

Environmental Impact Assessment (EIA) for the  
Proposed Construction, Operation and  
Decommissioning of a Sea Water Reverse Osmosis  
Plant and Associated Infrastructure Proposed at  
Lovu on the KwaZulu-Natal South Coast

# FINAL EIA REPORT

## CHAPTER 5: ISSUES AND RESPONSES TRAIL

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## 5. COMMENTS AND RESPONSES TRAIL

This chapter presents an overview of issues raised following the submission of the Final Scoping Report and prior to the release of the Final EIA Report. Responses to these issues are provided.

### 5.1. INTRODUCTION

An important element of the EIA Process is to evaluate the issues raised through the interactions with authorities, the public, the specialists on the EIA team and the project proponent. In accordance with the philosophy of Integrated Environmental Management, it is important to focus the EIA on the key issues. A decision-making process has been developed to assist in the identification of key issues, based on the following criteria (refer to Figure 5.1):

1. Whether or not the issue falls within the scope and responsibility of the proposed Lovu Desalination EIA Process; and
2. Whether or not sufficient information is available to respond to the issue or concern raised without further specialist investigation.

During the public commenting periods on the Final Scoping Report and on the Draft EIA Report, additional issues and/or concerns have been raised by I&APs prior to the release of the Final EIA Report for I&AP review. Issues were sourced as follows:

- Letters and faxes - issues sent to the CSIR via fax or posted correspondence; and
- Email - issues sent to the CSIR via email correspondence.

The Appendices of the Final EIA Report contain the detailed correspondence received. Comments received that are not relevant to or form part of this EIA Process are included in the Comments and Responses Trails below, and clear reasoning is provided as to why the comment received falls beyond the scope of this EIA. The detailed comments received are included in Appendix F of this EIA Report. Section 5.2 provides a summary of the comments received from I&APs during the comment period on the Final Scoping Report and Draft EIA Report. The comments submitted have been grouped according to the following categories (number in brackets indicates the number of issues raised):

1. Issues related to Marine Ecology(13)
2. Issues related to Noise, Visual, Social and Economic Impacts (10)
3. Issues related to Energy and Electrical Infrastructure (5)
4. Issues related to Estuary, Rivers and Wetlands (8)
5. Issues related to Chemical Storage, Pollution and Water Quality (5)
6. Issues related to Terrestrial Ecology (17)
7. General Comments and Issues related to EIA and Public Participation (39)
8. Project Description and site location/Alternatives (11)
9. Others (9)

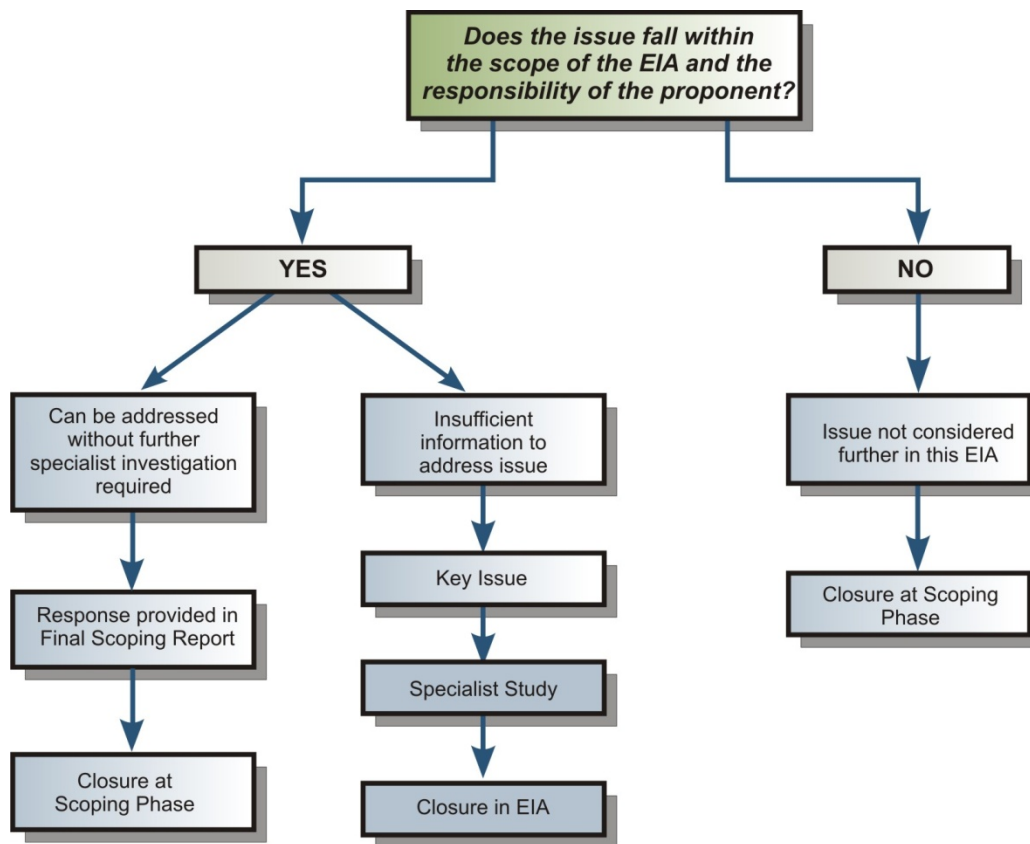


Figure 5-1 Decision-making framework for identification of key issues for the EIA

## 5.2. COMMENTS AND RESPONSES TRAIL

The tables below summarize comments received after submission of the Final Scoping Report for I&AP review, together with a response from the EIA team.

### 1. Issues related to Site Selection of the Desalination Plant and/or Pipeline Routes

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
1.1	Brine, power supply  Please involve Coastwatch	<i>December 2015</i>	<i>Kendyl Le Roux, Private, Comment form</i>	The potential impacts of brine on the marine environment have been assessed as part of the marine ecology specialist study (refer to Chapter 6 of this EIA report)  Coastwatch has been on the I&AP_ database since the beginning of the project (refer to Appendix F1).
1.2	Blasting.  Blasting in the marine environment is always a major concern and it should be kept as a last resort and be undertaken only out of the migratory seasons for all cetaceans. This need is recognised in the EMPr (section G. 4.17 - <i>If practical, schedule blasting so as to avoid cetacean migration periods or winter breeding concentrations (beginning of June to end of November), and turtle migration and breeding periods (October to end of February). Alternatively the blasting protocol should include additional mitigation measures such as possibly bubble curtains, acoustic harassment devices or acoustic deterrent devices to warn away species to the presence of danger or small charges (fishing salutes) before the blast</i>	<i>29 January 2016</i>	<i>Carolyn Schwegman, Coastwatch KZN, Letter sent via email on 31 January 2016</i>	Blasting <u>may be</u> required in the surfzone in order to create the trench for the pipelines. The need for this would be determined after further geotechnical investigations in the surfzone. There would be no blasting needed seaward of the surfzone, as the pipelines will be laid on the seabed  It is unlikely that blasting will be required on the beach at Lovu, as the available geotechnical information indicates that the rock is very soft to soft in the area that is crossed by the pipelines and could thus be excavated by mechanical means. At the site of the intake pumpstation, which is located well landward of the beach, blasting <u>may be</u> required as geotechnical info indicates slightly harder rock.  <i>From the Marine ecologist:</i> The EMPr (section G.4.17) has been updated to read: “Establish a rigorous Blasting Method Statement/Protocol in

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	<p><i>to scare away any animals in the area.).</i></p> <p>Use of the term “if practical” gives no assurance that every precaution will be taken to mitigate the effects of blasting in the marine environment.</p> <p>Further, onshore blasting must take into account the seasonal behaviours of shore-birds.</p> <p>A rigorous blasting protocol must be formulated and implemented if all other avenues for construction have been exhausted.</p>			<p><i>accordance with SANS standards, with adherence to all public safety requirements and which minimise the environmental effects of shock waves.</i></p> <p><i>The blasting protocol should also include additional mitigation measures such as possibly bubble curtains, acoustic harassment devices or acoustic deterrent devices to warn away species to the presence of danger or small charges (fishing salutes) before the blast to scare away any animals in the area and should take into consideration shorebird breeding and seasonal behaviours.”</i></p>
1.3	<p>Marine Impacts</p> <p>Our concerns, associated with the water intake and disposal, have been identified as impacts however it seems that only once studies are underway during the operational phase the impacts will become evident, should they occur. Again – uncertainties associated with the project and within a sensitive environment.</p>	29 January 2016	Carolyn Schwegman, Coastwatch KZN, Letter sent via email on 31 January 2016	<p>Comment noted. As in all EIAs, the assessment of impacts is a prediction based on available information and analysis, with the associated level of certainty stipulated in the assessment tables.</p> <p><u>From the Marine ecologist:</u> The marine ecology specialist study is a synopsis of the accessible information available on the effects of desalination plants. What was pointed out, however, was that the proposed plants are bigger than anything currently operational in RSA and so discharge plumes and extent of impacts determined through monitoring studies cannot be provided. For other plants of a similar size in other parts of the world, it is difficult to be anything more than generic in the interpretation of impacts as the hydrodynamics and marine ecological effects will be site specific.</p>
1.4	<p>Impingement and Entrainment</p> <p>Direct extraction through an open water intake is</p>	29 January 2016	Carolyn Schwegman, Coastwatch KZN, Letter sent via email	<p><u>From the Marine ecologist:</u> Subsurface intakes were discussed as part of the risk assessment at the very start of this whole process. They were suggested as the best environmental option but were not appropriate</p>

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	<p>proposed resulting in direct impact on marine life ie impingement (fish and other marine organisms killed on the intake screens) and entrainment (organisms small enough to pass through, such as plankton, fish eggs, and larvae, are killed during processing of the salt water). The impacts on the marine environment, even for a single desalination plant, may be subject to daily, seasonal, annual, and even decadal variation, and are likely to be species- and site-specific.</p> <p>These impacts, however, are not well understood and more research is needed, especially to understand the long-term impacts. We do, however, know that there are several operational, design, and technological measures available to reduce the marine impacts of open water intakes. In particular, subsurface intakes can virtually eliminate impingement and entrainment, as they extract seawater from beneath the seafloor or a beach. The sand acts as a natural filter, providing a level of pre-filtration that can reduce plant chemical and energy use and long-term operating costs.</p> <p>Subsurface intakes are being used in a growing number of plants around the world, as new drilling technologies become available. This is an alternative which is not discussed. Again, information used in designing the project has not been made available.</p>		on 31 January 2016	<p>from an engineering perspective due to the topography and depth of the bedrock.</p> <p><i>From Umqeni:</i> Subsurface intakes are appropriate for small desalination plants and require areas of deep sand. A 1MI/d plant can require up to four subsurface intakes to a depth of up to 12 m. This is not a feasible option for a 350MI/d abstraction (150MI/d plant) owing to the number of intakes that would be required and the operational and maintenance difficulties associated with trying to maintain this many intakes. In addition the beach at Lovu does not have the depth of sand appropriate for these intakes. The intake that is proposed in this study has a large intake structure to minimise the velocities entering pipe. The velocity at the intake will be kept to a value low enough to ensure that fish are not entrained at the intake. There has been a lot of research in plants around the world to ensure that this design has a minimal impact to the environment and specifically to ensure that fish are not entrained. Plankton and other micro-organisms will pass into the treatment process; however, a 150MI/d plant is unlikely to have any significant impact when considering the volume of the surrounding ocean.</p>



NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
1.5	<p>Marine Discharge (Co-disposal of brine and other chemicals)</p> <p>Safe disposal of the concentrated brine produced by desalination plants presents a major environmental challenge worldwide. The impacts of brine on the marine environment are largely unknown with the majority of studies available focussing on a limited number of species over short time periods. In addition, there is a lack baseline data which would allow a comparison to pre-operation. Laboratory and field studies that have been conducted to date, however, indicate the potential for acute and chronic toxicity and changes to the community structures in marine environments. The ecological impacts of brine discharge, however, vary widely and are a function of several factors, including the characteristics of the brine, the discharge method, the rate of dilution and dispersal, and the sensitivity of organisms. Despite the long history of seawater desalination plants operating in some regions, data on their ecological impacts are limited. Several recently constructed plants, including plants built in Tampa Bay, Florida and Perth, Australia, have monitoring programs in place to evaluate impacts associated with brine discharge. These studies suggest that the short-term impacts of brine discharge can be addressed through dilution and use of multi-port diffusers. However, additional monitoring is needed to evaluate mid- and long-term impacts.</p>	29 January 2016	Carolyn Schwegman, Coastwatch KZN, Letter sent via email on 31 January 2016	<p>Please also refer to response to issue 1.3 above.</p> <p><u>From the Marine ecologist:</u> As part of the EMP, a structured benthic survey is recommended to be started before construction and monitoring is recommended during discharge.</p> <p>A benthic survey before start of discharge would only provide information on the baseline communities, which are relatively ubiquitous (depending on substrate type) and robust at the depths involved. The actual impact can only be quantitatively assessed once discharge has commenced and a routine monitoring survey in place. The assessment of non-significance was based on specialist experience and information gained from the literature. In the impact zone, there will likely be a significant impact, but beyond that impacts are likely to be insignificant due to the naturally robust nature of the affected communities and their inherent high natural variability. Marine habitats are typically robust and recovery of affected communities occurs within 2-5 years.</p> <p>Baseline studies would likely include biodiversity assessments of soft sediment habitats, as well as any reef habitats occurring in the anticipated brine footprint area. At least 2 years of baseline data (including summer and winter periods) should be collected prior to construction. The ToRs would be drawn up at the time in collaboration with the relevant authorities.</p> <p>Monitoring should occur annually during the full period of operation thereby covering mid- and long-term impacts as well. Refer to Chapter 6 and EMPr for further details on the recommended monitoring.</p>



NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	<p>The project, yet again, gives rise to uncertainties and confidence cannot be gained without a good understanding of the studies which are to be done to establish baseline conditions and which will be undertaken during the operational phase of the SWRO plant. Questions are:</p> <ul style="list-style-type: none"> <li>- Baseline conditions. What studies will be done, and what timeframe is given to complete the studies?</li> <li>- What monitoring will be undertaken? Terms of reference for studies? While an application for a Coastal Waters Discharge Permit with comprehensive information is required the application is not being made available for public review and comment.</li> <li>- After what period of time can accurate interpretations of the results be made i.e. trends be established?</li> <li>- If impacts are negative can they be reversed?</li> <li>- What of design imperfections? Can these be remedied once the plant is operational?</li> <li>- Should negative impacts occur will this mean that the Lovu estuary and offshore environment become a sacrificial zone?</li> </ul> <p>In addition, while it is reported that the hard structures will create “artificial reefs” which is considered a positive impact we find this may not be a benefit and is misleading as the artificial structures/reefs may cause a change in the species composition in the area.</p>			<p><u>From Umqeni</u>: Brine would be discharged using a brine discharge pipeline with nozzles designed to “inject” the brine at a relatively high velocity into the surrounding ocean. This aids the mixing of the brine so that salinity concentrations are reduced quickly over a short distance from the discharge port (within 30m). These brine discharge nozzles have been designed and developed in many for many other plants around the world and much work has been undertaken in perfecting this design and even through post construction monitoring operations. The discharge of brine from this plant would take into account the modelling of seawater currents at the site so as to minimise the effects of the increased salinity. If during post construction monitoring it was noticed that the nozzles were not operating optimally then these could be substituted with other nozzles of a different design (in situ)</p> <p>From my understanding there are natural reefs in the area proposed for the pipeline. The pipeline would thus provide additional hard habitat in all likelihood supporting the same communities as those on natural reefs, so change in species composition would not be an issue.</p>

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
1.6	Do those protocols take into account birdlife in that area? I am concerned about bird life in area (blast) – oystercatchers, flocks to 18 on beach – that’s a first. Immediately in front of the boardwalk which is the complex situated on the beach in that area, we had flocks of up to 18 oystercatchers. Certainly a few blasting would not be acceptable.	17 November 2015	Angus Pyke, Public Meeting	Please refer to response to issue 1.2 above.
1.7	Is the plankton affected? I have no idea – I know we have a lof of whales	17 November 2015	Maureen Pyke, Public Meeting	The proposed plant will extract 300 ML per day of seawater from which plankton will be removed. This is however not anticipated to affect whales.
1.8	How will you dispose scaling from membranes?	17 November 2015	Donald Sutherland, Public Meeting	<u>From Umqeni</u> : The amount of scalant is very little and would go in the larger tank and discharge to sea. Soap to clean the membrane is like baby toothpaste. Not anticipated to be an issue.
1.9	Do you have sardines as well? What will happen to the sardines?	17 November 2015	George Oliver, Public Meeting	<u>From Umqeni</u> : The intake velocity will be very low (<0.15m/s) and will not impact the sardines.
1.10	Were no macrobenthic studies been done? You need a baseline. You don’t know what’s there and especially with what’s coming out of the pipeline. That would affect the macrobenthos. Should we be concerned?  It does not make sense to sample the area afterwards. I’m not against desalination but to me there should be sampling before and not after the spot has been chosen.	17 November 2015	Kendyl Le Roux, Public Meeting	Please refer to response to issue 1.5 above

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	How can she make a call without knowing what is there. Unless she has lived in the area. Brine is an issue for macrobenthos. There is no reason however to doubt Andrea Pulfrich's work. There is some sort of data but it will be species list which can be from anywhere. I'm not sure whether they have samples from offshore and at the mouth.			
1.11	Was the discharge at sea modelled for turbidity?	17 November 2015	Kendyl Le Roux, Public Meeting	<p>The model was undertaken for trace components that will be released and assessed how much will settle out. The tracer can be used to represent the dispersion of substances other than just the brine, including suspended solids and the cleaning chemicals (co-discharges). The simulated tracer was "conservative", i.e. it is conserved in the model. Substances that die-off or multiply (e.g. bacteria or algae) or have properties different to the brine (e.g. sand that would settle to the seabed due to particle size and mass) are not represented by the tracer.</p> <p>All the tracer results indicate levels above ambient. The ambient water has a tracer concentration of 0% at the start of the model simulation and the concentration of the tracer substance in the outflow pipe is 100 %. It reduces as it enters the ambient water and becomes diluted and dispersed. The 100% could be scaled to represent the true concentration of any co-discharge in mg/l or ppt or any other unit. The modelled tracer dispersion results indicate what the remaining concentration of that co-discharge is at any point in the model. The results show that under the worst-case maximum discharge scenario, TSS concentrations at the surface exceed 10 % above ambient only 1 % of the time.</p>

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
1.12	No concern of a high energy environment? You're going into the surfzone into a high energy environment.	17 November 2015	Kendyl Le Roux, Public Meeting	<u>From Umgeni</u> : No, that's why intake is 20 m depth and 1 km off shore.
1.13	We are aware of the need for a Coastal Waters Discharge Permit and your letter states that "The permit has been submitted to the DEA Branch: Oceans and Coasts (Directorate: Coastal Pollution Management). Assuming that this is Umgeni Water's application for a CWDP what of the public participation requirements in this process? Any clarity you can give will be appreciated.	03 December 2015	Carolyn Schwegman, Coastwatch KZN, email	<p>A CWDP was submitted to DEA Branch: Oceans and Coasts (Directorate: Coastal Pollution Management). That department has also received the draft EIA report for comment.</p> <p>There is a requirement for Public participation in terms of the EIA regulations and I&amp;APs are welcome to comment on the EIA report, including the Marine ecology study. There is however no Public participation process required as part of the ICM Act. Any concerns are to be directed to the CSIR to be included in the Final EIA report for the relevant authorities. This was confirmed with DEA Branch: Oceans and Coasts.</p>

## 2. Issues related to Noise, Visual, Social and Economic Impacts

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
2.1	<p>Kindly note the objections and concerns of the Mother of Peace (MoP) Illovo community as stipulated below:</p> <ol style="list-style-type: none"> <li>1. The needs of the associated use: activity vs land use as stipulated in the introduction, chapter 1, the impact on the land use on sensitive and cultural use seems to take little consideration that the part of the proposed site falls directly onto the Mother of Peace Illovo recreation site which is a football field. In addition, part of the recreation site has been earmarked for</li> </ol>	13 March 2015	Iris Canham, General Manager, Mother of Peace Illovo	A Noise Impact Assessment, Visual Impact Assessment and Socio-Economic Impact Assessment have been undertaken as part of the EIA Phase and are included in Chapter 10, Chapter 11 and Chapter 12 of this EIA Report, respectively. The Socio-Economic Impact Assessment includes the assessment of the proposed project on the surrounding Mother of Peace Illovo Community. The Noise Impact Assessment also considers the impact of the proposed project on the surrounding Noise Sensitive Areas. In addition, the Visual Impact Assessment assesses the impact of the proposed project on the surrounding sense of place and its visual intrusion.

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	<p>sustainable projects use.</p> <p>2. There has been reference to a low impact on the surrounding areas in terms of noise (point 2, chapter 1), stipulating that there are no residence, businesses or land use. Mother of Peace, Illovo is not a Children's Home as referred to in your document but rather an intentional community for orphaned and vulnerable children. This community is made up of 123 people who live in the community supporting the wellbeing children through various projects and programmes. Furthermore, the Organisation employs an additional 30 people. There is an Early Childhood Development Centre that supports the surrounding community of Inkwali and a Primary School on site. Furthermore, there are small scale sustainable projects that support the needs of the community.</p> <p>3. In terms of visual character/sense of place, the construction will have an impact on MoP; on the visual aesthetics. The statement that the preferred site is not used for recreational activity and out of view from most residences is untrue. The site will have a visual intrusion impact as MoP is not just adjacent to the preferred site but will take a portion of the land.</p> <p>Kindly take into consideration, the above and provide clarity on the impact of noise, impact on our community, environmental analysis and</p>			

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	health and wellbeing as a community situated a few metres from the preferred plant. We appreciate a detailed implication on Mother of Peace outlining whether the approval of the desalination plant would imply a relocation of our community.			
2.2	How big is the pump station? It is a relatively big area. What will we see when we drive pass the beach with overseas guests? I understand the plant will be big. It will quite offensive to people that live in Illovo village	17 November 2015	Angus Pyke, Public Meeting	The pump station will be about 1 hectare. Most will be underground. You will see a structure above ground that will look like a large brick wall The visual specialist study has made further mitigation recommendations.
2.3	What would the noise levels be?	17 November 2015	Bongani Khumalo, Public Meeting	A noise study has been undertaken as part of the EIA (refer to Chapter 11 of this EIA report). The conclusion is that the Lovu Desalination Plant noise impact on receptors is predicted to be of low to very low significance during the construction and operational phases respectively, provided the recommendations for mitigating noise impacts are applied effectively.
2.4	Noise is zero where we live on property on beach, so we will know.	17 November 2015	Gavin O'Radwell, Public Meeting	Comment noted.
2.5	The operational phase - the anticipated noise level of 45 dB will impact on the boardwalk buildings?	17 November 2015	Angus Pyke, Public Meeting	The results indicate that there will be little impact on the identified noise sensitive areas around the pump station. The impact will be dependent on the sea state, as any vigorous wave action will result in a higher ambient noise level in this area. The houses to the south of the pump station are just below the SANS 10103:2006

