

Environmental Planning Statement

**Comprehensive development of site B
as per approved Planning Policy for Ta' Masrija Mellieha**

**To construct four apartment blocks to include in total
48 residential units and 48 basement garages, and a public area**

**Outline development for the
construction of maisonettes, apartments, penthouses and underlying garages**

Appendix One
Terms of Reference

12 January 2010

ERSLI

consultants

Environmental *and* Resource Management
Spatial *and* Landscape Planning
Infrastructural Planning



**PA 1302/06: THE OUTLINE DEVELOPMENT FOR THE
CONSTRUCTION OF MAISONETTES, APARTMENTS,
PENTHOUSES AND UNDERLYING GARAGES.**

**PA 1927/06: THE CONSTRUCTION OF FOUR APARTMENT
BLOCKS TO INCLUDE IN TOTAL 48 RESIDENTIAL UNITS AND
48 BASEMENT GARAGES AND A PUBLIC AREA.**

**PA 2761/06: THE COMPREHENSIVE DEVELOPMENT OF SITE
B AS PER APPROVED 'TA' MASRIJA PLANNING POLICY'.
THIS INCLUDES APPROXIMATELY 300 UNITS WITH
UNDERGROUND PARKING AND TUNNEL, OPEN SPACES,
PUBLIC PROMENADE AND NEIGHBOURHOOD CENTRE.**

AT

**TA' MASRIJA,
MELLIEĦA**

TERMS OF REFERENCE

FOR THE PREPARATION OF AN

ENVIRONMENTAL PLANNING STATEMENT

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FOR THE PROPOSED

**THE OUTLINE DEVELOPMENT FOR THE CONSTRUCTION OF MAISONETTES,
APARTMENTS, PENTHOUSES AND UNDERLYING GARAGES.**

**THE CONSTRUCTION OF FOUR APARTMENT BLOCKS TO INCLUDE IN TOTAL 48
RESIDENTIAL UNITS AND 48 BASEMENT GARAGES AND A PUBLIC AREA.**

**THE COMPREHENSIVE DEVELOPMENT OF SITE B AS PER APPROVED 'TA'
MASRIJA PLANNING POLICY'. THIS INCLUDES APPROXIMATELY 300 UNITS WITH
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AT

**TA' MASRIJA,
MELLIEHA**

Note 1: *“Environmental Impact Assessment is the process of identifying, predicting, evaluating and mitigating the biophysical, social and other relevant effects of development proposals prior to major decisions being taken and commitments made”* (IAIA, 1999)¹. The EPS is to document clearly and impartially the impacts of the proposal, the proposed mitigation measures and impact significance. In accordance with best practice, this shall be carried with professionalism, rigour, fairness, objectivity, impartiality and balance.

Note 2: The Malta Environment and Planning Authority (MEPA) reserves the right to request additional studies should the findings of the EIA not be sufficient to adequately inform the decision making process or if the EIA identifies matters which should be subject to further (or new) studies.

All requirements set out in these terms of reference must be complied with. If there are any sections that the consultant deems that they are not relevant to this study, the consultant shall inform MEPA accordingly fully justifying his/her reasoning.

Should, during the process of the EIA the consultant discover that any environmental feature, not included in these Terms of Reference needs to be studied, the consultant shall inform MEPA immediately, justifying his/her reasoning.

Note 3: Difficulties, including technical difficulties and lack of information, encountered by the consultants in compiling the required information shall be made clear. All references to published works and sources of information shall be duly acknowledged. No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the consultation period. Any material which is based on proprietary data which is not available shall not be incorporated by reference.

Note 4: Experts contributing to the EIA should be specifically asked to consider impact interactions and to communicate information between each other.

¹ International Association for Impact Assessment (IAIA). (1999). *Principles of Environmental Impact Assessment Best Practice*. Document published by the IAIA in cooperation with the Institute of Environmental Assessment, UK.

