Kalkara

Planning Control Applications

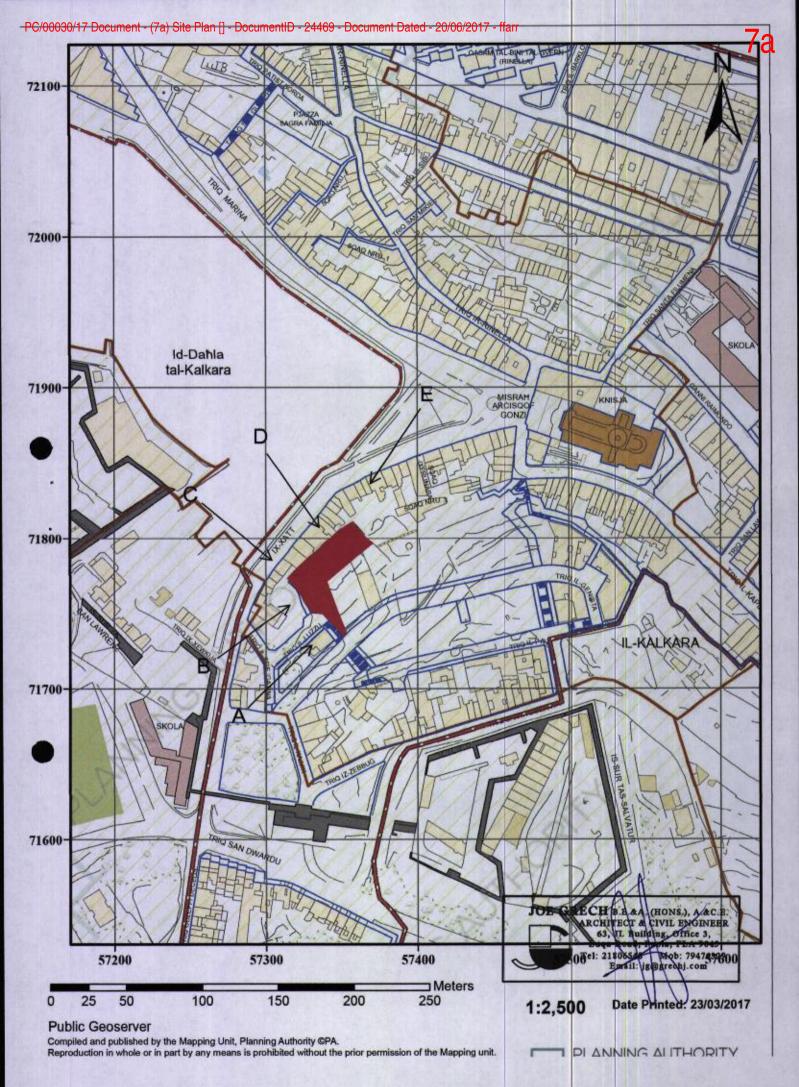
PC Number:	PC 0030/17	
Proposal:	Proposed amendments to PC0025/12.	
Location:	Site at Triq Il-Luzzu & Triq Il-Genista, Kalkara.	
Architect:	Mr. Joseph Grech A&CE	
Applicant:	Anthony Cardona obo Christef Co Ltd et al	
Date of Endorsement:	02/07/2018	
Conditions		
Drawing Numbers:	PC 30/17/7/70A.	

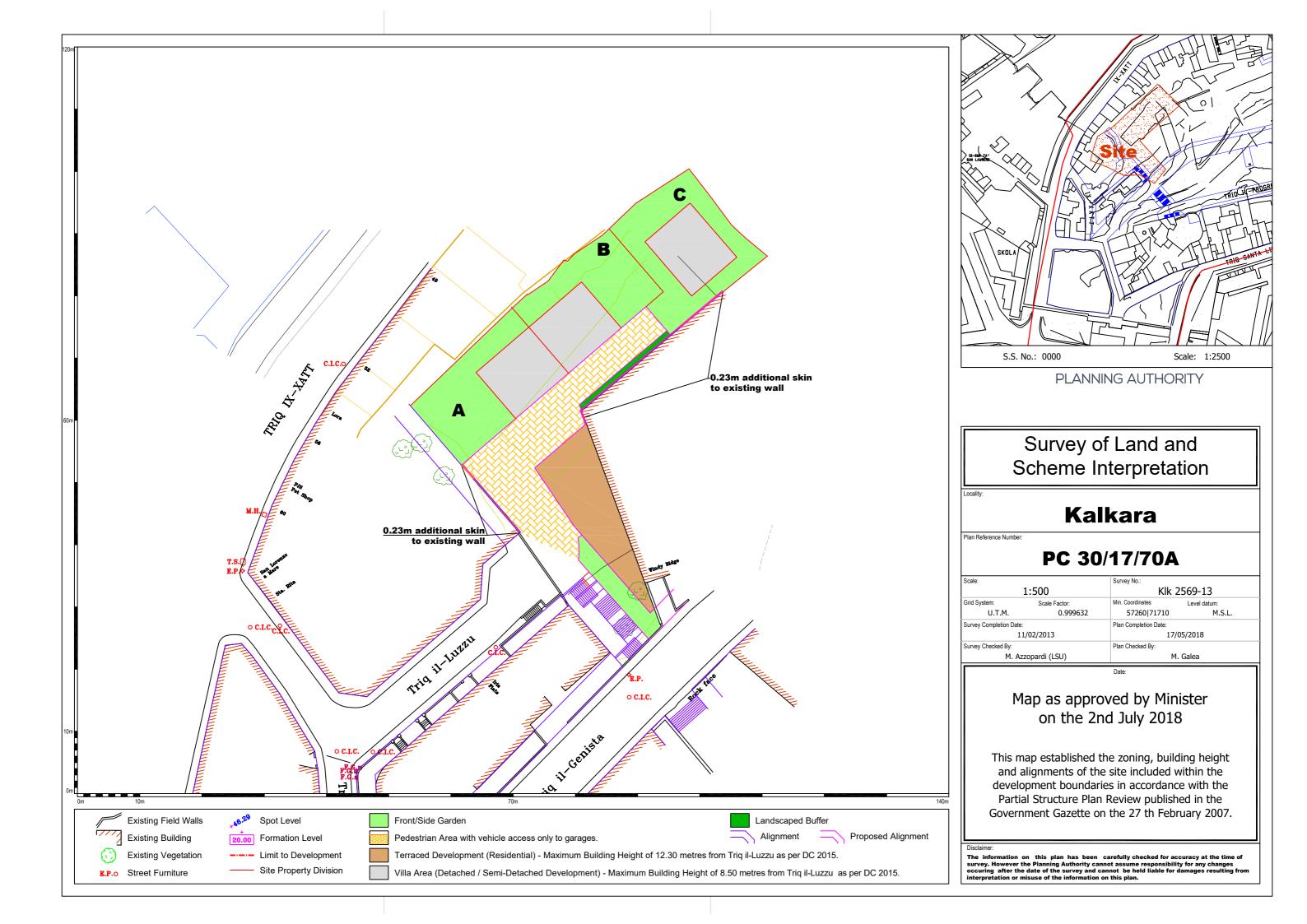
Grant – subject to the following conditions:

- 1. Land for plots A, B and C shall be zoned as Residential Priority Area (Detached / Semi-Detached Development) and the land overlooking the public stairs shall be zoned as a Residential Area as indicated on Map PC 30/17/70A.
- The building heights for the area shall not exceed the maximum limits indicated on Map PC 30/17/70A.
- 3. The site coverage (built footprint) of the villa plots indicated on plan PC 30/17/70A and subdivided in Table 1 below shall not exceed 40%. Changes to the boundaries of the said plot subdivision are not permissible through downsizing of the plot sizes.

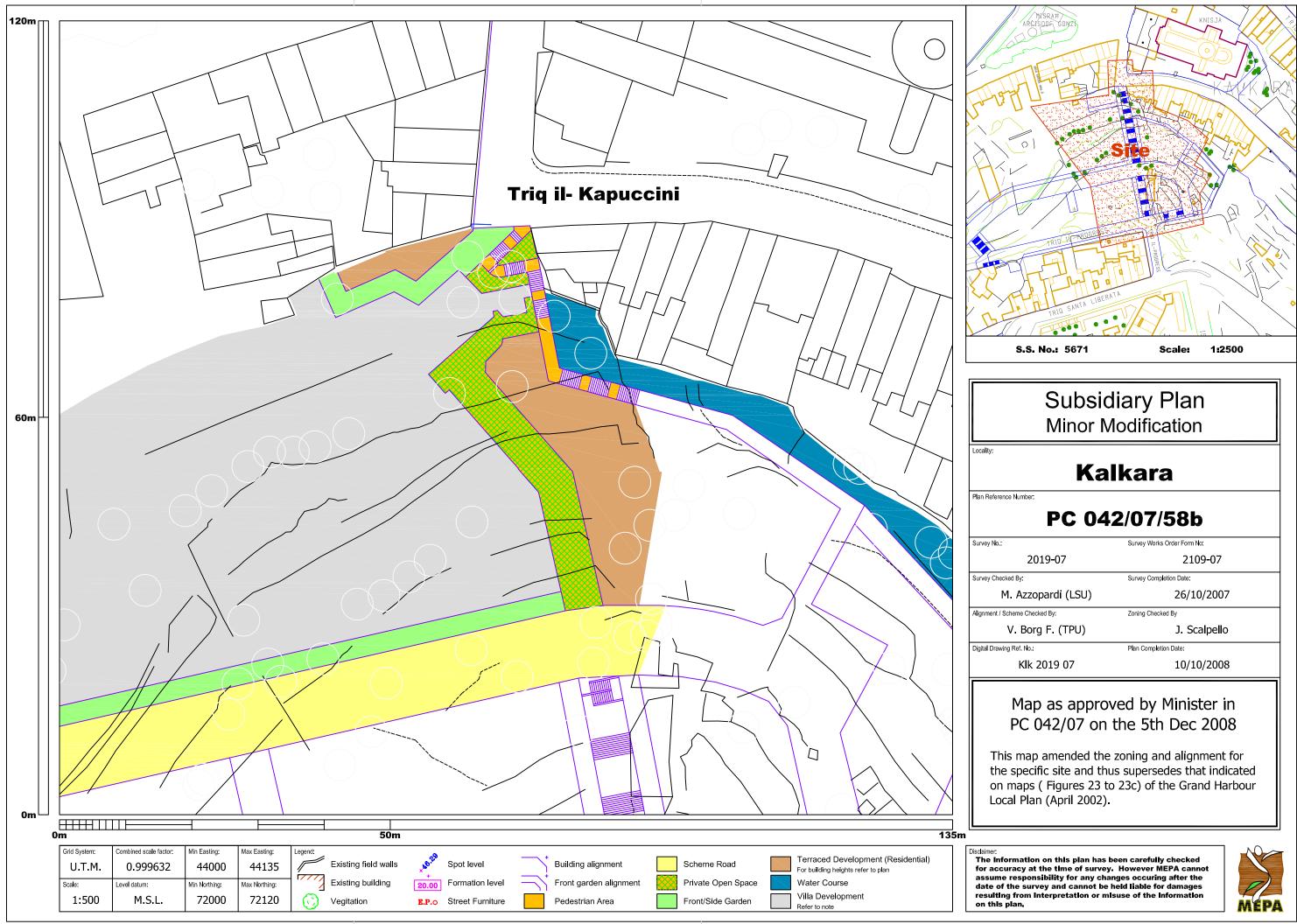
Plot	Site Area (sq m)
A and B	575
С	375
	Table 1

- 4. The villa footprints shown on map PC 30/17/70A are indicative only and changes to the building footprint can be considered through the submission of a Development Planning Application without the need of a Planning Control Application, provided that the sanitary regulations and DC 2015 or any other subsequent amendment Policies related to villa site are adhered to.
- 5. The villa developments shall include a reservoir with a capacity of 20% in excess of the minimum requirement of Part II of L.N. 227 of 2016 Development Planning (Health and Sanitary) Regulations, 2016.
- 6. Site shall not be subject to Floor Area Ratio Planning considerations.
- 7. Detailed development proposals shall be subject to any legal third party access rights through or to the site.
- 8. PC Zoning Application Fees are to be settled by applicants as per LN356/10 at the Development Planning Application (DPA) stage.

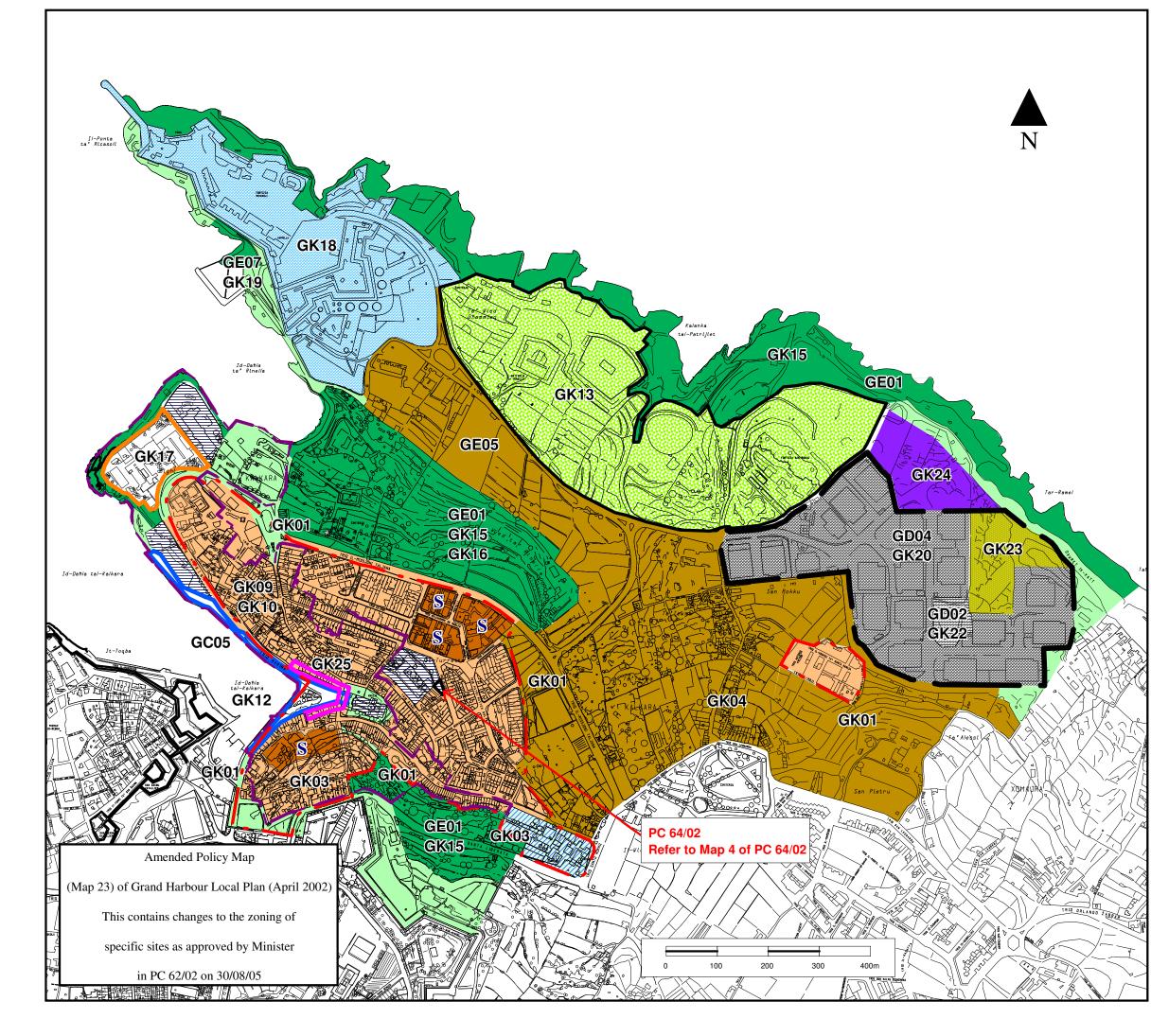




PC Number:	PC 0042/07	
Proposal:	Re-alignment of public road and change in zoning.	
Location:	Triq II-Progress, Schemed Road, Triq II-Kapuccini, Kalkara	
Architect:	Mr Lawrence Fino obo Portokal Ltd	
Applicant:	Mr. Joe Cassar	
Date of Endorsement:	5 th December, 2008.	
Conditions:	N/A	



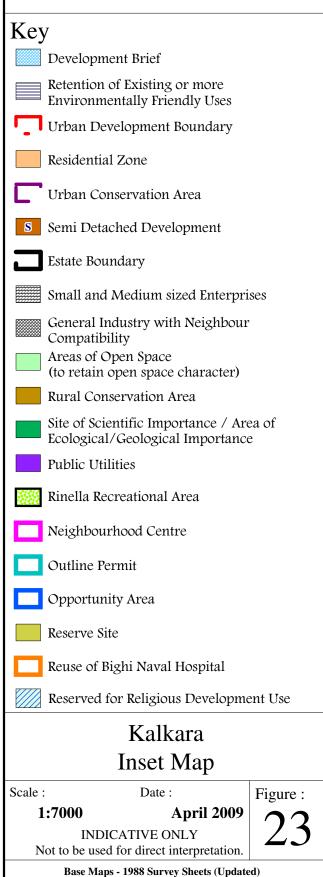
PC Number:	PC 0064/02
Proposal:	Change of zoning of land to residential.
Location:	Triq Anglu Agius, Kalkara
Architect:	N/A
Applicant:	Mr. Vincent Gauci
Date of Endorsement:	30 th August, 2005.
Conditions:	N/A



GRAND HARBOUR LOCAL PLAN



AWTORITA TA' L-IPPJANAR PLANNING AUTHORITY



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Map 4 of PC 64/02 of Grand Harbour Local Plan (April 2002)

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This contains changes to the zoning of

specific sites as approved by Minister

in PC 64/02 on 30/08/05



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Partial Local Plan Reviews

PC Number:	N/A
Proposal:	Grand Harbour Local Plan Review Ricasoli Industrial Estate, Kalkara
Location:	Kalkara
Architect:	MEPA
Applicant:	MEPA
Date of Endorsement:	23 rd April, 2007.
Conditions:	N/A

Grand Harbour Local Plan Review

General Policies

Amendments have been affected to the following policies

GT 03 South Harbour Link Road GD04 Upgrading of Existing Industrial Estate

Area Policies - Kalkara

a) The following area policies have been deleted

GK 22: Small and Medium Size enterprise workshops GK 23: Reserve Site

b) The previous GK 24: Public Utilities Provision has been changed to GK 22: Public Utilities Provision. The policy content has also been amended.

c) GK 13, GK20 and GK21 have been amended. Their respective titles have also been changed as follows:

GK 13: Ricasoli Recreational Area →GK 13 Shoreline and Ricasoli Recreational Area GK 20: Ricasoli Industrial Estate → GK 20: ICT and Media Development City GK 21: Industrial Estate Building Heights → GK 21: ICT and Media Development City Building Heights

General Policies

GT 03 South Harbour Link Road

As indicated on the General Proposals Map, a new arterial road will be constructed on the southern fringe of the Local Plan area, from Tal-Barrani Road to Kalkara (Triq il-Missjoni Taljana). This road will be given a high priority for early implementation. No development approvals will be given for any projects which in the opinion of MEPA could prejudice the construction of this road.

