

**PA/01820/18: Comments received by ERA during the EIA scoping stage
(From 27 June 2018 to 26 July 2018)**

A. Malta Resources Authority (email dated 27 June 2018)

Comments

No comment from our end.

B. Member of the Public (email dated 27 June 2018)

Comments

I read the email below, and, for purpose of audit I would question:

- a) is a study of the demand and supply of sand and other prime material available? how is the prime material going to transform to finished product or to prime material and what facts can we establish about its productivity in advance that enable us to predict waste and productivity using automated or semi-automated process?
- b) what sources of procurement or production were considered and what is their environmental impact in terms of depletion, material to be utilising during production and post-production including disposal?
- c) are disposal or re-manufacturing facilities available for manufacturing firm support?
- d) what are expected concerns from citizens e.g. dust and noise that are elevated during windy days and can reasonable precautions be taken such as netting and anti-wind barriers [industrial size]?
- e) what standards do construction associates use?
- f) are skills certified as established?

**C. Ministry for the Environment, Sustainable Development and Climate Change –
Agricultural Directorate (email dated 16 July 2018)**

Comments

With reference to the email below, the Agricultural Directorate is pointing out that for any soil movement, it is very important that the necessary permits are in place as per Chapter 236 of the Laws of Malta.

D. Member of the Public (email dated 16 July 2018)

Comments

We trust you are taking adequate policy-related action naturally, this will serve to soothe some headaches over works in progress!

E. Environmental Health Directorate (Email dated 24 July 2018)

Comments

With reference to your e-mail dated June 2018 regarding subject indicated in caption and following review of the Project Description Statement, please be informed that we would like to have the following issues related to public health included in the terms of reference for this proposed development:

No works on phase 1 and phase 2 are to be carried out during the bathing season; hence works have to be carried out from the fourth week of October 2018 till the fourth April, 2019.

1. Air pollution impacts assessment

- Emissions from heavy vehicles
- Transports, storage and handling of waste materials
- Operational traffic
- And their effects on the surrounding.

Necessary monitoring and mitigating measures must be clearly stated.

2. Noise and vibration impacts including construction activities, operational traffic and from other operational activities. Required monitoring and mitigating measures must be clearly stated

3. Traffic Impact Assessment and mitigation measures.

4. Light pollution impact and mitigation measures.

5. A Waste Management Plan shall be implanted which should include the impacts from waste generated during phase 1 and 2. Hence the importance of a detailed Construction and Waste Management Plan, which should be enforced by the site project manager. Details of monitoring and feedback mechanisms must be clearly stated and adhered to.

6. Adverse impacts caused by heavy machinery used both on land and sea for this project. Necessary monitoring and mitigation measures are to be clearly stated and adhered to. Included the method used for the refueling of said machinery.

7. Adverse impacts caused by unsafe, inadequate storage and improper handling of raw materials on site and from potential accidental spillage of hazardous fluids, fuel and lubricants. Necessary monitoring and mitigation measures are to be clearly stated and adhered to.

8. Clearly identify the material used for the construction of the sand pits, groins, wave deflector and toe. Said material should be marine grade and where possible pre-cast concrete block should be used to avoid unnecessary contamination of the sea water from accidental spillage.

9. Where the use of the pre-cast concrete block cannot be used, monitoring plan and mitigation measures to prevent/ avoid the dispersal of concrete form the use of concrete mixer used both at sea and on land are to be clearly identified.

10. Clearly identify the method, monitoring and any mitigation measures for the sand suction dredging that will be pumped from the sea to land and later spread out on the land for the sand replenishment project.

11. Clearly identify the measures and mitigation measures to be taken in case of rain, heavy winds and storms that may affect the works and might cause undesired spillage at sea and/ or land during the project.
12. The necessary measures to not allow public to use the area mentioned in the project during phase 1 and 2 are to be included in the EIA.
13. The overall cumulative impacts of the development on the general public.
14. Details of measures proposed to be taken to prevent nuisances at all stages of the project on the Area of Influence.
15. Effects on water quality and mitigation measures on the use of Reverse Osmosis by third party properties. Adequate measures are to be taken to ensure the surface run-off and the discharge brine is to be strictly managed and properly channelled.
16. The overall social and cumulative impacts of the operation on the general public especially the negative effects that might have on bathers and coastal users although such works are **not to be carried out during the official bathing season as indicated already above**.
17. Any monitoring, data collection and sample results for this project are to be forwarded to the Environmental Health Directorate for both sea water and land (sand) during phase 1 and 2. Also monitoring and sample result carried out once the project is finished is highly recommend and these are also to be forward to the Environmental Health Directorate. It is important the all samples are analysed by an accredited lab. Further to the parameters mentioned in PDS, microbiological analysis of sea water for E.coli, Intestinal enterococci and Salmonella after the termination of the project should be included in the monitoring programme.

