



Marsa Sports Complex Proposal
Group 3

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1. Introduction

The area of study is located at the The Marsa Sports Complex (MSC) in Marsa (**Fig. 1**), a small town situated in the South Eastern Region of Malta. Its facilities include a multi-sporting complex boasting the only Cricket pitch and Golf Course in Malta and various facilities for recreation (e.g. golf, tennis courts, squash courts, swimming, pool, horse races, and football). The site is surrounded by the Grand Harbor conurbation. The area to the north of the site is predominantly commercial in nature while the area to the south is predominantly industrial. In addition to the interest generated by the high-level sports activities that are practiced in the complex, the perimeter area of the complex could be of great tourist interest, with green walls, pedestrian walking routes and bike paths. In addition to the cultural value of its architecture, it is also a site of scientific importance due to its bird community and a stand of old trees.



Figure 1: The Marsa Sports Complex aerial view (Source: www.independent.com.mt).

2. Key policy goals and the general strategy

Since 2002 the Planning Authority of the city is working in a local development plan, initially called, Grand Harbor Local Plan (Marsa); with several revisions addressing the requirement including additional policy relating to land-use, site coverage and building heights in the area of the MSC.

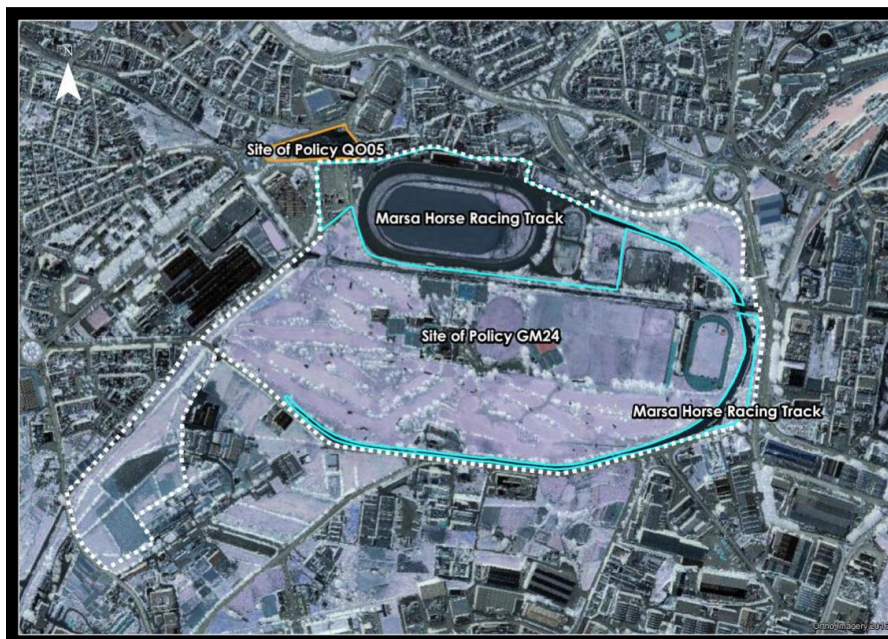


Figure 2: Map of the Government Objectives for the local development plan, including Marsa Sports Complex facilities. Source: <https://meae.gov.mt>

The Planning Authority seeks for innovative solutions and strong elements of green infrastructures that could be incorporated into separate sub-zones (Fig. 2), whereas existing ecological corridors and mature habitats are to be protected and efforts made to rehabilitate degraded habitats with site-specific restorative measures (Planning Authority, 2020). The storm water channel running through the site and its links to the channels outside the site is an important utility without which flooding will adversely affect the site. Greening of the area along the channel is encouraged, to create a linear park with appropriate leisure facilities along its length.

Taking into consideration the proposed policy review, our proposal focuses on the following policy goals: **(i)** restoration of the linear park and stormwater channel towards a terraced green public space with various options for biodiversity and recreation; **(ii)** conservation measures for natural capital with a special focus on migratory birds and mature trees; and **(iii)** improvement of sustainability through measures such as the conservation of energy and water, reduction of waste and renewable energy generation.

In more specific terms, the proposed policy goals (and the supporting NBS-s) are as follows:

1. Reduction of impacts on hydrology and promotion of groundwater safeguard
 - Vegetative Intervention covering the ditches
 - Porous pavements
 - Green roofs
2. Greening of the area
 - Terraced linear park
 - Conservation of old trees
 - Green roofs and walls
3. Restoration of degraded habitats and protection of old trees
 - Planting local native plants
 - Conservation of old trees
 - Mosaic of long and short grass beneficial to pollinators
 - Building and placing birdhouses
4. Conservation of energy / reduction of UHI
 - Green Roofs
 - Living Walls
 - Terraced linear park
5. Enhancing recreational activities / Promoting health and well-being
 - Corridors with cycling and walking paths
 - Terraced linear park
6. Reduction of air pollution and noise
 - Vegetation curtains
 - Green Roofs

3. Proposed interventions

In order to accomplish the proposal objectives and achieve defined policy goals, several interventions have been proposed (Fig. 2). The main intervention concerns the storm water channel, an important utility to mitigate flood risk, which is proposed to be designed as a linear terraced park, envisaged to become the green spine of the MSC.