Access to the southern part of the Plan area is generally poor. The routes pass through the centre of the residential areas, and are subject to frequent congestion. This fact was recognised in the Structure Plan, which proposed a strategic link through the area, although it was left to the local plans to elaborate on a more precise route.

The route chosen attempts to avoid property and reduce environmental damage. The road will also provide a satisfactory spine serving the Three Cities, Kalkara, Ricasoli, Fgura, Zabbar and Xghajra. The possibility of linking other localities to the South Harbour Link Road is also to be studied.

In the case of Fgura, it should act as a bypass and assist in removing through traffic from the main street, Triq Haz-Zabbar. By providing improved access to the southern part of the Grand Harbour, in association with other junction improvements, it should also assist in meeting other Local Plan objectives, notably the encouragement of tourism and employment opportunities in the Three Cities area and providing improved accessibility.

GD 04 Upgrading of Existing Industrial Estate

The MEPA will encourage and support the improvement of the existing industrial estate at Kordin.

Malta Industrial Parks have a programme of improvement which includes securing boundaries, rationalising and controlling access, and carrying out of other partial redevelopment works, including the introduction of planting to improve the overall quality of the industrial environment.

This is strongly supported in principle by MEPA, which encourages early implementation. Appropriate planting schemes along the boundary of the estates are considered to be a major contribution to improving the environment, both as seen from outside the estate and also for the workers themselves. This aspect will therefore be expected to be a major consideration in upgrading proposals.

Area Policies

Kalkara

Introduction

Kalkara lies on the south-eastern side of the Grand Harbour, clustered along the eastern shore of Kalkara Creek. The setting of the town is arguably the most rural in the Plan area, with a significant stretch of open land, centred around Wied Rinella, stretching south towards Zabbar and Xghajra.

Kalkara is significant in the context of the Local Plan as being the only settlement which is continuing to attract population, due partly to the extent of the area included within the previous development scheme which remains unbuilt, and also because of its unspoilt, rural character and coastal location.

Adjacent to Kalkara is Ricasoli, which forms the extremity of the Plan area on the southeastern side of the Grand Harbour, including over 2km of coastline outside the confines of the harbour itself.

<u>Strategy</u>

The strategy adopted by the Local Plan concentrates on four principal concerns. These relate to:

- strengthening the residential role of the town;
- assisting better management of the environment;

• maintaining the best features of the area, and attracting complementary development where appropriate; and

• maximising the tourism and recreational potential of the Ricasoli area.

<u>Approach</u>

Kalkara has already established itself as an attractive residential location. A key element of the Local Plan strategy is therefore to introduce policies which strengthen the residential role of the town. The long term expansion of Kalkara as a residential area will be promoted in a manner which takes into account environmental factors, and will involve a re-examination of some parts of the 'schemed' area, including indicating more precisely any design requirements based on site characteristics and possible changes in density.

A problem which has been noted is the lack of community facilities in relation to the growth of the town. Consideration will therefore be given as to what form of facilities are necessary and where they might be located. Part of the reason for the town's growth is its location and character. It will be important to ensure that the positive attributes which are evident are maintained, and utilised to good effect to encourage better standards of development and conservation in the future. It has also been clearly shown elsewhere that an environment of high quality is vital in securing benefits in economic and social development. The concept of maximising the tourism and recreational potential of the Ricasoli area is one which is adopted enthusiastically by the Local Plan, although it is recognised that other aspects are equally as important and may determine the extent to which this aim can be realised. One such aspect is the need to rehabilitate and safeguard the coastline and other natural and man made features of the area, particularly Fort Ricasoli. The overall rural character and setting must also be maintained, and this implies adequate safeguards in relation to positive features and a proactive approach towards remedying deficiencies.

The coast, Rinella Creek and Wied Rinella are sensitive natural features not only locally, but also in relation to the entire Plan area, and are increasingly under threat through abuse, pollution and pressure for development. Policies are necessary to ensure they remain unspoilt and properly protected in future.

With regard to tourism development, Fort Ricasoli has been identified as a key site yet is in dire need of heavy investment in restoration. With so many other calls on funding, it is doubtful if, realistically, anything other than minimal works could be undertaken unless linked to an appropriate tourism/business project or other compatible use which could assist in the necessary upgrading.

The Mediterranean Film Studios too are an important commercial component of the Ricasoli area, both in relation to their primary function as a film centre, and as a tourist attraction. The two roles are quite compatible, and would benefit from, and could themselves help to introduce, a positive change in the quality of the immediate environment. These initiatives are supported by the Local Plan, but need to be linked to a general improvement in the environment and in particular, of the shoreline. Maintenance of public access to and along the shore, from Xghajra towards Fort Ricasoli, is essential, but needs to be linked to proper access arrangements and measures to protect natural features and assist in their appreciation and interpretation by the public.

Kalkara is also somewhat isolated. There is a general issue of dealing with connections to the town at a strategic level, related partly but not exclusively to improvements in road access. The introduction of ferry services also needs to be considered. A clear definition of the road hierarchy is necessary, with the identification of appropriate locations for the introduction of traffic management features and provision for pedestrians.

The attraction of the area from an economic development standpoint should be greatly enhanced by the proposed South Harbour Link Road, the construction of which should be carefully co-ordinated with other developments.

Another important location is the hamlet of Santu Rokku which has developed into a pleasant residential area. The Local Plan must assist in ensuring that this character is maintained, over-development is avoided, and the hamlet retains its rural setting.

In view of the special character of Santu Rokku, and the gradual 'creeping urbanisation' which has occurred with the expansion of Zabbar, it is intended to delimit clearly the area of the village and to ensure that its current form is maintained.

The ICT and Media Development City is anticipated to play a major part in the boosting of the economic environment in the Grand Harbour area. Ricasoli has a major role to play with the location of this key development which will accommodate high quality offices supported by a component of commercial, leisure, recreational and residential space and transform the area from a second tier industrial estate to a strategic employment hub.

Finally, the issue of industrial activities is an important one regarding Ricasoli. The Tank Cleaning Facility presents a difficult problem. In many ways it is out of place in relation to its immediate, historical surroundings and the otherwise unspoilt Rinella Creek. Yet in relation to its industrial function, it is located in the most appropriate location in view of the safety regulations pertaining within the Grand Harbour, and the need for a deep water berth reasonably close to the Drydocks. A considerable sum (over 2 million liri) has been spent in recent years upgrading the berth itself. The possibility of locating the tank cleaning farm facility offshore as a floating platform should be explored as a long term solution of freeing the historic environment from this industrial accretion.

GK05 Kalkara Transport Strategy

The MEPA will encourage the introduction of a comprehensive and integrated transport strategy for Kalkara. The main features will be based on:

i. the definition of a road hierarchy;

ii. a comprehensive road and footpath upgrading scheme;

iii. the discouragement of through traffic;

iv. proposals for the quay area to include traffic and pedestrian management measures; v. measures to improve public transport;

vi link from Triq Santu Rokku to Triq il-Konvoj ta' Santa Marija

vii. improvements to and resurfacing of Triq Missjoni Taljana, Triq Santu Rokku, and the Triq Santu Rokku Access Road;

viii. the 'traffic calming' of Triq Santu Rokku, where it passes through Santu Rokku village; ix. junction improvements at the sites indicated on Figure 25.

RelevantKalkara is effectively the 'terminus' of routes along the south side ofpolicies:Kalkara is effectively the 'terminus' of routes along the south side ofGT01,03,06,08,09,Cleaning Facility does pass through the town. The incidence ofGE02,Heavy vehicles has been much reduced however, following theGK06,07.relocation of the Customs' bonded stores to Hal Far.

The problems which remain are therefore considered to be of a local nature and can be solved in that context, especially since access to the Ricasoli area, and to Kalkara generally, will be significantly improved with the eventual development of the South Harbour Link Road as advocated under general policy GT03. Local improvements will take on an additional significance with the continued growth of the town, and with the attraction of additional tourism to the area. More attention needs to be given to provision for safe pedestrian movement, especially along the waterfront, where scope for further improvements is evident.

Improved accessibility will be especially important in the Ricasoli area in order to accommodate, and indeed assist in promoting, the major projects like the ICT and Media development City and Fort Ricasoli which are intended for this area. In addition, the quiet and pleasant character of Santu Rokku should be maintained for the benefit of local residents. Action is therefore required on a number of levels, including provision of and improvements to roads and junctions, traffic calming measures, and in accordance with the master plan required by policy GK20 and the development brief to be considered for Fort Ricasoli, parking spaces for public and private transport. Consideration also needs to be given, in the case of Fort Ricasoli, to the 'view from the road' and measures like planting to soften the approach to the Fort and screen unsightly elements are essential.

Many of the junctions in the area have been "over designed", or have sub-standard elements. In time, it would be beneficial to improve these sites, to bring them to modern standards, thereby generally improving road safety.

GK07 Public Transport

Improvements to the services and frequency of public transport to Kalkara and the Ricasoli area, in particular to the ICT and Media development City area will be encouraged. Any road improvement or other development works may be required to incorporate modifications to ensure that services can operate efficiently and effectively. Interchange between buses and ferries will be promoted, and the possibility of integrating the Kalkara services with those of Cospicua will be examined.

Relevant As a rapidly growing town, and one that is remote from the main policies: population centres, Kalkara needs a good public transport system. The GT05,06, location of the ICT and Media development City brings a strong GK05,12. component of employment, leisure, recreation, tourism, retail and residential uses to the area which needs to be complimented by an integrated public transport system. The latter should not be regarded simply in terms of road transport, but should also embrace the use of ferries.

The convenience of a ferry service will be directly related to the provision of a vertical connection on the Valletta side, or the integration of bus and ferry services to provide good connections with the centre of Valletta - something which this Local Plan strongly advocates in the policies dealing with the Capital. This should be paralleled, in Kalkara with connections to other parts of the Three Cities, to give an integrated service and easy interchange between bus and ferry. Ferry transport from the ICT and Media development City to the Valletta, Sliema and St. Julians should provide a rapid connection between these nodes.

GK13 The Shoreline and the Rinella Recreational Area

The coastal area behind the scientifically important shoreline between Xghajra and Fort Ricasoli, as indicated on the Inset Map, is designated as the 'Rinella Recreational Area'. The shoreline is primarily intended for use by the public and the Planning Authority will

support measures to upgrade the area, and to introduce a coastal footpath, seating, and interpretative information displays. Unauthorised access by vehicles to the shoreline will be prevented.

The safeguarding of the open character of the parts inwards of the shoreline will be an important consideration in assessing development schemes. The upgrading of the Mediterranean Film Services area and the re-opening of the site for tourism related attractions will be encouraged. This also applies to the historical features in the area, including Fort St. Rokku, as long as these cultural and historical aspects are safeguarded. The open character of the area northeast of the fort will be maintained.

Relevant This area was identified in the Structure Plan Explanatory Memorandum policies: as forming part of the site for a major waterfront park, linked by a proposed country parkway to and through the Cottonera Lines. The area designated in the Local Plan is smaller, taking into account the presence GC01,03,06, of cultivated land, (which will remain) and the Mediterranean Film GD10,11, Studios.
GK08,12,15.

It is important that any activity carried out here is environmentally sustainable, for example regarding the type of chemicals used to clean the film tank. The re-opening of the Mediterranean Film Studios complex should be encouraged. The MEPA will positively consider other development applications that could turn this recreational area into a feasible compatible project, provided that it keeps its open character.

Nevertheless, a substantial strip, about 1.5km in length and up to 200m in width, has been included which should also be subject to a coastal zone management programme.

The shoreline area is not intended for the development of any type of organised recreation requiring special provision such as pitches or commercial facilities, but simply for the quiet enjoyment of the open air by the public. A footpath, occasional picnic seating and tables, with information panels giving details of features of interest, are envisaged as being all that will be necessary or desirable.

At the moment, the coastline is used as a rubbish dump, partly encouraged by the presence of a track accessible to motor vehicles. The whole zone needs to be cleared of debris, the access to motor vehicles blocked, and planting and other comparatively minor works undertaken which would result in a significant improvement. This route could form part of a trail which links the historic Forts and buildings around the coast in the area, currently being projected by the Xghajra local council. The MEPA and Xghajra local council have all been involved in discussions on aspects of this issue, and the Local Plan policy formalises the thrust of the action which has been proposed.

GK20 ICT and Media Development City

MEPA will support the location of an ICT and Media Development City which will regenerate the area of the former Ricasoli Industrial estate and its surroundings, including a small tract of land in Xghajra, into an employment led mixed use development within a high quality working and living environment, providing specialist facilities specifically for information and communications technology industries indicated in Figure 23.

MEPA will require the preparation of a master plan based on the vision of establishing a 'Gateway for ICT to Europe'. The master plan should require a high level of architectural quality and include the land uses, buildings, heights, roads, pedestrian networks and landscaping detailing development proposals and give a comprehensive schedule of land use/space provision and the mix of uses. The master plan should also make provision for energy saving measures, a high technical quality of buildings, high quality landscaping, public open spaces, public access and storm water management.

Special consideration must be given by the master plan to the setting of the city, with particular reference to Fort Santu Rokku which abuts the boundary.

Acceptable land uses allowed within the boundary of the ICT and Media development City include

- Office space for ICT/media clusters
- Residential
- Hotels, related short stay accommodation facilities and resort based leisure facilities
- Retail and associated commercial floorspace
- Services, utilities, roads, access ways and parking provision relating to the above

Relevant policies: The location of a ICT and Media development City within the form GN01, industrial estate of Ricasoli and Xghajra will act as a catalyst for th GS07, regeneration of the area and create a new employment, commerci GE06, tourist and recreational hub in the southern part of the island. GD03,04, GK21,22,.

The city will serve as the Gateway for ICT to Europe and its architecture, design and features must envision this statement. The land uses will include the development of hospitality, retail facilities, residential uses, a lodging area and associated activities to help serve the requirements of employees associated with the knowledge based operations of the site. The mix of uses is intended to reduce the need to travel, create a cohesive community and achieve a high degree of self containment required for developing a sustainable knowledge community. Self-containment is encouraged by locating homes and jobs in the same location. It is encouraged further by providing supporting facilities on employment and housing sites, such as shops, community and leisure facilities.

GK21 ICT & Media development City Building Heights

In the consideration of applications which include changes to existing building heights, the MEPA will adopt a flexible approach which will take account of the following criteria:

• the streetscape through a consideration of the buildings on the same side and those on the opposite side of the street/s concerned;

the general massing of the building and urban design context;

• the topographical features and, where applicable, consideration of the sloping nature (including buildings in the background);

• the visual impact on the skyline when seen from outside the site area, including views from the water level, the Grand Harbour and contigious urbanized areas;

• the particular requirements of the proposed use; and

•adequate development densities to ensure quality development and any other relevant planning considerations.