The EIA should also include a detailed description of the measures envisaged to prevent, minimise and where possible offset any significant temporary or permanent adverse health effects and nuisances on the Area of Influence and the general public. This should include details regarding monitoring programmes that may be proposed. The EIA should also identify, describe and discuss in detail the possible health effects of any residual impacts that cannot be mitigated.

F. Mellieha Local Council (email dated 25 July 2018)

Comments

The Mellieha Local Council has reviewed the contents of the PDS report and the screening letter issued by ERA for the proposed sand replenishment of Ghadira Bay, including the construction of a wave deflection and related marine works.

It has been noticed that the project shall be divided into three main phases, with Phase 3 being the construction of an elevated three-lane dual carriageway, however this aspect has been omitted from the development application. This matter needs to be clarified so that the EIA will also cover this major development.

Whilst ERA's screening matrix checklist provides a list of potential impacts in accordance with Schedule II of the EIA Regulations (S.L.549.46), there is the potential for other impacts that are not being properly considered. Such impacts would include:

(a) Social Impact

The screening matrix, provides for the consideration of environmentally related social changes in demography, lifestyles, employment and land uses. The proposed development has the potential to exuberate the current leisure and tourism activities as the enlarged beach is expected to intensify and diversify the visitor activity on the extended beach;

(b) Traffic

With a projected increase in visitors, the social impact arising from higher traffic and the need for more parking spaced along Triq il-Marfa/Qammieħ needs to be assessed, especially since the current road is already subjected to congestion and parking;

(c) Amenities and nuisance

Considerations related to the visitor should be dealt with, namely: (i) the provision of adequate beach facilities and paraphernalia; (ii) the impact on existing beach concessions; (iii) measures regulating further commercial development and concessions; (iv) and the removal of Posidonia Oceanica wrecks along the beach;

(d) Impacts on population and human health

The findings of the above-mentioned studies are best presented in the form of a social assessment as referenced in Schedule IV of the EIA regulations.

Phase 3 of the project has the potential to run over a number of years until it is finally completed. Given this lengthy implementation period, there exists a high potential for adverse impacts that need to be studied and understood as an integral part of this development application.

The EIA process provides for public consultation and direct consultation with key relevant stakeholders, such as the Mellieħa Local Council, e-NGO's, boatmen, residents and commercial establishments in the area.

G. Member of the Public (email dated 25 July 2018)

Comments

Please find below my comments on Project Description Statement for the "Sand replenishment of Ghadira Bay, including the construction of a wave deflector and related marine works" PA 1820/18

- The sand extraction methods proposed look good on paper. When I take into consideration the actual standards that contractors abide by during construction on land, I can only come to the conclusion that in practice the sand extraction and transfer works will produce significant plumes in the sea with the corresponding negative impact on the sea fauna.
- starfish of the genus Astropecten are found in a small area (sandy bottom with no eel grass) at a depth of 1.5 to 2.5 m on the mid-northern part of the beach. I know of no other beach in Malta where these starfish can be found. (see also

<http://www.maltawildplants.com/forum/viewtopic.php?t=1209>). This area seems that it could be negatively impacted by the project

- I have seen examples of *Pinna nobilis* on the southern side of the bay. These may be affected by sand plumes.
- The absence of stones and the long stretch of shallow water makes Ghadira beach attractive to families with young children. The long stretch of shallow water that warms easily is attractive to certain adults. A sand retaining barrier would introduce safety risks due to tripping, hard surfaces as well as uncontrolled movement onto the barriers under swell conditions. The long stretch of shallow water would probably be reduced.
- The success of the method proposed depends on retaining a layer of the original sand on the finer sand (silt?) that would be transferred from the bay. One can reasonably expect that the layers will mix due to activities by children (sand castle building/digging), digging holes for umbrellas, and beach cleaning.
- A google search of the top 10 beaches in the Mediterranean show a trend of characteristics - i.e. clear, clean waters and a lack of development is what makes a beach "World Class."

