

JAPAN INTERNATIONAL COOPERATION AGENCY  
THE SOFIA GREATER MUNICIPALITY, THE REPUBLIC OF BULGARIA

THE STUDY ON  
THE SOLID WASTE MANAGEMENT FOR  
THE TERRITORY OF  
THE SOFIA GREATER MUNICIPALITY

*DATA BOOK*

July 1994

Yachiyo Engineering Co., Ltd.

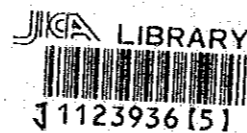
Tokyo, Japan

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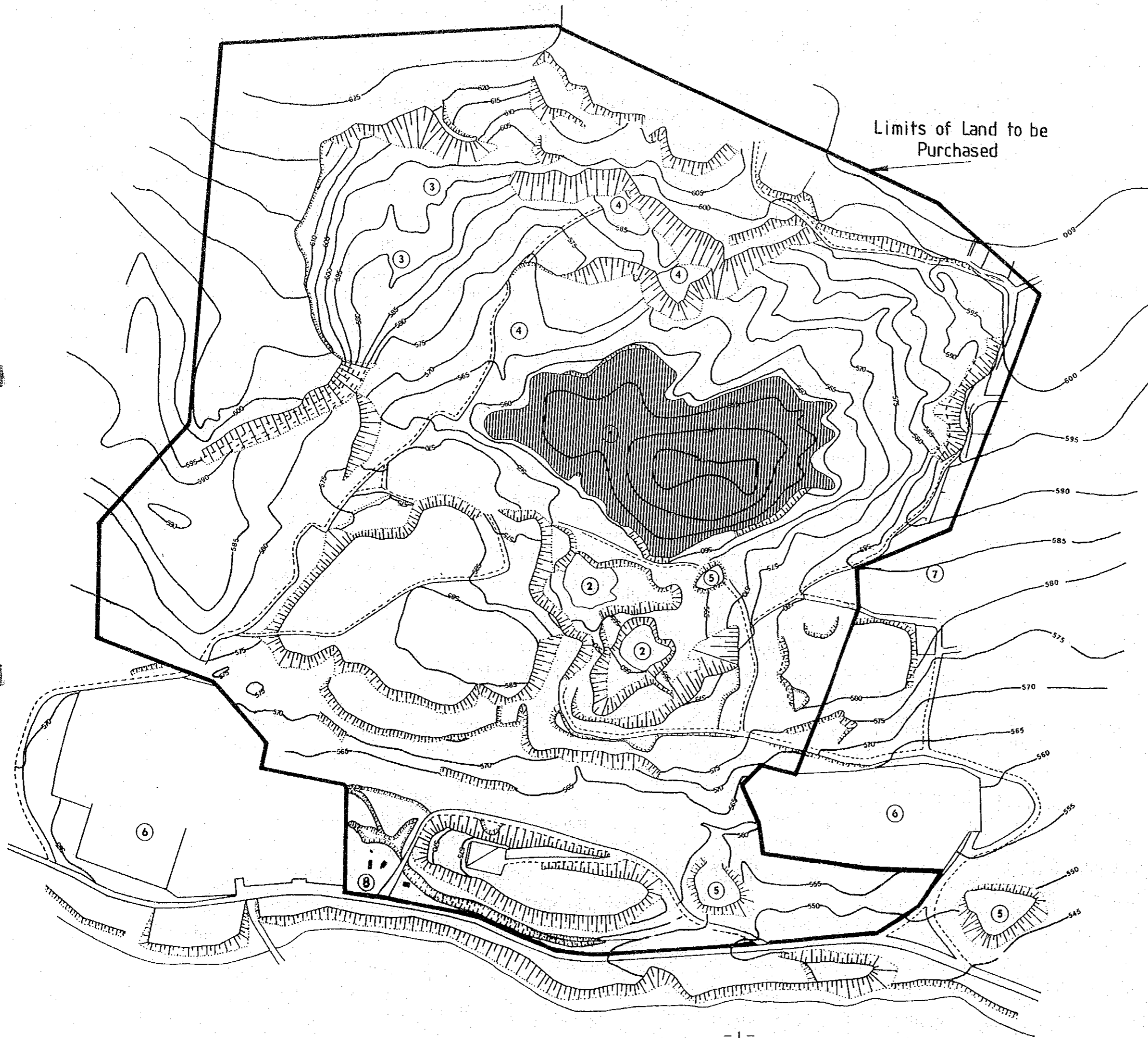
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## CONTENTS

1. Katina Disposal Site Project
  - 1.1 Plan of Existing Site
  - 1.2 Access to Katina Disposal Site
  - 1.3 Layout Plan
  - 1.4 Landscaping of Katina (after Landfill Completion)
  - 1.5 Staged Operation Plan for Katina Site
  - 1.6 Sectional Elevation
  - 1.7 Typical Cell
  - 1.8 Layout of Administration Area
  - 1.9 Layout of Entrance and Exit
  - 1.10 Perimeter Screen (Green Belt)
  - 1.11 Typical Details
  
2. Existing Depots and Workshops selected for Future Plan
  - 2.1 Sredetz Depot
  - 2.2 Lozenetz Depot
  - 2.3 Luylin Depot
  - 2.4 Chistota Depot
  - 2.5 Kremikovtsi Depot
  - 2.6 Chistota Workshop
  - 2.7 Iskar Depot
  
3. Amenity Center
  - 3.1 Typical Layout of Amenity Center
  
4. Dolny Bogrov Expansion Alternative
  - 4.1 Alternative Plan for Dolny Bogrov
  - 4.2 Section and Details of Facilities
  
5. Collection System
  - 5.1 New Collection Zones
  - 5.2 Container Types



Limits of Land to be Purchased

**Fig 1.1 Plan of Existing Site**

**Legend**

① Lake	⑤ Working Waste Piles
② Pond	⑥ Industrial area
③ Springs	⑦ Holiday Home Area
④ Coals	⑧ Existing Buildings

