

**SECTION 6 - SUBSECTION J**

**PRINCIPLES AND GUIDELINES FOR DESIGN OF THE  
INFRASTRUCTURE OF ROADS & EARTHWORKS**

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## **1. General**

- 1.1. This section includes guidelines for design of infrastructure of roads, plazas, earthwork & drainage.

## **2. Operational requirements**

- 2.1. The earthworks and infrastructure for roads, plazas and drainage are required as part of grounds development in the inspection building, within the boundaries of the plot.
- 2.2. The designer must take into consideration the following points:
  - 2.2.1. The plot designed for the installation is part of the Jordan River border crossing
  - 2.2.2. It's contractor's responsibility to coordinate his works with IAA and in order to connect to the existing and planned roads and infrastructures.

## **3. Basic assumptions**

- 3.1. Design for developing the ground will be based on the boundaries of the plot as given in drawings.
- 3.2. The final face of the land within the grounds will be in accordance with the heights that will be given to the constructor before he starts designing. The constructor is responsible for designing the connections between the heights given and the heights existing outside the boundaries of the plot.

## **4. Description of the work and the site**

- 4.1. Development design of the grounds will be based on the approved designed heights above the ground that will be provided to the constructor for design.
- 4.2. The constructor is responsible for executing the earthworks that will bring the grounds to the appropriate heights. Design will be based on creating a convenient access to the plot grounds, making use of existing roads, taking into account the land development close to the plot.
- 4.3. Design includes design of earthworks, plazas, and drainage of the area taking into account the topography of the area.

- 4.4 Planning considerations will take into account the soil type and the topography of the site. Topography data constitute the principal factor in planning the final heights, area drainage and the depth of drainage ditches.

## **5. Infrastructure of roads, plazas, earthwork and drainage**

- 5.1. The infrastructure of roads, earthworks and drainage in the plot grounds and outside it, includes the following functions:

5.1.1. Earthworks;

5.1.2. Sidewalks.

5.1.3. Drainage systems;

5.2. Design of the infrastructure of roads and earthwork and drainage includes:

5.2.1. Surveying, earthworks, roads, and drainage;

5.2.2. Preliminary design of the road system and drainage (designs and cross-sections);

5.2.3. Design of the ground levels of the building and installation relating to the infrastructure;

5.2.4. Local drainage, sedimentation pits, etc;

5.2.5. Specifications will include the list of designs relevant for the specification;

## **6. Standards and specifications for design of roads, plazas and development of the grounds**

- 6.1. \* General specification for building works (chapter 40 - General Specification to develop the site and paving);
- 6.2. \* General specification for building works (chapter 41 - General Specification for gardening and irrigation);
- 6.3. \* General specification for building works (chapter 50 - General Specification for concrete surfaces);
- 6.4. \* General specification for building works (chapter 51 - General Specification for paving roads and plazas);
- 6.5. Israeli Standards IS 3, 8, 19, 118, 123, 161, 168, and 362 - for asphalt roads as follows:
  - 3- Aggregate
  - 123- Understanding layers
  - 161- Bitumen and emulsion
  - 8- Paving initial concrete products
  - 19- Curbstone
  - 118- Concrete for building uses
  - 362 – Asphalt concrete

- 6.6. Israeli Standards IS 19, 688 - for curbstones and channel stones.
- 6.7. Israel Standard Institution Specification - ISIS 68 - retaining walls of prefabricated elements.
- 6.8. Green building- see reference to public housing Israeli standard no 5281: demand of 55 points and 20% recycled crushed stone bedding.

\* This refers to the latest available version of the documents, which are published by the Special Inter-Office Committee and the Building and Property Division of the Ministry of Defense, and the Design and Engineering Branch and the Public Works Department of the Ministry of Building and Housing.

6.8.1. Lab test requirements should match the Israeli standards as follow:

Testing procedures:

1. sample
2. building materials classification
3. broken ground models
4. sifting
5. L.L – liquid limit, IP –plastic index, PL –plastic limit
6. Sand equivalent
7. Specific gravity
8. Dampness capacity
9. Relative dampness
10. Field density and the tightening to platform and base
11. Identification and sorting grounds
12. Asphalt Composition mixture
13. Contents of grains in aggregates
14. Field density and the tightening in asphalt layers
15. Guidance to asphalt cement factory production supervisor