<p>Note 5: Important reference texts in this case are to include Subject Plans, Local Plans, etc.</p> <p>Note 6: A list of all permits, licenses and other forms of authorization (other than the development planning permit) which must be obtained by the applicant in terms of any other law in implementing the development if permission is granted must be included in the EPS. If consultants are uncertain whether an authorization is necessary, they shall so indicate in the EPS.</p> <p>Note 7: Following the review of the EPS, MEPA usually submits comments to the EIA consultants for further clarifications. Once the consultants respond to these comments to the satisfaction of MEPA, a second draft of the EPS, that includes these clarifications, must be prepared. MEPA will only accept an Addendum containing these clarifications if the clarifications are few or where the EPS is still easy to follow with the Addendum.</p> <p>Note 8: Any requirement for confidentiality of any section of the EPS must be justified and a formal request in this regard must be submitted to MEPA. Should MEPA grant confidentiality for specified sections, alternate material that excludes confidential details must be provided for public consultation.</p>

An Environmental Planning Statement (EPS) is to be prepared for the proposed development of the Ta' Masrija site, that includes residential units, garages and public areas as required by the approved Environmental Impact Assessment Regulations, 2001, September 2001 (Section 3.1.2.2., Category II). The components of the EPS are to be:

- i. A **Coordinated Assessment Report**, in conformity with Sections 1 - 5 and their contents as outlined below. This report should describe the project in its totality; and
- ii. A **Separate Appendix** containing all original survey reports as prepared by individual consultants for specific topics.
- iii. A separate **non-technical summary** of all sections of the technical report (to be also provided in digital format and in both the Maltese and English languages). This summary should include any assumptions made in the made report; key features of the site (including surroundings) and proposed development; key impacts and any proposed mitigation measures to minimize costs (externalities) and maximise benefits arising from the proposed development. Technical terms, lists of data and detailed explanations of scientific reasoning should, where possible, be avoided.
- iv. A **digital copy of the first draft of** all elements of the EPS, which includes all the above, including any plans, maps, photographs, graphs, and any other contents of graphical/visual nature contained within the EPS. Once the EPS has been certified a **digital copy of the certified document** is to be submitted to MEPA.
- v. Conformity with sub-Regulations 28 and 29 of the EIA Regulations (refer to Appendix 1 to these Terms of Reference).

1.0 A DESCRIPTION OF THE PROPOSED DEVELOPMENT

The description of the proposed development is to include consideration of the aspects outlined below. This description must take into account the entire proposal and any ancillary facilities connected with, or arising due to, the project (such as any infrastructure required). Where relevant this section should include maps, plans and diagrams.

1.1 Justification for the Proposal

1.1.1 Objectives

A description shall be provided of the environmental, social and economic objectives which the development will seek to address, and whether such objectives stem from current international obligations and national, regional or local policy, plans and guidance.

1.1.2 Demand

This shall be accompanied by a description of the **current and expected demand** for the land uses being proposed. The study shall explain how the proposal (its size and nature) will address this demand.

1.1.3 Future developments

Future developments/needs of the development shall also be addressed.

1.2 A Description of the Proposed Development

1.2.1 Description of the proposed development and details of the proposed site layout showing the design (size, area, height, volume, proposed elevations [scale 1:100]), external appearance, location of all buildings and proposed access arrangements. Energy efficient measures being taken into consideration in the design of the complex shall be included.

1.2.2 Land use requirements for both construction and operation, and site details should be identified, including land take required for facilities ancillary to the proposed development, site preparation works, excavations and disposal of surplus material. Proposed facilities (including infrastructure, storage, servicing facilities, security etc.) in terms of size, area, height and volume, proposed elevations, layout, method of construction, etc.

1.2.3 Proposed project management arrangements, including expected duration of construction, time of year to be carried out, types and quantities of raw materials including water, energy, stone and other resources to be consumed, retained and disposed of and its location.

1.2.4 The depth of excavation, volume and type of excavated material required to construct the proposed development, including any ancillary facilities to support the development, are to be quantified, clearly identifying the types of material envisaged to be excavated.