Scale: 0 50m 250m

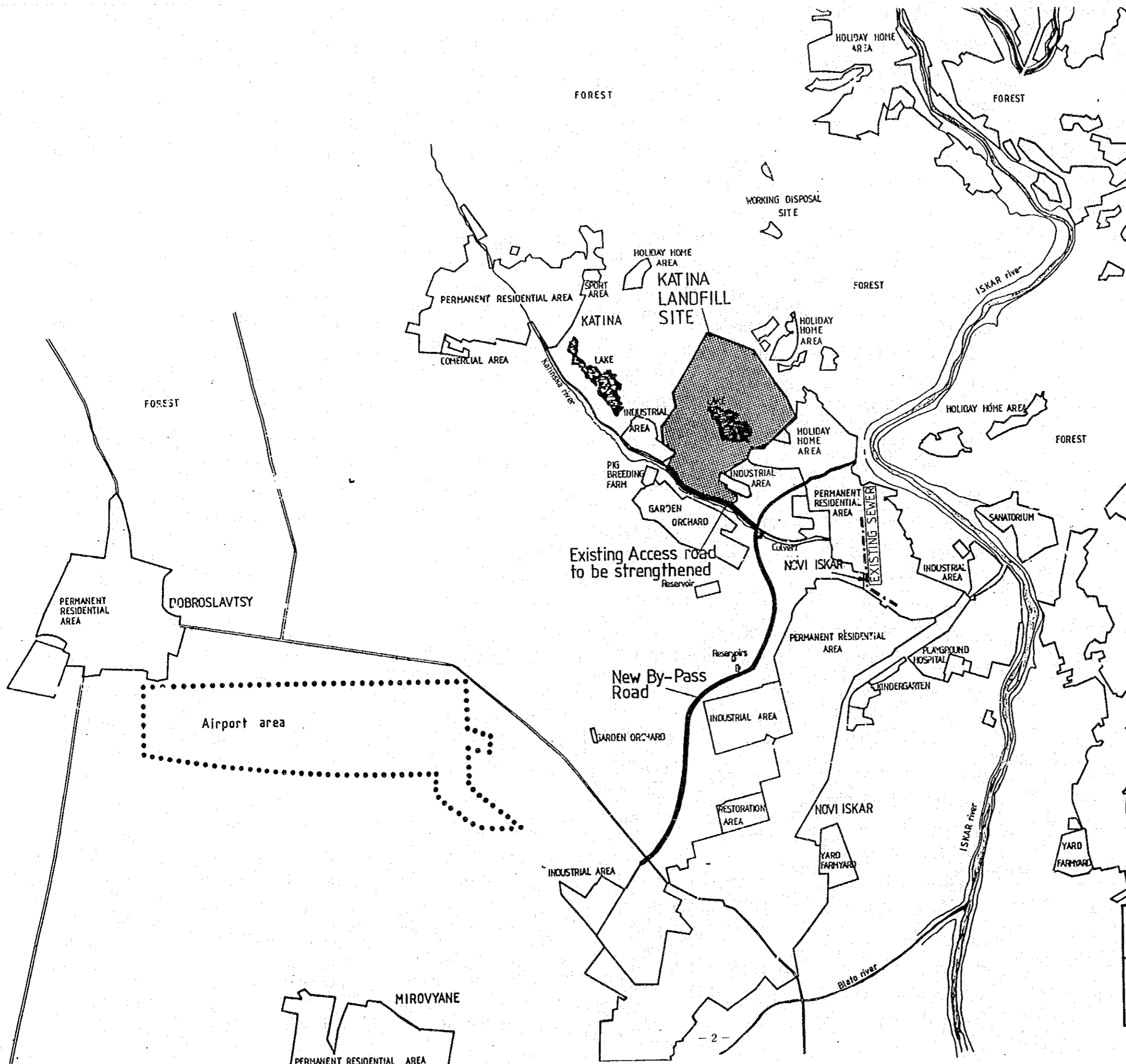
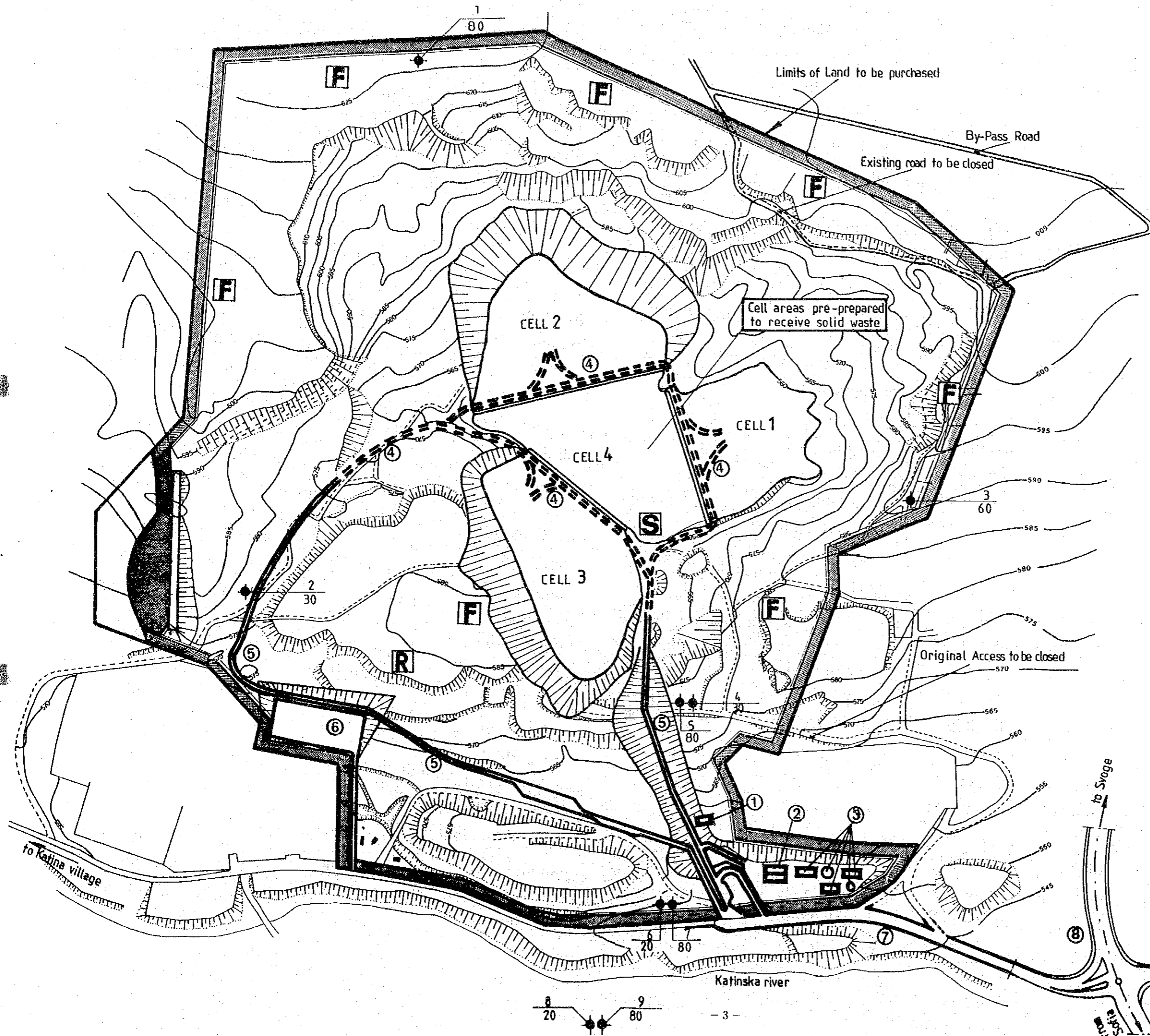