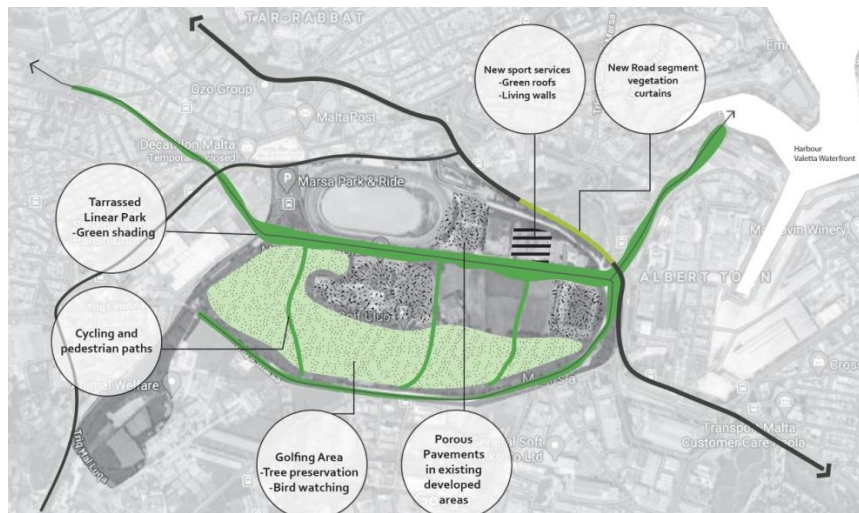


Figure 3: Proposed nature-based interventions for the Marsa Sports Complex (MSC) area

3.1 Linear Terraced Park

Greening of the area along the water channel is encouraged by the policy makers, thus the proposed design encompasses the creation of the linear park as well as focusing other proposed interventions around the channel/linear park. Specifically, the proposal suggests using rain-garden approach for the restoration of the stormwater channel and creating a terraced park along the full length of the canal that tolerates wet and dry seasons. Such design includes an upgrading in line with the concept of water-sensitive urban development and the green spine of the MSC, providing various habitats both for people (shade & sun) and for the key species (birds). The use of native plant species that are adapted to the local climate and provide the natural habitat for migratory birds is highly recommended.

3.1.1 Functioning of the linear terraced park

The proposed design could address a variety of ecological, social and economic challenges in the area: (i) using a water-sensitive urban design approach, the “green spine” contributes to stormwater management while providing room for people and biodiversity; (ii) at the sole of the canal, chosen soil features and selected plant species allows for a fast infiltration of the stormwater and replenishment of groundwater reserves; (iii) the terraced design of the park allows citizens and tourists to find shaded picnic platforms and spaces for recreational activities, and (iv) the vegetation around the canal will provide various habitats for protected bird species and foster biodiversity.

3.1.2 Ecological considerations

The proposed linear terraced park should be connected with other areas of the MSC using cycling and walking pathways, creating (habitat) linkages across the area. Species originating from the Mediterranean climate zones are encouraged for planting (Malta Environment & Planning Authority, 2009), such as Hoary Rock-rose, Field Gladioli, Red Poppy, Fan-lipped, Pyramidal Orchids, and Maltese Rock Century (wildflowers); Fennel and Mediterranean Thyme (aromatic plants species), and Aleppo Pine, Holm Oak, Carob and Judas Tree (trees).

3.2 Other proposed interventions

The other zones of the area should focus on the following NbS interventions:

- Protection of old trees;
- Combination of biodiversity corridors with cycling and walking paths;

- Green roofs and walls and rainwater harvesting;
- Integration of wastewater and rainwater recycling to use for irrigation of the golf course, which is water intensive;
- Permeable pavements for the parking and driveways;
- Buffer vegetation in the southern part;
- Storytelling with technology – QR Codes for natural and cultural heritage interpretation; Birdwatching sites and Birdhouses with a sound recorder installed -recording bird sounds so tourists can download “the sound of the Marsa park”).

4. Planning instruments and stakeholder analysis

4.1 Planning instruments

The proposed NBS-s adapted for the MSC can be supported by an array of policy and financial instruments:

1. Regulatory tools, such as technological requirements; compensation measures, performance-based approaches and conservation zones
2. Ad hoc, design-based solutions
3. Incentive-based financial tools, such as preferential tax treatments; density bonuses, etc.

Given the specific site characteristics, the regulatory tools are predominant. To promote the general reduction of possible hydrological impact, through installation of green roofs, planting of vegetation over ditches, and porous pavements, the municipality can adapt a performance-based regulation, stipulating that no intervention or activity can be carried out in this area, if the aforementioned criteria is not met.

For the design and implementation of the terraced linear park, which extends even outside the Marsa Sport Complex from the harbor to the city center, the municipality can apply compensation measures and preferential tax treatments for properties that are along this line, in order to adapt to the overall green-design.