1.2.5 Identification of the routes that construction vehicles will use to and from the site, the number and size of construction vehicles and their respective frequency of use, and the time of day when construction traffic is likely to be heaviest.

1.2.6 Proposed facilities (including infrastructure, storage, on site servicing of equipment and vehicles, security etc.) in terms of size, area, height and volume, proposed elevations, layout [to include hard and soft landscaping], method of construction, external colour scheme and texture. Details of planting schemes and structures

(including boundary walls, fences, gates, lighting poles, etc.) shall also be submitted.

- 1.2.7 A landscaping scheme [to include hard and soft landscaping (*scale 1:500*)] for the proposal is to be provided. This shall aim to mitigate the negative visual impact of the proposal during construction and operation on the adjacent and more distant landscape. Details with respect to planting locations, tree/shrub type/species, age of specimens to be used, planting methods, phasing (during construction and operation) and overall management of the scheme should be included. The scheme should also include provisions for securing the healthy growth of the plants. Landscaping should follow the provisions outlined in MEPA's document entitled, "*Guidelines on Trees, Shrubs and Plants for Planting and Landscaping in the Maltese Islands*". Submissions required shall be made at the appropriate scale and level of detail and include colour photomontages taken from points agreed with the MEPA and submitted on A4 (at least). Refer to Section 4.6 for details.

1.3 A description of the operational features of the project

- 1.3.1 How the proposed operations will be energy efficient and what energy-saving measures and alternative energy systems will be used. A description of water reduction/saving measures should also be given. Use and disposal/re-use of surplus solid waste material and waste water shall also be included.
- 1.3.2 Residues and emissions by source, type, quantity, composition and concentration. These should include the types of waste/resources created by the development itself and their method of disposal; discharges to water (e.g. discharges from storage tanks, fuel spillages, and storm water run-off); emissions to air (including dust), vibration, light, and other deposits/residues into land and soil; their disposal and/or reuse.
- 1.3.3 Services including water for the irrigation of landscaping and other services such as potable water supplies to the facility (including source of freshwater), power (including the connected load in kW or kVA and the overall power factor) and telephone linkages.
- 1.3.4 Water storage, runoff water management (including facilities for storage and eventual use of storm water runoff) should also be described.

1.4 Waste Management

- 1.4.1 A general policy statement and commitment by the developer to reduce waste generation and minimise landfill disposal where possible.

The following information is to be submitted for each phase of the project **separately**.

1.4.2 **Site Clearance and Demolition:**

This section must address all waste streams which may be present on the three sites and include:

- Identification of processes and/or activities that would result in waste generation;
- The identification of all possible waste streams which may be generated by each activity including wastes generated from any ancillary facilities required on the site;

- The European Waste Catalogue (EWC) Code for each waste stream identified, as per Schedule 1 and the corresponding H code (if applicable) for each waste stream as per Schedule 2, of the Waste Management (Permit and Control) Regulations as published by LN 337 of 2001, should be identified;
- The projected quantities for each type of waste (details of assumptions made and the methodologies adopted for achieving such estimates should also be included);
- Impacts of the waste streams to be generated during this phase;
- An assessment of alternatives for proposed management of the waste based on waste management alternatives which should include:
 - a) Infrastructural elements required for the storage and management of waste on site of the scheme;
 - b) Measures to be adopted to ensure protection of the surrounding environment from such wastes whilst these are being stored on site of the scheme; and
 - c) Measures to be adopted in the event of accidental spillages occurring on site.
- Identify methods that shall be adopted to reduce waste generation, during this phase of the development. Measures to be taken for the separation of different waste fractions and the reuse/recycling and final disposal of waste are also to be included;
- Details of transportation of waste including measures to be taken to protect the surrounding environment during transport of waste; and
- Details of waste management facilities and waste contractors/operators proposed shall be provided.