Fig 1.2 Katina Landfill Site - Access & Environs

N

Scale

0 200m 1000m



### KEY SYMBOLS

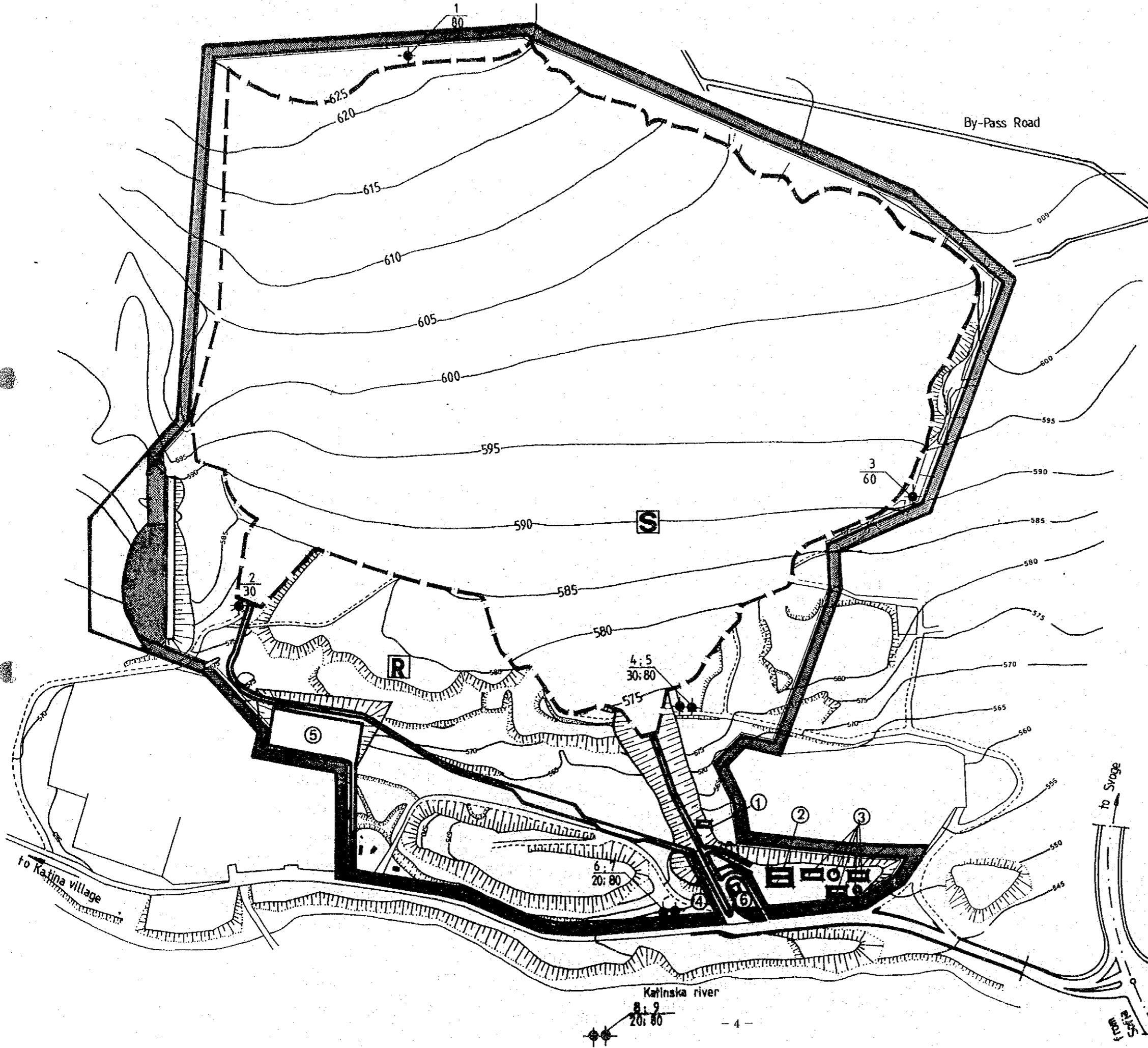
<b>F</b>	Area Floodlighting Tower
●	Ground water monitoring wells (NQ and depth to the screen)
<b>S</b>	Vertical Shaft at the top end of the main underground culvert.
<b>R</b>	Rain gange
▨	Trees and bushes
—	Permanent Roadways
- - -	Temporary roads - reusable PC Slabs

### Fig 1.3 Katina Landfill Site Proposed Work to be completed by 1997.

#### Legend

1	Leachate collection tank and recirculation pumps
2	Sedimentation tanks
3	Future leachate pretreatment
4	Temporary roadway (moveable)
5	Permanent roads
6	Administrative area
7	Public highway to be enlarged
8	Projected by-pass road

Scale  
0 50m 250m



### KEY SYMBOLS

<b>F</b>	Area Floodlighting Tower
●	Ground water monitoring wells (No and depth to the screen).
<b>S</b>	Vertical Shaft at the top end of the main underground culvert.
<b>R</b>	Rain gange
■	Trees and bushes
=	Permanent Roadways
- - -	Limits of Waste Landfilling

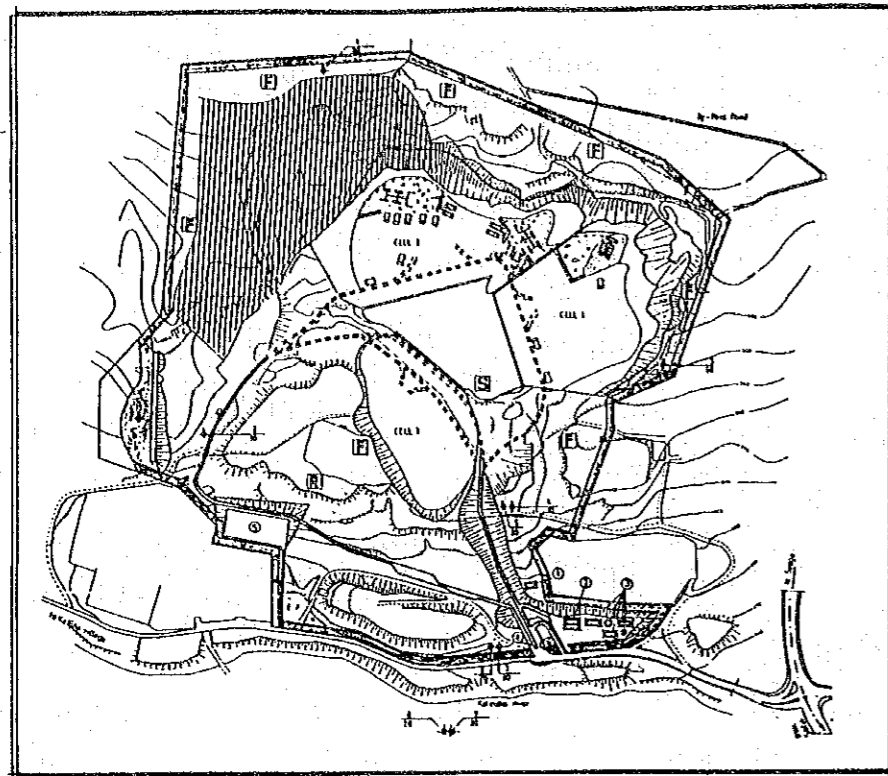
### Fig 1.4 Extent of Landfill Accommodating 8 200 000m<sup>3</sup>

