

Environmental Impact Assessment

Screening according to Schedule III of S.L. 549.46

Appropriate Assessment

Screening according to S.L. 549.44

ERA Reference no.: EA/00010/18

PA Reference no.: PA/04964/20

Project Title: To carry out alterations from approved permit PA1586/18 including sanctioning of variations to Ghallis profile from that approved in permit PA 964/11 and alter the vertical height of the landfill profile to increase the volume capacity of Ghallis Non-Hazardous Landfill while retaining the site area.

Location: Ghallis Landfill, Maghtab Environmental Complex, il-Maghtab, Naxxar

Screening date: March 2022

I. BACKGROUND

1. Outline of Proposal

- 1.1. PA/4964/20 is a development permit application that seeks to increase and maximise landfill void space by circa 1 million cubic meters through the:
- Re-contouring of the Ghallis landfill via a vertical extension of approved pre- and post-settlement levels, while retaining the same site area, as approved in permits PA 964/11 (see Figures 2-4). This proposal will lead to an increase in the landfill's capacity of circa 850,000m³, excluding approved void space, required capping layers and cut and fill required as part of site engineering works;
 - Amendments to the footprint and contours as approved in permit PA 1586/18 to the south-eastern boundary of Ghallis landfill, leading to an increase of circa 230,000m³; and
 - Utilise 3,000 – 4,000m³ of Refuse Derived Fuel (RDF) mixed with inert material originating from the processing of municipal waste that was temporarily stored in the ex-hazardous cell, within the south western boundary of Ghallis landfill.
- 1.2. The proposed increase height is based on the report undertaken by SLR (Ghallis Landfill Revised Restoration Design Report, SLR 2020) and submitted as an appendix to the PDS. The report took into consideration the assessment of the materials used as part of the landfill engineering, and calculation of the maximum mass of waste that could be safely deposited on site. The report also considered the approved re-contouring and steep wall engineering structures on the eastern side of the landfill (through PA 1586/18) and its modifications being proposed as part of this proposal, together with a Stability Risk Assessment. The SLR report (2020) proposes pre-restoration levels in which:

- The depth of waste is increased to 84m at the highest point;
- The depth of waste over the leachate collection points is increased to 66m;
- An offset of 35m from the new engineering capping system of the eastern side is maintained; and
- Appropriate benching profiles, vehicle access points and routes are defined.