1.4.3 **Site Excavation**

- The EWC Code for each waste stream identified, as per Schedule 1 and the corresponding H code (if applicable) for each waste stream as per Schedule 2, of the Waste Management (Permit and Control) Regulations as published by LN 337 of 2001, should be identified;
- The projected quantities for each type of waste (details of assumptions made and the methodologies adopted for achieving such estimates should also be included);
- Impacts of the waste streams to be generated during this phase;
- An assessment of alternatives for proposed management of the waste based on waste management alternatives;
- Details of transportation of waste including measures to be taken to protect the surrounding environment during transport of waste; and
- Details of waste management facilities and waste contractors/operators proposed shall be provided.

1.4.4 **Construction**

- Identification of processes and/or activities that would result in waste generation;
- The identification of all possible waste streams which may be generated by each activity including wastes generated from any ancillary facilities required on the site;
- The EWC Code for each waste stream identified, as per Schedule 1 and the corresponding H code (if applicable) for each waste stream as per Schedule 2, of the Waste Management (Permit and Control) Regulations as published by LN 337 of 2001, should be identified;

- The projected quantities for each type of waste (details of assumptions made and the methodologies adopted for achieving such estimates should also be included);
- Impacts of the waste streams to be generated during this phase;
- An assessment of alternatives for proposed management of the waste based on waste management alternatives which should include:
 - a) Infrastructural elements required for the storage and management of waste on site of the scheme;
 - b) Measures to be adopted to ensure protection of the surrounding environment from such wastes whilst these are being stored on site of the scheme; and
 - c) Measures to be adopted in the event of accidental spillages occurring on site.
- Identify methods that shall be adopted to reduce waste generation, during this phase of the development. Measures to be taken for the separation of different waste fractions and the reuse/recycling and final disposal of waste are also to be included;
- Details of transportation of waste including measures to be taken to protect the surrounding environment during transport of waste; and
- Details of waste management facilities and waste contractors/operators proposed shall be provided.

This section should also address any site backfilling to be carried out and provide information on volume of void space to be infilled and the volume of material as well as the type of material to be used for the infilling.

1.4.5 **Operation**

- Identification of processes and/ or activities that would result in waste generation;
- Projected wastes to be generated and handled by the proposed development, arising from the operation of the proposed development, covering a minimum period (say 5 years);
- The EWC Code for each waste stream identified, as per Schedule 1 and the corresponding H code (if applicable) for each waste stream as per Schedule 2, of the Waste Management (Permit and Control) Regulations as published by LN 337 of 2001, should be identified;
- The projected quantities for each type of waste (details of assumptions made and the methodologies adopted for achieving such estimates should also be included);
- Impacts of the waste streams to be generated during this phase;
- An assessment of alternatives for proposed management of the waste based on waste management alternatives which should include:
 - a) Infrastructural elements required for the storage and management of waste on site of the scheme;
 - b) Measures to be adopted to ensure protection of the surrounding environment from such wastes whilst these are being stored on site of the scheme; and
 - c) Measures to be adopted in the event of accidental spillages occurring on site.
- Identify methods that shall be adopted to reduce waste generation, during this phase of the development. Measures to be taken for the separation of different waste fractions and the reuse/recycling and final disposal of waste are also to be included;
- Details of transportation of waste including measures to be taken to protect the surrounding environment during transport of waste; and

- Where relevant, details of waste management facilities and waste contractors/operators proposed shall be provided.

This section is also to include information on the design structure for purposes of waste management, including but not limited the refuse collection points, refuse storage areas, etc.

- 1.4.6 Layout plan (**to scale**) of site, for each phase including and indicating through labelling:
All waste management infrastructures required, including bunded areas needed for the storage of waste fuels and fuels to be used on site and including Wheel Wash facilities;
- 1) Flow of waste water, as laid to falls to waste water treatment plants, if any;
 - 2) Flow of surface water runoff; and
 - 3) Cross-sections (**to scale**) of the waste management infrastructure to be installed/used on site.