#### Legend

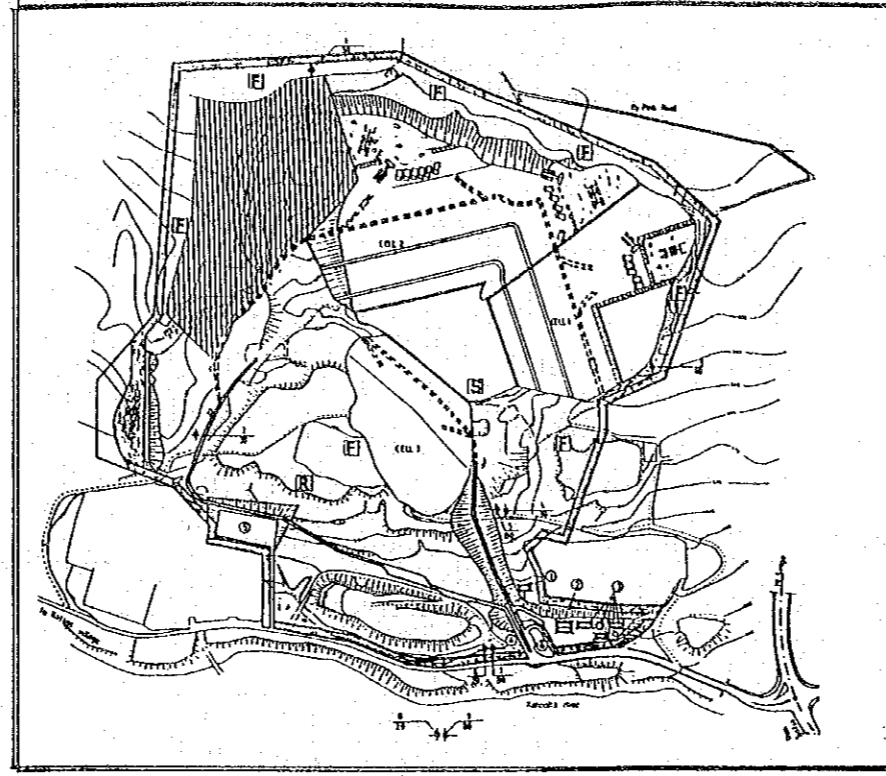
1. Leachate collection tank and recirculation pumps
2. Sedimentation tanks
3. Future leachate pretreatment
4. Entrance and exit roadways
5. Area cleared ; 6. Site office (former gatehouse)

