sewer pipelines lines and manholes must be constructed in the 1:100 year flood line.
- 9.2. Pollution protection berms must be built around manholes to stop pollution from entering wetlands.

10. CONTINGENCY PLANS AND INCIDENT REPORTING

- 10.1. The below must be recorded, reported and rectified within 7 days of occurrence:
 - 10.1.1. Illegal disposal of waste and/or littering;
 - 10.1.2. Broken, ruptured or leaking pipelines wasting potable water;
 - 10.1.3. Open or leaking taps on the property of the Licensee;
 - 10.1.4. Open manholes;
 - 10.1.5. Leaking or broken sewerage lines and pipes;
 - 10.1.6. Overflowing manholes;
 - 10.1.7. Possible offenders of any environmental regulations, by-laws and/or ordinances; and
 - 10.1.8. Any other aspect that might hamper the effective management of the water resources.
- 10.2. Statistical summary of malfunctions and incidents must be included in the Annual Report.

11. REPORTING

- 11.1. The Licensee must compile and submit an annual report including Management Plans indicating compliance with the conditions of this Licence, the corrective measures to address non-compliance, as well as the results of the monitoring programmes.
- 11.2. Information and data must be submitted in both hard and in a digital format as required by the Provincial Head in the prescribed format to be included in the Provincial database.

12. AUDITING

- 12.1. The Licensee must appoint an independent qualified person to conduct a wetland audit immediately after construction. The report must include the Present Ecological Status and Ecological Importance and Sensitivity of wetlands before and after construction. The report on the audit must be submitted to the Provincial Head within one (1) month after finalisation of the report.

13. INTEGRATED WATER AND WASTE MANAGEMENT

- 13.1. The Licensee must update the Integrated Water and Waste Management plan and submit for approval to the Provincial Head on an annual basis.
- 13.2. The Licensee must make full financial provision for all investigations, designs, construction, operation and maintenance for sewer pipelines should it become a requirement as a long term water management strategy.

[END OF LICENCE]