1.5 Consideration of alternatives

1.5.1 *Alternative Technologies*

An assessment of the alternative technologies (including during demolition, construction and operation) should be considered. This section should contain a detailed explanation of the proposed technology to be used (including that for reducing emissions) and an assessment of alternative technologies which can be used to achieve the objectives of the proposed development.

1.5.2 *Alternative Layouts*

An identification of alternative layouts based upon the possibilities and constraints posed by physical characteristics and features of the project, its operational features, and land-use requirements. A description of the sites and site-specific environmental impacts shall be provided. This section should also include the zero option, that is, an assessment of the way the site would develop if it were left in its natural state.

- 1.5.3 The findings on the environmental impacts of alternative technologies shall be combined with those on the environmental characteristics and environmental impacts in alternative layouts. This will enable the identification of best technology/layout combinations. The technical and planning reasons why a particular technology and layout was selected in preference to all the others must be clearly explained. The discussion should cover construction, operation and distribution aspects.

2.0 A DESCRIPTION OF THE PROPOSED SITE AND ITS SURROUNDINGS

Note 9: This description is identified by the area of influence for each relevant parameter. The area of influence for each parameter shall be determined by the consultants who shall also justify the extent of the chosen area of influence. This must be approved by the Malta Environment and Planning Authority prior to commencement of the EIA. This description should include:

2.1 Ecology

This shall include a description of the ecological characteristics of the site.

2.2 Land use

Including settlements, workplaces, places of worship, production, commercial, recreational, and other uses. Any natural and vernacular features should also be taken into consideration. Details including nature and magnitude, proximity to site etc. should be included.

2.2 Land cover and Agriculture

A description of the existing land cover of the site, including agricultural land if present. If any soil is present, its type and fertility shall also be determined.

2.3 Geology and Hydrology

A geo-technical description of the material to be excavated shall be submitted. This section shall provide the information required for establishing the economic feasibility for the reuse of the excavated material (including any necessary studies to determine such feasibility) required in Section 4.4. The number and location of core sampling shall be approved by MEPA prior to the carrying out of any tests. Irrespective of this, a minimum of 3 core samples shall be taken from the site. Rock sampling and testing shall comply with the relevant BS Standards. This description shall extend to a minimum of 5 m below the deepest level of the proposed development (taking into consideration any facilities proposed underground).

Stability of the site considering its former nature as a quarry site should also be considered.

A hydrological survey shall also be conducted to establish hydrological characteristics. This shall include a baseline survey on characteristics of the aquifer, including its depth, catchment areas and drainage patterns, surface water run-off and proximity to groundwater abstraction sources.

2.4 Landscape, topography and visual assessment

This should include a landscape characterisation of the area and visual amenity of the area. 'Non-visual' aspects of the development should also be considered and include those impacts which reduce the possibility for the public to enjoy the landscape including emissions, noise, etc.

2.5 Existing infrastructure and utilities

Description of the current infrastructure and utilities available on site (including water supply, energy supply, sewerage, etc.)

2.6 Existing air quality and microclimate of the area

This section shall describe the existing air quality and microclimate of the area.

2.7 Noise and Vibration

Information on the prevailing background noise levels both in terms of frequency and intensity should be given. This baseline survey should follow parameters given in BS4142:1997. Locations for monitoring background noise should be chosen bearing in mind the following:

- Other existing noise sources in the area, including traffic;
- Other potential noise sources in the area, including new developments;
- Sensitive receptors, residential areas, schools, hospitals, etc.;
- Sensitive recreational areas in the vicinity;
- Features that might shield noise, topographical, vegetation, etc.

These locations must be approved by the MEPA prior to commencement of the EPS.

