

ERA Ref.: EA/00004/21

PA Ref: PA/02106/21

Description Proposal: Coastal defence system at Marsalforn Bay consisting of the reconstruction of Santa Marija breakwater, construction of a rubble mound berm on the Menqa site, two rubble mound groins at the valley outfall and replenishment of the beach.

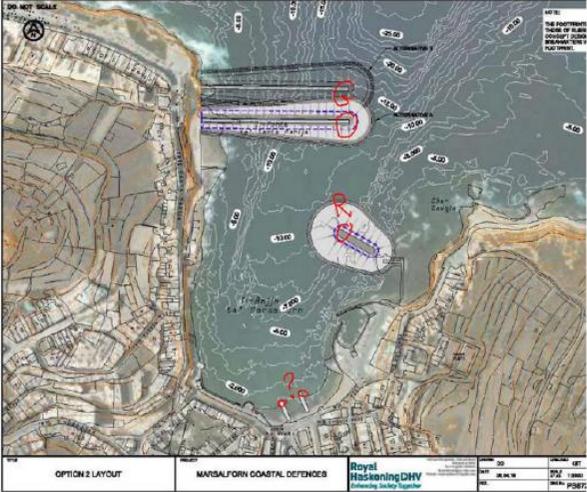
Location: Triq il-Port, Marsalforn, Gozo

Subject: Table with recommendations and ancillary reasoned justifications provided by the public, government entities, E-NGOs and relevant local councils, during 30-day public consultation on Terms of Reference, on any matters that they wish to see included in the EIA terms of reference.

Consultation period: 16 March 2021 – 17 April 2021

1. Comments from the Government Authorities

No.	From	Comment														
1	Transport Malta (e-mail dated 16 th March 2021)	<p>The Ports & Yachting Directorate in line with the marine nautical aspect, in principle finds NO OBJECTION, subject that:</p> <ol style="list-style-type: none"> With reference to the highlighted, that “both breakwaters will be equipped with lighting fixtures” etc., it is to be made clear that these have to be fixed on Lighthouse structure. They are to be to IALA standard, that is green and flashing Green on the Santa Marija Breakwater and red and flashing red on the breakwater next to Menqa. They are to have a long range of 7NM or more, so as to be identified from the back light. <p style="text-align: center;"><small>Table 3: Dimensions of the proposed Santa Marija Breakwater</small></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>Dimension</th> </tr> </thead> <tbody> <tr> <td>Footprint on seabed</td> <td>10,421sqm</td> </tr> <tr> <td>Length on seabed</td> <td>207m</td> </tr> <tr> <td>Maximum Width on seabed</td> <td>61.5</td> </tr> <tr> <td>Area above waterline</td> <td>4,854sqm</td> </tr> <tr> <td>Length above water line</td> <td>107m</td> </tr> <tr> <td>Maximum Width above water line</td> <td>35.5m</td> </tr> </tbody> </table> <p style="background-color: yellow; margin-top: 10px;">Both breakwaters will be equipped with lighting fixtures to ensure safe navigation of vessels within the bay, particularly during the night time. The lighting fixtures will also be switched on to illuminate the area during adverse weather conditions when visibility is poor.</p> <p style="font-size: small; margin-top: 5px;">7.1.2 Groins and Beach Replenishment</p>		Dimension	Footprint on seabed	10,421sqm	Length on seabed	207m	Maximum Width on seabed	61.5	Area above waterline	4,854sqm	Length above water line	107m	Maximum Width above water line	35.5m
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		 <p>Figure 13: Option 2 (proposed option) for the location of the breakwaters</p>
2	Occupational Health and Safety Authority (OHSA) (e-mail dated 17 th March 2021)	<p>Below pls find OHSA's conditions for this application</p> <p>The employer at this place of work shall ensure that:</p> <p>A. All work activities comply with the requirements of Act XXVII of 2000 and all relevant OHS regulations;</p> <p>B. One or more persons having the necessary aptitude, capabilities, competence and training shall be designated to assist the employer in undertaking the measures which are required to be taken in relation to the protection of occupational health and safety and the prevention and control of occupational risks, as per LN 36 / 2003;</p> <p>C. ALL work activities falling under one's responsibilities are covered by a suitable, sufficient and systematic risk assessment carried out as per LN 36 / 2003 and other relevant OHS regulations. Without prejudice to the legal obligations of an employer, this risk assessment shall, inter alia, refer to:</p> <p>(i) The measures to be taken against risks from manual handling of loads as per LN 35 / 2003;</p> <p>(ii) Protection against exposure to chemical agents at work as per LN 227 / 2003 including, but not limited to measures against inhalable dusts and metals;</p> <p>(iii) The measures to protect workers from risks from exposure to the sun;</p>

