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## ARCHEOLOGICAL DRAWINGS WHEN GRAPHIC ENGINEERING DOCUMENTING OF EXCAVATIONS AT OBJECTS WITH CULTURAL AND HISTORICAL HERITAGE

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**Abstract:** *The suggested paper tries go present in brief and in general the types of archeological drawings when graphic engineering documenting of excavations at objects with cultural and historical heritage.*

**Key words:** *archeological drawings, graphic engineering documenting of archeological excavations, objects with cultural and historical heritage*

The geodetic capturing of the archeological objects which are part of the cultural and historical heritage is performed for the needs of the archeology research:

- to document graphically the results from the excavations;
- to determine the spatial positioning of the archeological objects in relation to the near objects;
- to fix the position of certain elements from the archeological objects one in relation to the other;
- to define volumes, excavations, embankments, etc.;
- to plan conservations, restorations, etc. [10, p. 19 – 20].

The end point of the geodetic capturing is the picture whose idea is to realize a topographic or situational plan. In this relation the geodetic capturing includes topographic and situational details in and around the given archeological object and the result is graphic geodetic documentation of the excavations in the shape of plans which represent the existing situation of the given earth part and they are minimized and similar image of the horizontal projection of a limited earth surface (with the contours of the included objects). The plan should represent precisely and truly the existing location of the given earth part:

- borders between properties and agricultures;

➤ locations of single, attached to the ground natural or man-made objects or facilities [18, p. 240].

The enumerated above elements, called topographic details, are subjects to the geodetic picture of the archeological excavations of objects with cultural and historical heritage [2, p. 6; 7, p. 14 – 15; 11, p. 23 – 24; 18, p. 255; 22, p. 20].

The activity of geodetic capturing of the archeological cultural and historical objects of Republic of Bulgaria is focused towards the above-mentioned details. In this direction the plans of the archeological objects are graphical engineering documentation of the results from the stages of the excavations in a plan by means of drawings and under the management of the scientific researcher [12, p. 7; 18, p. 86; 19, p. 51].

Per se the drawing represents the real object through our senses. In this direction a basic part of the field archeological documentation of the cultural and historical objects are drawings and there are no conventional requirements and standards towards them.

The following types of archeological drawings are common in the practical sphere:

➤ first type archeological drawing: scheme – in its essence it is an elementary drawing and in order to be graphically designed, it does not require:

- ✓ theoretical knowledge;
- ✓ professional experience;
- ✓ habits;
- ✓ practical skills;

In its essence, the scheme is a simplified drawing (the drawing is the projected image of an object in a given projection plane) with the contours of the imaged object and it is not necessary to be precise; the general vision for the location of the object in the archeological context with dimensions is the most important [4, p. 62; 5, p. 3, p. 59 (Fig. 177); 14, p. 27; 15, p. 8];

➤ second type of archeological drawing: sketch – this is a fast and general, not detailed eye sketch which requires:

- ✓ basic theoretic knowledge;
- ✓ experience;
- ✓ stable hand;

The sketch is a drawing, i.e. it is a preliminary simplified drawing with the proportional contours of the pictured images and their dimensions. The proportions of the image are the most important and, in this relation, the finished sketch should be checked by somebody else and not by the person who created it;

➤ third type of archeological drawing: engineering drawing – in its essence it is a drawing which gives the necessary complete and at the same time – enough detailed and precise information. It is developed with drawing tools and materials and this requires:

- ✓ theoretical knowledge;

- ✓ professional experience;
- ✓ habits;
- ✓ practical skills;

The engineering drawing precisely and graphically images the following minimized objects on a plane:

- terrain;
- objects;
- objects or parts of them;
- details [25, p. 33 – 34];

Touches and lines are used for the realization of the engineering drawing and they are in the same scale which represents the rate of minimization of the dimensions of the archeological structures compared to their real dimensions on the earth surface. In this relation the written exact dimensions give real picture for the area, for the type of the presented objects with keeping the respective parameters. The stages in the archeological excavations of the respective parameters are traced by means of plans which are horizontal and vertical (plan, section, elevation) [6, p. 98; 8, p. 78 – 79; 17, p. 187];

➤ forth type archeological drawing: plan – it explains the external shape of the archeological structure or it presents the stratigraphic profile of the terrain. This is a rectangular projection of the facing towards the viewer part of the surface of the structure and the visible contours in view are drawn with thick continuous line and if it is needed, invisible contours can be drawn with thin discontinuous line. In turn, the plans are:

- ✓ basic plan views – the ones on the basic projection planes, i.e.:
  - front view (main view);
  - top view;
  - left view;
  - right view;
  - bottom view;
  - rear view [5, p. 75 (Fig. 217) – 76 (Fig. 218); 15, p. 60 – 62; 16, p. 49 (Drawing 65); 17, p. 186 (Drawing 230 – 231), p. 187; 20, p. 94 – 95; 23, p. 47 – 48 (Fig. 1.5.2); 24, p. 20];

- ✓ additional plan views – the views are made on planes which are not parallel to the basic projection planes [15, p. 62; 17, p. 188; 23, p. 48 – 49 (Fig. 1.5.3, Table 1.5.1)];

- ✓ fifth type archeological drawing: section – it presents internal or external shapes which are not seen in the image. This is an image of a plane figure, i.e. a projection of the visible plane which is made when we imaginarily intercept the archeological structure with a plane, called cutting plane. The aim is to draw invisible forms of the structure in the plan view. In this relation, the section is done with touches and it contains only the plane figure from the cutting plane and

it has a closed contour. In turn, the sections which are not included in the sections, are divided into:

- ✓ removed sections – they are drawn with thick continuous line like separate projections;

- ✓ assembly sections – they are drawn with a thin discontinuous line over the views [5, p. 110 – 111 (Fig. 363 – 369); 15, p. 69 – 72; 16, p. 50 – 51; 17, p. 195 (Drawing 251 – 253); 23, p. 52 – 53];

- sixth type archeological drawing: section – it also depicts internal or external shapes which are not seen in the view. It is a projection of imaginary intercepted by a plane archeological structure over the projection plane, parallel to the cutting one and the part in front of the cutting plane is imaginarily removed. In this relation, the section is an image which consists by the section and the view of this part of the structure which is behind the cutting plane and the material of the structure is mentioned (drawn); and when the profile of an excavation or piling is drawn, it is presented with an open contour. In turn the sections are:

- ✓ horizontal sections – the cutting plane is parallel to the horizontal projection plane;

- ✓ vertical sections – the cutting plane is perpendicular to the horizontal projection plane;

- ✓ inclined sections – the cutting plane makes an angle with the horizontal projection which is different from the straight angle;

- ✓ longitudinal – the cutting plane is in the direction of the length or height of the structure;

- ✓ transverse sections – the cutting plane is perpendicular to the length or height of the structure;

- ✓ simple sections – with one cutting plane;

- ✓ complex sections – with a few cutting planes;

- ✓ full sections – the cutting plane goes through the whole structure;

- ✓ half sections – the cutting plane goes through half of the structure and they are done only to symmetrical structures and elements from them;

- ✓ partial sections – only a part of the structure is cut [1, p. 58 – 59, p. 60 – 61; 3, p. 26; 5, p. 98; 9, p. 3; 13, p. 11 – 13; 16, p. 51 – 54; 17, p. 190 (Drawing 238 – 239), p. 191 (Drawing 240 – 242), p. 193 (Drawing 246 – 248) – 194 (Drawing 249 – 250); 21, p. 284, p. 298 – 302, p. 358; 23, p. 50 – 52; 24, p. 20];

- seventh type archeological drawing: profile – in its essence the profile (between two points) is an image of the cutting line of the earth surface (or another object at a given direction) with a vertical plane (going through two points). In this relation, the profile is:

- ✓ longitudinal profile;

- ✓ transverse profile [19, p. 51 – 52];

- eighth type archeological drawing: technological drawing – it is done in order to present graphically the process of making objects, constructions, surface

processing. The main idea here is to focus on the technological details, the relations between them and the sequence of the material flows movement;

➤ ninth type of archeological drawing: artistic drawing – most often it is done to graphically present separate archeological findings. It is voluminous and its task is to give a complete idea for the details of the finding and the technique of the drawing is very important;

➤ tenth type of archeological drawing: reconstruction – this drawing presents a graphical restoration of missing details and elements of their fragments. It is completed by the interpretation of the researcher in relation to the archeological context, as well as by accompanying secondary elements and details. Related to this, in order to boost the artistic and esthetic component, the drawings are often painted in color.

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