

(6) Digital Map Symbolization

The training was divided into two steps, pre - processing and symbolization, and the data of the map sheets 072 - 3 - 2, 072 - 4 - 1 and 112 - 2 - 1 were used.

Used hardware: PC (Two desktops)

Used software: Autodesk MAP 2004, Adobe Illustrator 10.03, Adobe Photoshop 7.0, etc.

Used and referred data:

Pre - made proof sheets, newly plotted topographic maps (DXF format), the existing 1:25,000 - scale maps, Illustrator training_ver0407, Symbolization specifications for the adobe illustrator to be used in the preparation of 1:25 000 scale geographic map of Bosnia and Herzegovina, etc.

- a. Pre - processing
- i. Cleaning of plotting data by Autodesk MAP 2004
 - Point: conversion of symbols into points
 - Line: break of intersection, connection, processing of end points, elimination of duplicate lines
 - Polygon: elimination of unnecessary lines, generation of feature centers and generation of regions

See Figure 2 - 22 for the pre - processed point and line data, and see Figure 2 - 23 for the pre - processed polygon data.

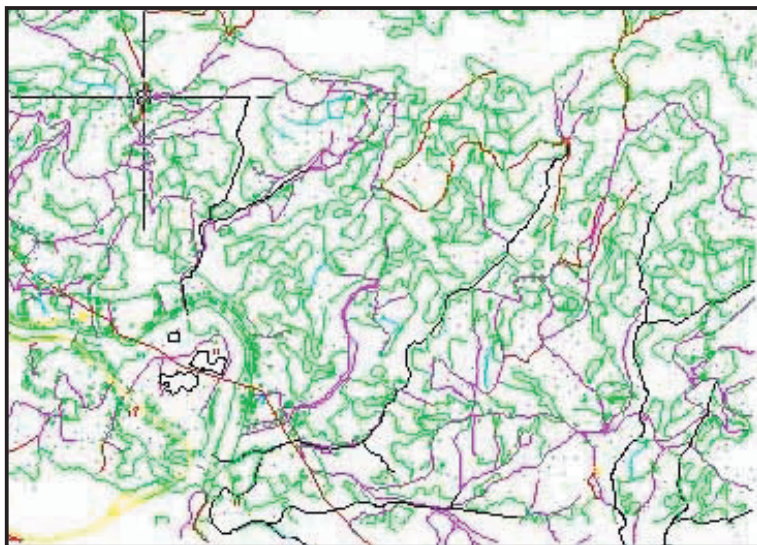


Figure 2 - 22 Point and Line Data Pre - processed for Symbolization

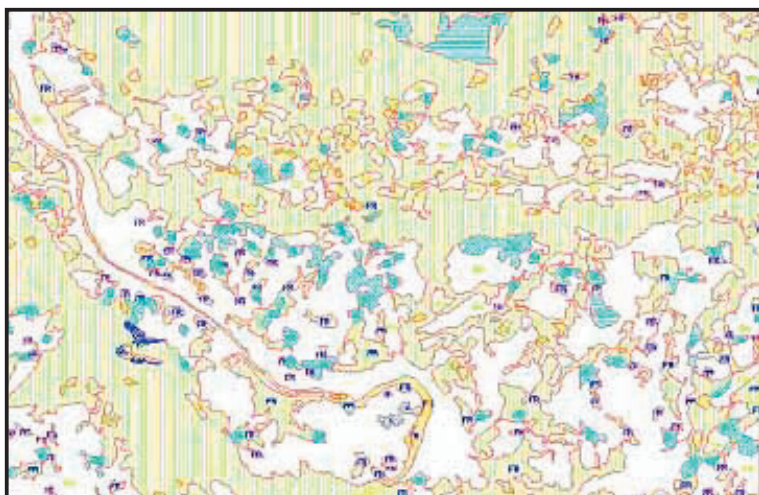


Figure 2 - 23 Pre - processing of Polygon Data

- ii. Import of DXF data
 - Import the DXF data pre - processed in Step 1) into Illustrator software
 - Line connection, stylizing and simplification for symbolization
- b. Symbolization

The trainees understood and practiced the symbolization processing. Each step of the processing is described below.