Scale

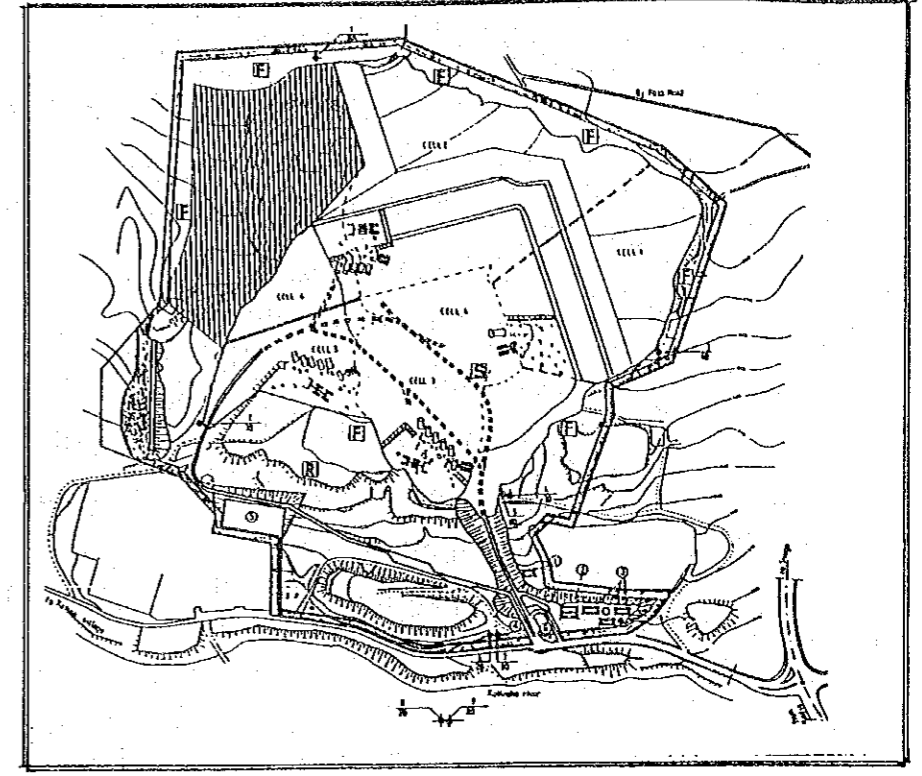
0 50m 250m



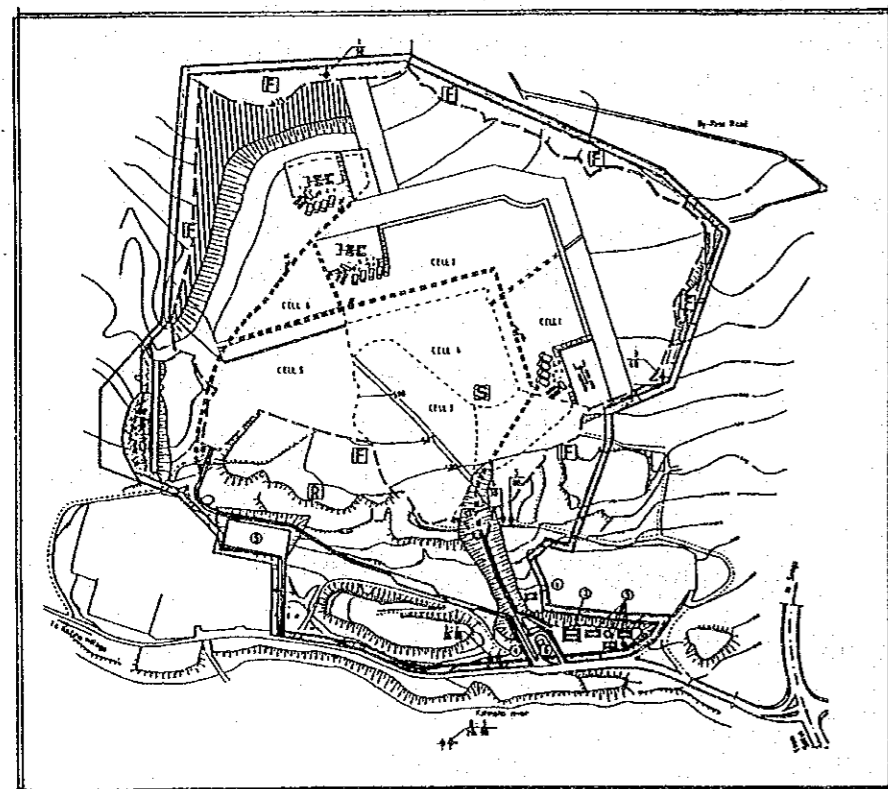
STAGE 1



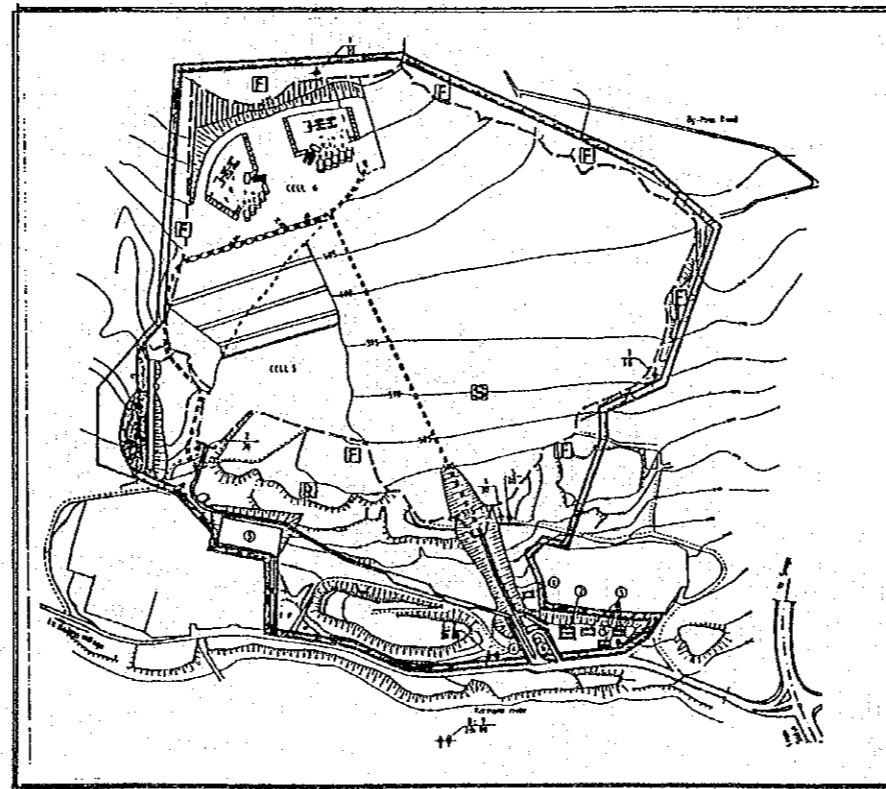
STAGE 2



STAGE 3



STAGE 4



STAGE 5

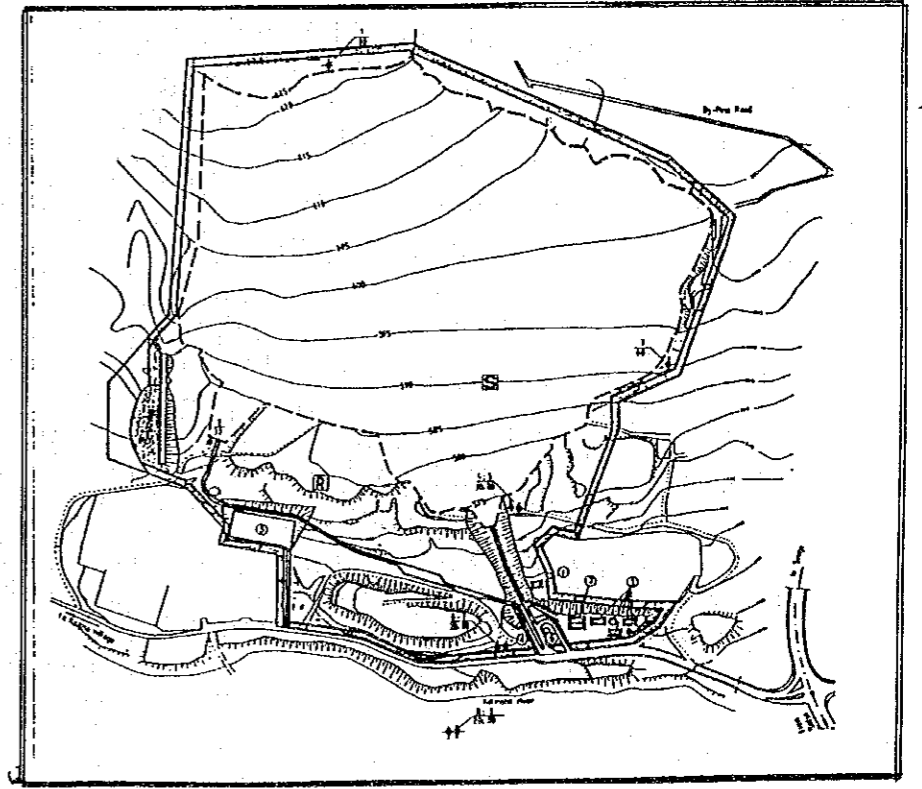


Fig 1.5 Staged Operation Plan for Katina Site

KEY SYMBOLS	
<b>F</b>	Area floodlighting tower
<b>+</b>	Ground water monitoring wells (No and depth to the screen)
<b>S</b>	Vertical Shaft at the top end of the main underground culvert
<b>R</b>	Rain gauge
<b>T</b>	Tree and bushes
<b>—</b>	Permanent Roadways
<b>---</b>	Temporary roads - reusable PC Slab
<b>○</b>	Limits of Waste Landfilling

Legend	
<b>1</b>	Leachate collection tank and recirculation pumps
<b>2</b>	Sedimentation tanks
<b>3</b>	Future leachate pretreatment
<b>4</b>	Entrance and exit roadways
<b>5</b>	Area cleared
<b>6</b>	Site office (former gatehouse)