2.8 Any other relevant environmental features.

3.0 PLANNING, POLICIES AND LEGISLATION

- 3.1 The relevance of Maltese Legislation and Maltese Planning Policy (notably the Structure Plan and Local Plans for the surrounding areas) and its compatibility (or otherwise) with the development or its impacts should be described and analysed. In particular, policies on the following should be noted: conservation areas and zones, protected buildings and sites, areas of natural beauty, areas of scientific, ecological, archaeological, agricultural, architectural, historical, antiquarian or artistic value, aquifer protection and run-off, transport policies (including parking standards), marine protection.
- 3.2 Policies of other ministries will provide an important context for the proposed development. Reference should also be made to environmental regulations, policies concerning waste treatment, transport, public health, agriculture and tourism, where relevant.
- 3.3 International polices or conventions which may affect the site or area. For instance details about compliance with European Union Regulations, Directives and conventions should also be considered, their relevance to the project highlighted, as well as how compliance will be achieved.

4.0 ASSESSMENT OF ENVIRONMENTAL IMPACTS AND RISKS OF THE PROPOSED DEVELOPMENT

Note 10: All significant impacts of and risks posed by the proposed project **during construction and during operation**, should be assessed, also considering the possibility of a future increment in the number of heads, given the environmental characteristics of the site outlined in Section 1 and 2 and the policies outlined in Section 3. A descriptive and quantitative analysis (including magnitudes and timing) of the impacts of the proposed development should be made, and presented in summary chart format. The various techniques, methods and assumptions used in the analysis and predictions should be outlined.

It is recommended that impact assessment should include:

- i. Description of the impact;
- ii. Duration (temporary or permanent);
- iii. Extent (in relation to site coverage and surroundings and associated features);
- iv. Direct or indirect impact;
- v. Adverse or beneficial;
- vi. Reversible or irreversible effects of the impact and extent or irreversibility as well as description of any associated conditions/assumptions for irreversibility;
- vii. Sensitivity of resources to impacts;
- viii. Probability of impact occurring;
- ix. Confidence level/limits to impact prediction;
- x. Scope of mitigation/enhancement; and
- xi. Residual impacts.

Worse case scenarios should be assessed where relevant.

The impacts may include:

4.1 Effects on land

Including the physical effect of the development on the surrounding area and its topography e.g. via earth-moving, soil stability and erosion.

4.2 Effect on land uses

This assessment shall first consider the proposed development in isolation and assess the impacts arising from the various proposed activities upon each other.

This assessment shall then consider the proposed development in a wider context and assess the effects of the proposed development upon the surrounding land uses and the effects of the surrounding land uses upon the proposed development.

4.3 Effects of Noise and Vibrations

Including effects of noise and vibrations on the surrounding community arising during the excavation, demolition, construction and the operation stages of the proposed development. The impacts on the surrounding noise-sensitive uses shall be assessed in terms of magnitude, duration and type. During the construction stage, noise and vibrations may arise from the use of heavy construction vehicles (cranes, lorries and machinery). Noise assessment during operation is also required. The assessment shall assume that the noise generated is at its

maximum capacity (worse case scenario). This assessment shall feed into the assessment of the impacts on the stability of the surrounding land (Section 4.4).

4.4 Effects on Geology and Hydrology

This assessment shall also establish the economic feasibility of the reuse of the excavated material, giving due consideration to all possible alternative uses. The assessment shall also investigate the effects and risks of excavations on the stability of the surrounding land, given the type of rock in the area.

This assessment shall also describe whether the development will have any impacts upon, or be at risk by the mean sea level aquifer. The impact on the surface water drainage pattern shall also be mapped and illustrate the expected surface water drainage pattern if the proposed development is constructed.

The impacts on the surrounding area and property due to the resulting change in surface water drainage pattern shall be clearly described, with particular reference to Wied il-Miżieb.

4.5 Effects on Utilities and Infrastructure

Assessment of whether the current utilities (described in Section 2.5) are adequate to meet the demand of the proposed development or whether new provisions need to be supplied. If provision of new infrastructure (or upgrade of existing) is deemed necessary, associated constructional works shall also be taken into consideration in the EPS.

4.6 Visual impact

Including views into the site and colour photomontages of the proposed development should be included.