- i. Creation of symbols according to the specification, Symbolization specifications for the adobe illustrator to be used in the preparation of 1:25 000 scale topographic map of Bosnia and Herzegovina.
- ii. Creation of template layers
- iii. Symbol displacing and line hiding to eliminate symbol laps

Some examples of this processing are shown in Figure 2 - 24 and 2 - 25.

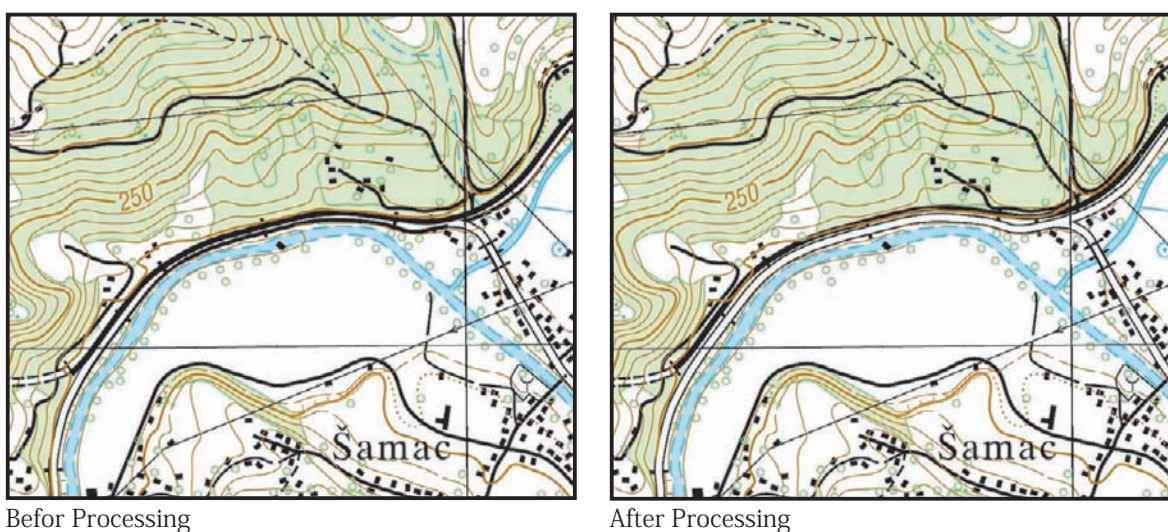
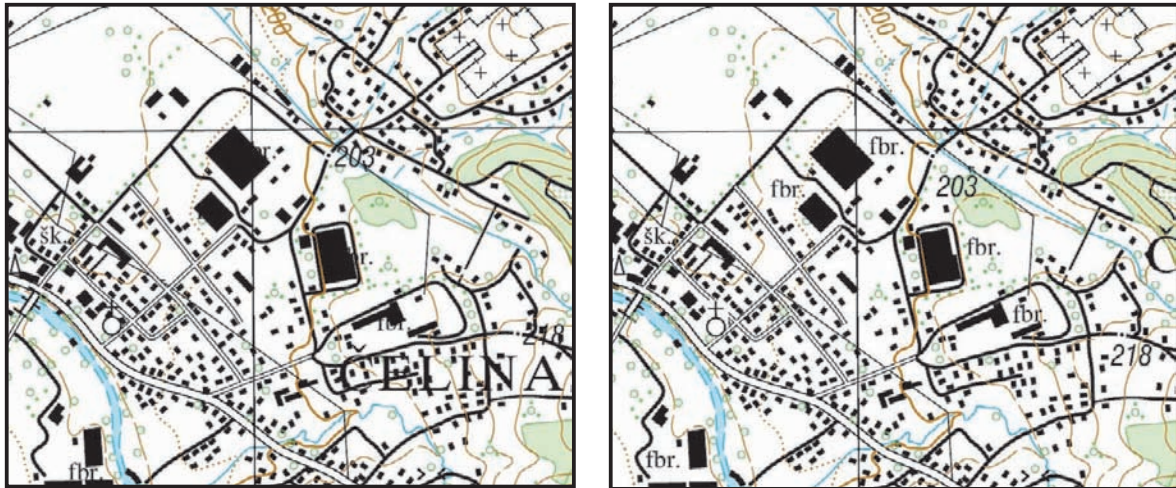