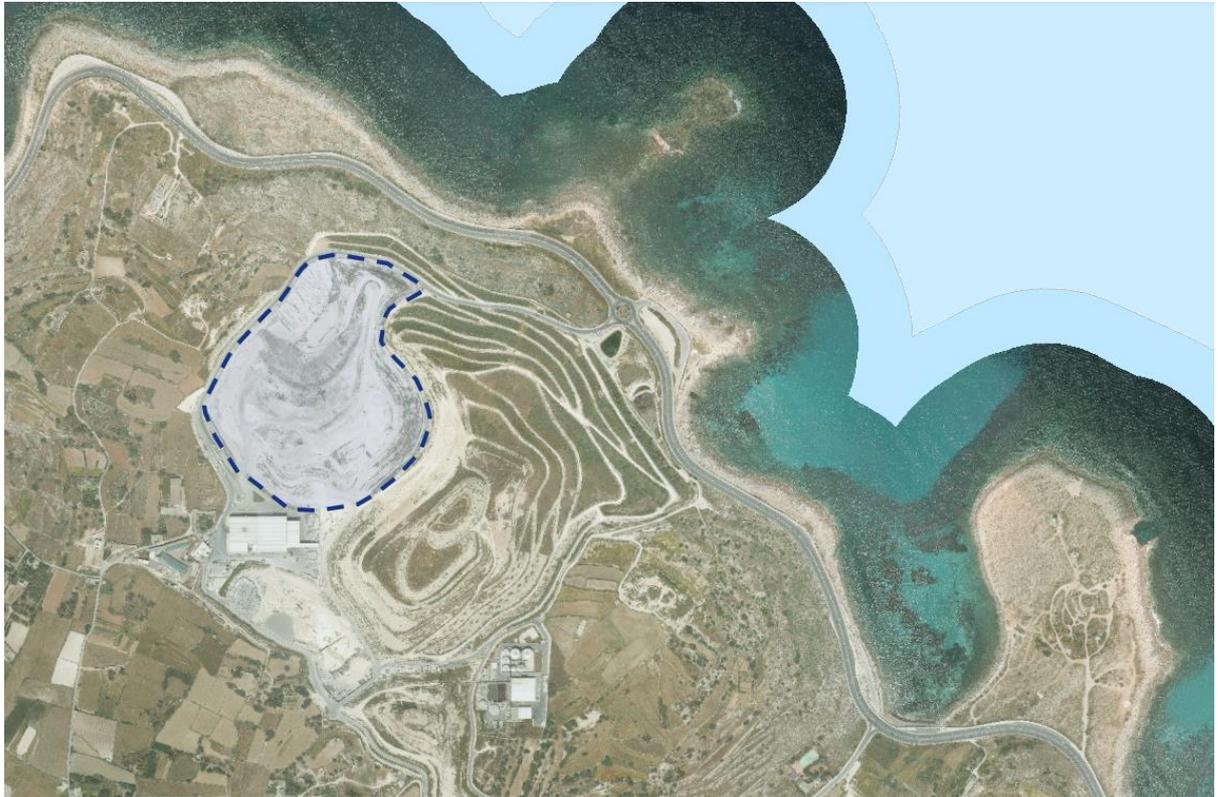


Figure 1: Blue dotted line illustrating the site boundary (Source: PA Mapserver)