		<p>(iv) The required emergency prevention, preparedness and response arrangements including first aid and firefighting measures;</p> <p>(v) Protection against physical agents at work including but not limited to risks from noise and vibration;</p> <p>(vi) Traffic management;</p> <p>(vii) Protection of workers from risks of electrocution as required by LN 44 of 2002;</p> <p>(viii) Personal protective clothing / equipment to be used by workers;</p> <p>(ix) Suitable welfare facilities to be made available for staff;</p> <p>(x) The required health and, or safety signs and;</p> <p>(xi) Training and competence of workers to perform the assigned tasks;</p> <p>This risk assessment shall also make reference to the necessary health surveillance that is required wherever there is revealed an identifiable occupational disease or adverse health condition related to the work involved OR the likelihood that a disease or condition may occur under the particular conditions of work, as per LN 36 / 2003 and other applicable OHS regulations.</p> <p>D. All work equipment complies with the relevant provisions of LN 293 / 2016, including where applicable, by ensuring that work equipment is duly examined by a competent person and a report of such examination is kept by the employer and (where applicable) also sent to OHSA and;</p> <p>E. Any intended construction related works comply with the relevant provisions of LN 88 / 2018.</p>
3	Public Health Inspectorate (e-mail dated 15 th April 2021)	<p>With reference to your e-mail dated 16, March 2021 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:</p> <p>1. Air pollution impacts assessment</p> <ul style="list-style-type: none"> • Emissions from heavy vehicles • Transports, storage and handling of waste materials • Operational traffic • And their effects on the surrounding area included marine environment. <p>Necessary monitoring and mitigating measures must be clearly stated.</p>

		<p>2. Noise and vibration impacts including construction activities, operational traffic and from other operational activities. Required monitoring and mitigating measures must be clearly stated</p> <p>3 Traffic Impact Assessment and mitigation measures.</p> <p>4 Light pollution impact and mitigation measures.</p> <p>5 A Waste Management Plan shall be implanted which should include the impacts from waste generated during dredging, construction and operational phase. 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.</p> <p>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.</p> <p>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.</p> <p>8 Clearly identify the material used for the construction of the breakwaters, groins and sand pits. 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.</p> <p>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 from the use of concrete mixer used both at sea and on land are to be clearly identified.</p> <p>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 that will affect the bathing/sea water.</p> <p>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.</p>
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4	Superintendence of Cultural Heritage (e-mail dated 15 th April 2021)	<p>1.0 Preamble The site of the proposed development is located Outside Development Zone, along the coastline of Marsalforn bay in Zebbug, Gozo.</p> <p>The Marsalforn bay has a degree of archaeological and historical sensitivity, having revealed a number of cultural heritage features, both on shore and on the seabed.</p> <p>The proposed project would involve development over an extensive area, with the majority of development proposed to occur below water on the seabed. Potential impacts may occur within the footprint of the project, in the immediate environs, and along access routes to the site. Potential impacts may include direct and immediate material impacts, as well as subsequent impacts that might arise from the modification of the existing situation.</p> <p>2.0 Scope and Definitions of the EIA For the purposes of this document, cultural heritage is defined by Article 2 of the Cultural Heritage Act (2019). This includes movable or immovable objects of artistic, architectural, historical, archaeological, ethnographic, palaeontological and geological importance.</p> <p>2.1 The study area shall include the total footprint of the proposed development.</p> <p>2.2 In the context of this particular application, cultural heritage considerations consist of:</p> <ul style="list-style-type: none"> • Two anchor stocks discovered on the seabed of Marsalforn bay at approximate locations;