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
				noise rating limit of 40dB(A) at night. The worst case has been modelled and it is highly unlikely that the pumps will be heard due to the depth of the pump station. The only noise emissions from the pump station will be the ventilation system, if fitted. The daytime noise rating limit is not exceeded. Please refer to Chapter 11 of this EIA report for further details.
2.6	We are affected by your 1st option? There is a home for children. Once the plant is there, what kind of risks will be there to the children and people which are there?	17 November 2015	Bongani Khumalo	A socio-economic study has been undertaken as part of this EIA. Impacts on the Mother of Peace Children's Home are likely to be of a medium to high significance during the operational phase for the Applicant's Preferred Site. This may reduce to a medium impact during operations if mitigation measures are particularly successful. For the Alternative Site impacts should be of a low to medium negative significance during operations. Please refer to Chapter 12 of this EIA report for further details.
2.7	Will you have scholarships? Will you need high skills and technical expertise? Will there be bursaries or training for locals? Lots of imports? What will be done for socio-economic aspects?	17 November 2015	Hlalele Molotsi , Public Meeting	<u>From Umgeni:</u> During the construction, it is anticipated that more than 100 people on site working. Some construction methods require very skilled people and for some activities, people from the community can be hired. Umgeni will need high skills and technical expertise from overseas to construct the plant that we can use. As for all UW projects, all employees will be trained and developed during construction. Once the plant is running, there will be minimal employees needed on site to manage the entire site (only about 30 people) - 15 local, 15 people managed by an overseas company. Those people would be trained over the years to make sure they can run the plant alone after a while.
2.8	It seems as Illovo was forgotten in your impact	17 November	Donald Sutherland,	The impact of the proposed development on Illovo is not



NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	assessment presentation. Most of the pipeline is going through Illovo property and both your sites are on Illovo property – we are not there? Why? Illovo loses cane fields – not even a low impact? Umgeni still needs to discuss with Illovo.	2015	Public Meeting	anticipated to be highly significant. Only key (high and medium significance) impacts were presented at the public meeting. This does not mean that impacts on Illovo are non-existent. <i>From Umgeni:</i> Umgeni will do the negotiations only when they get the Environmental Authorisation. Umgeni feels that it is not appropriate to start negotiations before that.
2.9	Who will initiate the negotiations with MOP?	17 November 2015	Bongani Khumalo, Public Meeting	Please refer to response to issue 2.8 above.
2.10	At what point do negotiations begin?	17 November 2015	Gavin Gradwell, Public Meeting	Please refer to response to issue 2.8 above.

### 3. Issues related to Energy and Electrical Infrastructure

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
3.1	<p>eThekweni Electricity Department:</p> <p>The Electricity Department has no objection however please note:</p> <ul style="list-style-type: none"> <li>- The applicant must consult eThekweni Electricity's mains records (held in the drawing office at eThekweni Electricity Headquarters, 1 Jelf Taylor Crescent), for the presence of underground electrical services. In addition should any overhead line and/or servitude be affected, the specific permission of the Head: Electricity must be sought regarding the proposed development.</li> <li>- The relocation of MV/LV electrical services, if required in order to accommodate the proposed</li> </ul>	8 April 2015	Diane van Rensburg, EIA Hub, eThekweni Municipality, Letter sent via post and email	Comment noted. The eThekweni Electricity Department will be contacted and their main records held at the Drawing Office will be viewed in order to confirm and verify the presence of underground electrical services. This will be carried out by Umgeni Water subsequent to the issuing of an Environmental Authorisation (should one be granted by the DEA) and based on the final design. Umgeni Water will timeously obtain permission from the eThekweni Electricity Department should any overhead line, electrical servitudes or underground cables be affected by the proposed project (if applicable).

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	development, will be carried out at the expense of the applicant.			
3.2	<p>Energy Efficiency</p> <p>Estimates put the cost of desalinated water at about three times that of surface water, the process requiring large amounts of energy with 45 – 60% of total operating costs being attributed to energy use. All existing desalination plants in South Africa use RO technology due to its substantially lower energy use, thus RO is expected to have a much lower lifecycle cost than thermal distillation and contributes much less to greenhouse gases.</p> <p>Notwithstanding the benefits of RO Eskom's current woes place restrictions on energy usage across the board and alternatives must be looked at. Options could include supplementary electricity from, for example, closed system opportunities associated with a waste water treatment works (requiring re-siting the SWRO plant), and investigation into newer technologies such as wave energy which is in use internationally.</p>	29 January 2016	Carolyn Schwegman, Coastwatch KZN, Letter sent via email on 31 January 2016	<p><u>From Umgeni:</u> Alternative energy sources have been investigated in a previous study. At present there would be no reliable alternative to provide electricity to the plant. During the tender process service providers will have the opportunity of motivating alternative energy sources / infrastructure as part of the project and if feasible then these will be considered. Eskom is implementing bulk infrastructure to supply the South African networks. The total energy that the desalination plant would require would be a very small component of this upgrade and could be completely accommodated by this.</p> <p>Desalination sites have very specific requirements, as do waste water sites. There are no bulk waste water sites near any of the feasible desalination sites on the coast. However, if it were feasible for the Municipality to generate electricity from their waste water site then this energy could be fed into the grid but would have to be a municipal initiative.</p> <p>Wave energy systems are in the research and development phase and are currently considered unreliable and not feasible for a project of this scale. If wave energy systems were a viable option for supply of energy to large scale desalination plants then they would have been implemented elsewhere in the world where large scale desalination plants have been constructed and where the cost of electricity is considerably higher than South Africa.</p>
3.3	<p>eThekweni Electricity Department</p> <p>The Electricity Department has no objection however please note:</p> <p>The applicant must consult eThekweni Electricity's mains</p>	27 January 2016	Diane van Rensburg, Letter sent via email on 29 January 2016	Comment noted. The eThekweni Electricity Department will be contacted and their main records held at the Drawing Office will be viewed in order to confirm and verify the presence of underground electrical services. This will be carried out by Umgeni Water

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	records (held in the drawing office at eThekweni Electricity Headquarters, 1 Jeff Taylor Crescent), for the presence of underground electrical services. In addition should any overhead line and/or servitude be affected, the specific permission of the Head: Electricity must be sought regarding the proposed development. The relocation of MV/LV electrical services, if required in order to accommodate the proposed development, will be carried out at the expense of the applicant.			subsequent to the issuing of an Environmental Authorisation (should one be granted by the DEA) and based on the final design. Umgeni Water will timeously obtain permission from the eThekweni Electricity Department should any overhead line, electrical servitudes or underground cables be affected by the proposed project (if applicable).
3.4	The environmental impacts of a dam are really understated. It is probably worst than a desalination plant. Eskom is already battling with supply of energy. How is this different? Would desalination plant take preference over residents?	17 November 2015	Kendyl Le Roux, Public Meeting	<i>From Umgeni:</i> All of Eskom programs show that electricity would be available within the next 5 years.
3.5	Have you looked at wind/solar energy	17 November 2015	Maureen Pyke, Public Meeting	<i>From Umgeni:</i> Umgeni is not in that business. If someone can make that electricity available cheaper than Eskom, Umgeni will buy from them.

#### 4. *Issues related to Estuary, Rivers and Wetlands*

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
4.1	eThekweni Municipality: Parks, Leisure and Cemeteries Department:  The Parks, Leisure and Cemeteries Department has no objection to the construction of the Reverse Osmosis Desalination Plant subject to the following conditions:  - The intake and discharge pipes will cross the river via a tunnel and the river banks and wetland areas will be fully rehabilitated.	8 April 2015	<i>Diane van Rensburg, EIA Hub, eThekweni Municipality, Letter (dated 7 April) sent via post and email</i>	Comment noted. As noted in Chapter 2 of this EIA Report, the following four route options were investigated for the proposed sea water and brine pipelines.  <ul style="list-style-type: none"> <li>The Preferred Pipeline Route will comprise of two parallel 1800 mm HDPE pipelines laid in the northern floodplain of the Lovu Estuary by conventional pipe trenching. Where the pipelines cross the railway, R102 and N2 roads, they would pass through separately jacked concrete sleeve pipes. The pipelines are planned to cross the Lovu Estuary by means of a</li> </ul>

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
				<p>specially constructed pipe bridge (leading to the proposed desalination plant) on the southern bank.</p> <ul style="list-style-type: none"> <li>• The Pipeline Route Alternative 1 will extend from the proposed sea water pump station under the local access road, through the local caravan park, under the R102 and under the N2. Beyond the N2 the route will deviate about 200 m north of the railway line servitude for approximately 1.5 km before realigning with the preferred pipeline route alternative. The pipelines are planned to cross the Lovu Estuary by means of a specially constructed pipe bridge (leading to the proposed desalination plant) on the southern bank.</li> <li>• Pipeline Route Alternative 2 will consist of two parallel 2000 mm diameter pipelines, with 1100 m long micro tunnels. These tunnels would extend from the proposed sea water pump station, under the railway, the Lovu Estuary, the R102 and the N2 to the southern bank of the Lovu River. From this point, the two 1800 mm diameter HDPE pipelines would be laid by conventional pipe trenching to the desalination plant (along the southern bank of the river).</li> <li>• Pipeline Route Alternative 3 will consist of two parallel 2000 mm diameter pipelines, with 650 m long micro tunnels. These tunnels would extend from the proposed sea water pump station along the northern bank of the Lovu Estuary under the railway, the R102 and the N2. From this point, the two parallel 1800 mm HDPE pipelines would be laid on the northern bank of the Lovu Estuary by conventional pipe trenching, and would cross the estuary by means of a specially constructed pipe bridge to the proposed desalination plant on the southern bank. This routing alternative is very similar to the preferred alternative and follows the same route, except the first section is tunnelled.</li> </ul> <p>The specialists have assessed all four pipeline route alternatives</p>

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
				and recommendations are summarised in Chapter 13 of this EIA Report. In addition, the recommendation for rehabilitation of wetland areas and river banks has been included in the EMPr (Part B of this EIA Report). The Aquatic Ecology Assessment undertaken as part of the EIA Phase (included in Chapter 8 of this EIA Report) also includes recommendations and mitigation measures for rehabilitation of wetland and fluvial areas affected by the proposed project.
4.2	An additional concern is that the NEM: Integrated Coastal Management Act No 24 of 2008 (ICM Act) sets out objectives for an Estuary Management Plan <sup>2</sup> for each estuary in South Africa in accordance with the National Estuarine Management Protocol GNR 36432. In the absence of an Estuary Management Plan an approach of caution is needed for activities which have the potential to impact an estuary.  <sup>2</sup> ICM Act section 33	29 January 2016	Carolyn Schwegman, Coastwatch KZN, Letter sent via email on 31 January 2016	Comment noted. Please refer to the Estuarine specialist study (Chapter 7 of this EIA report) for recommended mitigation actions associated with the proposed project.
4.3	Infrastructure – Lovu River Mouth Movement Restriction  Figure 2.3 shows that the intake water and discharge pipes are located in the area within which the Lovu mouth naturally migrates i.e. the pipelines cross the mouth when it is in the northern position. What impact will this potential obstruction have on the natural movement of the mouth during the operational phase? It is only the construction phase which is discussed with the following from the Estuary Ecological Study Report. Table	29 January 2016	Carolyn Schwegman, Coastwatch KZN, Letter sent via email on 31 January 2016	<u>From Terrestrial ecologist:</u> The pipe would be constructed -5m “below sea level”, and it would thus be evident that tidal and marine influence would prevail over riverine influences if the mouth were to train north. In fact -2m below means sea level should be sufficient (approximate spring low water mark), however at that depth, the pipe may be exposed under low tide conditions if the mouth trains north. Coastal erosion events will not scour to below the low water mark of -2m below mean sea level for the same reasons as described, while the pump station has been set back using information on the dune retreat which accommodates