The ICT and Media development City area is identified by the "Planning Policy on the Use and Applicability of the Floor Area Ratio (FAR)", October 2006 as a potential location for tall buildings subject to clearance from the relevant authorities and to urban design considerations.

Relevant It is considered inappropriate to give a blanket height for all the area within policies: the ICT and Media development City boundary as identified in Figure 23. GS07, The approach adopted in this instance is to determine requests in changes

GK20,22, in heights on an individual basis. This assessment, however, has to consider all the relevant planning issues, including those mentioned in the policy, and other relevant planning guidance already issued by the Planning Authority.

> The location of the ICT and Media Development City being a strategic employment hub is identified as one of the locations on which tall buildings may be located subject to the provisions of the "Planning Policy on the Use and Applicability of the Floor Area Ratio" policy guidance approved in 2006 and to urban design considerations.

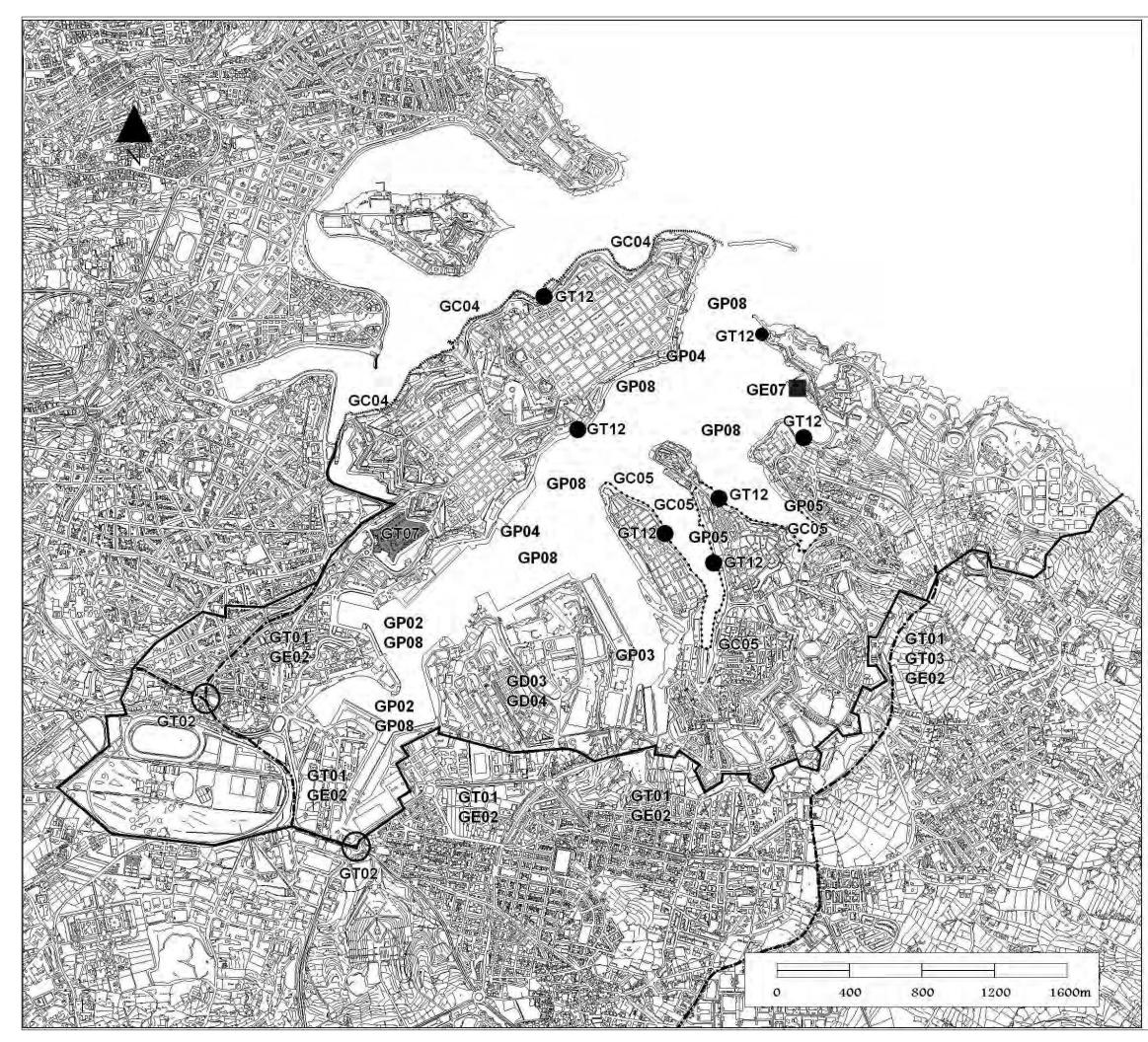
GK22 Public Utilities Provision

The search area of Wied Ghammieq is identified in the Structure Plan under policy PUT11 as the site for a sewage treatment plant which will contribute to a general improvement of the south easterly coastal area and enhance its potential. An appropriate site for the location of the Sewage Treatment Plant has been identified in the area of tal-Barkat limits of Xghajra.

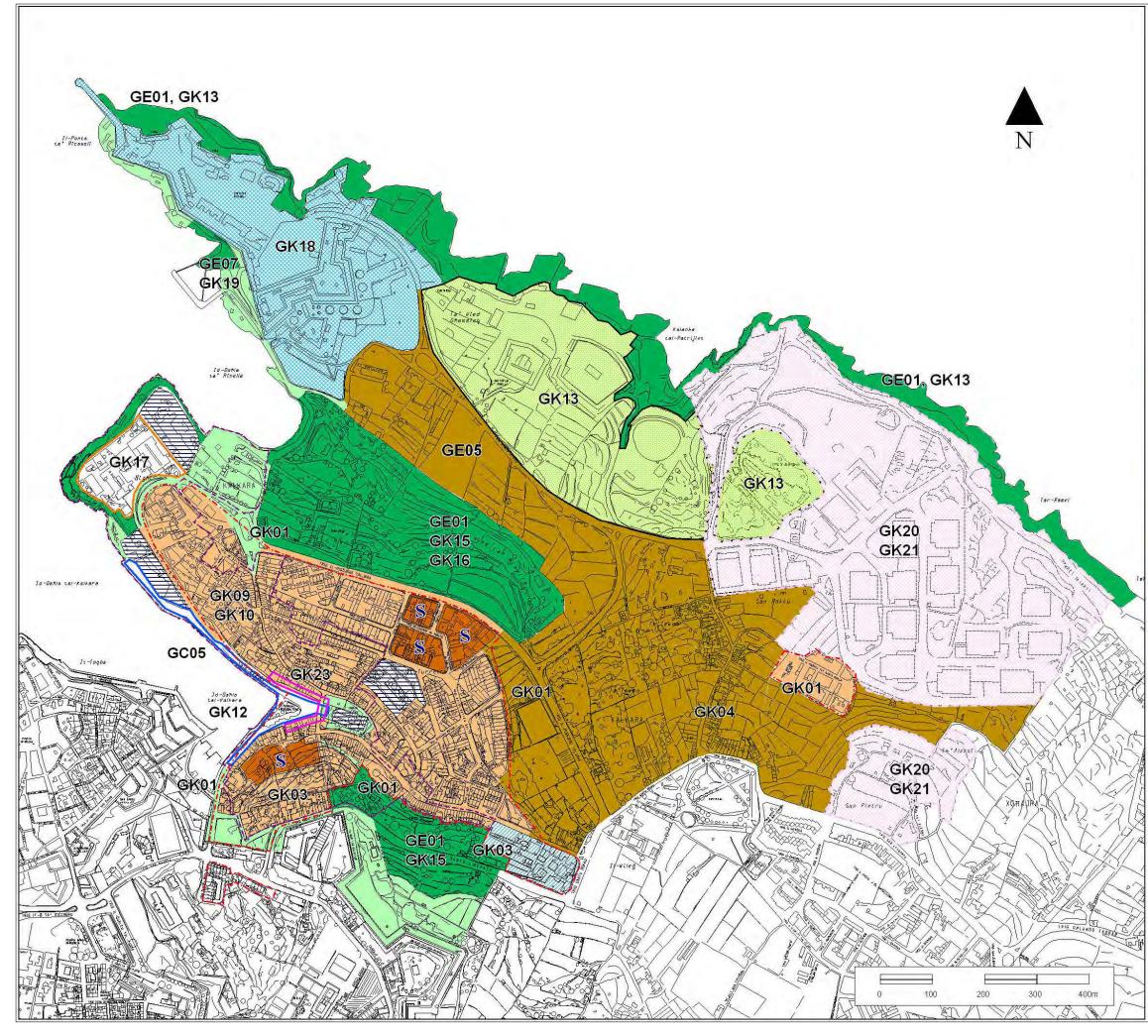
- Relevant The general south-eastern part of the island has a strategic significance in
- **policies:** respect of the upgrading of the sewerage system because of the proximity
 - GN02, of the main outfall on the coast at Wied Ghammieq.
- GS07,
- GK20,21.

This is part of the strategy to treat an estimated 25 million cubic meters of raw sewage discharged into the sea every year. 80% of the sewage generated by the Maltese Islands is presently discharged through the Wied Ghammieq sewage outfall affecting the coast between Ricasoli and Marsascala. Policy PUT11 of the Structure Plan also reinforces the general recommendation, but puts the onus on the Local Plan to identify and safeguard a suitable site.

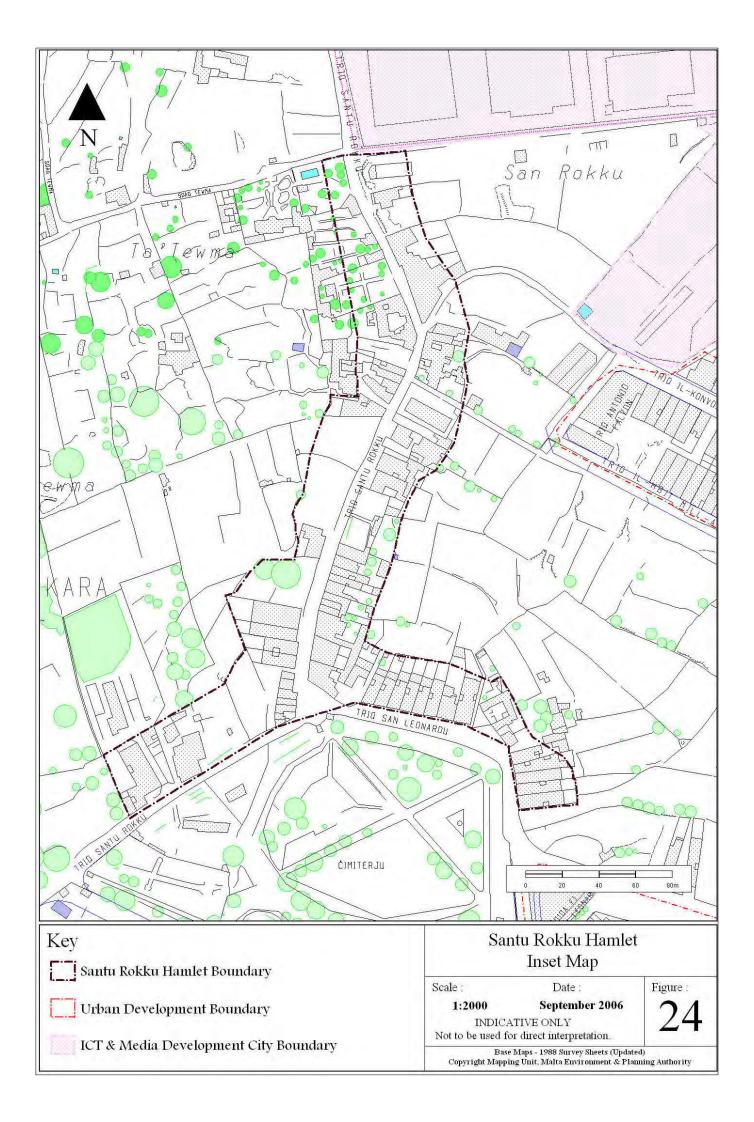
It is clear that the search area has been chosen mainly on technical grounds.. Any proposal of this nature will in any case need to be the subject of a full Environmental Impact Assessment.