4.6.1 Apart from the photomontage itself, the following are required:

- A copy of the base photograph used in the preparation of the photomontage (this should enable a comparison of the situation as existing and as proposed - hence the size of the photograph depicting the situation as at present is to be of the same size as the photomontage);
- Date when the base photograph was taken; and
- A site map indicating the exact positions from where the photographs were taken and to which the photomontages should cross-refer.

4.6.2 Submissions required shall be made at the appropriate scale and level of detail and include colour photomontages taken from points **agreed** with the MEPA and submitted on A4 (at least). Photomontages are to be taken from a height of 1.7m above ground level (unless specific obstacles justify heightening the viewing point – in which case this should be made clear in the document submitted or unless MEPA asks for a different viewing height which may include aerial shots). Photomontages are to show the proposed interventions superimposed on the existing landscape, not only adjacent to the site. The landscaping scheme that is being proposed (see Section 4.6.1 above) should be included in the photomontage and the maturity of the landscaping scheme as shown (which shall not be less than 5 years after planting) shall be indicated.

Apart from the photomontage itself, the following are required:

- A copy of the base photograph used in the preparation of the photomontage (this should enable a comparison of the situation as existing and as proposed - hence the size of the photograph depicting the situation as at present is to be of the same size as the photomontage);
- Date when the base photograph was taken;
- A site map indicating the exact positions from where the photographs were taken and to which the photomontages should cross-refer; and
- Height of camera from which photo was taken.

Given the absence of local guidelines on landscape assessment it is recommended to use 'Guidelines for Landscape and Visual Impact Assessment, 2nd Edition', published by SPON Press, 2002 and edited by The Landscape Institute and the Institute of Environmental Management & Assessment. Reference should also be made to the MEPA's 'Draft Landscape Assessment Study' that can be downloaded from the MEPA's website (www.mepa.org.mt).

The visual assessment shall also include any impacts of over-shadowing on surrounding third-party property, assessing the worst-case scenario.

4.7 Effects on air-quality and micro-climate of the area

Including emissions to air, both during construction and operation by source, type, quantity, composition and concentration and the distribution of each. This shall include dust, odours as well as chemical emissions due to machinery and/or associated activities during both construction and operation of the proposed development. Impacts from traffic shall also be taken into consideration.

The impact of the development on the microclimate of the area shall also be described.

4.8 Energy Assessment

This assessment shall include details of the energy supply to the proposed development (including all proposed land uses) and an estimate of the energy requirements. This energy supply shall be broken down by use and by type of utility (such as heating/cooling, interior and exterior lighting, etc.)

This assessment shall then take into consideration alternative technologies aimed at minimizing the use of energy throughout all utilities and uses identified before. This might include alternative energy sources (such as solar energy) and also technologies that improve energy efficiency. Alternatives in terms of design, fabric, materials and orientation of the buildings shall also be considered, assessed and justified in terms of energy use.

This assessment shall also include the layout and technologies used in the exterior lighting scheme. This assessment shall justify the need of the light and propose alternative layouts/technologies to maximise the efficiency of the exterior lighting scheme. This assessment shall assess options to avoid glare (the blinding light which is a danger to motorists/pedestrians), light trespass (light straying into an area where it is not desired or required, with particular emphasis on third party property) and sky glow (caused by light directed upwards, in other words 'wasted' light).

4.9 Social Impacts

The social assessment for the proposed development shall assess the impacts of the development on the surrounding and visiting population and their social activities. This assessment shall also consider the social impacts on the future residents of the proposed residential block associated with the development.

4.10 Effects of Liquid Discharges

This assessment shall identify any liquid discharges to land, sea and sewer, clearly quantifying the estimates and their likely contents and effects.

4.11 Other environmental effects

Other environmental effects other than those identified in sections 4.1 – 4.10 shall be described and their impacts assessed.

4.12 Secondary impacts

Mainly arising from the extraction and consumption of resources necessary to implement the project, as well as from developments supporting the project (e.g. new roads, sewers, power lines, pipelines, telecommunications), such as water, energy, construction materials, and the resultant need (if any) of development of new supplies.