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	<p>13.2 Recommended management and monitoring requirements, If required (i.e. if the mouth of the Lovu River trains north during the construction phase), breaching of the mouth of the Lovu River should be undertaken as far south as possible. Alternatively construction at this point may be undertaken during dry periods of “low flow” periods to reduce the necessity to breach the estuary mouth.</p> <p>We note that the draft Environmental Management Programme (EMPr) requires that it must be ensured that within the beach and supratidal beach environment, the seawater intake and brine discharge pipelines are laid at a depth greater than 5 m below mean sea level.</p> <p>Throughout the EIR we have noted that there is no information on what influenced the design of the infrastructure associated with the SWRO plant. How was this depth determined and can it be verified that at a depth of 5 m below mean sea level interference with the natural north-south movement of the mouth is negated? Coastal erosion events and river flows associated with climate change must be factored in.</p>			<p>climate change scenarios. It is impossible to predict climate change-river flow and mouth dynamics at this point as these are dynamic systems that are influenced by marine, meteorological and geophysical factors. One or more factors will prevail over others at any given time.</p> <p>No impacts associated with the buried pipeline on the natural movement of the mouth during the operational phase are therefore anticipated.</p> <p>The 5 m depth (below mean sea level) has been recommended by the terrestrial ecologist and the engineering consultants, for the reasons above.</p>
4.4	<p>Cumulative Impacts</p> <p>The report on the Estuarine Ecology envisages no cumulative impacts citing that there are no known further developments. Coastwatch, however, considers</p>	29 January 2016	Carolyn Schwegman, Coastwatch KZN, Letter sent via email on 31 January 2016	<u>From the Estuarine specialist:</u> While not stated specifically under cumulative impacts the report clearly indicates that the system is currently impacted due to past developments chiefly sugar cane plantations. The issues related to the current RO plant development, have been addressed in the Impact Assessment

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	<p>that cumulative effects can also be defined as the total impact that a series of developments, either present, past or future, will have on the environment within a specific region over a particular period of time (DEAT IEM Guideline 7, Cumulative effects assessment, 2004).</p> <p>The Marine Ecology Report also considers the likelihood of cumulative impacts and notes that .... given the current past and future proposed development along the coastline of the project area, cumulative impacts as well as further disturbances to marine or coastal systems or features can be expected.</p> <p>Past and existing impacts associated with agriculture and existing development - Lovu mouth manipulation, nutrient and sediment runoff, for example, together with the potential construction related breaching and release of contaminants from the old refuse site give reason for concern and the issues have not been considered.</p>			<p>section (refer to Chapter 7 of this EIA report). Most of these issues (if the recommended development options are selected) are considered to be either small or temporary. Assessments have been made with the appropriate degree of confidence. There has been no indication of construction related breaching and the estuary remains open for the most part. However, if the estuary needs to be breached during construction this may reduce elevated turbidity accumulating in the lagoon. This is likely to be under low flow conditions (when closure is more likely).</p> <p>The issue of contaminants from the old dumpsite was addressed in the impact assessment and it was suggested that sediment from the dumpsite be tested for toxicity prior to development, and if contaminated, must be removed to an appropriate waste facility.</p> <p>In summary, the new development will cause further impact on the already highly impacted estuary (mainly sugar cane). The development footprint is (largely) over highly modified terrain, and the plant itself will be located in what is in reality sugar cane field at present. Agricultural development is most likely to have also impacted on water quality in the estuary. However during construction of the pipeline route, there is an opportunity to re-vegetate with indigenous plant species which can contribute positively to the system even if only small.</p> <p>Refer to response to issue 6.13 below</p>
4.5	We live in Warner Beach and use Lovu river for aesthetics. We have concerns re. bank at the lower river	17 November 2015	Angus Pike, Public Meeting	This impact has been studied in the report as part of the estuary specialist study (Chapter 7 of this EIA report). With the



NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	mouth that is a breeding ground for major fish population that is threatened.			implementation of the proposed mitigation, this impact is not anticipated to be of high significance.
4.6	Freshwater Impacts  We support the development of a stormwater management plan using SUDS principles to protect wetlands.	29 January 2016	<i>Carolyn Schwegman, Coastwatch KZN, Letter sent via email on 31 January 2016</i>	Comment noted
4.7	Water Use Licence  As part of the application for a Water Use Licence an Integrated Waste and Water Management Plan would be required. We request that the information is presented for public review.	29 January 2016	<i>Carolyn Schwegman, Coastwatch KZN, Letter sent via email on 31 January 2016</i>	Noted. The application for a water use licence will be undertaken as per applicable legislation, including the requirement for public participation process.
4.8	The Illovo Mill has been relocated to Eston for more than 10 years. Up till now, the estuary and river upstream has recovered drastically from what it was, i.e. large eye tarpon, juvenile yellow tail, Kingfish and a variety of other fish have returned. As well as an abundance of bird life. We are also 18 months into our application to get conservancy for the area.	26 November 2015	<i>Ken Lombard, Email</i>	Noted. Please refer to the terrestrial and aquatic ecology specialists (Chapter 7, 8 and 9) for the recommended mitigation measures to ensure that potential impacts associated with the proposed development are avoid or minimised.

## 5. Issues related to Chemical Storage, Pollution and Water Quality

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
5.1	<p>eThekweni Municipality: Parks, Leisure and Cemeteries Department:</p> <p>The Parks, Leisure and Cemeteries Department has no objection to the construction of the Reverse Osmosis Desalination Plant subject to the following conditions:</p> <ul style="list-style-type: none"> <li>- All storage and operational use of any chemicals including the biocides will be separated and will be enclosed by properly waterproofed and roofed bunding to a standard which can accommodate a minimum of 2.5 times the projected maximum storage limits and automatic safety cut offs (dead man's switch) will be installed on any water supply or pipes, valves or drains associated with the removal of waste products and chemicals.</li> </ul>	8 April 2015	<i>Diane van Rensburg, EIA Hub, eThekweni Municipality, Letter (dated 7 April) sent via post and email</i>	<p>As noted in Chapter 2 of this EIA Report, bulk chemicals will be stored close to the point of use for each chemical in appropriately designed housing with easy truck access. The liquid chemical bulk storage facilities will be enclosed in a suitable chemical resistant bunded structure and protected from direct sunlight. In some instances splash and spray protection shields will be provided with safety showers and adequate ventilation and neutralisation facilities.</p> <p>A chemical storage area will be constructed at the proposed desalination plant in order to house all chemical storage tanks and their service facilities (motor control centre, pumps, instrumentation and controls, etc.). All chemical tanks and chemical storage areas would be provided with containment provisions in accordance with the applicable codes and regulations, however, these areas would not be smaller than 110 % of the tank volume. Recommendations for the storage of dangerous goods and chemicals are provided in the EMPr (Part B of this EIA Report).</p>
5.2	With the Engen refinery it has an environmental impact. Do you project same extent with the proposed plant?	17 November 2015	<i>Hlalele Molotsi, Public Meeting</i>	No air emissions are anticipated from the proposed desalination plant.
5.3	<p>Environmental Health Department</p> <p>This Department has no objection to the proposed project subject to:</p> <ul style="list-style-type: none"> <li>- All the precautionary measures to minimise noise</li> </ul>	27 January 2016	<i>Diane van Rensburg, Letter sent via email on 29 January 2016</i>	Comment noted

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	<p>to the acceptable standards are maintained in terms of Noise Control Regulations</p> <ul style="list-style-type: none"> <li>- Ablution facilities shall be provided for the workers on site</li> <li>- Protective clothing of SABS approved shall be provided</li> <li>- All waste generated during the construction phase shall be disposed at an approved landfill site</li> </ul>			
5.4	Any impact of smell/odours	10 December 2015	Gavin Gradwell, Mother of Peace, Focus Group Meeting	None anticipated for the proposed project.
5.5	Would lights at night be an issue	10 December 2015	Gavin Gradwell, Mother of Peace, Focus Group Meeting	The visual specialist study recommends the preparation of a lighting plan to be submitted with the design plans of the plant. It should demonstrate that project lighting is sufficiently shielded to prevent light spill onto the orphanage property and that glaring lights will not affect residents of the surrounding farms, Illovu Village or Winklespruit.

## 6. Issues related to Terrestrial Ecology

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
6.1	<p>The Department of Agriculture, Forestry and Fisheries (DAFF) appreciates the opportunity given to review and comment on the FSR received on the 3<sup>rd</sup> of March 2015 for the abovementioned development.</p> <p>The department acknowledges that the concerns and requirements outlined in the comments previously issued, dated 19/05/2014 and 29/10/2014 are</p>	16 March 2015	N. Sontangane, Department of Agriculture, Forestry and Fisheries (DAFF) – Forestry Regulations and Support, Letter via email	Comment noted. As noted in the Final Scoping Report, a Terrestrial Ecology Assessment has been undertaken as part of the EIA Phase. The Terrestrial Ecology Assessment is included in Chapter 9 of this EIA Report, which includes a detailed description of the potential impacts on the proposed project on the terrestrial ecology and dune environment. Mitigation measures have been recommended in the Terrestrial Ecology Assessment.

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	<p>incorporated and addressed in the FSR. Furthermore, a terrestrial ecological study (TES) has been conducted by a specialist for the proposed sites. This study indicates that a patch of natural forest was identified along the pipeline route and it will be negatively impacted upon. Natural forests are protected in terms of Section 7 of the National Forests Act, 1998 (Act No. 84 of 1998) as amended.</p> <p>Please note that this are not DAFF's final comments, further comments will be issued upon receipt and review of the Draft Environmental Impact Assessment Report followed by a site visit. This report should indicate a detailed TES, the state of the natural forest and the extent that the pipeline may impact on natural forest.</p> <p>This letter does not exempt you from considering other environmental legislations.</p> <p>Should any further information be required, please do not hesitate to contact this office.</p>			
6.2	<p>eThekweni Municipality: Parks, Leisure and Cemeteries Department:</p> <p>The Parks, Leisure and Cemeteries Department has no objection to the construction of the Reverse Osmosis Desalination Plant subject to the following conditions:</p> <ul style="list-style-type: none"> <li>- The exact pipeline route through the forest has to be surveyed in order to establish the route of least damage and full rehabilitation will be undertaken.</li> <li>- There will be compensation and offset for the loss of Municipal property and its associated Dune Forest.</li> </ul>	8 April 2015	<i>Diane van Rensburg, EIA Hub, eThekweni Municipality, Letter (dated 7 April) sent via post and email</i>	<p>Comment noted. A Terrestrial Ecology Assessment has been undertaken as part of the EIA Phase. The Terrestrial Ecology Assessment is included in Chapter 9 of this EIA Report, which includes a detailed description of the potential impacts on the proposed project on the terrestrial ecology and dune environment. Mitigation measures have been recommended in the Terrestrial Ecology Assessment.</p> <p>The recommendation for surveying of the final pipeline route prior to construction has been included in the EMPr (Part B of the Final EIA Report).</p>

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
				<p>If offset is required, it is Umgeni Water policy to compensate for loss of land, buildings or agricultural crops as a result of its infrastructure development. The value of compensation would be determined by an independent valuer and discussed with the landowner during the detailed design of the project.</p> <p>Please refer to the Terrestrial ecology study (Chapter 9 of this EIA Report) for further details regarding the Dune Forest and its current status.</p>
6.3	<p><b>Dune Environment</b></p> <p>The rehabilitation of dunes once degradation has occurred is both difficult and costly and requires long term maintenance. We note that significant direct and indirect impacts on the dune system and surroundings, during the construction and operational phase, are anticipated. While these impacts are mostly considered to be of very low reversibility, some are anticipated to be irreversible. Irreversible, therefore residual, impacts in this sensitive environment are of great concern. Coastwatch, therefore, wholly supports the strong recommendation to pipe jack the proposed seawater intake and brine discharge pipelines under the dunes, with specific consideration towards maintaining a narrow working corridor. A terrestrial ecologist should be involved in the engineering design to confirm the entry and exit location of the pipeline under the dunes. (Similarly, the crossing of the upper reaches of the Lovu river/estuary by the inland pipelines must be done in a way so that it does not adversely affect the river in</p>	29 January 2016	Carolyn Schwegman, Coastwatch KZN, Letter sent via email on 31 January 2016	<p>Comment noted.</p> <p>The EMPr has been updated to read: "Undertake pipe jacking or boring as an alternative option to trenching when constructing the sections of the proposed seawater intake and brine discharge pipelines under the dune cordon. A suitable qualified specialist should be involved in the engineering design to confirm the entry and exit location of the pipeline under the dunes. Review and sign off."</p>