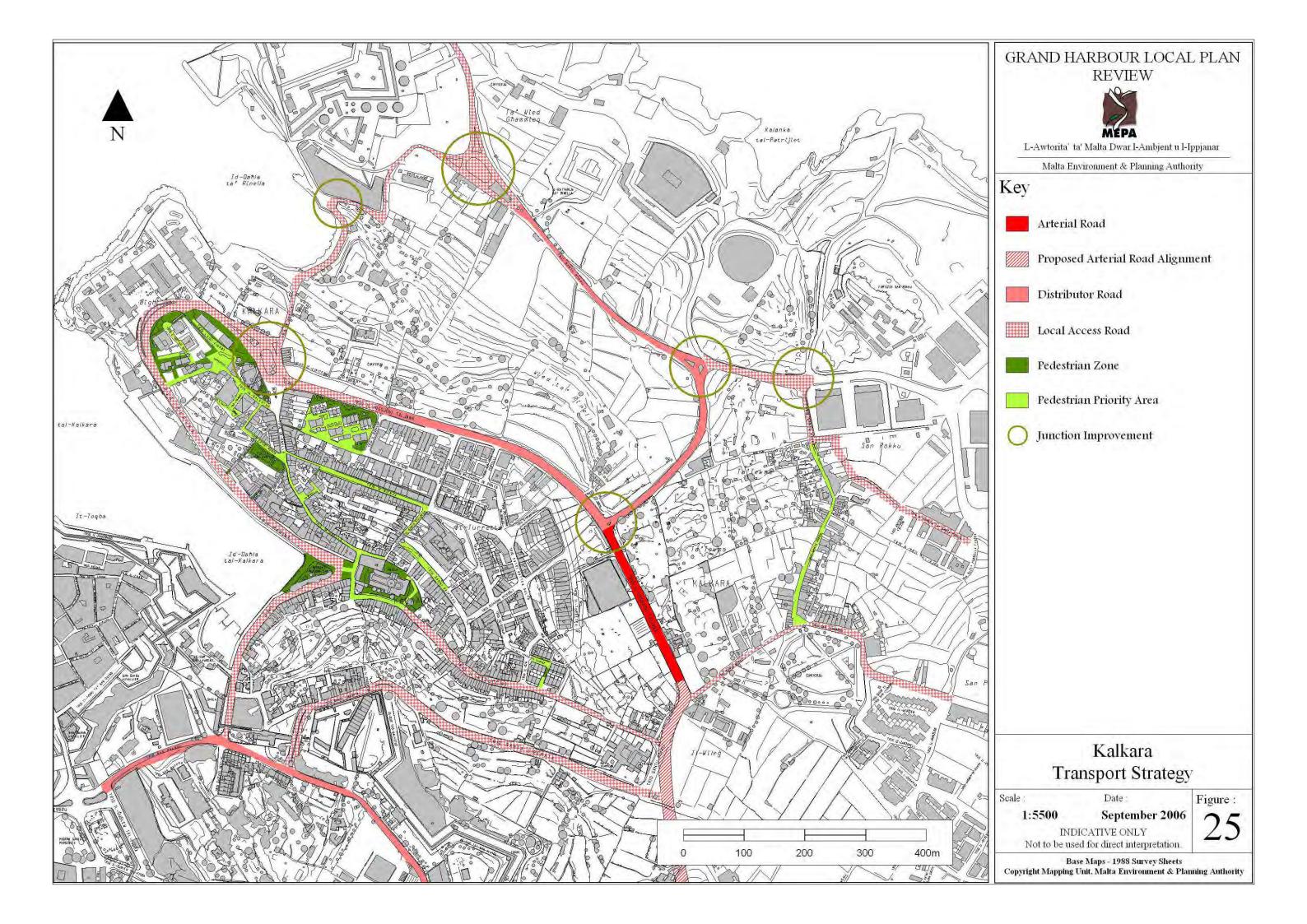


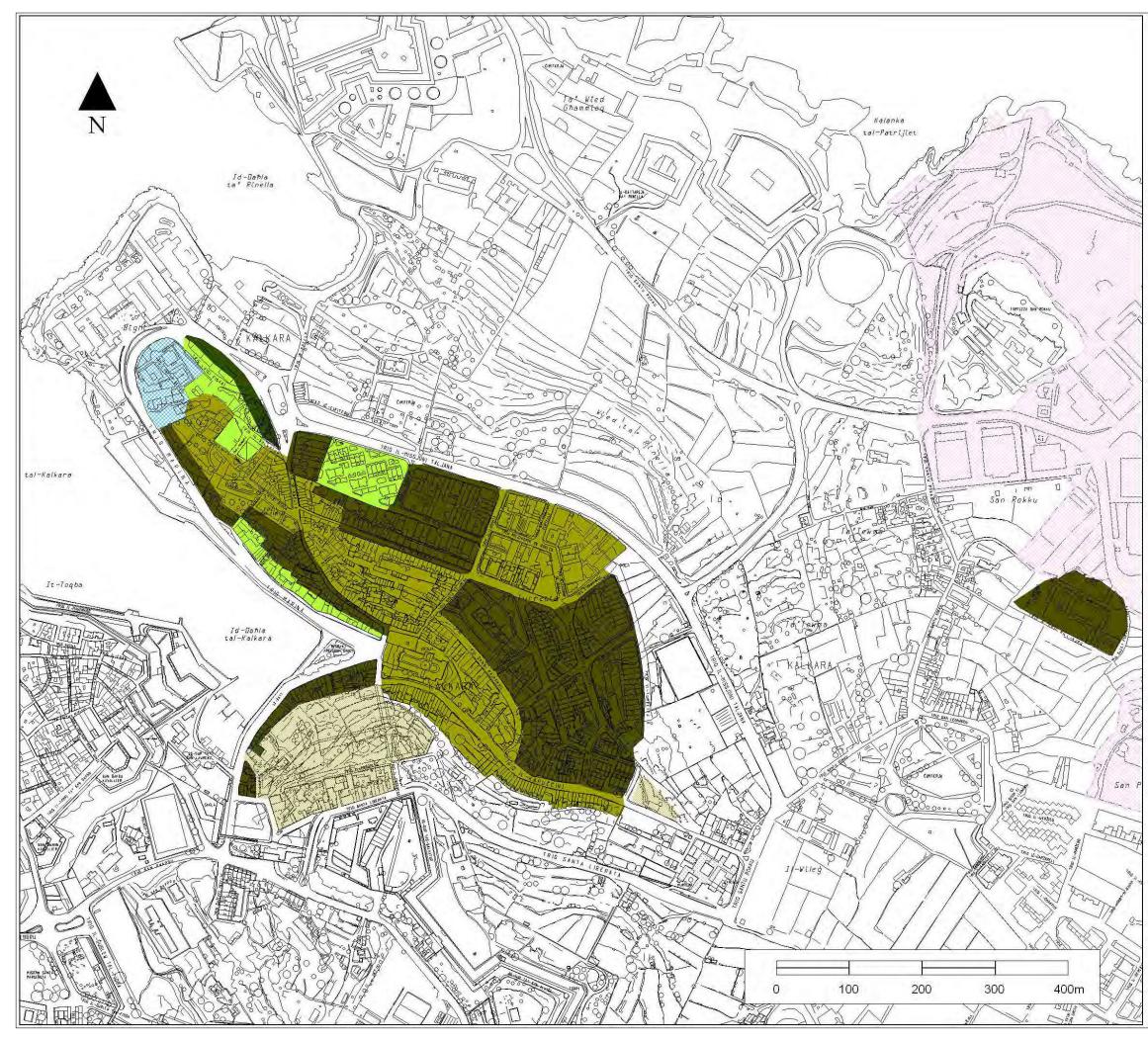
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0	Major Junction Improvemen
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	Marsamxett Harbour Waterfront
	Cottonera Fromenade
•	Ferry Landing Points
	Tank Cleaning Facility
—	Local Plan Boundary
G	eneral Proposals Map
scale -	eneral Proposals Map Date Figur 20,000 September 2006



GRAND HARBOUR LOCAL PLAN REVIEW
MÉPA L-Awtorita' ta' Malta Dwar l-Ambjent u l-Ippjanar
Malta Environment & Planning Authority
Key
Development Brief
Retention of Existing or more Environmentally Friendly Uses
Urban Development Boundary
Residential Zone
Urban Conservation Area
S Semi Detached Development
ICT & Media Development City
Areas of Open Space (to retain open space character)
Rural Conservation Area
Site of Scientific Importance / Area of Ecological/Geological Importance
Rinella Recreational Area
Neighbourhood Centre
Opportunity Area
Reuse of Bighi Naval Hospital
Reserved for Religious Development Use
Kalkara
Inset Map
Scale : Date : 1:7000 September 2006 INDICATIVE ONLY Not to be used for direct interpretation. Figure : 23
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Amendments to Grand Harbour Local Plan MEPA Response to Public Submissions November/January 2007

Reference	Comments	Response
E-Mail Salv Mallia 14/11/2006 REF:GH001	 GK21 ICT & Media development City Building Heights It is imperative to change building heights in such a sensitive historic area, not just from the water level from the sea. Not clear whether views from sea level also include example Kalkara or Valletta Waterfront. The Grand Harbour is a unique gem that would negatively be impacted by high rise buildings, especially in the outer harbour area near the three cities. Such a Portomaso style tower in the ICT and media city area would be easily visible from the Grand Harbour. 	 MEPA requires that a master plan be prepared for the Ricasoli area. The master plan will include the envisaged heights for the area (policy GK20). The master plan will be subject to public consultation and the heights will be suitably assessed through a visual impact assessment.
ENEMALTA Corporation 21/11/2006 REF:GH002	 Amendments to GH policies GK20, GK21. New distribution Centre and a new tunnel to feed the main power source of this new development area. Existing distribution network which feeds consumers not directly within the zone outlined by the appropriate highlighted area will have to be retained and should not form part of the redevelopment. The substation may form part of this area; however it cannot be relocated as the distribution lines are not part of the area. Policies should also be read in the light that an extensive area has to be reserved for a distribution centre and end point of the tunnel serving the power lines on which this industrial park will depend. Outlined substation in the attached plan should be excluded from development Enemalta should be consulted on the siting and position of the buildings and facilities intended for the service of power provision for the area. 	 The Master plan to be prepared in the light of policy GK 20 will need to address all required infrastructure requirements. Furthermore, at the development application stage Enemalta will be consulted on the proposed infrastructure provision.
E G Cefai LL.D 09/12/2006 REF:GH003	The site is presently surrounded by areas of building development. And in the immediate future an intensification of this building development in the surroundings together with the making of the proposed street passing through the site itself will further enhance and intensify globally the present existing	 The scope of the GHLP review is to facilitate the accommodation of Smart City within Ricasoli and its environs. The request is not within the scope of the

	 building development. The site moreover qualifies in virtue of its commitment which is very high considering too that areas and sites with much lesser commitment have been included in the development zone. The street that is proposed through the site by the Planning Directorate itself actually commits the unbuilt and relatively small plots in the site to development. In itself the street intensifies development on the land. The site has an excellent infrastructure including that it touches at least three roads and will in the future have another important road (as proposed by the Planning Directorate) pass through it apart from all the necessary services (electricity, water and so on) at hand. This reason solely and by itself should qualify the site for inclusion in the Development Zone. The site is committed by surrounding uses such that its only use can be as those of immediately surrounding uses. The Planning Directorate itself in 2002 designated a large part of the site for inclusion in the SMES Site Selection Exercise. The site is in itself so internally committed by buildings that the relatively small parts still left unbuilt can only be used for building development. 	review since the request is for land currently outside the development zone to be included within the development zone. This process requires a structure plan review.
William Lewis 11/12/2006 REF:GH04	 In the Transport Strategy Plan, the site in question is flanked by a pedestrian priority area. Proposing to amend the pedestrian zone as being indicated in the attached site plan as client's site will not be prohibited from a garage. Site is currently bound within the urban consevation area. Since site is not yet developed and is adjacent to to new development, there is no validation in having this site within an urban conservation area. Proposed to shift urban conservation area to the other side of site. 	The objective of the review is to accommodate the Smart City within Ricasoli and its environs, subsequently the request cannot be entertained as part of this review.
Cachia & Associates 19/12/2006 REF: GH05	 Requesting MEPA for the rezoning of land in Marsa, site in question falls within Marsa Park Development as per policy GM15 and Area Policy Maps Figure 12 and 15 in the Grand Harbour Local Plan. 	• The objective of the review is to accommodate the Smart City within Ricasoli and its environs, subsequently the request cannot be entertained as part of this review.

Xghajra Local	GT 03 South Harbour Link Road	The justification of policy CT 02 has been	
Council 8/01/2007 REF: GH06	The South Harbour Link Road should extend along Triq San Leonard onto Xghajra and should include improvements in the access from the Zabbar side to Xghajra.	 The justification of policy GT 03 has been amended to allow for the possibility of linking other localities to the South Harbour Link Road to be studied. 	
	GD 04 Upgrading of Existing Industrial Estate		
	We are unable to comment on the Kordin Industrial Estate.		
	<u>Area Policies</u>		
	<i>Introduction:</i> The area demarcated by Sqaq ta' Alessi along the south side of the present Ricasoli factory area and stretching by boundaries along Triq San Leonard and the Xghajra coast, lies within the locality of XGHAJRA which is included in the Grand Harbour Local Plan. The rest of the Xghajra locality is included in the South Local Plan.	 MEPA acknowledges that part of the area earmarked for the development of the ICT and Media Development City is located within Xghajra. Hence reference to the location of the ICT and Media Development City will be to 	
	The Xghajra Local Council strongly points out that this area (from the edge of the present Ricasoli factories facing south up to the Xghajra residential area) has to be referred to as XGHAJRA and not as Ricasoli. The coastline of this designated area is part of the Xghajra shorefront and eventual Promenade.	the ICT and Media Development City will be to both Xghajra and Ricasoli.	
	Approach	This concern is noted and MEPA will seek to	
	 Any expansionary residential or otherwise future plans including planning and considerations of community facilities should take into consideration those areas and its peripherals which are designated as part of the Xghajra locality. Special consideration should be taken as to the eventual development expansion that the ICT Media centre will most likely provoke. The Xghajra area along and on one side of Triq San Leonard borders with the St. Peters hamlet area which is in the locality of Zabbar but which has recently developed into a residential area of circa 3000 people. 	 ensure that the impact of the ICT and Media Development City on both Kalkara and Xghajra in terms of both infrastructure (transport and utilities) and ancillary development will be mitigated. MEPA reflects this point in policy GK 13. 	
	• Maintenance of public access to and along the shore, from Xghajra towards Ricasoli should include open recreational areas with an upgrading of the coastal access road as a promenade but restricted as a pedestrian zone without access to motor vehicles.	 MEPA takes note of this concern and will address it through a believing planning 	
	• The Xghajra side, along Triq San Leonard should be included in all	address it through a holistic planning approach.	

	 plans of upgrading, traffic management and development considerations. The naming of the Media Centre as a City is objected to and is disturbing. As the ICT Media Development Centre will lie between two villages, this may give rise that both Kalkara and Xghajra will somewhat lose their "Village" identity. It is strongly suggested that the so called "SmartCity" should be more appropriately named and called "The ICT Media Centre". 	• It is practice for ICT and Media Development business parks to be referred to as cities, since the acceptable land uses are more than just a workplace since they integrate a working and living environment. Examples include Dubai Internet City, Dubai Media City, Smart Villages (Egypt), CyberCity (Jordan) and Media City UK.
	 of a comprehensive and integrated transport strategy for Kalkara should be extended to include the route along Triq San Leonard and onto Xghajra. Through Traffic from ICT Media Centre and along the coast from the present Ricasoli Industrial Estate should be strongly discouraged as this would eventually render Xghajra as a by pass to Marsascala. The improvement of Public Transport should extend and link from Cottonera to Kalkara to Xghajra along Triq San Leonard into Xghajra and through the area of St. Peters (Zabbar) with a bus terminus constructed strategically in the area to accommodate these localities. This will serve as a 2nd link of public transport towards Xghajra and the peripherals of Zabbar-St Peters, servicing an approx. population of 4000/5000 people. 	 The Grand Harbour Local Plan primarily deals with the localities falling within its aegis. This is an area policy within the Kalkara chapter. However, it is agreed that a comprehensive and integrated transport strategy, including public transport, for the wider area should include Xghajra and other settlements. Policy GT 03 ensures that the ICT and Media Development City will be supported by the necessary transport infrastructure. The necessary measures need to be taken to prevent Xghajra becoming a bypass to Marsascala. It should be noted that the approved SMLP does not include a link from Xghajra to Marsascala. Noted and this will be taken in consideration of in the application phase.
•	 Relevant policies: GT 01, 03, 06, 08, 09, GE 02, GK 06, 07. As already mentioned in previous paragraphs, the South Harbour 	• The justification of policy GT 03 has been amended to allow for the possibility of linking other localities to the South Harbour Link Road to be studied.

	 Link Road should extend and include access to the Xghajra locality. Accessibility considerations and plans should extend and include the Xghajra area from the Present Ricasoli factories to Xghajra. This is to include the environmental improvements and protections combined with the provision of public open spaces in an environmentally friendly manner with proper pedestrian access and off road parking facilities. The Xghajra Local Council considers that the above should be part of the packet which has to be accepted by the 	 The area between the current Ricasoli Industrial Estate and Xghajra is identified by the South Malta Local Plan as a strategic open gap. The area is governed by policy SMCO 1.
	Government/Developers of the ICT Centre.	
	• <u>GK 07 Public Transport</u> his is required to extend to the Xghajra locality including the St. Peters rea as part of the ICT Media Centre including adjacent and affected areas.	 MEPA agrees that the whole area needs to have an integrated transport strategy.
R	elevant policies: GT 05, 06, GK 05, 12.	hate an integrated hanopolitenategy.
A	he impact of the ICT centre will affect Xghajra and the St. Peters area. ny plans complimenting an integrated public transport system should include these localities being an integral part of the main reason why the irand Harbour Local Plan is being amended.	 Policy GK 13 relates to an area located within Kalkara zoned for the purpose of recreation and the related shoreline ranging from Fort Ricasoli area to the edge of Xghajra.
G	K 13 The Shoreline and the Rinella Recreational Area.	
d R br tr p R R	he Xghajra Local Council strongly submits that it does not agree that esignated areas of the Xghajra locality may be referred to as part of the inella Recreational area. It has already been pointed out that the area ounded by Triq San Leonard and the Xghajra coast road extending from he south side of the present Ricasoli factories (from Sqaq ta' Alessi), is roperty falling under the Xghajra Local Council. If the proposed recreational site includes this area then we strongly suggest that it should roperly be designated as the Rinella/Xghajra recreational area as a rignificant part of this site falls within the locality of Xghajra.	
B	elevant policies: GN 04, GEO 06, 07, GD 10, 11, GK 08, 12, 15.	
d	he Xghajra Local Council agrees that any shoreline evelopment/improvement should be primarily for the public "free" use and onstructed with specific environmental considerations including open ublic spaces with adequate pedestrian access and properly planned	 MEPA takes note of this submission which is in line with the thrust of policy GK 13.

recreational areas. A promenade should extend from Fort Rinella along the coast connecting to the Xghajra promenade incorporating the Historical Defence Trail as documented by the Xghajra Local Council. The promenade and accesses along the coast should only be for pedestrians with ample free strategically and distanced located parking lots available for the visiting public with a managed access from the link road in an environmentally friendly method.	•	It is practice for ICT and Media Development business parks to be referred to as cities, since the acceptable land uses are more than	
<i>GK 20 ICT and Media Development City.</i> Our council again strongly mentions our objection to the use of the word "City". This may invariably give rise to the demonising of the villages of Kalkara and Xghajra. This is why the word "Centre" is more appropriate.		just a workplace since they integrate a working and living environment. Examples include Dubai Internet City, Dubai Media City, Smart Villages (Egypt), CyberCity (Jordan) and Media City UK.	
Mepa's support to regenerate the area of the former Ricasoli Industrial estate and its surroundings includes the Xghajra designated extensive adjacent area together with the St.Peters area. Our council whilst in favour of such regeneration, requests that the final document by Mepa clearly and distinctively mentions Xghajra's involvement. Mepa's preparation of a master plan based on the vision "Gateway for ICT to Europe" must involve and include the active participation and consultation of the Xghajra and Kalkara Local Councils and should include all the "Planning Gain" available to the two respective Councils consequent to this development.	•	MEPA acknowledges that part of the area earmarked for the development of the ICT and Media Development City is located within Xghajra. Hence reference to the location of the ICT and Media Development City will be to both Xghajra and Ricasoli. Policy GK 20 requires the preparation of a master plan from the proponents of the ICT and Media Development City. MEPA agrees that the involvement of the local councils in the preparation of a successful master plan.	
	•	The issue of planning gain will be dealt with during the processing of the relevant development applications.	
Mepa's submissions make no mention of "Storm Water Management" for Kalkara, St. Rocco, Ricasoli and especially Xghajra since these localities	•	The impact of the ICT and Media	

are mainly built along valleys or the likes. With the extensive planned development of the ICT Centre, and recreational grounds, the residential areas adjacent will invariably have redirected storm waters entering their roads and properties. This is already a problem in Xghajra and any increased development on the hillsides of the adjacent areas will increase this problem. Steps have to be taken to plan for this eventuality.

Relevant policies: GN 01, GS 07, GE 06, GD 03, 04, GK 21, 22.

The regeneration of the former Ricasoli Industrial Estate and the building of the ICT Centre which will be catering for hospitality, retail facilities, residential uses, lodging areas, etc and the effect of all these matters extending onto the Xghajra territory, locality and other nearby residential areas, are matters of great concern for us. Invariably all the public utilities necessary as a result of all this development will surely effect Xghajra and the St. Peters area. Mepa is to safeguard and ensure that the resultant need of the upgrading and new implementation of all public utilities such as water, drainage, electricity, telephones, storm water management etc, should be properly included and detailed as development conditions.