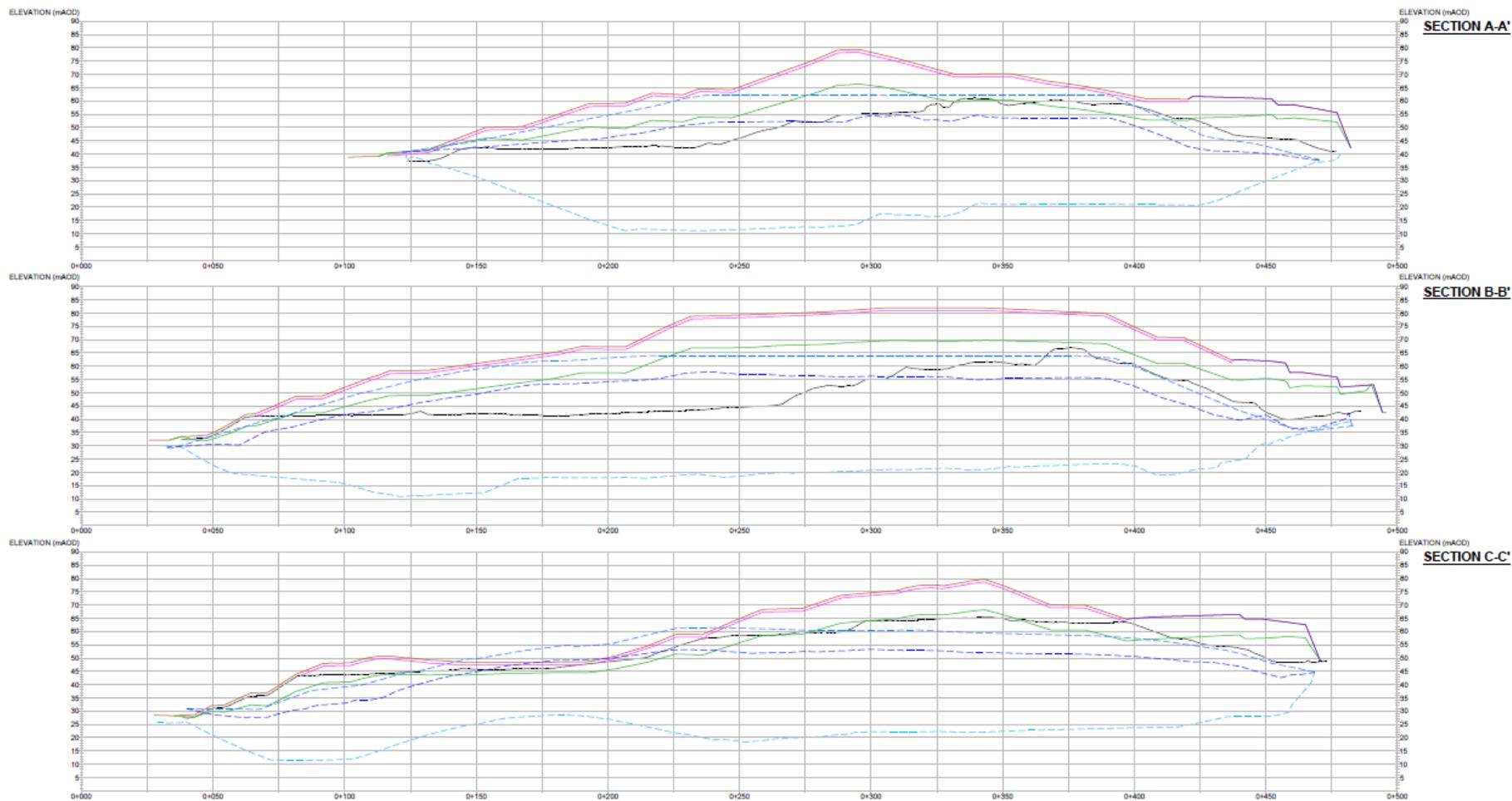


Figure 2: Sections of the proposed landfill (Source: PDS appendix)