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	<p>anyway).</p> <p>The use of the wording “the possibility of pipe jacking” in the EMPr, again, gives no strength to the recommendation (Assess and evaluate the possibility of pipe jacking or boring as an alternative option to trenching when constructing the sections of the proposed seawater intake and brine discharge pipelines under the dune cordon.)</p>			
6.4	<p>Terrestrial and Aquatic Environment</p> <p>1. Preferred Site Location</p> <p>- Backflooding. The Preferred Site is shown to be outside the 1 in 100 year floodline however concern is raised by Coastwatch members that historical evidence (local knowledge) shows that back flooding during mouth closure has resulted in levels considerably higher than floodline levels shown on the maps.</p> <p>- Climate Change. The maps show the SWRO plant fitting neatly onto raised land surrounded on more than one side by lower lying areas (below the 1/100 year floodline) ie very little leeway is allowed for any additional abnormal circumstances – weather, for example. What of the effects of climate change?</p>	29 January 2016	Carolyn Schwegman, Coastwatch KZN, Letter sent via email on 31 January 2016	<p>Both sites are above the 1-in-100 year flood level and therefore meet planning requirements. The alternative site for the RO plant is further away from the channel and would have some decreased level of being flooded under extreme flood conditions.</p> <p>Climate change is a key reason behind the need for the desalination plant, in that climate change is predicted to lead to an increase in the variability of rainfall and an increase in extreme events (including droughts). The desalination facility would assist Umgeni Water in buffering water supply against variability in water supply sources based on surface run-off (such as dams).</p> <p>From Umgeni: In addition, there is still not a lot of confidence in the climate change scenarios that are currently predicted. Almost every GCM predicts a different scenario. As such it is felt that we cannot base future designs on any of these scenarios at present. If climate variability causes floods to increase then that would have to be accommodated at that stage. However, if this does occur it is likely</p>

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
				that this would only be 30 to 50 years in the future based on climate change literature. The 1:100 year flood line is thus the best reliable information that we have at present and it is to this level that we would have to use to plan our infrastructure. The risk of flooding, above the 1:100 year flood line, could be mitigated through the construction of berms around the infrastructure.
6.5	<p>2. Setbacks</p> <p>- Preferred Site. It is recommended that should the Preferred site be used (subject to the social issues being resolved) an ecological corridor of 25 m is allowed between the estuary and the Plant. The recommendation is supported and a layout map showing the ecological corridor is required. Management of the corridor – what and who – must be set out.</p> <p>- Alternative Site. The Alternative site lies in close proximity to the two valley bottom wetlands feeding into the cultivated wetlands and it would be likely to impact substantially on these systems which are considered sensitive to erosion and vegetation clearing. These impacts (construction phase) could be mitigated to a medium significance rating by setting the proposed Alternative site back from the channel by at least 25m and implementing rehabilitation measures prior to construction, to improve channel resilience to impacts. The recommended 25 m setback from the edge of</p>	29 January 2016	Carolyn Schwegman, Coastwatch KZN, Letter sent via email on 31 January 2016	Comment noted. A programme, including a layout map, to manage the ecological corridor will be developed during the detailed design phase (Preferred site) in collaboration with the relevant specialists.



NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	watercourses designated as 3 and 3A is supported			
6.6	<p>Alternative Site - Mitigation</p> <p>With the above setback in place it is recommended that there is offset rehabilitation of a broad swathe of the cultivated wetland, as far as its passage into the estuary channel at the downstream end of the floodplain. While the recommendation is supported the responsible entities for implementation and ongoing management must be identified. If the land is not owned by the applicant what agreements will be put in place?</p>	29 January 2016	Carolyn Schwegman, Coastwatch KZN, Letter sent via email on 31 January 2016	<p><u>From Umgeni:</u> The proposed rehabilitation will form part of the rehabilitation plan that will drafted to remedy negative impacts resulting from the construction process. The proposed rehabilitation will be discussed with the relevant landowner as part of landowner engagements at the onset of construction and upon his/her approval will be implemented and maintained through Umgeni Water as part of long terms environmental management of the site.</p> <p>Umgeni Water will enter into contracts with the landowners to either, ensure that the landowner maintains the area and would police this to ensure that it occurs, or to maintain the area on behalf of the landowner.</p>
6.7	<p>Powerlines and Bird Strikes</p> <p>The proposed project impinges on habitat associated with bird populations and the impact of powerlines on avian behaviour and populations is identified in the assessment. The EMPr section 4.6 states the need for flight detectors which must be included in the design phase. It states further that Umgeni Water will be responsible for monitoring. Will this mitigation measure – the erection of the required flight detectors – be undertaken by the applicant or is it the responsibility of the service provider?</p>	29 January 2016	Carolyn Schwegman, Coastwatch KZN, Letter sent via email on 31 January 2016	<p><u>From Umgeni:</u> The implementation of flight detectors would be the responsibility of the service provider. However, since there would be an agreement drawn up between Umgeni Water and the service provider, Umgeni Water would be in a position to ensure that these detectors area correctly installed.</p>
6.8	Mitigation and Recommendations	29 January 2016	Carolyn Schwegman, Coastwatch KZN,	A rehabilitation and invasive alien management programme will be developed during the detailed design phase in collaboration with the

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	<p>Aside from the issues raised above, some of which require further attention, we find that Mitigation and Recommendations are well set out in Table 13.2 and followed through to the EMPr. However, the EMPr Appendix B Umgeni Water Particular Specification for Environmental Management of Construction Projects Ver. 001, February 2010 may need amendment/specific method statements to suit site specific conditions in the sensitive environments such as dune, littoral zone, and estuary.</p> <p>The EMPr needs to include strict rehabilitation guidelines for the entire footprint using appropriate indigenous vegetation with follow up control of invasive alien plants along all servitudes throughout the project lifecycle.</p>		Letter sent via email on 31 January 2016	relevant specialists. The EMPr will be updated as necessary at that time.
6.9	<p>Pump station</p> <p>This Department notes that the specific concerns raised regarding the stability of the fore-dune and the Ilovu River mouth raised by the Terrestrial Ecologist.</p> <p>The necessary mitigation measures as highlighted in the report must be implemented to ensure that identified risks are avoided or greatly minimised.</p>	27 January 2016	Diane van Rensburg, Letter sent via email on 29 January 2016	Comment noted
6.10	<p>Environmental Planning and Climate Protection Department.</p> <p>This Department has reviewed the Draft Environmental</p>	27 January 2016	Diane van Rensburg, Letter sent via email on 29 January 2016	<u>From CSIR</u> : Your comment is noted. The estuarine specialist has confirmed that an ecological corridor of minimum 25m (measured from the top of the bank or the indigenous riparian fringe, whichever is the greater) will be sufficient to serve its purpose. Although the

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	<p>Impact Assessment Report (DEIR) prepared for proposed Illovo Desalination Plant project and presents the following comment:</p> <p>Site Alternatives</p> <p>Following review of the specialist reports presented, the assessment of impacts and the proposed mitigation, this Department is in support of the “Alternative site” as the best location for the planned desalination plant.</p> <p>It is felt that while certain mitigation steps have been proposed to limit the potential impacts to the Illovo Floodplain and Estuary, these do not adequately reduce the risk to this system to satisfy this Department. The nature of the development, the level of transformation of the floodplain, the ecological sensitivity of the estuary and the value of the broader corridor are all factors affecting this position</p> <p>The proposed 25 m setback between the desalination plant and the estuary is felt to be insufficient to maintain any significant level of connectivity and the ecological functionality.</p> <p>It is acknowledged that use of the Alternative site will required greater level of earth works and may impact on two degraded wetland systems located to the west, however, it is felt that with limited design intervention and direct rehabilitation inputs into these systems, any</p>			<p>estuarine study does select the alternative site as the better option due largely for the lesser risk of being impacted by extreme floods and the associated potential for wash of chemicals into the estuary, the impacts of the Preferred site on the estuary and estuarine ecology has also been assessed to be of low residual significance, with mitigation measures.</p> <p>Therefore holistically considering a range of environmental factors and providing that the Preferred site is set back to provide a 25 m minimum ecological corridor between the development and the channel, it is still the EAP’s opinion that the Preferred site should receive environmental authorisation. This only applies if key management and monitoring actions are implemented in order to mitigate the main potential impacts associated with the project.</p> <p>However, as previously mentioned, if the Preferred Site is chosen an amicable solution will need to be found to replace the sports fields for the Mother of Peace Children’s Home. It should be noted that if this agreement does not conclude, the Alternative site has also been assessed in this EIA as a suitable site for the proposed development, providing that the recommended key management actions are effectively implemented. It is therefore recommended that both locations (Preferred and Alternative Sites) be considered for the Environmental authorisation in order to make room for negotiations with Illovo and Mother of Peace during the detailed engineering design phase of the project.</p> <p><u>From the Terrestrial ecologist:</u> The construction of the proposed 17ha plant on the alternative site would require significant cut and</p>

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	<p>negative impact can be mitigated.</p> <p>In considering the importance of the estuarine and wetland habitats that may be impacted under each of the scenarios, this Department is of the opinion that the risk associated with the Alternative site is more acceptable given the landscape level context of this project and the long term resilience of the system in the face of climate change.</p>			<p>fill earthworks operations. From a terrestrial ecological perspective, these operations would severely alter surface hydrologies and the surrounding edaphics.</p> <p>The preferred site is very similar to the alternative site (cultivated lands), with slope and geology being the most significant variations between the two. The preferred site will not see as great a change in these factors (with externalities arising on adjacent lands) as can be anticipated on the alternative site. It is recommended to retain the preferred site.</p>
6.11	<p>Pipeline Alternatives</p> <p>This Department supports the alignment presented as Alternative 3. The impact to the wetland, estuarine and terrestrial habitats to the east of the N2 are considered too significant to accept the planned 50 m working corridor proposed as part of the Preferred option. Tunnelling of the portion between the pump station and N3 will avoid this impact.</p> <p>Furthermore, this Department is in agreement with the recommendation contained in the Aquatic Ecology study to have the alignment of the Preferred (and Alternative 3) shifted slightly south to avoid the Canefield Wetland (west of the N3).</p>	27 January 2016	Diane van Rensburg, Letter sent via email on 29 January 2016	Comment noted.
6.12	Are you aware that the council did spend money (millions) on stabilizing the area?	17 November 2015	Angus Pyke, Public Meeting	<u>From Umgeni</u> : The proposed desalination plant will deliver 150 Ml/day (150 000 homes on the north coast) cost about 4.2 billion rand – capex. If stabilising the dunes cost 6 Millions, it is low relative

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
				to 4.2 billion capex for the project. So Umgeni will make sure that the money is spent where it is necessary.
6.13	That's conflicting situation re the proposed mitigation to undertake construction activities during the dry season. It is during the dry season that the water is north. During wet season, the mouth opens at railway bridge. Currently there is a drought and there is no mouth, the water from the lagoon (parallel to the sea) is 150 m north of boardwalk. So when there isn't enough rain, the mouth isn't open and the water backs up northwards. When it rains a lot, it tends to open straight out	17 November 2015	Angus Pyke, Public Meeting	<i>From the Terrestrial and estuarine ecologists:</i> The mouth does not appear to move north very often at all and it was reported that it only moved north on one or two periods over the last 25 years. During this last dry period, the mouth was not observed moving north. The mouth moves north and south primarily on account of sediment delivery / littoral drift and not flood or water levels - these may be secondary factors. Mouth conditions may be controlled by both sediment movement and freshwater inflow rates. In fact the mobilisation of the dune is perhaps a primary driver of this training in the mouth. The recommended consideration of the breaching of the estuary (IF necessary) during drier periods is more to do with maintaining water levels in the estuary, preventing scour along the dune face and the fact that (under most years) the high flow periods are a summer and spring phenomenon. It is therefore still recommended that construction be undertaken under low flow conditions which may reduce turbidities (if the mouth remains open).
6.14	What is the length of pipeline?  How will it be done? Similar to the gas and oil pipeline – with a machine? Another 100 m damage on either side of the pipeline? The proposed development is going through a sensitive area, never mind birdlife, crane that have been here for the past 18 months - such a shame we have been fighting for so long – almost 10 years to	17 November 2015	Ken Lombard, Public Meeting	<i>From Umgeni:</i> The pipeline will be about 3 km long (from the pump station to the plant). It will be excavated with a machine. The trench will be about 2.5 m wide and there will be a 30 to 40 m wide working strip (one trench and 2 pipes). Construction would be about 5 years, including 3 years of construction and 2 year of design. However, the construction period for the pipeline will be shorter as it is only a 3 km pipeline.