Xghajra Local Council requests that there should be building restrictions imposed on the developers of the ICT project whereby the minimum non development area within the project is clearly defined, bearing in mind that this is public land being exploited for commercial purposes.

GK 21 ICT & Media Centre Building Heights.

The question of allowable building heights within the ICT & Media Centre are of great concern and besides the criteria being considered by Mepa it is strongly suggested that building heights take into consideration the surrounding and nearby villages and hamlets. The Xghajra Local Council finds it rather unconvincing that building heights should be regarded on a flexible approach bearing in mind that within and adjacent to the ICT Centre there are restricted residential building heights in force. Further more Mepa needs to seriously consider the fact that the St. Rocco hamlet and the whole Xghajra residential area lie in and along valley beds. Any permitted taller building clusters adjacent to these areas such as being proposed by the developers and being considered by Mepa, could seriously distort the Development City on storm water flows and the related mitigation measures need to be studied at both master plan and development application stages.

- All required services and utilities pertaining to the ICT and Media Development City need to be identified and catered for in the Master plan as required by policy GK 20.
- The same policy requires that "the master plan should also make provision for energy saving measures, a high technical quality of buildings, high quality landscaping, public open spaces and public access".
- MEPA agrees that the setting and context of the ICT and Media Development City needs to be taken into consideration when determining the appropriate building heights for the development. This issue is a requirement of the master plan advocated by policy GK 20 and also within the criteria of policy GK 21.
- It is pertinent to point out that the flexible approach principle was retained from the policy relating to the Industrial Estate building heights.

skyline and may positively appear to engulf such	low lying villages.
Relevant policies: GS 07, GK 20, 22. The concept of tall buildings being contemplated the Ricasoli locations under provisions of Planni and to urban design considerations was only app planned to be a strategic employment hub or not considered before the granting of building permit with restricted height limits in areas such as St. F adjacent areas.	ng Policy-Floor Area Ratio proved in 2006. The area , should have been s for residential purposes considered for tall buildings.
<u>GK 22 Public Utilities Provision</u> The re-siting of a Sewage/Waste Treatment Plar planned at Wied Ghammieq has only come abou ICT Media Centre around the Rinella/Ricasoli ar Council requests Mepa to state in its documenta the plant to a location on the south side of Xghaj accommodate the investors of the ICT project.	tions that the plans to shift
The site being now proposed lies within the Xgha part which protrudes outside the Xghajra area. S shifted the negative effects of such a plant (whic the sewage of Malta from Bahar ic-Caghaq down from the Kalkara area to the Xghajra and adjace development needs to have a full Environmental exercise in accordance to EU standards.	uch a move has now n will cater for over 80% of n to the south of Malta) nt areas. Such a strategic
The Xghajra Local Council is being consulted by and the Ministry of Investments and IT. It is esse as part of this consultation process that the Xgha expecting that all the negative aspects of this pla Environment, Access to and from the site, Lands Sludge, Redirection of the sewage inflow from W on nearby Dwellings, Storm Water Management	the Water Services Corp ntially being emphasized nigra Local Council is nt i.e. Noise, Odours, caping, Transport of fied Ghammieq, the Effect

 Sewage, The Distribution system of Water for Re use, the Upgrading of the Infrastructure and Public Utilities and a number of other relevant issues will be dealt upon and tackled to the satisfaction of all concerneed. Xghajra Local Council requests that Mepa is actively involved in this exercise. It is also expected that as already publicly announced by the Minister concerned, that Xghajra will be compensated for this unexpected inconvenience brought about by the Development of the ICT Media Centre for which the Grand Harbour Local Plan is being amended. The Xghajra Local Council by this submission requests Mepa to consider this matter and include it in its consultation process. The ICT Centre at Ricasoli cannot be progressed unless the resiting of the Sewage plant takes place, so we consider that the effect of the Sewage Plant on the locality of Xghajra is an integral part of the whole reason why Mepa is issuing an amendment to the Grand Harbour Local Plan. Furthermore regarding the ICT Media Centre and the adjacent lands in Xghajra (part of the Grand Harbour Local Plan) the Xghajra Local Council proposes that the use of land for public areas should be a priority and safeguarded by Mepa and should include the maximum possible not commercially developed. The residents of the surrounding villages and hamilets and similar areas should be protected from any negative effects that such a Development project may ensue. The area to be developed is presently mainly Non-Urban open land including a magnificent natural coastline which is perhaps going to disappear and whatever beauty it now has will become an irreversible conclusion. While employment and tourism orientated projects are of an economical importance, any "destruction" of our countryside and coastline is to be strongly avoided as these areas are just as important for our better living and environmental well being. We believe that the "planning" part of Mepa should seriously take note of the "environmental" impact w	 MEPA takes note of this concern. Figure 23 identifies the boundary for the proposed ICT and Media Development City. The land in question is within the development zone as approved by Parliament in July 2006. GK 13, GK 04 (GHLP) and SMCO 01 (SMLP) relate to the areas outside the development zone which surround the ICT and Media Development City. GK 13 deals with the Rinella Recreational Area, the shoreline and public access, GK 04 with the rural conservation area and SMSE 04 with the strategic open space gap. The coastline falls under the aegis of GE01 and GK13 and is a site of scientific importance. MEPA takes note of these concerns.
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Kalkara Valley Replanning Exercise Grand Harbour Local Plan

Public Consultation Issues Report

January 2002

1. Background

- 1.1 In October 2000 the Planning Directorate embarked on the re-planning of an area of Kalkara which was affected by policy GK 03 *Residential Development in Wied Kalkara* in the Grand Harbour Local Plan. In April 2001 the document *'Kalkara Valley Replanning Exercise. Grand Harbour Local Plan. Public Consultation Draft. Proposed Amendment to Policy GK03 'Residential Development in Wied Kalkara''' was launched by the Planning Authority for public consultation. (Refer to Figure 1 for identification of the site).*
- 1.2 Following the official launch on the 24th April 2001 a period of six weeks was allowed for the general public to make comments and submissions on the proposal for Kalkara Valley. The document was made available during this period on the PA web site, at the reception of the PA offices, at the Local Council and at Public Libraries. Members of the public were also welcomed to discuss the proposal with PA officials.
- 1.3 The period for public comments ended on the 5^{th} of June 2001 but was extended by another two weeks and finally closed on the 15^{th} June 2001. The document generated intense public debate and a total of 106 written submissions were recorded by the Directorate including a petition with 3,378 signatures and 1,781 postcards prepared specifically in relation to this re-planning exercise by the Action Committee set up by Fr Mark Montebello.
- 1.4 The Planning Directorate has carried out a classification and analysis of these submissions to identify the major planning issues and concerns of the public. This report contains the identification of all the major planning issues and highlights the reasons submitted by the public for these issues. In the third section, this report indicates solutions to these issues and any further work which had to be carried out. The Appendices to this report includes the report on the ecological value of the site, the consultant's report on the drainage and storm water impacts, and the submissions by the Drainage Department.
- 1.5 The Planning Authority Board discussed this document on the 11th of January 2002 and approved it, with amendments. These amendments are highlighted in the relevant paragraphs.

2. Issues of Public Concern

- 2.1 The submissions and comments made by the public have been classified under the following headings which give an indication of the gist of the submissions
 - Objections to the Principle of Development (Refer to Figure 2) (79 comments including a petition with 3,378 signatures and 1, 781 postcards);

- Objections to the destruction of the environmental value of the whole site (38 comments);
- Complaints related to infrastructure problems (35 comments);
- Objections to the principle of site A (Refer to Figure 2) (12 comments);
- Objections to the destruction of an organic farm (23 comments);
- Objections in relation to Site B (Refer to Figure 2) (2 comments);
- Objections to the Layout and Design of the Scheme (23 comments);
- Comments on the proposed Building Heights; Zoning and general comments (33 comments).

The Principle of Development

2.2 The bulk of the objections, including the petition and postcards mentioned above and submissions by the Local Council, related to the principle of allowing **any** development at all on any part of the site affected by the re-planning exercise. A wide range of generic reasons were submitted varying from the need to protect green areas, open spaces, agriculture and the countryside, the importance of protecting, reducing densities and improving health. The proposal was also quoted as being an example of over development and unsustainable development practices.

Environmental Value of the Site

2.3 The second largest bulk of objections were also against the principle of allowing any development on any part of the site, but detailed reasons based on the environmental value of the area were submitted. The destruction of legally protected carob trees was the most frequently quoted reason. However, a report submitted by Nature Trust indicated that sixteen species of legally protected fauna and flora can be found within the area and according to the Trees and Woodlands Regulations of 2001, the whole valley qualifies as woodland. The destruction of protected rubble walls was also mentioned. A comment was made that part of the site allocated for development was close to cart-ruts.

Infrastructure

2.4 Concerns were also shown regarding the impact of the proposed development on Site A and part of Site B on the existing sewer system and the location of a sewer gallery beneath the site with its associated air ventilation chimneys and the increase in storm water flooding.

Zoning

2.5 Three objections were received to the proposed re-zoning of the land previously indicated for religious use in the TPS of 1988, as this land forms part of the area of scientific importance and residential buildings would not be compatible with

the historical building of the convent. Two objections were received to the rezoning of the green area for development of residential units.

The Principle of Site A

2.6 The public showed concern on the inclusion of this site within development boundaries stating that it should be treated the same as Site B since it also forms part of the valley and has ecological value. It should be noted that 5 comments in favour of the development of this site were also received on the basis that the site has no environmental value.

Organic farming

2.7 The location of a farm on Site A occupying around 5 tumoli of land generated considerable public attention. The submissions have indicated that this farm is practicing organic methods of agriculture and should be safeguarded from development.

The Principle of Site B

2.8 One submission was received objecting to the exclusion of site B from development. The comment stated that a development permission (PA 1066/99) for the erection of four maisonettes and seven underlying garages has been issued on this site in May 2000. It criticized the PA for basing its decision on the findings of the Geological Survey to justify the exclusion of parts of site B from development. A second submission requested the exclusion from development due to flooding problems even of that part of Site B which the re-planning exercise has identified for development

Layout and Design

- 2.9 These comments related to the detailed design of the scheme affecting both site A and site B and in general, were submitted by landowners whose property is being affected by the proposed road layout. There are four elements of the layout which are being objected to:
 - 1. the cul-de-sac at the end of Triq il-Progress;
 - 2. the cul-de-sac at the end of the proposed street off Triq ix-Xatt;
 - 3. the stairway leading from Triq il-Progress down to Triq il-Kapuccini;
 - 4. the location of the watercourse.

Comments about the visual impact of the scheme on the bastions were also received.

Building Heights

2.10 Three of the four submissions received regarding this issue related to the proposed building heights on the northern side of Triq il-Progress located in site A. Objectors requested that the heights should be less than the existing buildings so that the existing residents can enjoy their views. The fourth submission related to the building height restrictions of the villa area.

General

2.11 The final group of comments were generic in nature and not necessarily related to the proposal or any specific part of it. The most relevant comment was that the Planning Authority should conduct an environmental impact assessment of the plan (re-planning exercise) before adopting it.

3. Addressing the issues

3.1 The following paragraphs discuss the objections described above and make a recommendation on how each issue should be addressed. The objections which are not considered to be based on planning reasons should not be accepted and the only remaining action is to indicate the position of the Directorate on the Public Consultation document. The objections which have a sound planning reason need to be given more attention and a way forward is recommended. The discussion is organized on the basis of the sub-headings indicated above.

The Principle of Development. Development to be located on Site A.

- 3.2 Although a note should be made of the relatively large number of objections to the principle of accepting any type of development on any part of the site affected by this exercise, these objections cannot be fully endorsed by the Directorate. In establishing *the principle of development* the Directorate must take into account previous planning decisions made on the area. There are four milestone decisions which influence the principle of locating development on the area
 - the adoption of the Temporary Provisions Schemes by Parliament in 1988;
 - the adoption of the Structure Plan by Parliament in 1992;
 - the approval of the Grand Harbour Local Plan by the Planning Authority in September of 1998;
 - a planning permission for a villa on Site A which was implemented.
- 3.3 The Temporary Provisions Schemes of 1988 included both Site A and Site B (Refer to Figure 2) within the development boundary and the land was zoned for terraced houses, villas and for religious use. Since the Structure Plan took on board these Schemes, they remain the legally binding planning document on the basis of which, together with any other material planning consideration, decisions on applications for development must be made. The Structure Plan requires Local Plans to review these Temporary Provisions Schemes but "development

boundaries will not be reviewed piecemeal during preparation of the Local Plan. The Local Plan will, however, identify any matters, including boundary review matters, to be taken into account in the Structure Plan review" (SP Policy SET 8).

- 3.4 In the case of Kalkara valley, a Local Plan has been prepared and it has also made recommendations for the future development of the area. The Local Plan proposed that Site A remains available for development but Site B is excluded since it forms part of a larger Site of Scientific Importance, as identified in the Report on the Geology and Geomorphology of the Grand Harbour Plan Area, 1995. Therefore, the principle that some development could be allowed in the area, and that this should be located on Site A has been established.
- 3.5 The final important consideration is the issue of a development permission for a semi-detached villa under application number PA 203/94 decided in January 1995. This dwelling, centrally located within Site A, has been constructed on the planning conditions (zoning, height limitation) and street alignment established by the TPS of 1988 and has created a commitment on the future development of the area. This must be given considerable weight when considering the re-planning of the area.

Environmental Value of the Site

- 3.6 The second largest number of objections to the principle of development were based on the environmental value of the site due to the location of protected species of flora and fauna. A report by Nature Trust indicated specific types of flora and fauna and also their level of protection. Unfortunately, no data was gathered as part of the Local Plan preparation on the ecology of the site and therefore the claims made by these submissions could not be contested at this stage. The accuracy of these claims had to be ascertained through additional survey work before the Directorate could take a position on their acceptance or otherwise. A survey has been conducted and it is evident that apart from the carobs there seems to be little ecological/scientific importance. Of particular horticultural interest are the specimens of Bauhinia fortificata which are not found anywhere else in Malta and the Spartium junceum which is worth preserving owing to considerable age. This survey has also revealed the presence of two caves located beneath the part of site B proposed for development, which are not fully accessible.
- 3.7 On the basis of the ecological survey, it has been concluded that the parts of the site included for development by the re-planning exercise do not have ecological value which merit protection and therefore there is no justification to amend the scheme.

Infrastructure

- 3.8 The comments made on the problems of sewer overflow and storm water flooding in the area have already been noted by the Directorate. A consultant has been engaged to give more detailed technical advice on the effect of the proposed re planning scheme on measures required to address these issues. The report from the consultant indicated that:
 - 1. the sewage contribution of the new scheme has a negligible contribution to the existing sewage overflow problems;
 - 2. the sewage problems will only be tackled with the commissioning of a new gallery, currently projected for January 2006;
 - 3. the ventilating chimneys on the site must be relocated and functionally retained;
 - 4. the stormwater of the scheme can and should be managed by an underground system.
- 3.9 The Drainage Department's views were solicited on the consultant's report and they expressed concern on the recommendation to relocate the chimneys. Their preferred option is that the ventilation shafts are kept in operation as service accesses to the galleries below. The shafts should be covered at street level by lockable, airtight cast iron or steel manhole covers. An area of about 5x15m should be reserved around the manhole and should be accessible by heavy vehicles.

The PA should endorse the conclusions by the consultant and the Drainage Department, and the scheme amended to allow access by heavy vehicles to the manholes.

Zoning

- 3.10 The objections raised to the proposed change in the designation of two sites to the east of the area (refer to Figure 3) require further consideration. In the 1988 TPS these sites were zoned as a green area and as a site for religious use in conjunction with the adjacent convent. Both were within the development boundary. The 1995 report on geology indicated the sites as forming part of a larger site of scientific importance and consequently the Grand Harbour Local Plan excluded them from the development scheme. The re-planning exercise is proposing to include them again within the development scheme and has changed the green space and part of the site for religious use into terraced houses with a height limitation of 3 floors and two floors respectively (Note: the wording "terraced houses" should not continue to be used since in practice it does not mean what it states).
- 3.11 The document explaining the PA's proposals published for consultation did not indicate any reasons to justify the re-zoning of the green area. At this point note should be made of the submission by Government in relation to this site as indicated in para 5.1.2 of *Grand Harbour Local Plan. Government's Reaction*.

September 1999. Government requested that a specific area (including the green area) should have a development brief issued for it with emphasis on the provision of dwellings.