Figure 2 - 24 Overlap between railways and wide roads



Before processing

After processing

Figure 2 - 25 Overlap between Letters and Symbols

Key points of symbolization are the following:

- 1) To simplify the data to process smoothly.
- 2) To process area by area. An unit area is recommended to be 1 kilometer square.
- 3) To create letter layers depending on types.
- 4) To check the map carefully after processing.

DXF data and symbolized data are shown below.

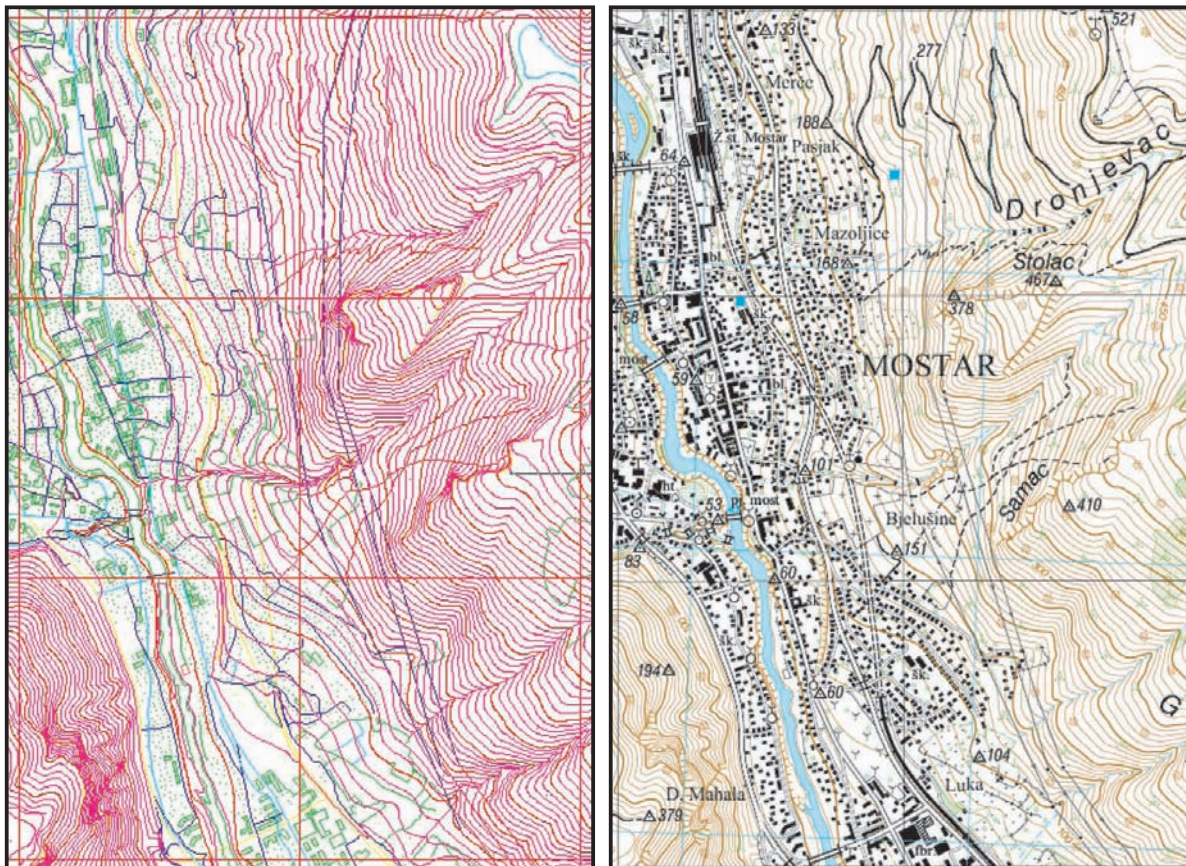


Figure 2 - 26 DXF Data and Symbolized Data