H. BirdLife Malta (email dated 26 July 2018)

Comments

BirdLife Malta has reviewed the Project Description Statement (PDS) for the proposed development "PA 01820/18 [EA 00002/18] Sand Replenishment of Ghadira Bay, including the Construction of a Wave Deflection and related Marine works" in Mellieħa. Based on the information provided in the PDS and a preliminary meeting with EMDP Ltd. consultants on the 23rd July 2018, we understand the proposed development can have some concerning environmental impacts that require to be assessed, and that we recommend are considered as part of the Terms of References for an EIA and AA.

The proposed site covers a total area of approximately 270,000m². This includes the proposed extension seawards of approximately 30,000m² to 38,000m² to the existing sandy beach, and the underwater area from which pockets of sand may be transferred to the shoreline.

The development proposal is located within three Natura 2000 sites protected under the Flora, Fauna and Natural Habitats Regulations (S.L. 549.44), including:

1. Zona fil-Bahar fil-Grigal ta' Malta (MT0000105, SAC)
2. Il-Bahar ta' Madwar Ghawdex (MT0000112, SPA)
3. L-Ghadira Area (MT0000015, SPA and SAC)

The development is not directly connected with the management of these sites, however, has a potential to significantly impact the environmental integrity of these protected areas. It is therefore imperative that an Appropriate Assessment is also undertaken with respect to all the above-listed sites.

These comments are meant to help establish the EIA, on the understanding of what was presented in the two versions of the PDS of February 2018 and of May 2018 as well as our meeting with the architects on 23 July 2018 focussing on the general environmental impact of the proposed development.

Comments for consideration of the EIA

Assessment of alternatives and addressing beach erosion: The assessment of alternatives is in our view not comprehensive. The project aims to replenish lost sand at Ghadira Bay, indicating that the beach lost size mostly due to erosion. Without identifying or addressing the causes of the erosion in the first place, the proposal aims to undertake gross interventions rather than addressing the source of erosion. Wave modelling, sediment deposition and coastal habitat dynamics need to be identified in order to assess what other alternative interventions might work in dealing with this issue. The PDS also identifies erosion being most pronounced in the southern area of the bay, yet the development is anticipating increasing the sand along the whole beach front.

The EIA should produce models for alternatives to the proposed interventions that may require interventions to alter current wave dynamics in the bay that might have led to the initial erosion. This could be a less invasive interventions in comparison of the instalment of jetties along the whole Ghadira Bay which may have been the reason for the increased erosion at the bay.

Impact on marine habitats: The assessment on potential impacts on the marine habitats needs to fully alayse the risk posed on seagrass habitats of *Cymodocea nodosa* and *Posidonia oceanica* as well as benthic invertebrate fauna. The project proposes to take up a considerable volume of sand adjacent to these protected habitats to be transferred behind the toe running along the whole stretch of the beach. As a result, sand will inevitably flow towards the excavated area, having a permanent impact on these protected habitats and sites. This is not mentioned in the PDS. Moreover, the expansion of the beach seawards will change the bathymetry of the whole beach area thus also affecting the thriving range of the seagrasses. The AA and EIA should fully assess how the beach interventions shall alter the viability of the habitats in consideration that the range where the seagrass habitats thrive is dependent on bathymetry and is also affected by trampling, anchoring of boats as well as other activities that will be altered in location as a result of the expanded beach.

Impacts on ecology of Ghadira Nature Reserve: The PDS only addresses the possible impacts on avifauna concerning the Ghadira Nature Reserve, and excludes the possible impacts the development may have on aspects like the hydrology of the reserve and consequently on its ecology. As a coastal lagoon, the Ghadira reserve is interlinked with the bay, and the PDS does not provide comprehensive information on the hydrology of Ghadira Bay and its connection to the Ghadira Nature Reserve. The lagoon does not dry up in the summer months, with water flowing from inland water sources as well as possible seawater incursions underground beneath the existing road. During the winter months, excess water flows outwards from the reserve as runoff, utilising existing pipework running under the street that allow for this runoff, creating a temporary over-ground connection of water between the lagoon and the sea that allows fauna to migrate inwards/outwards of the reserve.