- 3.12 Kalkara is surrounded by open areas and the implementation of this scheme will integrate a substantial site previously zoned for development within the larger open area of the valley and countryside. The need for this minor site on the urban fringe as a public open space is not essential. However, Government has acknowledged the need for more social housing in the area and this site could provide an opportunity to increase such housing in Kalkara. Therefore, there is adequate justification to develop this site for social housing. The Planning Authority Board decided to reduce the building height limitation of this site from three floors to two floors plus semi-basement.
- 3.13 With regards to the change in zoning of the site for religious use, the document states that "in order to minimize the impact on land owners being affected, in view that a substantial area of Site B is proposed to be excluded from the development boundary, another parcel of land [Refer to Figure 3] belonging to the same owners, but currently zoned for 'religious development use' is being rezoned for terraced residential development'. This site is detached from the urban area, located on exposed and elevated grounds and is unlikely to relate visually to its context when developed for terraced houses. Thus, since it is difficult to locate other land for development in the vicinity, the scheme should be revised so that this site is developed comprehensively, adequate open space is allowed within the scheme and the visual impact is mitigated through a holistic design. The Planning Authority Board did not agree with this recommendation and decided to exclude this site from the development zone.

Farming

3.14 The location of an organic farm on Site A, was submitted as a justification for preventing development in this area. These objections cannot be accepted firstly because the principle of development on Site A has always been acceptable, as described above. Secondly organic farming in itself is not an intrinsic characteristic of the site which increases its environmental value to a level which justifies the prohibition of development. This site had been designated for development by the TPS which designation was also endorsed by the Local Plan. Conservation policies in the Structure Plan apply only to designated Rural Conservation Areas and this site lies outside such an area.

The Principle of Site B

3.15 The planning history in relation to the development of Site B is more complex. The TPS of 1988 included this site within the development boundary and zoned it for terraced houses. The Grand Harbour Local Plan, as approved by the PA in 1998, excluded this site from development through policy GK 03 but following submission of the Plan to Government, further assessment of the area had to be carried out, since "Government policy was that the TPS should not be reduced at the Local Plan stage...due to the fact that people would have bought land that was within schemes and it is unfair that their investment is rendered worthless" (Grand Harbour Local Plan. Government's Reaction, September 1999, pg 3, para 5.5.1). The re-planning exercise is now recommending that development is allowed on a portion of Site B located adjacent to Site A to the west (Refer to Figure 3).

- 3.16 The submission received on Site B requesting that the TPS of 1988 is not altered must be viewed in the light of the survey work carried out as part of the preparation of the Grand Harbour Local Plan. This survey indicated a specific area (Refer to Figure 4) as being a Site of Scientific Importance Level 2 due to its structural geology, hydrology and geomorphology. This implies that "further development should be prevented at all cost to save the little natural environ that is left within [this] small 'pocket of land'" (Report on the Geology and Geomorphology of the Grand Harbour Plan Area, 1995, para 4.2.7(a)). The boundaries of the SSI were again confirmed by another report in 1997 and therefore there are sound planning reasons for excluding most of Site B from development.
- 3.17 The second submission, on the contrary, requested that even the part of Site B which is proposed for development by the replanning exercise is removed from the development boundary due to problems of storm water flows and damage to property. Specific advice related to storm water problems has been requested but alternative solutions to excluding land from the development boundary should be found.

Layout And Design

3.18 The objections to the layout and design are being addressed as well and possible alternative designs for the cul-de-sacs are being investigated to minimize the impacts on private property. The issues of the passage way and location of watercourse will be treated by the technical adviser on infrastructure and the layout could be amended on the basis of this advice.

Building Heights

3.19 The issue of building heights on the northern side of Triq il-Progress needs to be considered within the context of the planning history for the area. The TPS had already established that the building heights on this road as two floors plus underlying semi-basement and further policy developments increased this height to three floors without the provision of a semi-basement. Policy GK 03 in the Local Plan had required the submission of an outline permission for Site A which took into consideration the doping nature of the site meaning a multi-level, vertically terraced type of development which considered the visual effect on the bastion walls.

3.20 The Planning Directorate has carried out the re-planning exercise in lieu of the outline permission and has kept within the parameters of the original policy. The building heights have been restricted to two floors without an underlying semi-basement thus reducing the overall height of the buildings and the visual impact of the development. Reducing the height further to just one floor is not an efficient use of the land available for development.

General

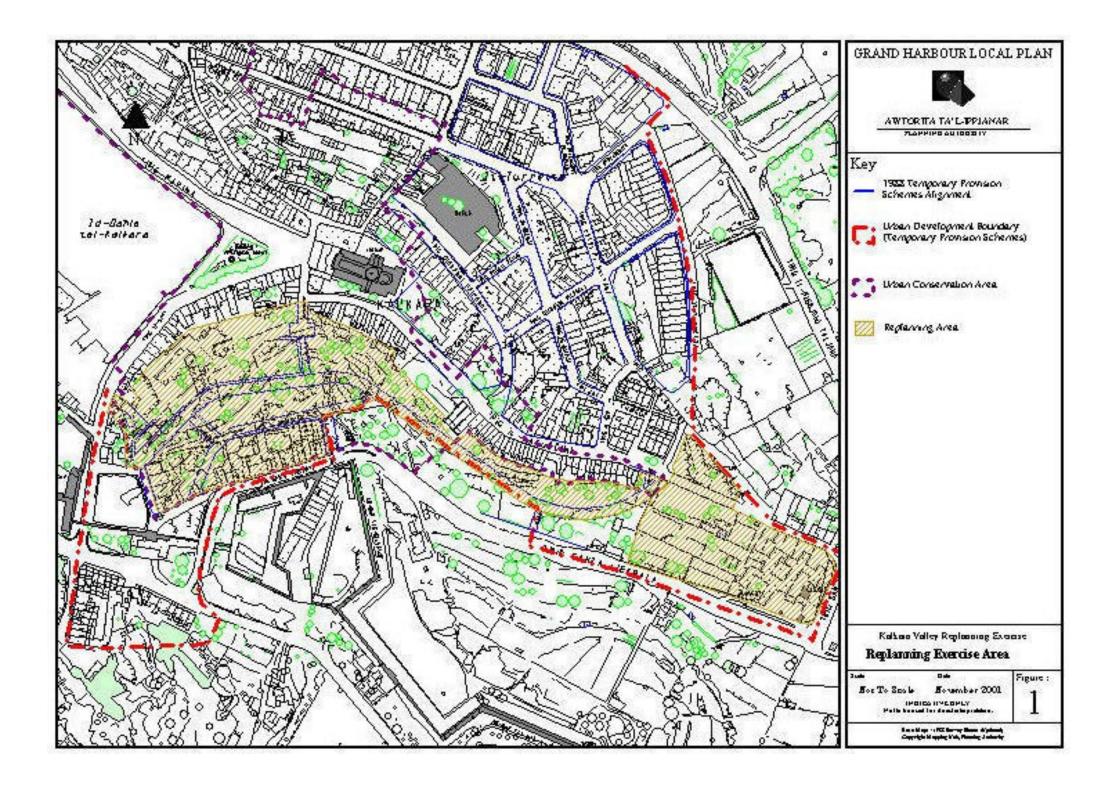
3.21 The final group of general comments need only to be noted. The request for an EIA on the plan cannot be entertained firstly because there is not the legal framework as yet to carry out such assessments and it is unlikely that such an assessment will identify any additional impacts which have not been considered by the plan itself.

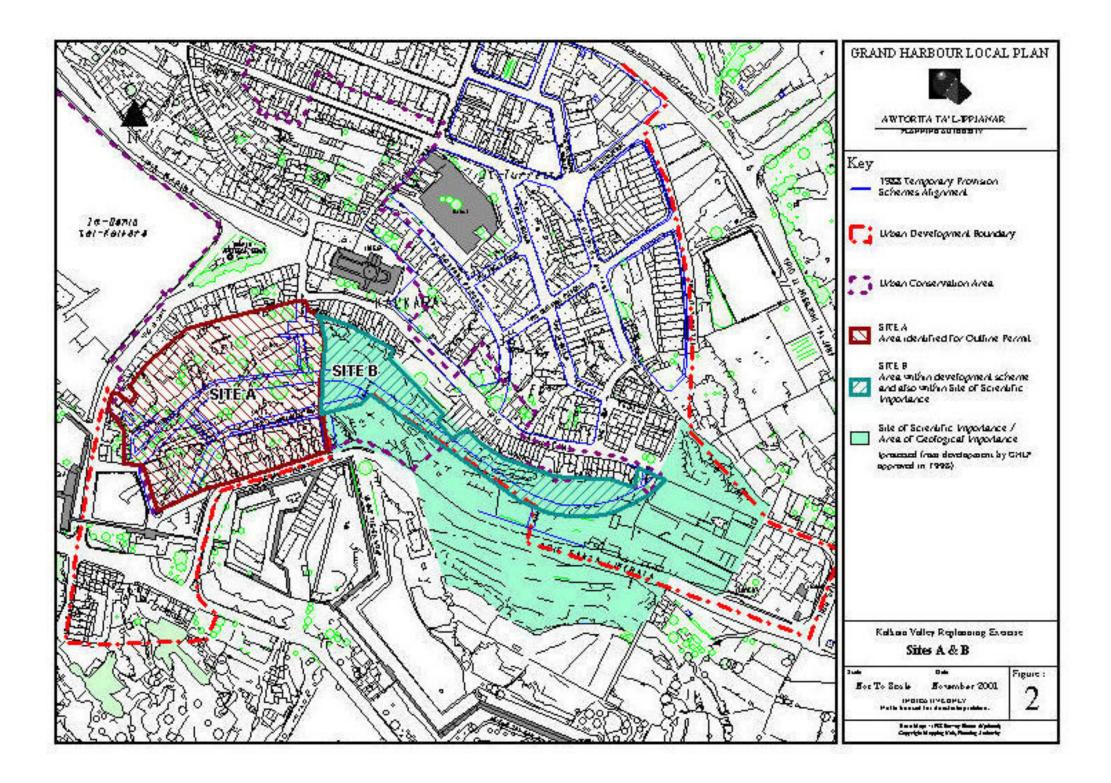
4. Conclusion

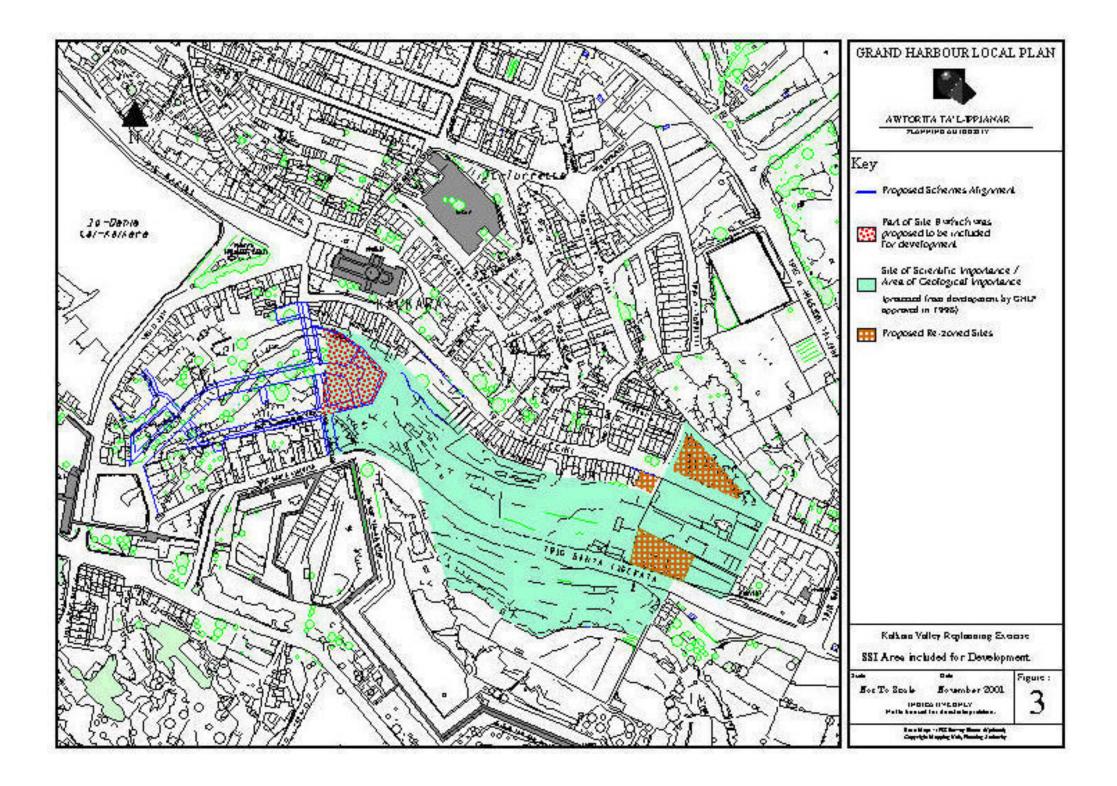
4.1 The conclusions from the discussions are being summarized in table format below.

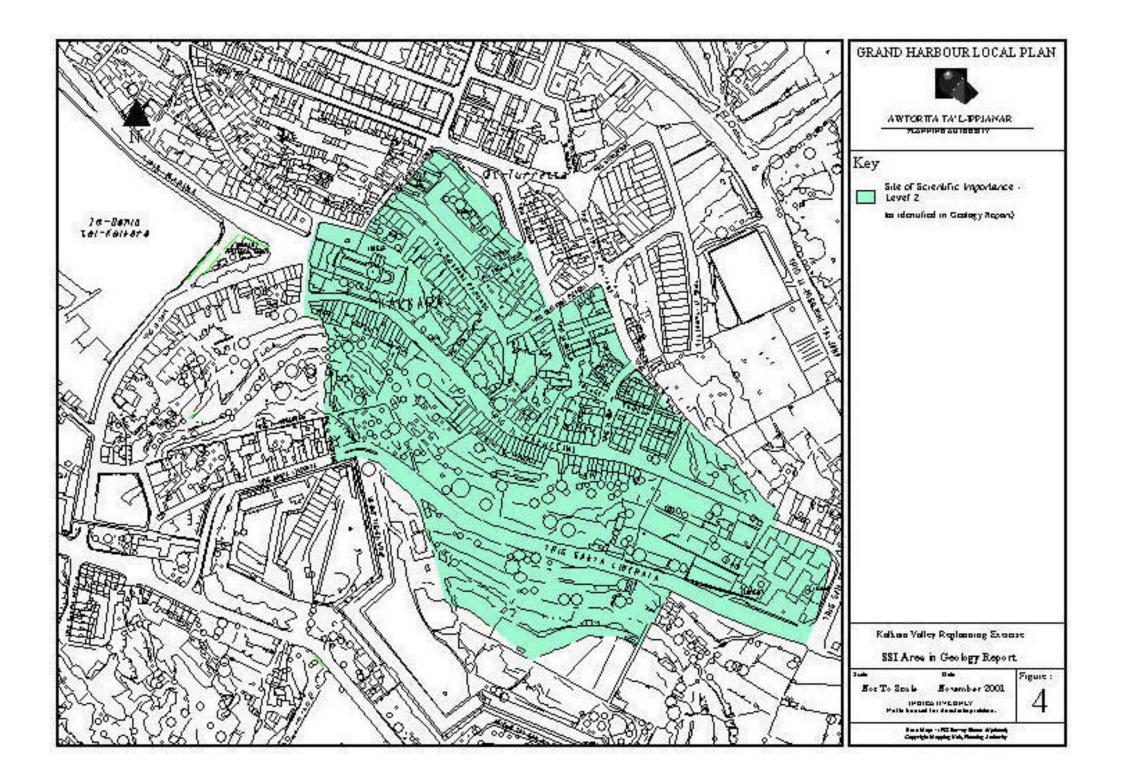
Objection	Response
1. Principle of development	The principle that development could be
	allowed in the area, and that this should be
	primarily located on Site A has been
	established by previous planning decisions.
2. Environmental Value of the site	An ecological survey has been carried out and
	it has concluded that the parts of the site
	included for development by the re-planning
	exercise do not have ecological value which
	merit protection.
3. Infrastructure	The PA should endorse the conclusions by the
	consultant and the Drainage Department, and
	the scheme amended to allow access by heavy vehicles to the manholes.
A Zaning	
4. Zoning	The location of open spaces in the vicinity of Kalkara, the need for social housing and the
	mitigation measures adopted for the re-zoning
	of the site for religious purposes justify the
	proposals adopted in the new scheme for
	Kalkara.
5. Organic farm	An organic farm in an urban context is not a
	strong enough justification to prohibit
	development.
6. Principle of Site B	There are sound planning reasons based on
	geomorphological surveys for excluding most
	of Site B from development.
7. Layout and design	New road designs have been prepared and are
	to be adopted in the new scheme.
8. Building heights	The proposed building heights in the new
	scheme have already restricted building heights
	and further restrictions are not justified.
9. General	Comments have been noted but no further
	action need be taken.

4.2 The Planning Authority Board did not endorse the recommendations made in 4. in the table above and decided to exclude the site for religious use from the development zone and reduce the building height of the other site to two floors plus semi-basement.









Kalkara Valley

Ecology Survey

1. Aim of Survey

1.1 In view of the recent proposal for development in Kalkara valley, an ecological survey of the site was required so as to assess the impact of the development on the ecology of the site.