4.13 Cumulative effects

This section shall refer to all the impacts of all the aspects of the development and shall assess:

- the effects resulting from the **interaction of separate effects** listed above as well as any other relevant impacts, including public health, and
- the impacts of the project viewed in terms of other projects (i.e., not in isolation), including existing and proposed.

4.14 Interaction between any of the foregoing

Experts contributing to the EIA should be specifically asked to consider impact interactions and to communicate information between each other. In addition, any environmental components not listed in the Directive or Regulations that are likely to be affected should not be discounted.

Predictions of impact interaction will nearly always involve a greater degree of uncertainty than prediction of impacts on individual components. This should be referred to in the EIA rather than ignored.

5.0 DESIGN OF MITIGATION MEASURES, IDENTIFICATION OF RESIDUAL IMPACTS AND MONITORING PROGRAMME

5.1 Mitigation measures

This should include a description of the measures envisaged to prevent, minimise and where possible offset any significant adverse effects on the environment of the project, (including reference to consideration of alternatives in Section 1.5 above). Such measures could include technological features; operational management techniques; enhanced site-planning and management; aesthetic measures; conservation measures; reduction of magnitude of project; and health and safety measures.

5.2 Residual impacts

Any residual impacts, that is those impacts that cannot be mitigated or those remaining impacts following implementation of mitigation measures, should also be described, quantified and presented in a tabular format.

5.3 Monitoring

The consultants must propose a monitoring program which should take into account monitoring of those features that are considered to be impacted negatively or the impact on which is uncertain. The program must be proposed at different stages: before, during and after construction. Details regarding type of and frequency of monitoring must also be given. This program shall include an audit and evaluation of forecasts, predictions and mitigation measures made in the EPS.

**Environmental Impact Assessment Regulations, 2001
Regulation 28 and Regulation 29 of the EIA Regulations, 2001**

Regulation 28

List of Consultants (Extract from the EIA Regulations)

28. (1) The environmental impact statement shall list the registration number and the names of the consultants and contributors responsible for the preparation of the environmental impact statement, environmental survey reports, appendices, non-technical summary and other components of the statement.

(2) The consultants who are responsible for a particular analysis, including analysis in the environmental survey reports, shall be identified.

(3) All consultants and contributors employed in the environmental impact assessment shall sign a declaration stating that the particular study (or part thereof) was solely carried out by them. This signed declaration shall be included with each environmental survey report included with the environmental impact statement.

Signed declaration in accordance with Regulation 28 (3)

Director General
MEPA

I _____, who carried out the study (or part thereof) on _____ for the EIA of PA 1302/06, PA 1927/06 and PA 2761/06 for the proposed _____, hereby declare that such study was solely carried out by me.

Date

Signature

This declaration is to be included with each environmental survey report included with the EPS.

Regulation 29

Conflict of Interest (extract from the EIA Regulations)

29. (1) In the interest of fairness, objectivity and the avoidance of bias, all consultants shall required to sign and abide by a declaration that they have no personal or financial interest in the proposed development.

(2) The Director of Planning and the Director of the Department shall not approve consultants or consultancy firms that are in any way associated with any company, association or grouping that has any direct or indirect personal, association or grouping that has any direct or indirect personal, professional or financial interest in the proposed development.

(3) The Director of Planning and the Director of the Department shall not approve any environmental impact statement or environmental planning statement produced by a consultant or group of consultants, one or more of whom does not comply with the provisions of sub-regulations (1) or (2) of this regulation.

Signed Declaration in accordance with Regulation 29 (1)

Director General
MEPA

I _____, hereby declare that I have no personal or financial interest in the proposed development, namely _____.

Moreover, I declare that I am not in any way associated with any individual, company, association or grouping that has any direct or indirect, personal, professional or financial interest in the abovementioned proposed development.

Date

Signature

Such declaration is to be sent to MEPA when proposing the list of EIA Consultants prior to their approval or otherwise.