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	recuperates. Now, the whole valley will be disturbed.			<i>From CSIR:</i> Rehabilitation will occur as it construction progresses. Recommendations have been given in terms of soil piling, replacing the soil horizons etc.
6.15	How do you get around 3 indigenous trees, endangered trees?	17 November 2015	Ken Lombard, Public Meeting on 17 November 2015	Refer to section 9.5.3 of Chapter 9 Terrestrial ecology, which reads:  <i>Clearance of Natural Forest. Where “three or more indigenous trees form a contiguous canopy” the legal definition of “forest” applies. If “forest” is to be disturbed then a permit is required prior to such disturbance. In this regard, a permit is likely to be required in and around the proposed pump station and in association with the caravan park, as well as other points along the proposed pipeline routes.</i>
6.16	<p>The Department of Agriculture, Forestry and Fisheries (DAFF) appreciates the opportunity given to review and comment on the DEIAR received on the 16th November 2015 for the above mentioned development. DAFF through the sub-directorate Forestry Regulations and Support is the authority mandated to implement the National Forests Act (Act NO. 84 of 1998) by regulating the use of natural forests and protected tree species in terms of the said Act.</p> <p>With regards to the DEIAR and the site inspection conducted on the 09th February 2016, the proposed development site comprises of the water resources; a patch of Coastal/Dune Forest; already disturbed areas by agricultural activities and infrastructure. Coastal/Dune</p>	16 February 2016	N. Sontangane, Letter sent via email on 03 March 2016	Comment noted. The EMPs has been amended to include these recommendations.

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	<p>forests are protected in terms of the NFA provisions and they are categorised as endangered/threatened ecosystems in terms of National Environmental Management Biodiversity Act No. 10 of 2004. There is a patch of Coastal/Dune forest situated within and adjacent to the development footprint. An area of approximately 50mx50m for the development of the pump station (intake and outtake shaft) is proposed within a portion of this natural forest. This activity will result in the loss of habitat and decrease of these types of natural forests.</p> <p>The Department recommends that the conditions outlined below are adhered to and should be incorporated into the FEIAR; EMPr and Environmental Authorisation should it be granted.</p> <ul style="list-style-type: none"> <li>• Trenches for the pipelines (from and to the pump station) should not be dug within the natural forest however; the pipe jacking method may be applied, to insert the pipes below the ground surface without any vegetation clearing or disturbance (as agreed on site). This method will reduce the negative impact on natural vegetation.</li> <li>• The condition of the natural forest situated adjacent to the proposed pump station site should be improved by eradicating alien invasive plants and planting indigenous trees.</li> <li>• The maintenance plan for the pump station should</li> </ul>			



NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	<p>incorporate continuous maintenance and monitoring of the above mentioned natural forest</p> <ul style="list-style-type: none"> <li>• The pump station site should not exceed 50m x 50m</li> <li>• The protected Milkwood trees occurring adjacent to the pump station footprint should not be disturbed.</li> <li>• Should there be a need to disturb indigenous trees in a natural forest, a licence should be obtained from DAFF offices in PMB</li> <li>• The compensation ratio for each tree disturbed/cut should be 1:5</li> </ul>			
6.17	<p>Soon no natural bush will be left on south coast – it's heart breaking. The loss of wild life and vegetation just goes on and on</p>	10 December 2015	Peg & Gary van Sluys, Private	<p>Noted. Please refer to the terrestrial and aquatic ecology specialists (Chapter 7, 8 and 9) for the recommended mitigation measures to ensure that potential impacts associated with the proposed development are avoid or minimised. Cumulative impacts associated with existing and future developments have also been assessed.</p>

## 7. General Comments and Issues related to EIA and Public Participation

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
7.1	<p>I received one hard copy and one CD copy of the above mentioned application.</p> <p>However please note I require one more hard copy and 5 more CD copies of the full Final Scoping Report for circulation/ comment by the relevant Municipal Departments.</p> <p>Please provide the copies as soon as possible in order to facilitate the process.</p>	23 February 2015	Diane van Rensburg, EIA Hub, eThekweni Municipality, Email	<p>In relation to the request for hard copies of the report, in the interests of running a cost-effective process and minimising use of paper, the CSIR initially provided one hard copy and one CD copy of the Final Scoping Report to the eThekweni Municipality. Furthermore, the Final Scoping Report was made available to I&amp;APs via the project website. In line with the 2010 EIA Regulations, copies of the Final Scoping Report were also placed at the Kingsburgh Library, where all I&amp;APs were able to access the hard copies if preferred. However, based on the request received from the eThekweni Municipality, an additional seven CD copies of the Final Scoping Report were provided via registered mail (refer to Appendix</p>

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	Please acknowledge receipt of this email.			F of this EIA Report for the proof of registered mailing). The eThekweni Municipality received the additional CDs on 10 March 2015.
7.2	Could you kindly confirm if the document as per email below has been sent to DAFF?	23 February 2015	Karen Moodley, DAFF, Email	The Final Scoping Report was provided to various representatives of the DAFF. Appendix F of this EIA Report provides the I&AP database which shows interaction with I&APs throughout the EIA Process.
7.3	Could you kindly email me a copy of the FSR for the proposed construction, operation and decommissioning of a Sea Water Reverse Osmosis Plant and associated infrastructure proposed at Lovu on the KwaZulu-Natal South Coast.	23 February 2015	Karen Moodley, DAFF, Email	The DAFF were informed that the Final Scoping Report was made available to I&APs via the project website and also placed at the Kingsburgh Library, where all I&APs were able to access the hard copies if preferred.
7.4	No further comments from the South African National Road Agency SOC Ltd.	24 February 2015	Judy Marx, Statutory Control, IT, SANRAL, Email	Comment noted.
7.5	I refer to the above matter and in particular to your Notice dated 23rd February 2015 regarding a public comment period for the Final Scoping Report you are managing on behalf of Umgeni Water, as well as the change of particulars in project manager. Whilst we do not have any comment to this stage of the process specifically, I do wish to draw your attention to the email below which was addressed to your Mr K Moodley on 13th October last year and to which I received the attached emailed response.  Can you advise the status of the signed documentation on behalf of Umgeni Water?	25 February 2015	Candice Woollaston, Legal and Property Manager, Illovo Sugar (South Africa) Limited, Email	Comment noted. The signed indemnity form was sent to Illovo Sugar on 4 March 2015. The forms related to conditions of authority provided by Illovo Sugar in terms of property access. Illovo Sugar acknowledged receipt of the signed forms on 5 March 2015.
7.6	Kindly find the attached acknowledgement letter.	3 March 2015	K. M. Baleni, DAFF – Forestry Regulations and Support, Email	Comment noted.
7.7	This letter serves as a notice of receipt for the above mentioned document(s) dated 23 February 2015.	3 March 2015	K. M. Baleni, DAFF – Forestry Regulations	Comment noted.

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	Should any further information be required, please do not hesitate to contact this office.		<i>and Support, Letter via email</i>	
7.8	Please confirm has a hard copy been send to us as yet?	3 March 2015	<i>Michele Schmid, Engineering Services – Road Control, KZN Department of Transport</i>	The Final Scoping Report was made available to I&APs via the project website and also placed at the Kingsburgh Library, where all I&APs were able to access the hard copies if preferred. A CD with the FSR was sent to this I&AP at the time the FSR was released for public comment.
7.9	Thank you for affording us the opportunity as interested parties to comment on the aforementioned proposal. Attached hereto, kindly find our comments as Mother of Peace, Illovo Community.	13 March 2015	<i>Iris Canham, General Manager, Mother of Peace Illovo</i>	Comment noted.
7.10	Kindly find attached comments for the final scoping report for the proposed construction, operation and decommissioning of sea water reverse osmosis plant and associated infrastructure.	16 March 2015	<i>Mmbudzeni Patience Matamba, DAFF – Forestry Regulations and Support, Email</i>	Comment noted.
7.11	<p>Please be advised that I will be providing consolidated comments on the above mentioned Final Report.</p> <p>However, as I only received the CD copies of the document for circulation/comment by the relevant Municipal Departments on the 10 March 2015 I will need an extension in the comment period.</p> <p>I will do my best to get the comments to you by 31 March 2015.</p> <p>Please acknowledge receipt of this email.</p>	18 March 2015	<i>Diane van Rensburg, EIA Hub, eThekwini Municipality, Email</i>	Comment noted. The comments on the Final Scoping Report were received from the eThekwini Municipality on 8 April 2015 and have been captured in this EIA Report.
7.12	Dear Diane - Please be advised to send the hard copy to the department in order to receive the formal response.	23 March 2015	<i>Mmatlala Rabothata, DEA</i>	This email (from the National DEA) was addressed to Ms. Diane van Rensburg of the eThekwini Municipality in relation to the submission of comments on the Final Scoping Report.

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
7.13	<p>eThekwini Municipality: Environmental Planning and Climate Protection Department:</p> <p>The Department has reviewed the Final Scoping Report prepared for the proposed Lovu Desalination Plant project. The following comments are presented.</p> <ul style="list-style-type: none"> <li>- This Department is satisfied that the Plan of Study for the Environmental Impact Assessment Phase has included the issues and concerns raised during the Scoping Phase.</li> <li>- This Department will continue to engage as part of the Environmental Impact Assessment process.</li> </ul>	8 April 2015	<i>Diane van Rensburg, EIA Hub, eThekwini Municipality, Letter sent via post and email</i>	Comment noted. The eThekwini Municipality has been identified as a key stakeholder on the database and will be informed of the progress made in terms of the EIA Process. The eThekwini Municipality will be provided with a copy of the EIA Report, which will be released for a 40-day comment period.
7.14	<p>eThekwini Municipality: Land Use Management Department:</p> <p>This property falls outside the Scheme Area, therefore a Chapter 4 application in terms of the PDA is required.</p>	8 April 2015	<i>Diane van Rensburg, EIA Hub, eThekwini Municipality, Letter (dated 7 April) sent via post and email</i>	Comment noted.
7.15	<p>eThekwini Municipality: Framework Planning Branch:</p> <p>The Strategic Spatial Planning Branch has no objections to the proposed construction, operation and decommissioning of a sea water reverse osmosis plant and associated infrastructure at Lovu.</p>	8 April 2015	<i>Diane van Rensburg, EIA Hub, eThekwini Municipality, Letter (dated 7 April) sent via post and email</i>	Comment noted.
7.16	<p>eThekwini Municipality: eThekwini Transport Authority:</p> <p>No comment.</p>	8 April 2015	<i>Diane van Rensburg, EIA Hub, eThekwini Municipality, Letter (dated 7 April) sent via post and email</i>	Noted.
7.17	<p>eThekwini Municipality: Environmental Health Department</p> <p>No comment.</p>	8 April 2015	<i>Diane van Rensburg, EIA Hub, eThekwini Municipality, Letter (dated 7 April) sent via</i>	Noted.