0 50m 250m



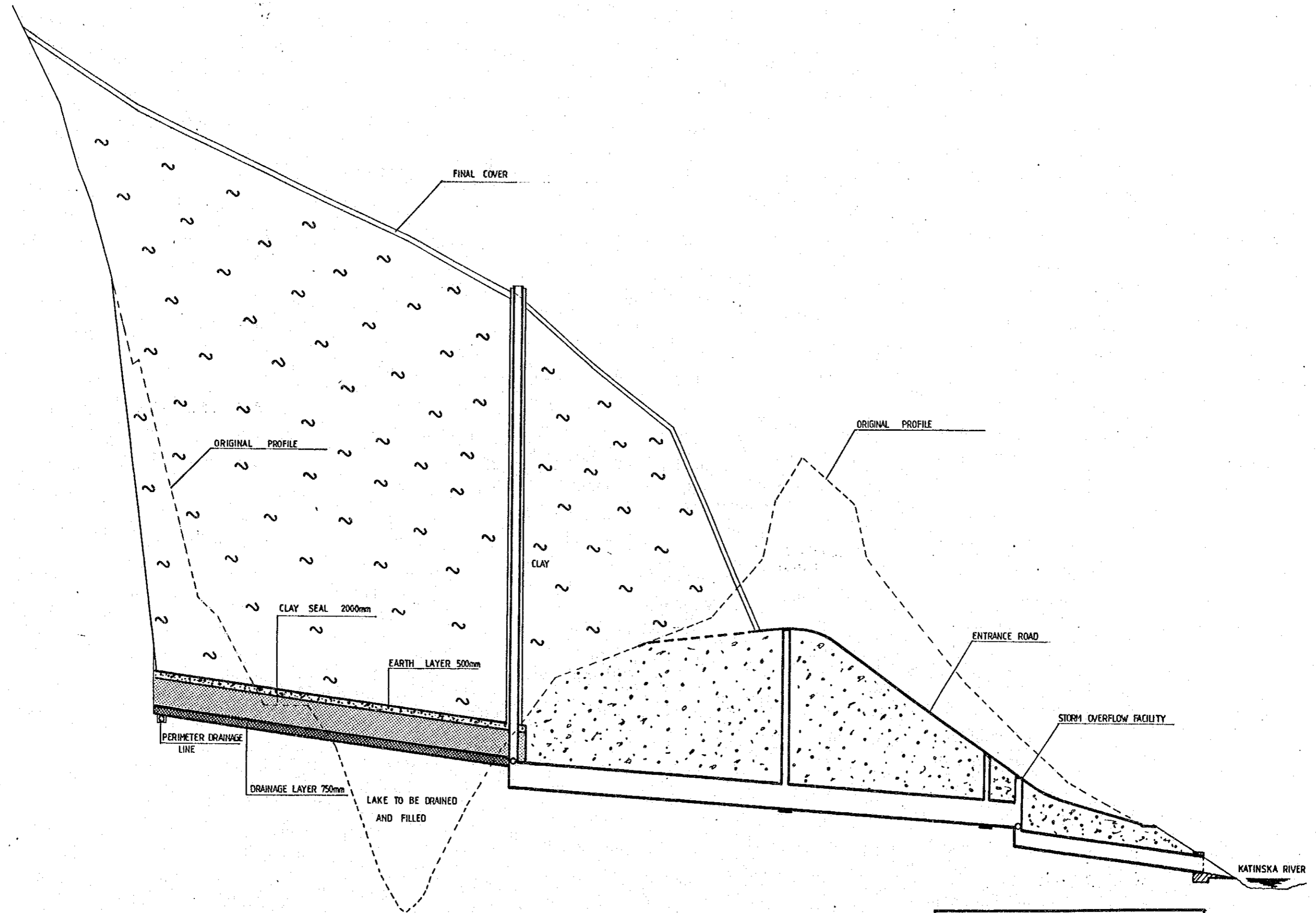


Fig 1.6 Sectional Elevation Across the Site

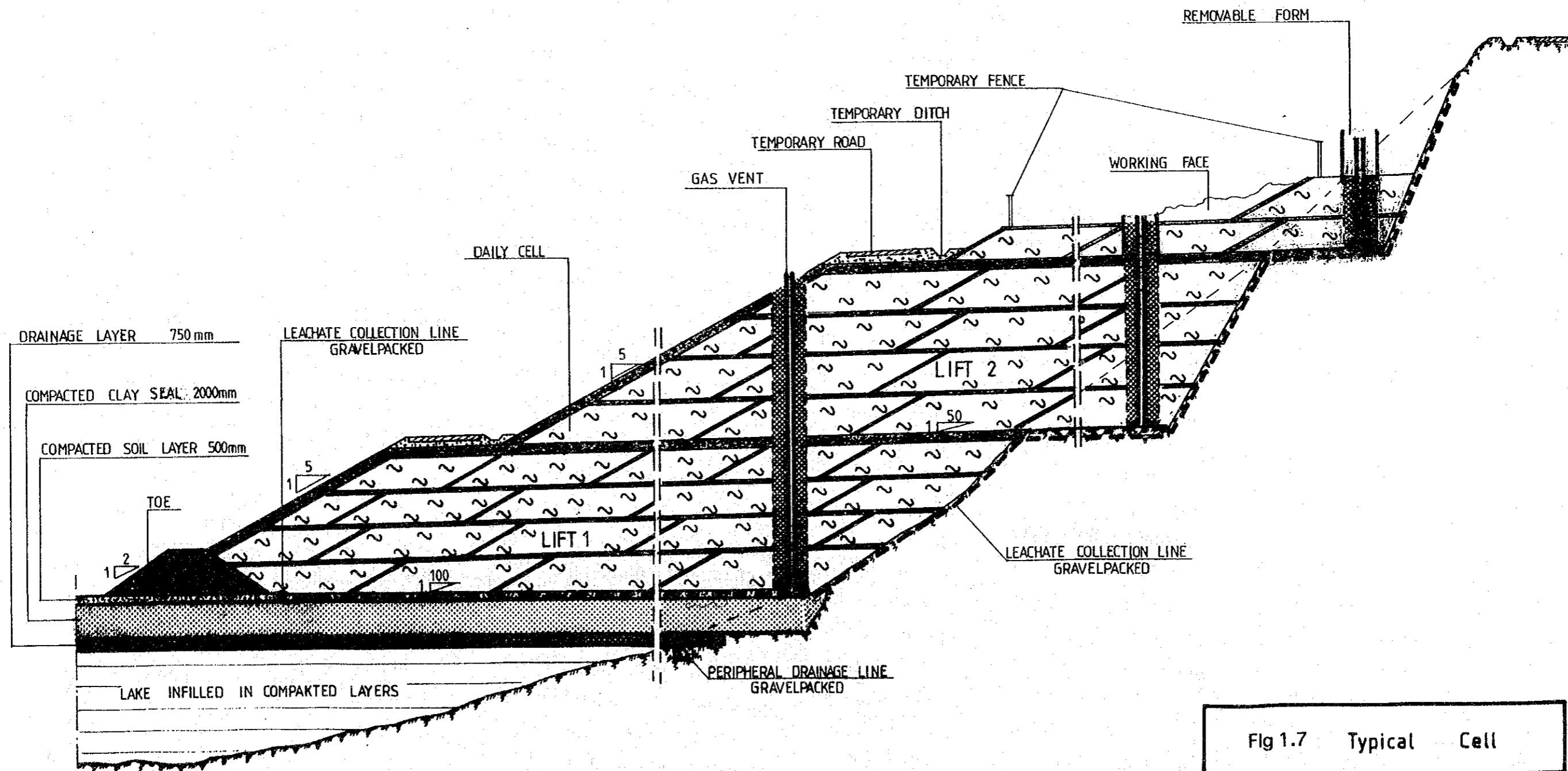
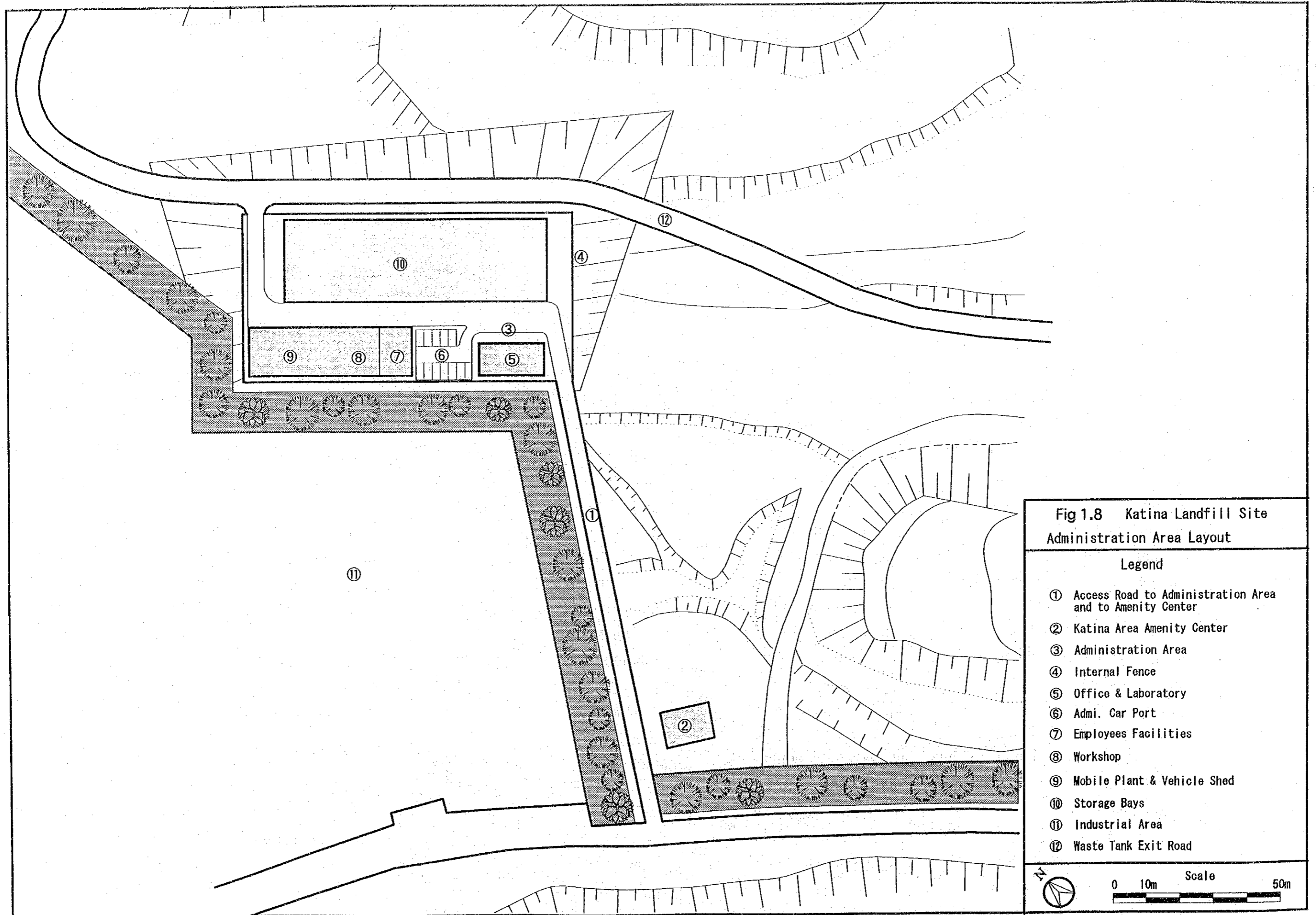