In order to restore the habitat within the Marsa Sport Complex, the municipality has already assigned the status of “area of scientific importance for birds”, which means the conservation zones. The financing of the new planting initiatives can be carried out through incentive for preferential tax treatments for local businesses.

To promote conservation of energy and reduction of UHI through Green roofs, the main policy instrument to be applied is ‘technological requirement’ for all new buildings within the complex. For existing buildings of special cultural value, the implementation of these measures may not be possible. Incentives through density bonus may be applicable to promote different types of energy efficiency for these cases

For the design of cycling paths within the Complex, the municipality may redefine the planning code through a performance-based approach, stipulating that all areas above a certain size should include walking & cycling pathways open to the public.

Finally, to stimulate reduction of air pollution through vegetation curtains, the municipality may adapt technological requirements for all new buildings to have green roofs and all new road segments to have noise-reduction installations.

4.2. Stakeholder analysis

The stakeholder assessment revealed 6 important groups of actors:

1. Tourists
2. General Public and civil society
3. Planners and practitioners
4. Politicians
5. Business sector
6. Environmental NGO-s

These groups of actors are mostly affected by the main intervention, the terraced linear park, which may become the green spine of the MSC. Three policy goals are relevant in this context: (i) the aesthetic and recreational values; (ii) the biodiversity conservation; and (iii) the water management.

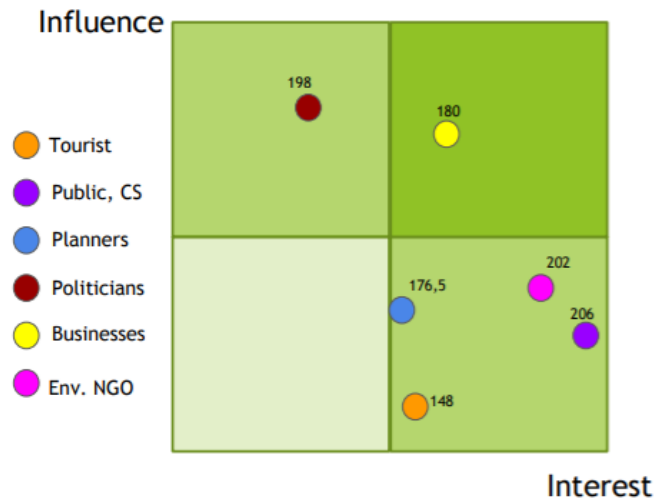


Figure 4: Diagram of interest-influence of stakeholders

Using a multi-criteria decision making tool, we analyzed the impact of the six stakeholder groups in relation to the central policy goals. The matrix analysis suggests that the general public and civil society may have the most accumulated positive impact (scoring 206), followed by environmental NGO-s (202); politicians (198); businesses (180); planners and practitioners (176.5) and, lastly, tourists (148).

While tourists are interested in a nice area to visit, they have only an indirect influence. They may be engaged through surveys, promotional materials and campaigns to visit the sport activities in the area.

The core beneficiaries of the proposed changes are the public and civil society. This stakeholder group is highly interested in the green space but has a limited power over policy agendas. They need to be further engaged in public hearings and in participatory mapping, so that they may influence the process in accordance to their needs.

Planners have an interest to increase urban green but execute plans defined by the politicians and therefore have limited influence. They need to lead the process through horizontal and vertical coordination between all stakeholders.

Politicians have a high power over the plans of the area and define the goals for development but they have limited direct interest. They need to prioritize this issue into their political agenda, coordinate all relevant departments within the local government unit: recreational department; environmental unit; public service unit; etc. and coordinate with national/regional public agencies.

Businesses have an interest in the development of the area and also have a strong influence (land is private property, increased land value, more customers, etc.). Developers need to engage more in these processes and benefit from the possible incentives given by the public authorities, in exchange for financing of public/environmental interventions.

Environmental NGO have a high interest in the renaturalization of the area but have a limited power over the decisions made about the area. They need to further promote environmental education through open classes; site visits; and engage in the public hearing processes, by also raising awareness through media coverage and publications on the benefits of the interventions.

5. Conclusion

The creation of a terraced linear park as green spine has the potential to tackle many issues such as stormwater management, provision of recreational spaces and bird sanctuary. Such a linear park can act as a connection point for various other NbS approaches in the MSC. The local citizens are the key beneficiaries, the park should be designed to their needs and they should be included in decision-making processes where possible. The local business and sports facility owners are key stakeholders who should be involved in decision-making processes where possible.

6. References:

- Malta Environment & Planning Authority, 2009. Common Species used for Landscaping in the Maltese Islands, St Francis Ravelin Floriana Malta.
- Planning Authority, 2020. Public Consultation Draft (Partial Review of the 2002 Grand Harbour Local Plan (Marsa) and the 2006 South Malta Local Plan (Luqa) as amended in 2011, and a Review of the 2006 Central Malta Local Plan for Qormi, as amended in 2013 and 2017; and of the provisions of PC51/16 May 2020), available at <https://www.pa.org.mt/en/consultation-details/partial-review-of-the-grand-harbour-local-plan-for-marsa>.