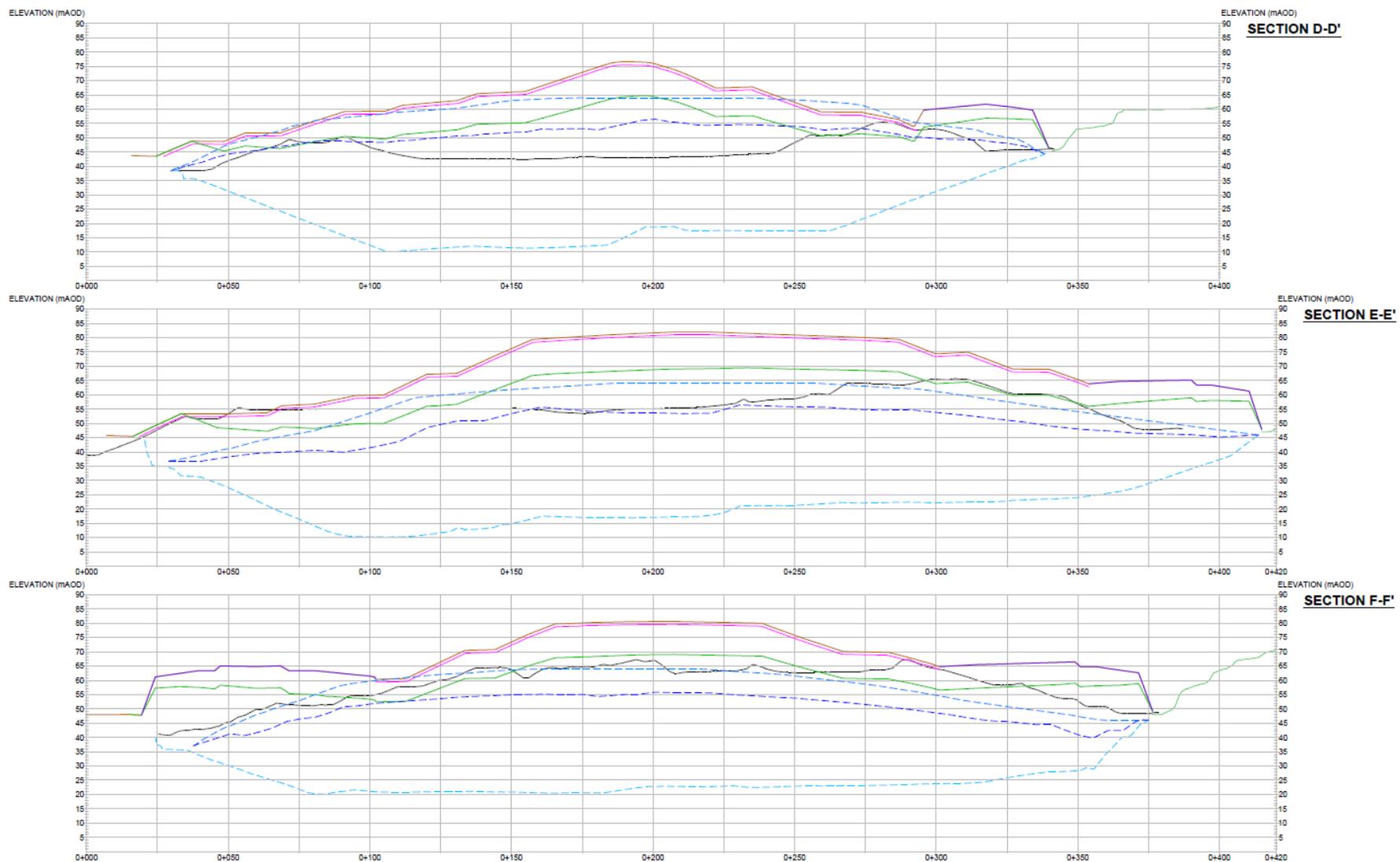


Figure 3: Sections of the proposed landfill (Source: PDS appendix)