Any of the three project phases will invariably affect the linkage between these two waterbodies, and such an impact needs to be identified, studied and addressed appropriately. There is a likelihood that the proposed construction of a toe stretching along the beach will severe the underground water dynamics drastically, permanently altering the hydrology within the reserve and consequently its ecological systems.

As part of the EIA and AA, adequate methodologies need to be used to investigate and assess the impact on these water flows by modelling the hydrological system in place, and

anticipating how this may be altered by the proposed interventions. Particular attention needs to be given to those interventions concerning the extension of the beach outwards, and the construction of the toe stretching along the whole width of the beach.

Sand dune restoration: The PDS states that human interaction and natural processes are the main causes of sand dune degradation over the years. Particularly human interaction is likely to increase as a result of the proposed development, yet the PDS presents no appropriate mitigation measures of (1) how to address degradation in the future and (2) the status of sand dune habitats from the past to recreate their natural state. The PDS is unclear on how the project will actively contribute to sand dune restoration and how their degradation will be minimized or completely avoided to provide suitable conditions for the sand dune habitat to fully recover.

The EIA should present a clear map of where sand dunes will be restored exactly and how much sand dune habitat will be regenerated. Figure 11 in PDS shows an alien species of plant indicated as sand dune habitat, which has no conservation value.

The EIA should also point out how sand dune habitat restoration will be sustained, managed and monitored, given that the overall aim of this project appears to be catering for an increased demand of beach users in Ghadira Bay. Unless clear footpaths with allocated exclusions zones for the public are established no sand dune habitats can be restored.

Impacts on bird populations: Apart from addressing the impact on bird species of the area including resident breeding and migratory birds, the project anticipates an increased amenity use drawing possibly more visitors to this area. This will invariably have influence to sensitive populations of birds not just within the reserve but also possibly elsewhere as far as the Rdm tal-Madonna SPA which hosts the largest colony of Yelkouan Shearwaters. The cumulative impact of this proposal in line with other developments occurring within proximity of the colony needs to be identified, especially those related to noise, light, vibrations and increased traffic as highlighted in the next points.

Vibration, noise and light pollution: Adequate mitigation measures during the construction and operational phase of the proposed development to address generated noise, light and vibration pollution need to be provided. Unnecessary light pollution is already present in the area. We see it as necessary that any potential impacts on breeding and migratory birds from noise, light and vibration pollution have to be highlighted and addressed.

Traffic impact: The proposed development will result in a substantial increase of the amount of visitors to the area. Current infrastructural systems are already under pressure with insufficient parking resulting in several negative impacts, including cars blocking the entrance of Ghadira Nature Reserve especially during summer months and off-road parking in various spots within the Natura 2000 site.

Infrastructure demands: Proposed mitigation measures to address the infrastructural strain and its adverse impacts on the environment appear insufficient. The project will increase visitors to the area yet possibly require further infrastructure like public transport linkages, sewerage system upgrades, upgrading of water services, etc. The EIA needs to identify whether infrastructure can cater for an increase demand of infrastructure and services, and if these prove insufficient, in what manner will upgrades be undertaken within the Natura 2000 site/s.

Air quality: In relation to especially altered traffic flows in the area, the impact on air quality needs to be ascertained, and any mitigation measures proposed.

Social impact: The increase of beach size, and visitors to the beach will require various amenities as well as will alter the recreational value of the beach as well as the economic value of various establishments around the bay. A social impact assessment should be mandatory in order to identify how this project will affect the livelihoods of communities living close to Ghadira Bay. A carrying capacity for the beach needs to be established in terms of parking spaces, number of visitors, etc in order to ensure that the overall impacts which will invariably result in the operational years of this proposal, do not affect adversely the Natura 2000 sites in question, which demand a sustainable use of the area. The need for bye-laws and adequate enforcement capabilities (currently in the form of an intermittently used police station) need to be clearly identified and highlighted, in order to ensure sustainable use of the bay.