2. Method of Analysis

2.1 A site inspection was carried out on the 2^{nd} October 2001. The flora present on site was identified although no quantitative analysis was carried out.

3. Site Description

3.1 Kalkara valley is situated in the middle of a highly built-up area, close to id-Dahla tal-Kalkara, on the southeastern side of the Grand Harbour. The valleybed has been built up but the steep valley slope on the southern side of the valley is still undeveloped and most of it is used as agricultural land. Other parts of the valley slope consist of abandoned fields, overgrown by natural vegetation. The terraced soil along the slope is protected by rubble walls, which in some cases require maintenance.

4. Findings from Site Inspection

4.1 Zoning

- 4.1.1 The valley can be divided into three main zones (Map 1). Zone 1, which separates Triq il-Progress from Triq ix-Xatt, is composed mainly of fertile agricultural land, which is presently being cultivated. This zone can be further divided into two sub-zones based on the density of the carob trees present on site (Map 2). Zone 1A, which lies at the upper end of the valley slope, contains patches of disturbed ground and agricultural land with only a few examples of carob trees (*Ceratonia siliqua*). This species is much more common in zone 1B where it is spread amongst the fields, mainly along the rubble walls.
- 4.1.2 Zone 2 is made up mainly of abandoned fields, which have been colonized by a large number of carob (*Ceratonia siliqua*) and almond (*Prunus dulcis*) trees. In this zone there are also some areas that are highly disturbed. Zone 3 is characterised by exotic plant species, which probably originated from an abandoned garden.

4.2 Vegetation

- 4.2.1 Although the valley slope is characterised by terraced fields, there is a large number of mature carob trees [*Ceratonia siliqua*, protected by LN 12 of 2001 (Sched. 2)] and almond trees [*Prunus dulcis*] spread amongst the cultivated fields as well as on disturbed ground and on the abandoned fields (i.e. zones 1 and 2). Some examples of the olive tree (*Olea europaea*) and pomegranate (*Punica granatum*) are also present (both species are protected by LN 12 of 2001). In zone 2 the carobs and almonds form dense thickets along the valley slopes and these areas have the potential of developing into maquis communities if left undisturbed.
- 4.2.2 The undergrowth vegetation includes mostly species that are typical of disturbed or steppic habitats. These species are found throughout the whole valley and include the

rice-grass (*Piptatherum miliaceum*), fennel (*Foeniculum vulgare*), crown daisy (*Chrysanthemum coronarium*), sweet alison (*Lobularia maritima*), common birdsfoot trefoil (*Lotus ornithopodioides*), cretan mallow (*Lavatera cretica*), perennial wall-rocket (*Diplotaxis tenuifolia*), white mustard (*Diplotaxis erucoides*), boar thistle (*Galactites tomentosa*), caper (*Capparis orientalis*), milk vetch (*Astragalus baeticus*) and sticky fleabane (*Dittrichia viscosa*). Other species such as the spiny asparagus (*Asparagus aphyllus*) and alexanders (*Smyrnium olusatrum*), which grow in both maquis and disturbed habitats, are also present and these are very abundant. The valley slope in zones 2 and 3 also supports some stands of the great reed *Arundo donax*.

- 4.2.3 Another important species present in the area is the sea squill (*Urginea pancration*), which is listed in the Red Data Book for the Maltese Islands as having a restricted distribution in the Mediterranean, growing in Malta, Sicily, the circum-Sicilian Islands and the islands of the Western Mediterranean.
- 4.2.4 The part of the valley slope situated behind the buildings in Triq il-Kapuccini (zone 3), is characterised by a number of ornamental and exotic plant species. These plants probably belong to an abandoned garden, however they are not competing with any native species and the carobs can easily hold amongst them. Two particular species present in this area include *Tecomaria capensis* and *Bauhinia forficata*. The latter species is of horticultural interest since it is has never been observed anywhere else in Malta. Although of horticultural importance rather than ecological, the retention of these species is recommended.
- 4.2.5 Another important plant present in this area is a single example of the Spanish broom (*Spartium junceum*) [RDB: endangered, restricted distribution in the Maltese Islands]. Only a few wild shrubs of this species are present on the islands and most of the plants are cultivated. The shrub present in this area was probably originally planted as an ornamental. However the plant is of considerable age and is thus considered to be important.

4.3 Other features

4.3.1 Two caves are present on the northern part of the valley close to the beginning of Triq il-Kapuccini. These caves form part of residential buildings and their aperture lies in the backyard of two houses. A great part of the apertures of both caves has been blocked rendering the entry to one of the caves impossible. Although the caves might have provided a very good habitat for various important faunal species in the past, the present ecological importance of these caves is doubtful, especially since one of the caves is currently used as a storing space. On the other hand, apart from the partial blocking of their aperture, the internal morphology of the caves has been preserved. For this reason, these two caves can be considered to be of geomorphological importance.

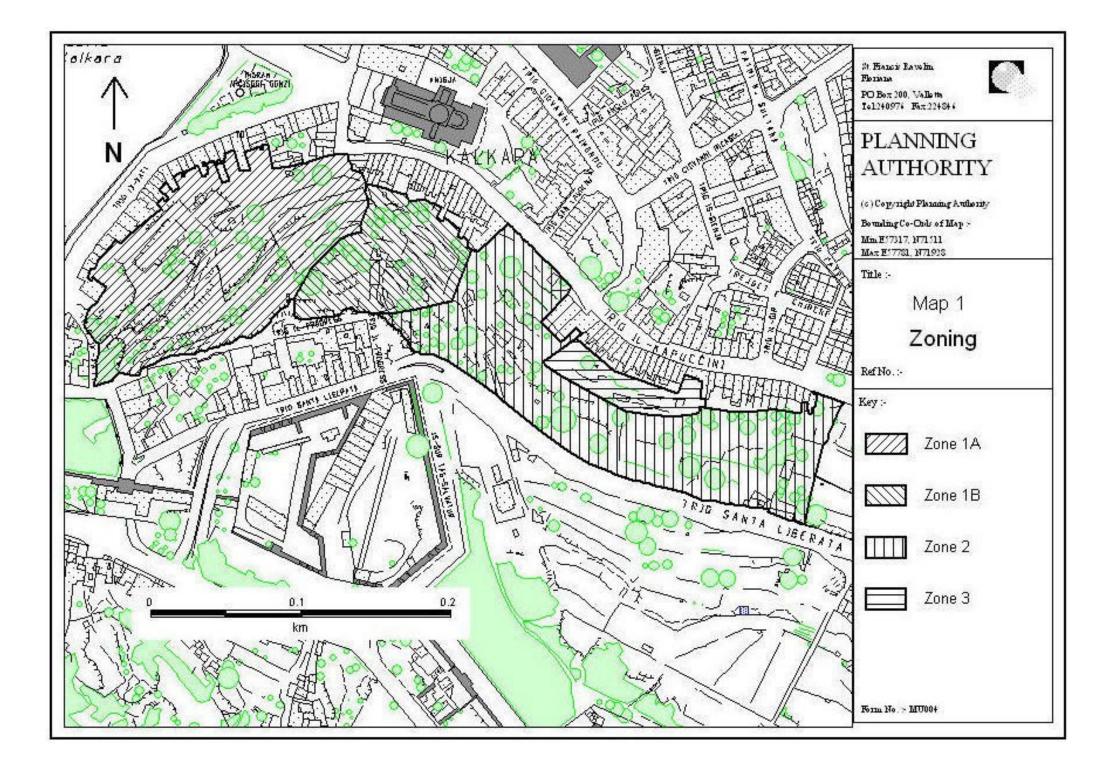
5. Conclusions

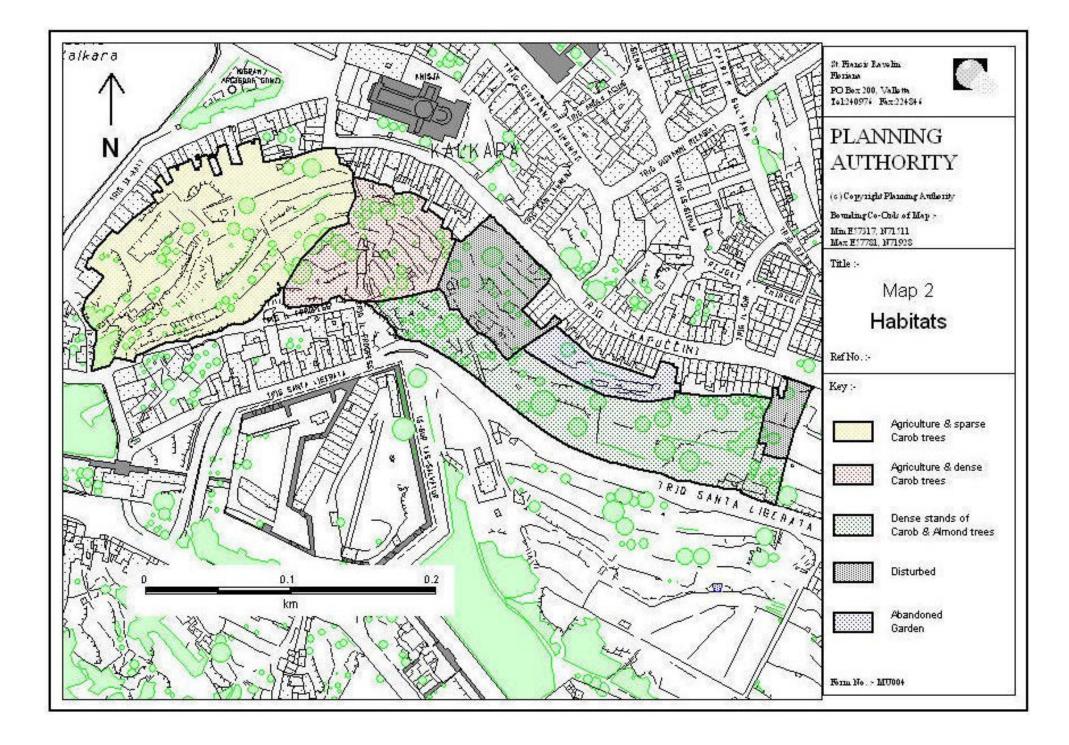
- 5.1 Although, most of the vegetation in the area may not be considered to be of high ecological importance¹, the large number of carob trees, which together with the almond trees form dense thickets in some parts of the valley, may create ideal conditions for the development of maquis communities on the valley slope. All carobs are already protected by the Trees and Woodlands (Protection) Regulations, 2001 and the uprooting of carobs, pomegranate and olive trees requires a license from the Environment Protection Department. These trees, together with the almond trees, may be further protected under Structure Plan policy RCO 33 which states that specialized individual trees or groups of trees of aesthetic, historical, cultural, arboricultural, and/or scientific interest will be protected by means of Tree Preservation Orders which prohibit the uprooting, destruction or damage to trees.
- 5.2 Of particular importance in this regard are the species of horticultural value (*Bauhinia forficata*) in zone 3 and the dense groups of carob trees in zone 2. These trees should be

¹ It must be kept in mind that the site was investigated after a very long dry period, therefore many plants which would grow on site during spring would have not been observed.

protected as individual/groups of trees under Structure Plan policy RCO 33 and scheduled under section 48 of the Development Planning Act.

- 5.3 Since the valley slope in zone 2 supports dense thickets of carobs and almonds and has the potential of developing into maquis communities, this area qualifies as an Area of Ecological Importance according to Structure Plan policy RCO 10. However, due to the fact that as yet the undergrowth is not typical of maquis communities, this part of the valley slope only qualifies for a Level 4 protection according to Structure Plan policy RCO 12. Part of zone 2 is also already scheduled as an Area of High Landscape Value as part of the Grand Harbour fortifications.
- 5.4 The whole valley slope qualifies for protection under Structure Plan policies RCO 28 and RCO 29 which state that valleys will continue to be protected as important water catchment areas and that no new physical development will normally be allowed on the sides of valleys and especially on valley watercourses except for constructions aimed at preventing soil erosion.
- 5.5 The rubble walls present along the valley slope are also protected by LN 160 of 1997: Rubble walls and Rural Structures (Conservation and Maintenance) Regulations. The rubble walls are protected in view of their importance in the conservation of soil and water as well as due to their importance in providing a habitat for flora and fauna. These structures are also protected for their historical, architectural and aesthetic value. Any developments leading to their destruction or dismantlement requires prior permission from the Environment Protection Department.

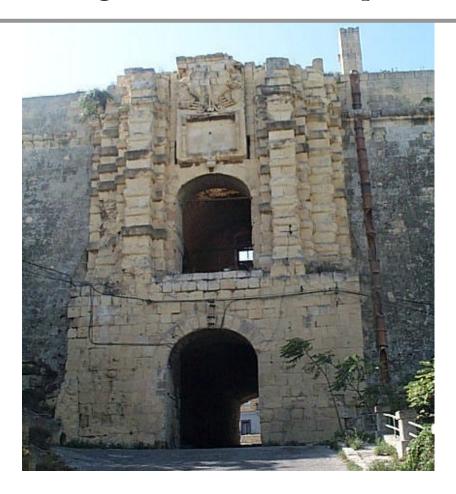




Kalkara Valley replanning exercise

Grand Harbour Local Plan

Sewage and Stormwater impacts



September 2001

Introduction:

The Planning Authority published an amendment of the policy GK03 in the draft Local Plan on residential development in Wied Kalkara. This Public Consultation was issued in April 2001 on the replanning of Kalkara Valley. This exercise was greeted with much criticism on several counts, two of which were on the impact that this development would have on the sewers and on stormwater flooding in the area.

The author was engaged by the Planning Authority in August 2001 to:

- Study the sources of the complaints on the sewage & stormwater issues in the area
- Propose measures required to meet such complaints
- Develop an analysis of the effect of the proposed replanning scheme on such measures.

Methodology:

The author visited and inspected the site; a meeting was also held with Engineer Cachia of the Sewerage Master Plan Implementation Unit of the Works Division. Maps of the area, records of the sewer system and comments received on the subject from the public consultation were made available to the author by the Planning Authority. Reference was made to the Sewerage Master Plan for Malta and Gozo (Ministry for the Environment, 1992), and the Wastes Disposal and Water Supply Project in Malta Master Plan and Related Studies (WHO/UNDP, 1972).

Summary of findings:

- 1. The sewage contribution of the new scheme has a negligible contribution to the existing sewage overflow problems.
- 2. The sewage problems will only be tackled with the commissioning of a new major gallery, currently projected for January 2006
- 3. The ventilating chimneys on the site must be relocated and functionally retained.
- 4. The stormwater of the scheme can and should be managed by an underground system.

Sewerage

Kalkara is serviced by sewer connections to the main gallery. The gallery actually traverses the replanning Kalkara site, and runs from west to east behind the Triq Marina development skirting the Salvatur bastion.

Originally the flow from the west part of Triq Marina connected upstream and the east part connected downstream to the gallery. Both connections were by gravity. Later a pumping station was built along Triq Marina close to the playground, and this collects the sewage from the west part and pumps it up to the gallery in the east. An overflow pipe from the main sewer gallery on the west side of Triq Marina (near the public toilets) runs straight down a slipway at the shoreline. (**Ref. Figure 1**).

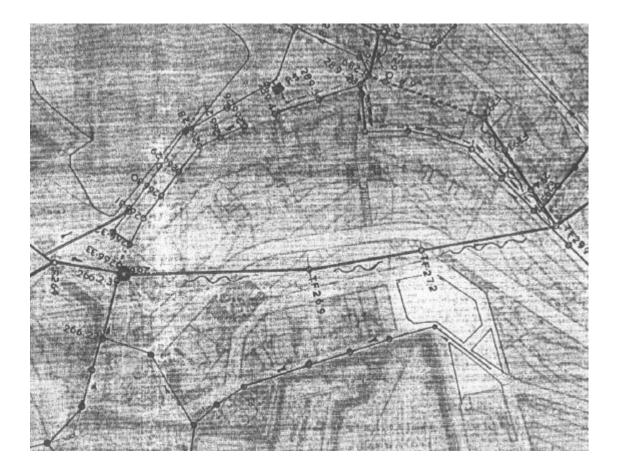


Figure 1 - Sewerage plan of Kalkara

from Drainage Department records

This gallery carries the bulk of the sewage generated in the west, central and eastern parts of Malta from Marsa to the sea outfall at Wied Ghammieq at Xghajra. (**Ref. Figure 2**).