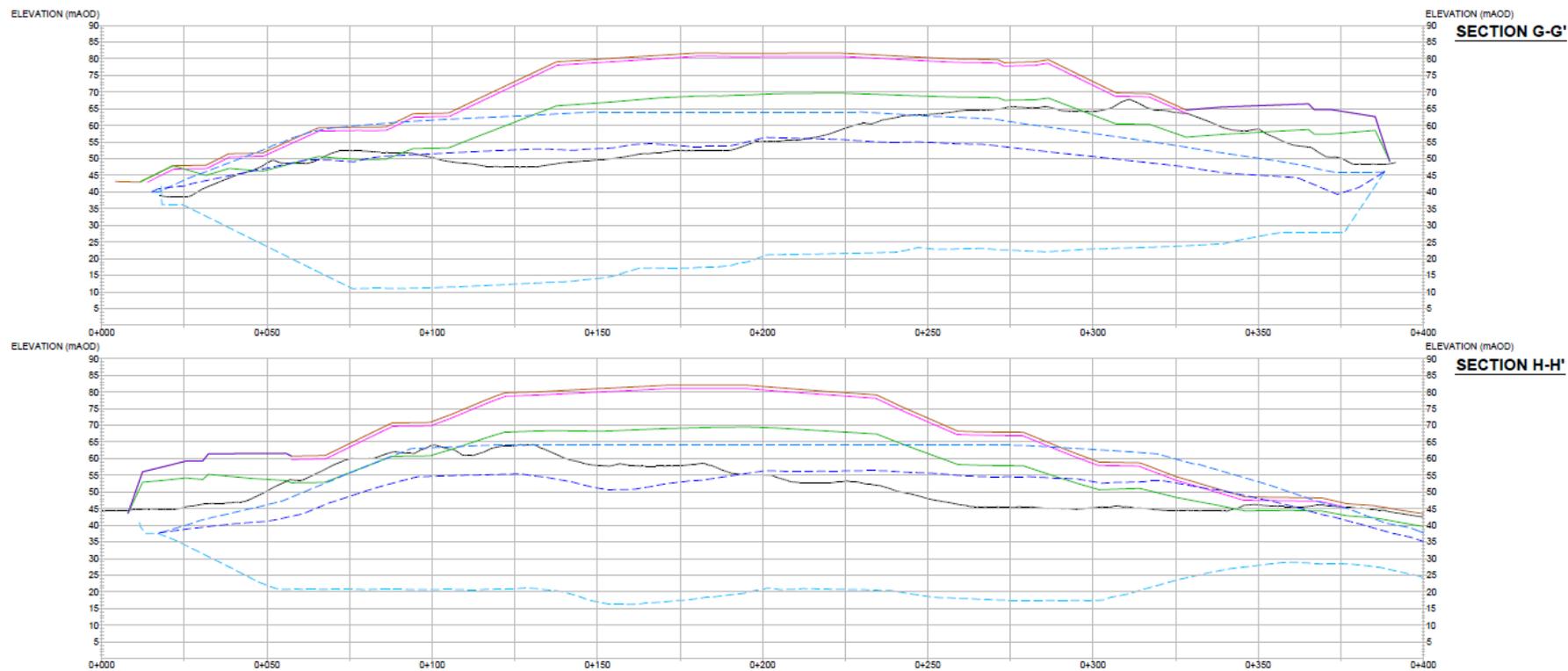


Figure 4: Sections of the proposed landfill (Source: PDS appendix)

2. Site context

- 2.1. The Għallis non-hazardous landfill forms part of the ECOHIVE waste management complex, located in Triq is-Salini, Il-Magħtab, Naxxar. The landfill facility falls under the Waste Management (Landfill) Regulations (S.L. 549.29)
- 2.2. In order to increase the void space of the Għallis landfill, planning application PA 964/11 proposed to alter the internal lateral landfill profile in order to increase the volume capacity while retaining the same site known as 'Għallis'. This proposal aimed to introduce specialised engineering techniques to increase the steepness of the profile of the eastern side of the Għallis landfill, thereby increasing the void space by circa 300,000m³.
- 2.3. The site is located:
- Around 300m from the coastal water body MTC104 (Il-Mellieħa sa tas-Sliema),
 - Around 300m from the marine Special Area of Conservation ('Żona fil-Baħar fil-Grigal ta' Malta' – (MT00000105) located to the north-east of the site (Flora, Fauna and Natural Habitats Regulations, S.L.549.44),
 - Around 275m from terrestrial, Special Area of Conservation ('L-Għadira s-Safra u l-Iskoll tal-Għallis' – MT00000008) located to the north-east of the site (Flora, Fauna and Natural Habitats Regulations, S.L.549.44),
 - Around 1 km from the terrestrial, Special Area of Conservation ('Is-Salini' – MT00000007) located to the west of the site (Flora, Fauna and Natural Habitats Regulations, S.L.549.44)
 - Around 300m from marine Special Protection Area ('Żona fil-Baħar Madwar Għawdex (MT00000112) located to the west of the site'); and
 - Around 1km from the Bird Sanctuary (Kennedy Grove u l-Inħawi tas-Salini – MALT_060) located to the west of the site (Protection of Birds and Wild Rabbit Regulations, S.L.435.04).
- 2.4. The site is located 1km south of Qawra and most of the immediately adjacent area are predominantly agricultural fields bounded by rubble walls. Public access to the site is prohibited by various security measures. Other land uses consist of other waste management facilities including a private waste management facility, a hotel to its west and various residences to both its west and south, natural habitats, various roads and small farmhouses and ancillary buildings.

3. Case history

- 3.1. The site forms part of a larger complex and has therefore been previously subject to a number of development planning applications.
- PA/04252/03 – *Development of landfill at Għallis Ta' Gewwa*. Application shelved.
 - PA/04834/04 – *Development of controlled landfill and ancillary facilities*. Application has been approved.
 - PA/02342/06 - *Sanctioning of extension to Zwejra Engineered landfill including the Closure Plan for the same Landfill*. Application has been approved.
 - PA/00964/11 – *Amendments to PA/04834/04 including sanctioning of variations*. Application has been approved.
 - PA/03447/14 - *Sites at, Għallies / Zejra Landfills, Triq Il- Kosta, Bahar Ic-Cagħaq, Naxxar, Malta*. Application has been approved.

- PA/01586/18 - *To amend permit PA 964/11 and alter the internal lateral landfill profile to increase volume capacity of Ghallies non-hazardous Landfill while retaining site area.* Application has been approved.
- PA/04602/19 - *Administration Building - Magtab Complex, Triq il-Kosta, Il-Maghtab, Naxxar.* Application has been approved.