		<ul style="list-style-type: none"> • A Military fougasse from the Knights period, located at Triq Santa Marija c/w Triq il-Port; • A Classical tomb located at Triq Santa Marija c/w Triq il-Port; • The remains of a Redoubt located in the middle of the Marsalforn waterfront; • St. Paul's Battery at an approximate location in Triq il-Menqa. <p>The above cultural heritage definitions and considerations are not to be considered as exclusive. The EIA must consider all other forms of cultural heritage, both known and unknown.</p> <p>2.3 The Environmental Impact assessment will: -</p> <ul style="list-style-type: none"> • Describe the Cultural Heritage assets within the study area; • Analyse the cultural heritage features within the context of the cultural landscape; • Assess the physical, spatial and visual impacts of the proposed development on the cultural heritage assets; • Propose corrective measures for the protection of the cultural resources. <p>3.0 Methodology</p> <p>In quantifying the cultural heritage assets within the study area, and assessing the impacts of the proposed development, the EIA will undertake:</p> <ul style="list-style-type: none"> • Description and assessment of the property; • Desktop and archival research limited to the study area; • Fieldwork and research, including; a sub-bottom profile of the affected area by an underwater archaeologist specialised in the field at the developer's cost (trial trenches would depend on the results of the sub-bottom profiling), "field walking", topographic survey and remote sensing as may be necessary within the site. All fieldwork has to be authorised by the Superintendence of Cultural Heritage as defined below under point 4; • Consultations with any relevant bodies, including the Superintendence of Cultural Heritage, Heritage Malta, the University of Malta, NGOs and Local Councils; • Compilation of an inventory of the cultural heritage assets identified within the study area. The features of cultural heritage are to be described and plotted with grid references, on Data Capture Sheets, the design of which should be approved in advance by the Superintendence of Cultural Heritage. The Data Capture Sheets will be presented as an appendix to the EIS. The analysis of the features will be included in the main report; • A cultural heritage Risk Assessment Map examining the various impacts of the proposed project is to be included in the EIA. <p>4.0 Authorisation by the Superintendence of Cultural Heritage</p>
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2. Comments from the public

No.	From	Comment
1	Member of the public (e-mail dated 18 th March 2021)	Ghaziz sinjur/a Grazzi tal-opportunita' li naghtu l-opinjonijiet taghna. Ghandu jkun hemm ilqugh mix-xemx ezempju bicca msaqqfa ezempju bil-qasab, li jista' jinqala' u jintrefa' ghas-sena/snin ta' wara?
2	Member of the public (e-mail dated 20 th March 2021)	With reference to EA/00004/20 – Proposed breakwaters, rubble groynes, and beach replenishment at Triq il-Port, Marsalforn, Gozo I am writing because the extent at which it will stretch will not only damage the little aesthetics that are left in Marsalforn but more importantly will affect the marine life in a very adverse way.
3	Member of the public (e-mail dated 20 th March 2021)	I write to object about the proposed development in connection to the proposed Menqa breakwater in Marsalforn. This will totally ruin the character of the bay and environment. I see no infrastructure/social/economic reason why there should be any new built in the area.
4	Member of the public (e-mail dated 26 th March 2021)	Subject in caption refers please. Kindly refer to the following observations: <ul style="list-style-type: none"> - main breakwater (west side) is a must; the North West wind is the by far the prevailing wind and it subjects all bay to harsh weather, yearly structural damages and disrupts residents, visitors and businesses. Also: - when seas are very rough some residents find it difficult to access their dwellings. - water polo pitch and water polo school sessions are constantly disrupted. - beach/sand replenishment is a win/win situation and if done properly can return the bay to its original state enhancing Gozo's most popular location both in aesthetic, leisure and practicality, - Secondary breakwater (the smaller one in the east side) may have some advantages due to its protection from the less common North East winds but on the other side may close the bay too much with substantial consequences regarding cleanliness of water etc. <p>My humble opinion is that either the breakwaters are built to a lesser size than the ones presented on plan so as not to risk closing the bay too much and rendering it a sort of marina with obvious grave consequences for the public, or only the main breakwater is erected, with a size larger than the original, now destroyed one, but still less than that on plan. Storms</p>