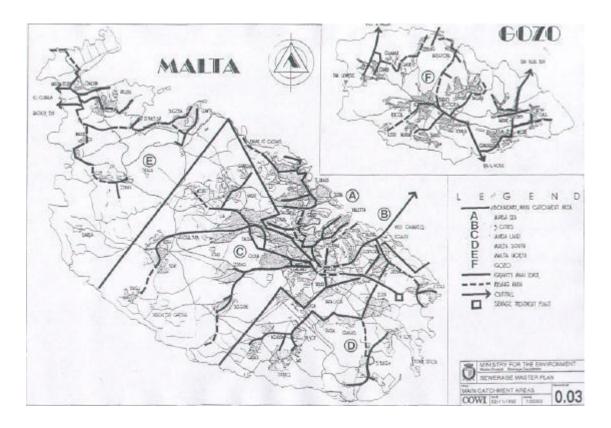


Figure 2 – Sewerage plan of Malta

from 1992 COWI Master Plan

In 1992 it was estimated that a design flow of about 680 l/s (15.6 Million gallons/day) passes through the area¹. The gallery has a very shallow slope of approximately 1 in 1000, and at the site it is approximately 1 metre above sea level, 14 metres below the ground. The gallery is approximately 1.5m high and 0.75m wide with a 0.30m half round pipe in the invert². It was built at the end of the nineteenth century and originally drained Valletta and the Three Cities by gravity to the shore outfall at Wied Ghammieq.

The gallery has been identified as having a low capacity ever since the 1972 ATIGA Report³, and a new gallery had then been proposed. This situation has been confirmed in the 1992 COWI Master Plan⁴, and the current position given by the Sewerage Master Plan Implementation Unit is that the

¹ Sewerage Master Plan for Malta and Gozo (Ministry for the Environment, 1992) Volume 4, Appendix VII

² Data record of existing sewer system Table 7-7, Drainage Department

³ Wastes Disposal and Water Supply Project in Malta Master Plan and Related Studies (WHO/UNDP, 1972), Volume II pat 3, IV-3

⁴ Sewerage Master Plan for Malta and Gozo (Ministry for the Environment, 1992) Volume 1, Page 11.4

new larger works should be commissioned by January 2006⁵. The route of the new works is not intended to follow the existing route, but rather outside of the Cottonera Lines.

The effect of the lack of capacity of the gallery is that it is flowing full for the major part of the year, and any increase in flow results in constructed overflows in the Grand Harbour area coming into operation. The gallery regularly overflows, in dry and more so in wet weather, notably at Cospicua (No1 Dock) and at Kalkara. The pumping station at Kalkara cannot retain the flow and it is physically impossible for the pumped load not to have a downstream effect and thus the station is overloaded by backflows from the system. Overflows are experienced at the inlet to the station also. Complaints on overflowing sewers were made by the public in the consultation and are correct; the only remedy is the commissioning of the new gallery, currently projected in 4 years' time.

Applying the same connectivity factors adopted in the COWI Master Plan, the contribution of the 3.3ha development is 0.6 l/s or less than 0.1% of the present flow. The contribution from the proposed development will naturally exacerbate the existing situation, but only by a very small amount. Presumably the gallery will be relieved by the new construction after the proposed Kalkara Valley development reaches completion. Then the existing gallery will be retained to take only the Cottonera and Kalkara flows, for which there would be ample capacity.

Thus although the sewage overflows will continue along Triq Marina for at least 4 more years, the arguments against the proposed development on the grounds of increasing sewage overflows can be put in a context of overdue remedial works awaiting implementation.

⁵ Meeting 17 September 2001

The gallery has two ventilating chimneys on the re-planning site; they are shown below, in photos taken from ground floor at Triq il-Progress, at **Figures 3 and 4**.



Figure 3 – Manhole TF269

Figure 4 – Manhole TF272

These chimneys are certainly functional, and give off fumes from the septic sewage 14 metres below. The fumes would contain both gases that can be detected by smell at low concentrations such as hydrogen sulphide (H₂S). The fumes may also contain gases that are not odorous such as methane or high concentrations of H₂S. These gases are poisonous and can also explode if ignited. No data is available as to the total content of the discharge for these chimneys; however H₂S is one of the components detectable by smell at present.

Due to the chimneys' low height compared with the steep ground they actually vent the sewer gallery at ground floor level to the existing residential development along the Salvatur bastion at Triq il-Progress. They are thus posing a nuisance and a health risk; this is also borne out in the public response.

These chimneys were more numerous in the past, and were installed at the inception of the main in the late nineteenth century to ensure ventilation, especially due to the very low gradient. Many other

vents on this gallery, such as that to the right of the Salvatur gate (on the cover of this report), were broken, sealed off or built over. The Drainage Department has stated that the *"future development should not encroach on the existing shafts and manholes. These need to be accessible at all times."*

The scheme as proposed⁷ unfortunately merely isolates the chimneys, leaving one in a slot of a row of terraced houses and the other as a feature of turning circle of a cul-de sac. In my view it would be unacceptable on health, environmental and aesthetic grounds to retain the chimneys at their current height in the midst of a residential development. The chimneys' function can be retained in my view by building, for example, new chimneys linked by underground pipes to the gallery with discharges high above roof level in accordance with Sanitary Law, possibly along the bastion.

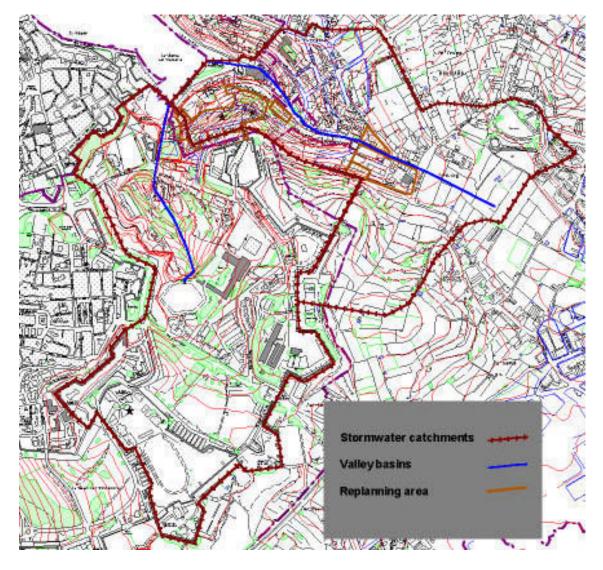
Taking out the chimneys altogether would trap the potentially lethal gases in the gallery making it more hazardous for any drainage maintenance, cause more gas emissions from the presently functioning chimneys upstream, and accelerate acid attack on the walls of the gallery, possibly to the creation of structural defects in the gallery. The chimneys' function may well possibly increase in the future, due to the projected commissioning of the new gallery in 2006. After that commissioning the old gallery will have reduced and slower flows depositing more detritus in the flat gradient, causing more septicity and more fumes generated.

I consider the practice of removing ventilating chimneys extremely ill advised, and I support the retention of the sewer ventilating function. The shafts should be moved, and the shifting of the vents should be carried out before any development is carried out. There is a strong argument, on health and environmental grounds for those buildings fronting Triq il-Progress, for carrying out the shifting of the existing chimneys irrespective of the outcome of the re-planning scheme.

⁶ Letter from Drainage Department to Planning Authority, 2 October 2000.

⁷ Map 7 – Proposed Scheme (2): Planning Authority, April 2001

Stormwater



The stormwater catchments covering the areas are shown in Figure 5.

Figure 5 – Kalkara stormwater catchments (scale 1/10,000)

The catchment draining the West side of Kalkara is 54ha, and runs down Triq San Dwardu and Triq ix-Xatt; the East catchment of 39.8ha is drained through Triq il-Kappuccini and Misrah Arcisqof Gonzi. The West catchment is notable for its constraint by the Cottonera bastions, and its large rural upstream area towards the South. Both catchments are very steep, and urbanised towards their end. There are also wide tarmaced roads in Triq Santa Liberata and Triq il-Kappuccini is the West and East catchments respectively. This would tend to give flashy flooding, which is confirmed by the public response. The stormwater is largely wasted to sea, although some individuals have reported collection reservoirs for the road run-off. There are very few collection points of run-off, and hardly any culverts except one across Triq ix-Xatt, which is inadequate to intercept the surface flow. The East catchment is characterised by the abrupt change in surface gradient at the parish Church, where the area in front of the Church is very flat and would flood easily without any ducting of run-off in storm events.

A detailed map of the re-planning area is shown in Figure 6



Figure 6 - Catchments in the Re-planning area

The West catchment is traversed across its width by Triq Santa Liberata. This road at the eastern part of the catchment, in time of high surface flows in partially down the valley behind the houses facing Triq il-Kappuccini near the Church. However this road mostly drains along its surface for its entire length until it meets the corner of Salvatur bastion, where it drains by a short culvert crossing down Triq ix-Xatt that is very steep. The buildings along this road, in the absence of any proper underground ducting or management of stormwater drainage, would naturally experience sharp storm flows.

In the East catchment Triq il-Kappuccini picks up flows from Triq il-Missjoni Taljana and Triq San Rokku and flows down the road that has been developed on a higher elevation and outside of the valley bed proper. The Valley bed has been developed by the Parish Church and its neighbouring buildings, reference **Figure 7**.

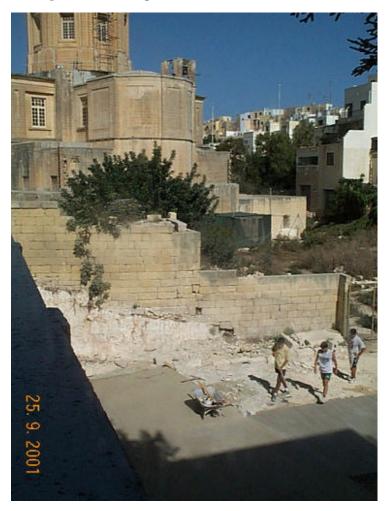


Figure 7 - Constructions in the valley bed in the East catchment, as seen from the elevation of Triq il-Kappuccini

There are no street arrangements to collect stormwater in the East catchment, and this chutes down Triq il-Kappuccini into Misrah Arcisqof Gonzi, where it meanders to the sea. This road is an locally important crossing and its flooding in wet weather is a civil hazard.

The development as proposed will change the absorption of the site where building and hard paving is carried out, and naturally increase to the amount of run-off generated. The opening up of the stepped street from Misrah Arcisqof Gonzi to Triq il-Progress will actually create a new conduit for surface water, and divert more surface run-off to the Misrah, and away from Triq ix-Xatt.

The typical developers' response to this type of stormwater situation, in the absence of referral to a competent civil authority is to provide stopgap alleviation. This would consist in typically allowing

more surface run-off on the roads, tolerating flooding, and limiting movement during rainfall. In this re-planning exercise, as highlighted in the public consultation, these hardships are very real, and can be very dangerous. There is an opportunity to impose planning restrictions and introduce good management practises to avoid downstream hardships and promote environmental substainability.

Good stormwater management involves the intelligent separation of water from people; thus: -

1. Collection of surface water into gulleys and draining in constructed conduits.

Opportunities to do this in this scheme abound; culverts should be laid down the stepped street from Misrah Arcisqof Gonzi to Triq il-Progress, and this should branch into the new side streets and extend towards the sea. A deviation of the existing surface flow in Triq Santa Liberata should be made to cut off the flow to Triq ix-Xatt and bring the run-off to disposal without a circuitous course.

The proposed scheme provides for a culvert behind the buildings along Triq il-Kappuccini. This is meant to provide the flows from Triq Santa Liberata that run down the sides of the valley. It is advised to collect the water in culverts along the road side, and drain it to the stepped street from Misrah Arcisqof Gonzi to Triq il-Progress, than to expose these dwellings at the bottom of a valley to the servitude of storm flows along the backs of their properties.

2. Conservation of this water and appropriate re-use is to be encouraged.

The scheme provides for some opportunity for building reservoirs in the turning circles, and also in the green area to be retained on the North side of the new street to be created between Triq il-Progress and Triq Marina. It is important for users of this stored water to be identified and managed, as otherwise the reservoirs fall into disuse, remaining full and fulfilling no flood buffering function. Other areas where reuse underground reservoirs can be built are in the projected green areas at the corner of Triq Santa Liberata with Salvatur bastion, and along Triq ix-Xatt.

The building of cisterns for domestic storage in the new developments should be actively enforced and the proprietors encouraged to maximise their use.

Not carrying out an adequate stormwater scheme will confirm the present situation of sharp flooding, and will increase the flows especially at Misrah Arcisqof Gonzi.

A schematic with these proposals is set out in Figure 8.

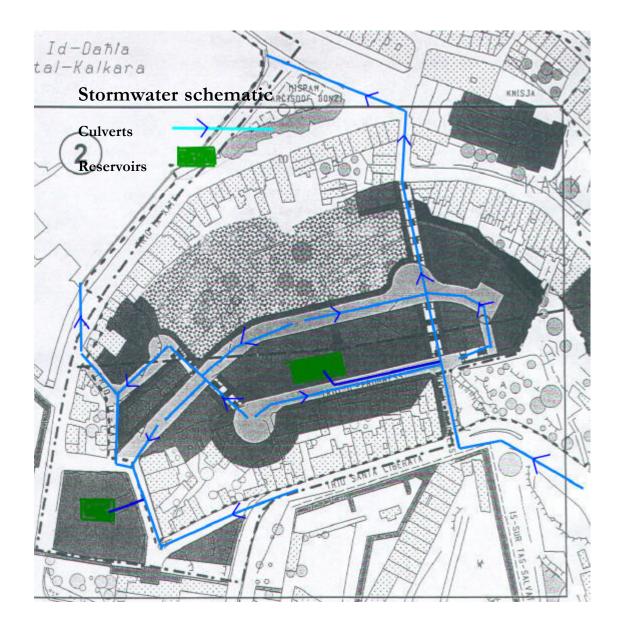


Figure 8 – Stormwater Schematic layout at Kalkara

DRAINAGE DEPARTMENT REPORT

I refer to our consultant's (KOCKS-CGE) response to drainage consultant's queries regarding the Kalkara Valley gallery ventilating shafts.

Moreover I also refer to drainage consultant's report dated September 2001.

My comments are as follows :

1) One must point out that it is hard at this stage to predict the volumetric changes in the gases generated in the existing gallery after the commissioning of the new one. The substantial reduction in the volume of sewage conveyed by the existing gallery, as reiterated by KOCKS, might offset the effect of the reduction in the flow velocity and thus effectively result in less generation of gas in the first place. Moreover the existing gallery will not operate under surcharged conditions, anywhere along its entire stretch, thus, encouraging the re-aeration of the potentially septic sewage resulting in even less generation of anaerobic process gases. (Reference : Hydrogen Sulphide Corrosion In Wastewater Collection And Treatment Systems - EPA - 1991)

2) Without the new gallery in operation, it stands to reason that the sealing of the ventilating structures will most probably result in higher gas discharges through the downstream shafts but there is a very remote probability that there will be any increase through the upstream ones. Again a quantification of same is very hard to arrive at.

3) I cannot support the idea that a relocated taller ventilating structure will serve the same function as the existing chimneys, unless forced ventilation is introduced into the system, which will complicate matters even further. Since the gases generated have a higher specific weight than ambient air, natural ventilation will be very restricted, if at all present, with a taller contraption.

4) Maintenance on the gallery by Drainage Department personnel must be strictly conducted with the use of safety equipment irrespective of the presence or absence of the existing ventilating shafts.

Further to the aforementioned comments, I find KOCKS's proposal for the removal of the protruding structures and the retaining of the access through air tight manhole covers as the best practical and feasible solution. I cannot but over emphasize the importance of unrestricted access to the shafts for maintenance purposes.

I suggest that PA consult the Drainage Department personnel for the purpose of obtaining the actual access area required around the shafts during maintenance operations. Moreover PA should also refer my comments to Eng. Mario Balzan who had already submitted his response on the 2nd October 2000, before taking any final decision on the above.

DRAINAGE DEPARTMENT CONSULTANT REPORT(KOCKS-CGE)

Re: Kalkara Replaning – Sewerage Impact

- 1. We have no knowledge of the Drainage Departments policy on the ventilation chimneys. However we recommend that the ventilation shafts should be kept in operation as service accesses to the galleries below.
- 2. An area of about 5 x 15 m should be reserved around the chimney/manhole. That area has to be accessible by heavy vehicles.
- 3. The structures of the chimneys do not necessarily have to be retained. However the shafts should be kept as service accesses to the gallery below. The shafts should be covered (at surface/street level) by lockable, airtight cast iron or steel manhole covers.
- 4. The removal and/or the replacement of the chimneys by covers will probably lead to a slightly higher emission of odour from the chimneys up- and downstream. The increase of the emission cannot be quantified without knowledge about the present emission.
- 5. Since the emission of odour is proportional to the volume of waste water conveyed in the gallery the emission from the existing gallery will be reduced once the new gallery is in operation. This however is only a theoretical aspect since, even with a lesser volume of emissions, the odour still will be felt as a nuisance in the surrounding areas.
- 6. A baseline of the emissions cannot be given without carrying out measurements on site.
- 7. The origin of the emissions from the ventilation shafts are anaerobic chemical processes in the sewage conveyed in the galleries. These processes produce gases (mainly methane, carbon dioxide and hydrogen sulphide) that are harmful to human health and the environment. The specific weight of these gases is higher than that of the surrounding air, thus the gases are restricted to the galleries. What emerges as emission from the ventilation shaft is air circulating in the galleries that carries a very

diluted (harmless for human health and the environment) mix of substances that is felt as odour. However, due to the gases it is extremely dangerous to enter the ventilation shafts and galleries without the proper equipment.