Fig 1.7 Typical Cell



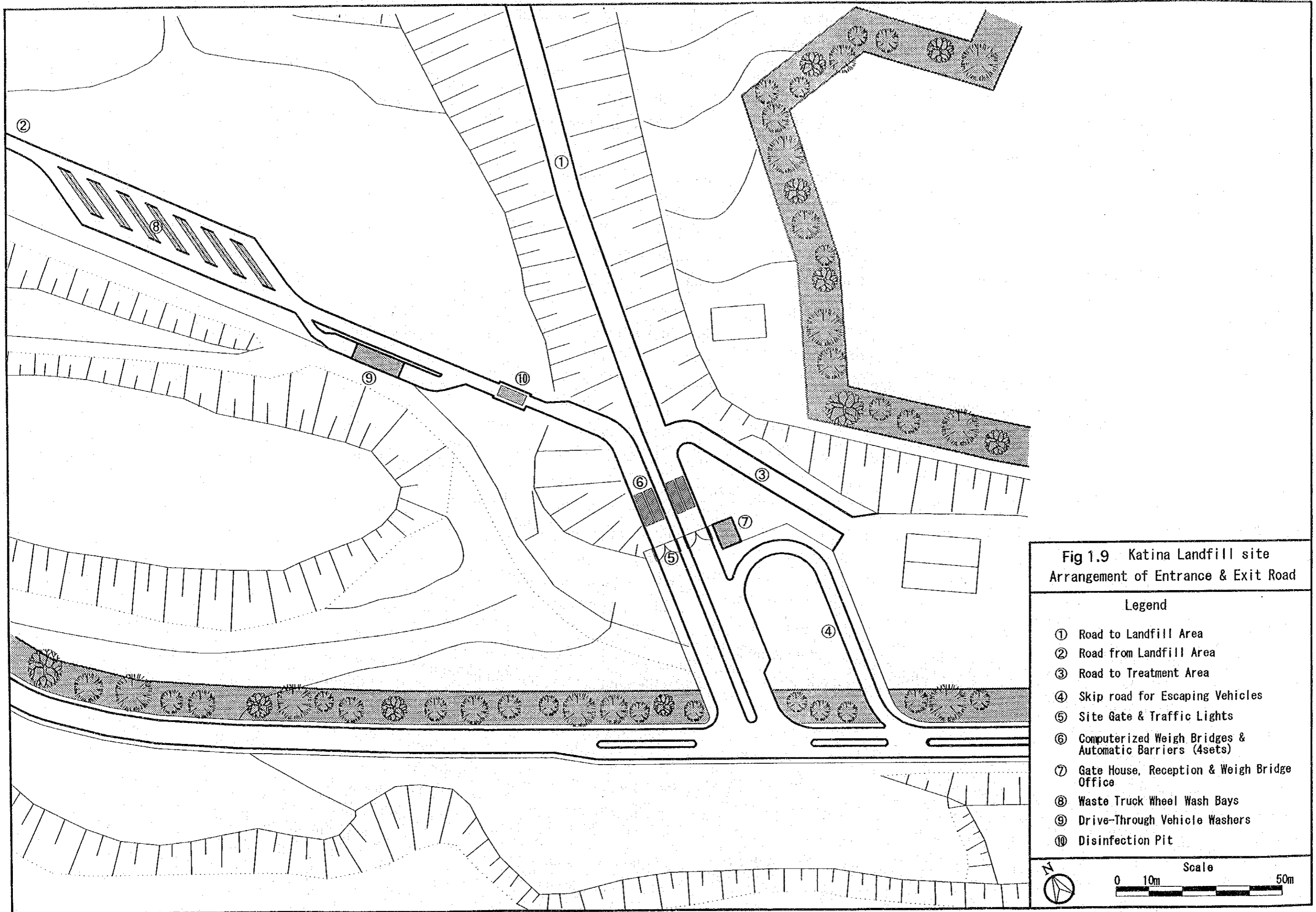
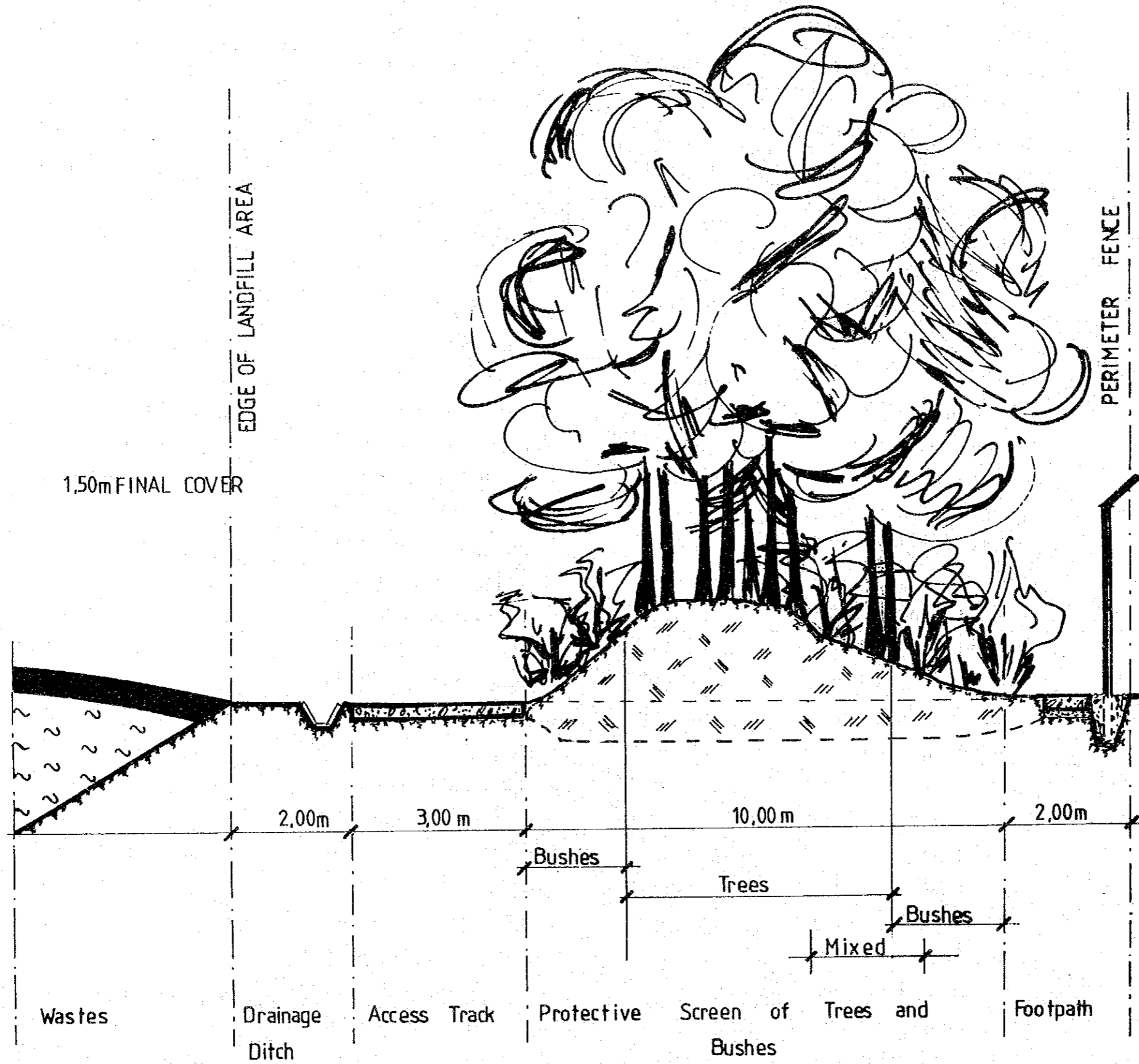