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			<i>post and email</i>	
7.18	eThekweni Municipality: Geotechnical Engineering Branch  No further comment at this stage.	8 April 2015	<i>Diane van Rensburg, EIA Hub, eThekweni Municipality, Letter (dated 7 April) sent via post and email</i>	Noted.
7.19	eThekweni Municipality: Coastal, Stormwater and Catchment Management  This Department has no further requirements.	8 April 2015	<i>Diane van Rensburg, EIA Hub, eThekweni Municipality, Letter (dated 7 April) sent via post and email</i>	Noted.
7.20	eThekweni Municipality: eThekweni Water and Sanitation Department  No further comment received.	8 April 2015	<i>Diane van Rensburg, EIA Hub, eThekweni Municipality, Letter (dated 7 April) sent via post and email</i>	Noted.
7.21	eThekweni Municipality: Durban Solid Waste  This Department has no further requirements for this proposal.	8 April 2015	<i>Diane van Rensburg, EIA Hub, eThekweni Municipality, Letter (dated 7 April) sent via post and email</i>	Noted.
7.22	eThekweni Municipality: Disaster Management  No objection from Disaster Management.	8 April 2015	<i>Diane van Rensburg, EIA Hub, eThekweni Municipality, Letter (dated 7 April) sent via post and email</i>	Noted.
7.23	eThekweni Municipality: Fire Safety  The Fire Department has no objection to this project provided that building plans associated with this processing plant are submitted for approval.	8 April 2015	<i>Diane van Rensburg, EIA Hub, eThekweni Municipality, Letter (dated 7 April) sent via post and email</i>	Building plans will be submitted to the Fire Safety Department of the eThekweni Municipality by Umgeni Water subsequent to the issuing of an Environmental Authorisation (should one be granted by the DEA).
7.24	Should you seek clarification on any of the above issues,	8 April 2015	<i>Diane van Rensburg,</i>	Comment noted. A copy of the Environmental Authorisation, should

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	<p>please contact the writer on telephone: 031 - 3117136 or via e-mail: diane.vanrensburg@durban.gov.za.</p> <p>In addition, the Department requests that a copy of the Environmental Authorisation be emailed to the same address.</p>		<i>EIA Hub, eThekweni Municipality, Letter (dated 7 April) sent via post and email</i>	one be granted by the DEA, will be sent to the eThekweni Municipality at the email address provided. All I&APs on the database will be sent written notification of the issuing of the Environmental Authorisation (should one be granted) and the associated appeal period. A copy of the Environmental Authorisation will be made available on the project website.
7.25	<p>It would appear that the issues raised by Coastwatch (and on behalf of the abovementioned organisations, WESSA Durban Branch and Birdlife Port Natal) during the scoping process have been overlooked. Although Coastwatch is listed as an I&amp;AP (Appendix F.1) comment submitted on the draft scoping report (SR) is not reflected in the documentation, this despite correspondence (emails dated 16/03/15) following notification of a change in project manager in which we were assured that our letter dated 19/10/14 had been received. The EIR does not include a copy of comment submitted on the draft SR and our records reflect that we have received no response.</p> <p>Certain of the issues raised and questions asked in our letter dated 19/10/14 will be repeated hereunder.</p>	29 January 2016	<i>Carolyn Schwegman, Coastwatch KZN, Letter sent via email on 31 January 2016</i>	Issues raised by Coastwatch (letter dated 19/10/14) have been included in the Issues trails as part of the Final Scoping Report. Please refer to Chapter 5 of the FSR dated February 2015.
7.26	<p>Specialist Studies</p> <p>In our earlier submission we asked how the matter of “independence” would be resolved with regards the in-house estuarine study, noting that the Department of Environmental Affairs has indicated that a specialist working for the same company as the applicant or EAP</p>	29 January 2016	<i>Carolyn Schwegman, Coastwatch KZN, Letter sent via email on 31 January 2016</i>	<p>Please refer to response to issue 11.52 Chapter 5 of the Final Scoping Report dated February 2015.</p> <p>“The CSIR Project Team proposes making use of independent peer review of the Estuarine Study, which has proven to be acceptable by the Department based on EIA experience to date.”</p>

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	cannot be considered “independent” in terms of the definition provided in the Regulations (DAEA correspondence to EAPs dated 08/11/12).			The Estuarine specialist study has been peer reviewed by Professor Wooldridge from NMMU– refer to review report in Chapter 7 Appendix A.
7.27	Coastal Zone, including Estuarine, Beach and Marine Environments  We assume that the application will be considered by Coastal Management and Biodiversity: Department of Economic Development, Tourism and Environmental Affairs and the province’s scientific advisors Ezemvelo KwaZulu-Natal Wildlife, in particular marine and estuary scientists	29 January 2016	Carolyn Schwegman, Coastwatch KZN, Letter sent via email on 31 January 2016	Coastal Management and Biodiversity: Department of Economic Development, Tourism and Environmental Affairs and Ezemvelo KwaZulu-Natal Wildlife are on the I&AP database and have received all reports related to this project. Refer to Appendix F.1 I&AP database.
7.28	Specialist Recommendations and Mitigation  This Department is in support of the broader recommendations provided in the specialists reports presented to avoid or minimise construction and operational impacts associated with the desalination plant, pipeline and pumpstation (specific points of departure from these recommendations have been addressed above)  This Department will review the responses to the above issues and reserves the right to comment further regarding this project.	27 January 2016	Diane van Rensburg, Letter sent via email on 29 January 2016	Comment noted.
7.29	Amanzimtoti conservancy is terribly disappointed at the turn-out. We would like CSIR to acknowledge that. If we	17 November	Angus Pyke, Public	From CSIR: At the start of the project, CSIR has drafted a list of I&APs that we are aware of. Site notices have been put up, Background

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	<p>had not seen a man with a drilling rig on the beach, we would have not heard of the project. We don't know anything about RO and desalination plant. We understand that the plant will be situated on a farm. Nowhere in newspaper, did you explain what are the impacts associated with waste material etc. from this process on beach – that would potentially affect us. Maybe there would be more people here should we understand more about the process.</p> <p>Why was desalination not described in the local newspaper (1/2 page article about desalination)? It appears to me that you have done everything that you are legally responsible to do, and that's fine but, morally the community should be more informed.</p> <p>11 people turning up for the meeting - Something is missing somewhere. Nobody reads the Mercury. South Coast Sun, the Fever should be targeted. You need to identify that issue at the beginning of the process/briefing to your customer – do not blame community lack of interest as we never heard of it before and have not been exposed to it. Why haven't we had an editorial in the newspaper?</p> <p>Was the Toti Conservancy on the original I&amp;AP list or the Army of Saints who clean the rivers?</p> <p>May I extend an invitation on behalf of the conservancy</p>	2015	Meeting	<p>Information documents explaining the project and the EIA process, letters and comment/registration forms have been sent to all I&amp;APs on the original list. The release of the draft scoping report and the draft EIA report, including details regarding the public participation meetings, were advertised in English in the Mercury and in Zulu in the Isolezwe.</p> <p>From Umgeni Water: Similar advertising has been undertaken as for the project on the North Coast for which about 100 people attended the 1st meeting due to the location of the proposed project. For Lovu, the proposed project will be located on a farm, further away from the public. Unless people are directly affected, most will not come to such meeting. At Tongaat, the project was re-advertised in 6 newspapers, flyers were sent out and no more people attended the next meeting. If people are pro the project, they will most probably not attend. Only if people have concerns regarding the project, will they generally attend.</p> <p>Umgeni and CSIR are more than happy to come to Toti Conservancy to present the project and undertake a focus group meeting within the 40 day comment period which closes on 14 December 2015.</p>



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	to come and do a presentation at one of our meeting?			
7.30	A focus group meeting at Toti conservancy before 14 December 2015 is not suitable and too short of a notice. It's less than 30 days. You are not hearing the community. With less than 30 days to go, we have not been given a real opportunity to understand the process and what is going on.	17 November 2015	Angus Pyke, Public Meeting	Your comment and concern is noted. An email communication was sent to Mr Angus Pyke on 20 November and 23 November 2015 offering to organise a focus group meeting with the conservancy. No response has been received to date.
7.31	<p>Can you please give us proof of focus group meetings. You have not advertised in local newspaper. Mercury is not a local news. Examples of local newspaper are the South Coast Sun and South Coast Fever. If it was in Isolezwe – was it in Zulu?</p> <p>Everyone does not read newspapers, you need to go to school and announce the project at the local radio stations so that people can come. The timing of the public meeting is not good – too late and not many people can attend as they need to catch transport to go home.</p>	17 November 2015	Angus Pyke, Public Meeting	<p>As part of the public participation process, the release of the Draft Scoping report and of the Draft EIA report have been advertised in English and in Zulu, and all letters sent to I&amp;APs have been sent in both languages too. A Zulu speaking colleague also attends the public meeting (Mendy Shoji).</p> <p>The public participation period has been extended to 31 January 2016 and further advertising of the project and public participation period has been undertaken – an English advert was placed in the SunNews (4 December 2015) and an advert in Zulu was placed in the Ilanga (3-5 december 2015).</p> <p>A focus group meeting has been undertaken with Mother of Peace at their request on 10 December 2015.</p>
7.32	<p>The EIA Regulations don't require them to do so.</p> <p>I grew up in the area and had not heard about the project. And I look at the Mercury. I heard a rumour that there was an EIA undertaken, from Coastwatch. I know</p>	17 November 2015	Kendyl Le Roux, Public Meeting	Noted. Please refer to response to issue 7.32 above

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	it's difficult to get people to come to meetings.			
7.33	Do you expect people to read all 1000 pages of a report on a website?	17 November 2015	Angus Pyke, Public Meeting	A hard copy of the report is available at the public library for people who do not have access to internet. There is also the summary and the conclusion chapter as well as public meetings where results of the studies are presented.
7.34	Reading the report is not easy for everyone. There are also local registration where you can also put the same advert from the newspaper. Also the time – at 7pm many people have to go home and cannot get transport to come to the meeting. Maybe it is a problem with the day. Maybe weekends might be better. People that come from Illovo cannot make it	17 November 2015	Bongani Khumalo, Public Meeting	<u>From CSIR</u> : Please refer to response to issue 7.32 above. We have in the past received complaints as the meetings were held too early and people were working.  <u>From Umgeni</u> : If specific people could not make the meeting, then CSIR/Umgeni will be happy to organise an additional meeting. If we have another meeting at another time and there are no more people attending, it doesn't help more. We are following a process and not trying to exclude people. The ward councillors are also informed of the project and its progress and also have the responsibility to make this information available to the public.
7.35	Is the EIA completed? Have they done it already? Go ahead with ROD?	17 November 2015	Ken Lombard, Public Meeting	Until the Record Of Decision is reached, the EIA is not completed and construction of the project cannot start.
7.36	A lot of work has been done, it seems as it is pretty much a done deal and that the project is ready to go ahead. UW has spend money to do the assessments and given the current water shortages, so we cannot see government saying it cannot approve especially ito	17 November 2015	Gavin Gradwell, Public Meeting	All IA&Ps can have their say. The EIA has undertaken a comparison of alternatives. An EIA is also being undertaken for the proposed Lower Umkomaas project, which is an alternative to the proposed desalination plant. Those studies need to be finalised before Umgeni can make a decision on which project to do if the ROD is granted and