3.2. The current landfill site was approved in 2006 for the capacity of 1.7 million m³ of non-hazardous waste through PA/04834/04 which was subject to an Environmental Impact Assessment (EIA). Subsequently, an EIA update was carried out for PA/02342/06. Other development permits were required throughout the years for additional modifications and upgrades, including PA/00964/11, which defined the boundary of the Ghallis non-hazardous landfill and increase the void space.

4. Screening Criteria

4.1. EIA Screening

(citations refer to S.L. 549.46, except where otherwise specified)

The proposed development falls under the scope of Schedule I, Category II Sections of the EIA Regulations:

- Section 5.0.2.1 – *(Installations or sites for disposal or incineration of waste, not falling within Category I); and*
- Section 13.0.2.1 *(Any changes to, or extension of, project (even if the project is already authorised, executed or in the process of being executed), particularly projects covered by Category I or Category II, where the change or extension itself does not fall under Category I but: (i) meets the thresholds or criteria set out in Category II; or (II) may have significant adverse effects on the environment),*

4.2. Appropriate Assessment Screening

(citations refer to S.L. 549.44, except where otherwise specified):

In view of the location of the proposal, the following Natura 2000 sites, as declared through the Flora, Fauna and Natural Habitats Regulations (S.L. 549.44) are located within the vicinity of the site, as follows:

- Around 300m from the marine Special Area of Conservation ('Żona fil-Baħar fil-Grigal ta' Malta' – (MT00000105) located to the north-east of the site (Flora, Fauna and Natural Habitat Regulations, S.L.549.44),
- Around 275m from terrestrial, Special Area of Conservation ('L-Għadira s-Safra u l-Iskoll tal-Għallis' – MT00000008) located to the north-east of the site (Flora, Fauna and Natural Habitat Regulations, S.L.549.44),
- Around 300m from marine Special Protection Area (Żona fil-Baħar Madwar Għawdex (MT00000112) located to the west of the site), and
- Around 1 km from the terrestrial Special Area of Conservation ('Is-Salini' – MT00000007) located to the west of the site (Flora, Fauna and Natural Habitat Regulations, S.L.549.44).

In this regard, the proposal has also been screened in terms of Regulation 19 of the Flora, Fauna and Natural Habitats Regulations (S.L. 549.44).

5. Documents used for screening

- a. Project Description Statement (PDS) (Version 3.4, dated January 2022) which was referred directly to ERA by the applicant on 26th January 2022; and
- b. Ghallis Landfill – Revised Restoration Design Report (Version 7, dated November 2021) which was referred directly to ERA by the applicant on 26th January 2022.

II. ASSESSMENT OF PROPOSAL

6. Assessment of Impacts and Ancillary Considerations

(Screening in terms of Schedule III of the EIA Regulations, S.L. 549.46)

Land use and ecology

- 6.1. The site forms part of the ECOHIVE Complex at Maghtab, and is already committed to intensive landfilling of non-hazardous waste and other waste management installations.
- 6.2. Given the continuation of the current use and that the proposal does not seek any additional land uptake or change in land use, no significant environmental impacts are envisaged.
- 6.3. The project is located c. 300m away from two Special Areas of Conservation (SAC), mentioned in Section 4.2 above. Given the distance of the said area and in view that the proposal will be located in an area which is already committed to waste management activities and which has already been approved for a landfill, the proposal is not expected to have a direct impact on the biodiversity within the surrounding area, and no significant environmental impacts are expected.