		<p>repercussions would still be greatly reduced and most importantly Marsalforn keeps being a beach and not a marina. In this contest, it would be appropriate that the regulations on the limitations of boat moorings in bay is actually enforced, as the latter was non-existent for years.</p>
5	Member of the public (e-mail dated 27 th March 2021)	<p>I have property on the seafront, and have been coming to Marsalforn Bay for over 49 years. In my opinion the bay is perfect as it is.</p> <p>If you must have a Break water, 1 is enough at Ponta Santa Maria on the left hand side. Having 2 breakwaters will turn the bay into a Marina, Marsalforn must be protected as a swimming Zone, as well as protecting the sea bed and fauna.</p>
6	Member of the public (e-mail dated 27 th March 2021)	<p>Thank you for the opportunity given to forward an idea as a resident and pet owner residing at Marsalforn.</p> <p>I would like to propose the piece of rocky beach at Menqa by transformed into a dog beach for pet owners residing and visiting Marsalforn.</p> <p>On any visit to Marsalforn we can see many families with pets who like me consider them as family members and would appreciate that my proposal is given a favourable response.</p> <p>Make Marsalforn not just a tourist attraction, and a popular place for the locals but make it a PET HAVEN too ♥</p>
7	Member of the public (e-mail dated 28 th March 2021)	<p>When designing wave attenuation structures it's important to accept the principle that near the coast, waves are refracted towards the normal with the coast (at right angles) and their heights are reduced because of shallower waters.</p> <p>In Marsalforn Bay this refraction results in the inshore wave propagating centrally into the entrance of the Bay. This means that short breakwaters at the entrance of the bay have little to no bearing in reducing the waves significantly. The friction against the rough shoreline on both sides of the bay does this in a natural way.</p> <p>On the other hand construction of long breakwaters will be effective if they have a minimum length of 2/3 of the width at the bay entrance. Locally sea defenses have to deal with long waves thus requiring a dense core inside the structure which does not allow water currents to flow freely. The bay will then suffer from loss of water circulation and thereby reducing water clarity. Marine life suffers as a consequence (case in point the Grand Harbour where marine life has been reduced to insignificance). The bay becomes unfit for bathing and diving industry will be also lost.</p> <p>Alternatively waves can be attenuated without impinging on levels of circulation by letting them break on shallower waters before reaching the inner shores of the bay. Typically by forming a larger renourished beach the wave climate will be effectively attenuated. The width of the beach and the quantity of sand used for renourishment can be predetermined. The design of the berms above water and the gradients of the sand slopes depend on the grain size chosen and by retaining the</p>

		<p>underwater toe of the slope with an artificial reef such as a submerged breakwater. The latter can be made cheaply using local coralline limestone gravel wrapped in geo grids.</p> <p>This renourished beach can be realized at a fraction of the price of that required to build long breakwaters. It has the advantage of embellishing the bay without reducing water circulation.</p>
8	Member of the public (e-mail dated 15 th April 2021)	<p>Grazzi ta' l-opportunita għal konsultazzjoni pubblika. Il-kummenti tiegħi huma dawn:</p> <ul style="list-style-type: none"> • Fid-dimensjoni lokali ta' Marsalforn bħala post turistiku kif ukoll ta' attività kummerċjali u ta' mistrieħ lokali, hu meħtieġ breakwater li jħares il-kosta u l-bajja, inkluż l-investimenti li saru fil-madwar, kemm privati kif ukoll pubbliċi. • Imma lil hinn minn din id-dimensjoni tajjeb ukoll naħsbu x'valur miżjud jista jagħti Marsalforn lil Għawdex kollu. Jekk il-breakwater jinbena fejn kien dari, estensjoni tal-pjattaforma tal-konkrit fil-ponta ta' Santa Marija, jkun ifisser li d-daqs tal-port ikun ġie restritt darba għal dejjem għal ċertu daqs. Forsi jkun sew għal dgħajjes, laneċ u jottijiet. • Ma nistgħux naħsbu ukoll li l-breakwater jinbena iżjed il-barra biex Marsalforn ikun ta' daqs li jkun jista joffri ċertu servizzi ta' port kummerċjali u mhux biss bajja? Għawdex għandu port wieħed, dak ta' l-Imġarr, li l-breakwater tiegħu wkoll ikkundizzjona b'mod limitat ħafna d-daqs tal-port. Meta, darba kultant, jiġi bastiment tal-passigieri żgħir, dan jista biss jankra barra mill-Imġarr, u meta l-baħar ikun galbu. Hu minnu li Għawdex għandu insularita doppja, imma sa ċertu punt bl-istess baħar li hi mdawra Malta hu mdawwar Għawdex. • Għalhekk nipproponi li jiġi kkunsidrat li l-breakwater għandu jinbena f'port fejn il-potenzjal ta' Marsalforn jiġi mmassimizat u mhux illimitat.