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	alternatives.			<p>if the go ahead is obtained from Umgeni executive.</p> <p>Note that the other alternatives (e.g. Lower Umkomaas project) will also have their own environmental impacts. The competent authority is national DEA. If there is a fatal flaw, they will not let the project go ahead.</p>
7.37	If the authorities give the go ahead, is there any options from our side? We're the guys living on the properties. And we're the last people to have an agreement.	17 November 2015	Gavin Gradwell, Public Meeting	<u>From Umgeni</u> : Umgeni Water is not autocratic. In the past 11 years, Umgeni Water has only expropriated once – a small land for which the landowner could not be found after 1 year. Umgeni prefers to sit down and discuss. As soon as we get the ROD, we would start negotiations with landowners. Even if we don't build the proposed desalination plant now, we expect it would need to be constructed in the long term as a future option.
7.38	Would you be able to put together a document for the local newspapers? A description of what we would potentially have, in layman's language and mentioning the alternatives that are being looked at?	17 November 2015	Angus Pyke, Public Meeting	<p>A background Information Document was released in March 2014 and sent to all Interested and Affected parties registered on the database. In addition, a project description is available as part of Chapter 2 of the draft EIA report.</p> <p><u>From Umgeni</u>: Umgeni Water was recently interviewed by the Sunday Times regarding the implementation of the desalination plant. This article is expected to be published towards the end of March 2016.</p>
7.39	I have attended the river classification meetings for more than 1 year. This subject has not been mentioned once. This is rather strange. It has reached the final stage now, will look at final report. I don't believe that mention of	17 November 2015	Angus Pyke, Public Meeting	The Department of Water and Sanitation (DWS) is definitely aware of the project and the following people from our database have been informed of the project: DWS (Ethekwini Municipality): Neil MacLeod, now replaced by Mr Ednick Msweli. DWS (KZN): Mrs

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	desalination is anywhere in that written documentation.			<p>Angela Masfield.</p> <p>DWS are also undertaking a study called the Water Reconciliation Strategy Study for the Mgeni System and coastal areas around Durban. The desalination plants proposed by Umgeni Water have been considered as alternatives in this study. Meetings are held every six months to discuss the outcomes of this study and these outcomes are further published in newspapers. The Reconciliation Strategy Study has been set up to ensure that all areas are supplied with water and desalination is one of the option stated in that strategy.</p>

## 8. Project Description and Site location/Alternatives

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
8.1	Kindly send us the property description of the application.	12 August 2015	S. Lesley, DAFF, Email	Comment noted. A link to the Final Scoping Report was sent to this I&AP. A description of the proposed project and the property and affected environment was provided in the Draft and Final Scoping Reports which were provided to all I&APs on the project database (including various representatives of the DAFF). Appendix B of the Draft and Final Scoping Reports includes the ERF numbers and a description of the affected properties. A response was provided by the EAP, via email, on 14 August 2015. Various representatives of the DAFF are included on the project I&AP database and will continue to be kept informed of the project. A copy of the project description and affected environment is also included in Chapter 2 and Chapter 3 of this EIA Report respectively, which will be provided to the DAFF.
8.2	Good day, With reference to your letter dated 19 May 2015. Please	16 September 2015	Michèle Schmid   Engineering	Comment noted.

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
	be advised this Department has no further comments to add. Our previous comments still stand, please would you find attached for ease of reference. Thanking you.		<i>Services: Road Control KZN Department of Transport, Email</i>	
8.3	<p>It has just come to our notice that you propose the above project at iLovu and we want to lodge an objection to the situation of your "Preferred Site" for the undertaking. Although your documentation refers to the site being adjacent to "Mother of Peace" organisation, it actually encroaches and takes a big chunk of the property occupied by Mother of Peace. The said property is Portion 2 of the Farm Lot 15 No. 7773 and it was transferred under Deed of Transfer T18914/2003 to Community Care Centres which in turn transferred it to Operation Jumpstart NPC. It is our desire to oppose the arbitrary confiscation or appropriation (if that is what it is) of this land because it is land used for the benefit of the local community through its lease to Mother of Peace (vide Notarial Deed of Lease K4164/05).</p> <p>We would therefore appreciate if you could also consult with us as interested parties before you take any further step so that dialogue may be entered into and merits of the matter be discussed.</p>	16 March 2015	<i>Bongani Khumalo, Executive Director, Operation Jumpstart, Email</i>	<p>Subsequent to the completion of the Due Diligence Report by Umgeni Water and Aurecon in 2012, it became known that there are proposed plans by other parties to undertake potential development at the location of the preferred Lovu Site. As such, Umgeni Water commissioned Aurecon to also investigate an alternative location at Lovu which could be considered, should the preferred site not be available at the time when implementation of the scheme may take place (should an Environmental Authorisation be granted by the proposed project).</p> <p>The preferred site of the proposed Lovu desalination plant is located approximately 3 km away from the ocean shore and is positioned on the southern bank of the Lovu River. The preferred plant site is currently used to grow sugar cane.</p> <p>Therefore, two sites are being assessed as part of the EIA Phase for the siting of the proposed desalination plant. The specialists have also made recommendations in terms of the siting of the proposed desalination plant. Furthermore, the impacts of the proposed project on the Mother of Peace Illovo Community have been considered in the Socio-Economic Impact Assessment Specialist Study, which has been undertaken as part of the EIA Phase and is included in Chapter 12 of the e EIA Report.</p>
8.4	Where will all the construction vehicles go to the beach? Where is the access to the beach. Where about is the pump station? In the old caravan park? Near the Caravan Park? Where is the boardwalk located compared to the pump station?	17 November 2015	Angus and Maureen Pyke, Public Meeting	<p>An existing access point is present; however such access requires stabilisation and upgrade in order to allow for the passage of vehicles, if required. A temporary access point can be established and stabilised using geofabric materials.</p> <p>While access to the beach is a given requirement, such access will be</p>

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	I was talking to the man who was drilling on the beach and he was talking to me about what was under the beach.			<p>subject to a specific management protocol for all staff to avoid undue entry to the beach of staff and in particular, the use of vehicles on the beach. The access to the beach will therefore be controlled.</p> <p>Please refer to Chapter 2 Project description for further details on the location of the various project components.</p> <p>The pipeline will be north of boardwalk and through the caravan park – between the beach and the road (in the old caravan park). One of the sensitive area on the shore is the sand dunes. These have been assessed as part of the EIA. Have being considering to pipejack under the dunes. Please refer to Chapter 9 Terrestrial Ecology for further details.</p>
8.5	Can you please ask the specialist to re-check the 1/100 year floodline. Got photographs of last big flood.	17 November 2015	Ken Lombard, Public Meeting	<u>From Umgeni</u> : The 1-in-100 year floodline study was completed as a project for eThekweni Municipality. During the design component of the study this information will be verified, however, at present it is the best information that is available. It must be recognized that a previous flood might have slightly inundated the area, however, this would have to be verified together with its return period. The 87 flood as an example was measured at greater than a 1:100 year event. During the design, Umgeni Water will meet with Mr Lombard to get an understanding of this invaluable, on the ground, information.
8.6	If the river is flowing out and the sediment load increases, will that sediment go into the facility? In a dried cycle?	17 November 2015	Kendyl Le Roux, Public Meeting	<u>From Umgeni</u> : Measurements have been undertaken by Umgeni over the years and there were a number of instances where turbidity increased. During that water quality monitoring, there was a number of floods, and the turbidity did increase but not significantly. During those big events, the water goes out to sea and down coast and you have very high currents. It doesn't go 1 km out and if does go, it will sit on the top. The plant intake is below the surface.
8.7	Will the Tongaat desalination plant go ahead?	17 November 2015	Kendyl Le Roux, Public Meeting	<u>From Umgeni</u> : Unlikely. The Smithfield dam will have to be constructed. That dam cannot supply this area but it can supply the north coast. So the desalination plant would only run for 2 years before being replaced by the Umkomaas project which is more likely to be taken forward – taking water out of the river into an off storage dam. Umgeni will have to

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				consider environmental concerns and costs. Umgeni cannot just carrying on looking at supplying water with dams
8.8	eThekweni Municipality: Land Use Management Department: No objections, however a planning application may need to be submitted in terms of the PDA and SPLUMA	27 January 2016	Diane van Rensburg, Letter sent via email on 29 January 2016	Comment noted
8.9	eThekweni Municipality: Framework Planning Branch: In terms of the Spatial Development Framework (SDF 2015/2016), South Spatial Development plan (SSDP 2014/2015) and the Illovo South Local Area Plan (LAP), the area in question has been identified for a Proposed desalination facility. In view of the above, the SSPB raises no major concerns at this stage. However, in recognizing the mitigation measures proposed in the Draft EIA, the SSPB further acknowledges the adjacent and proposed residential developments. To this end, every effort must be made to mitigate against visual, noise and odour intrusion within these residential areas. In this regard, the proposed mitigation measures must for part of the Environmental Authorisation.	27 January 2016	Diane van Rensburg, Letter sent via email on 29 January 2016	Comment noted
8.10	Interest is on the site. When are we likely to know which site will be used?	10 December 2015	Bongani Khumalo, Mother of Peace, Focus Group Meeting	Going to have to make a decision – Umkomaas or desalination plant. Economic presentation to Exco. Capital cost versus operational cost. If we go ahead with the project, source funding – work on procedures.
8.11	If there are any decisions being taken, would need to engage with the board	10 December 2015	Bongani Khumalo, Mother of Peace, Focus Group	Look at the future. Other processes in parallel. Relocation of MOP – all depends on what Illovo would want to do.

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			<i>Meeting</i>	

## 9. Others

NO	ISSUES RAISED	DATE	COMMENTATOR	RESPONSE
9.1	eThekweni Transport Authority No comment received	27 January 2016	Diane van Rensburg, Letter sent via email on 29 January 2016	Noted
9.2	Parks, Leisure and Cemeteries Department No comment received	27 January 2016	Diane van Rensburg, Letter sent via email on 29 January 2016	Comment noted
9.3	Geotechnical Engineering Branch No further comment at this stage	27 January 2016	Diane van Rensburg, Letter sent via email on 29 January 2016	Comment noted
9.4	Coastal, Stormwater and Catchment management No further comment received	27 January 2016	Diane van Rensburg, Letter sent via email on 29 January 2016	Comment noted
9.5	eThekweni Water and Sanitation Department No additional comments from WasteWater Planning	27 January 2016	Diane van Rensburg, Letter sent via email on 29 January 2016	Comment noted
9.6	Durban Solid Waste This Department has no additional requirements	27 January 2016	Diane van Rensburg, Letter sent via email on 29 January 2016	Comment noted
9.7	Disaster Management	27 January	Diane van	Comment noted



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	No objection from Disaster Management	2016	Rensburg, Letter sent via email on 29 January 2016	
9.8	<p>Fire Safety</p> <p>This Department has no objection to the proposed project subject to:</p> <ul style="list-style-type: none"> <li>• Building plans being submitted to this Department for approval</li> <li>• Full compliance with the Interim Code Relating to Fire Prevention and Flammable liquids and Substances</li> <li>• Full compliance with MHI regulations if the installations will trigger MHI or if it will be in close proximity to existing Major Hazard Installation</li> <li>• Full compliance with the petroleum product or flammable gas pipeline in close proximity since excavations would be considered</li> <li>• Compliance with road closure during construction period regarding response time for the brigade and other emergency services.</li> <li>• Full compliance with other applicable legislative requirements</li> </ul>	27 January 2016	Diane van Rensburg, Letter sent via email on 29 January 2016	Comment noted
9.9	We are developing an eco-business park in the vicinity of the proposed desalination plant	November 2015	Stuart Henderson, Email	Comment noted. Visual impacts and impacts on tourism have been assessed as part of the visual and socio-economic specialist studies (Chapter 10 and 12).