Risk to Population and Human Health and the surrounding environment

- 6.4. Dust and odours during both the construction and operational phases of the proposal are expected to be comparable to those related to the existing landfill. However, alternatives to the current practice are to be sought so as to properly address these issues as part of the IPPC process.
- 6.5. Emission of gases due to the proposed extension, modifications and extensions of the existing gas collection system together with gas extraction wells within the waste mass will be assessed through the IPPC permitting process. Generated gases will be collected and diverted to a gas carrier main line leading to the existing gas treatment i.e. the Combined Heat and Power plant.
- 6.6. During operation and post-operation, should the integrity of the basal landfill liner be compromised; the leachate retention system would fail. An increase in landfill mass/volume may contribute to further leachate in the area. The PDS states that leachate treatment systems are being developed for the entire landfill complex and that a separate development permit application will be submitted to cover a leachate treatment facility. In this regard, a proposal for leachate treatment which takes into account the leachate generation from the current landfill operations and any further landfill void space expansion related to this development would need to be submitted to the satisfaction of the Authority.
- 6.7. Risks mentioned above may lead to significant impact on the environment and the surroundings. In order to minimise these impacts, the operator must be compliant with the Waste Management (Landfill) Regulations (S.L.549.29), including the mitigation measures laid down in the IPPC permit, once issued. Additionally, the engineering measures and mitigation measures listed in the PDS, including covering waste daily with inert material or geosynthetic layer shall minimise nuisances and associated hazards arising from the landfill.

Noise and Vibrations

- 6.8. Noise and vibrations generated from the operations are not considered to be significant, given that the closest sensitive receptors are located more than 500m away from the site.

Visual Impact

- 6.9. The photomontages annexed to the PDS illustrate the: (i) baseline photos taken on June 24th 2020; and (ii) proposed development together with a black outline of the extent of the development already approved through PA/0964/11. The proposed landfilling levels are considered substantial when compared with the approved level in PA 964/11, however, from the photomontages submitted, it is evident that the visual massing (i.e. post-settlement levels) of this proposal are similar to the adjacent existing scenario (i.e. Maghtab landfill). In this regard, and given that the proposed site is already committed to waste management activities, no significant environmental impacts are envisaged.

Waste and mass stability

- 6.10. Inert material containing some RDF residue (originating from Ghallis and used in the ex-hazardous landfill as a fire containment measures) shall be used as stabilising material and shall provide protection to the lining material of the engineered structures, on top of the drainage layer. A Waste Characterisation Report, submitted as part of a separate application (PA/03144/19) has already determined that this material is non-hazardous, hence in this regard no significant environmental impacts are envisaged
- 6.11. Instability of waste masses and the potential rapture of the bottom line and geological barrier as a result of the addition of further non-hazardous material to an existing landfill was assessed. The 'Revised Restoration Design Report' included a Stability Risk Assessment (Appendix 4 – Version 1: July 2020) that considered the effect of the proposal on the approved bottom line and geological barrier laid as per the requirements of the Landfill Regulations, S.L.549.29. As mentioned in section 1.2, the Stability Risk Assessment states that the proposal has been designed to ensure that the integrity and performance of these layers will not be compromised through the increased loading caused by the additional deposition. In this regard, no significant environmental impacts are envisaged.

7. Screening in terms of the Flora, Fauna and Natural Habitats Regulations, S.L.549.44

- 7.1. As mentioned in section 4.2 above, the proposal lies in close proximity to three Special Areas of Conservation and a Special Protection Area.
- 7.2. The marine SAC includes the following Annex I habitats, that require protection; habitat type 1110 (Sandbanks which are slightly covered by sea water all the time); type 1120 (Posidonia beds – *Posidonia oceanica*); type 1170 (Reefs); and type 8330 (Submerged or partially submerged sea caves). In addition, the protected area hosts two Annex II protected species, namely the Loggerhead Sea turtle (*Caretta caretta*) being a free-swimming pelagic species that typically occurs in open seas, and the Maltese top shell (*Steromphala (=Gibbula) nivosa*) which is a benthic species occurring in shallow coastal waters, often associated with *Posidonia* meadows and cobble bed habitats.
- 7.3. In terms of 'L-Ghadira s-Safra u l-Iskoll tal-Ghallis', the former is a temporary coastal rainwater body that supports biotic assemblages that are typical of freshwater habitats during the wet period and halophytic species colonise the area around the pool. The pool is habitat to the locally endangered Prickle Grass (*Crypsis aculeate*), the rare Tadpole Shrimp (*Triops cancriformis*), the Fairy Shrimp (*Branchipus schaefferi*), woodlouse (*Tyloslatreillei sardous*), *Cressa cretica* and the *Polygonum maritimum*. Vegetation in this site is dominated by *Plantago* spp. such as *Plantago crypsoides* and *Plantagomacrorhiza*, *Crithmum maritimum* and *Limbarda crithmoides*. Following the relocation of the coast road the site expanded in size and

typical species of *Nerio-Tamaricetea*, *Tamarisk africana*, *Vitex agnus-castus* and *Nerium oleander* (monopetalous) were planted to start rehabilitating the new area. The low-lying near-shore islet known as L-Iskoll tal-Ghallis has characteristics of rocky shoals as the sea inundates them for a significant part of the year and consequently they neither support terrestrial vegetation nor a real supralittoral zone. However, this shoal is a significant resident, resting and foraging site for avifauna and also important for migratory birds.

- 7.4. In terms of the marine Special Protection Area (SPA), the Annex II protected Scopoli's shearwater (*Calonectris diomedea*) and Yelkouan Shearwater (*Puffinus yelkouan*) are also found within this vast protected site. These birds use cliff sites for nesting, and are known to travel vast distances to and from their breeding colonies in search of food. However, noting the site characteristics and geographic configuration, the distance to the nearest coastal cliff sites and the existing baseline within the ECOHIVE Complex, impacts on this protected site are not envisaged.
- 7.5. The terrestrial SAC, Is-Salini, one of the last remaining and largest extant salt marshland the Maltese Islands, includes the following Annex I habitats, that require protection: habitat type 1150 (Coastal Lagoons); type 1310 (*Salicornia* and other annuals colonizing mud and sand); type 1420 (Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*)); type 5410 (West Mediterranean clifftop phrygas (*Astragalo-Plantaginetum subulatae*)); and type 92D0 (Southern riparian galleries and thickets (*Nerio-Tamaricetea* and *Securinegion tinctoriae*)). In addition, the Eurasian reed warbler (*Acrocephalus scirpaceus*) and Mediterranean killifish (*Aphanius fasciatus*) are two Annex II protected species also present within this protected site. The salt pans and salt marsh area are an important ornithological site for migratory birds.

III. ERA CONCLUSION AND RECOMMENDED WAY FORWARD

Environmental Impact Assessment, S.L. 549.46

The above detailed EIA screening concludes that impacts of the development are unlikely to be significant to the point of warranting an EIA in terms of Regulation 15 of the EIA Regulations (S.L. 549.46), as long as the various preventive mitigation measures and pre-emptive safeguards throughout the construction and operations, listed hereunder are adhered to:

- Deposition of waste in phases to avoid destabilisation
- Monitoring of stability;
- Monitoring of wind speed and prevailing direction to mitigate dust dispersion;
- Covering of waste masses daily to prevent odour;
- Maintenance of vehicles;
- Silting ponds to prevent silt runoff;
- Proper design and quality assurance of landfill liner to avoid land and water contamination; Works are to be compliant with the Waste Management (Landfill) Regulations, S.L. 549.29; and
- Adherence to conditions in the IPPC permitting process.

In this regard, ERA does not object to the proposal from an environmental point of view, subject to the annexed conditions. Proposal is also subject to an IPPC permit from ERA.

Flora, Fauna and Natural Habitats Regulations, S.L.549.44

In view of the impacts identified in the screening above, the proposal is not expected to have any significant impacts on the integrity of the habitats, species, and the Natura 2000 site given the location of the proposal relative to the protected areas in question. No further assessment in terms of the Flora, Fauna and Natural Habitats Regulations (S.L. 549.44) is considered necessary.

Other considerations

The proposal is part of a national waste management facility in view of the recurrent need for the increase of the waste volume capacity. In this regard, a comprehensive plan for the ECOHIVE complex should be submitted for a holistic picture of the complex.

Screening Disclaimer

The above screening results, the ensuing conclusions and recommendations are without prejudice to any required changes or updates should the development proposal be eventually modified or should the information/assumptions provided turn out to be incorrect. Any deviations of the proposal from this submission would need to be re-assessed and the merits of this screening would need to be re-opened.