Fig 1.9 Katina Landfill site  
Arrangement of Entrance & Exit Road

Fig 1.10



Perimeter of Screen

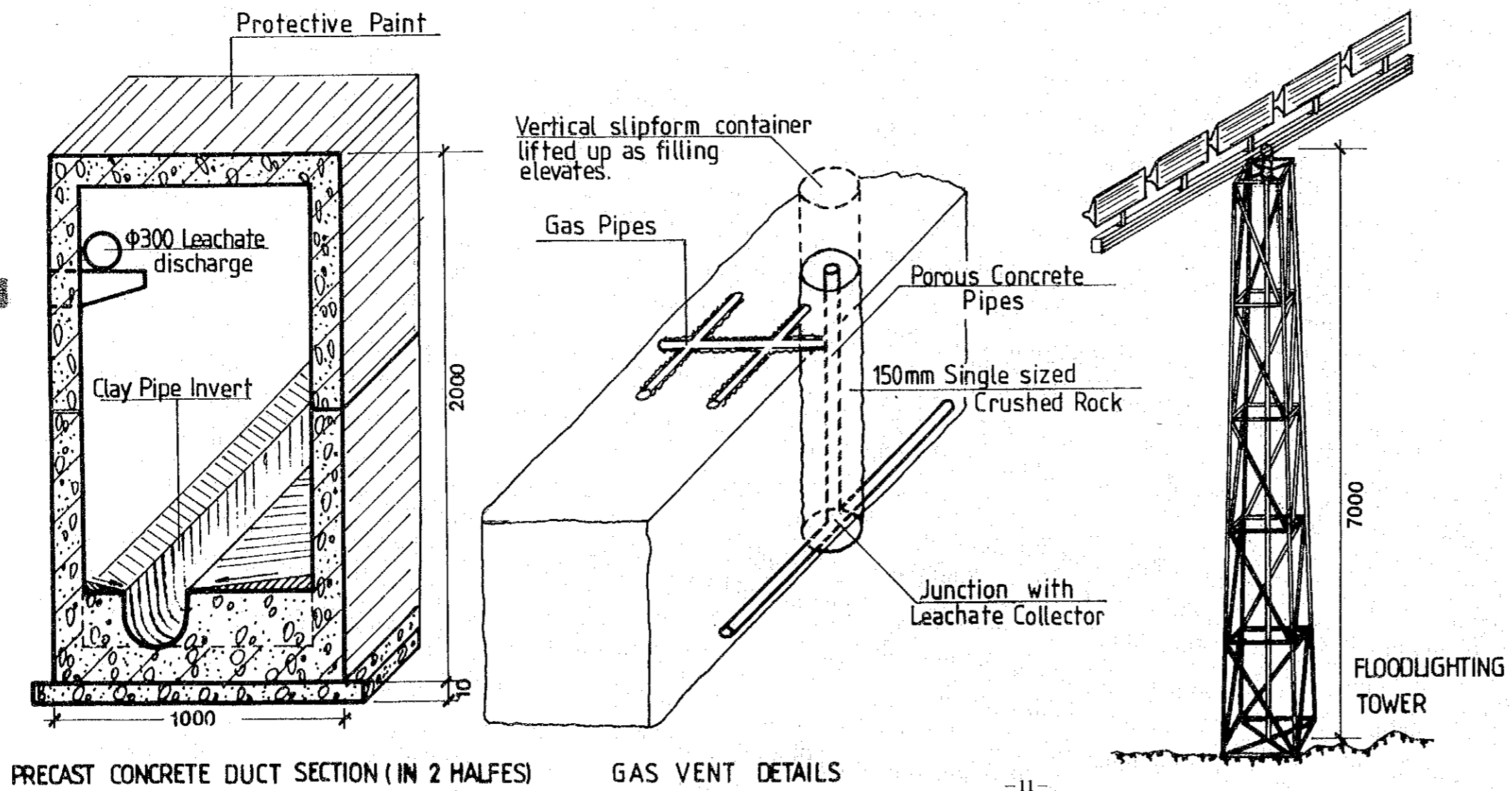
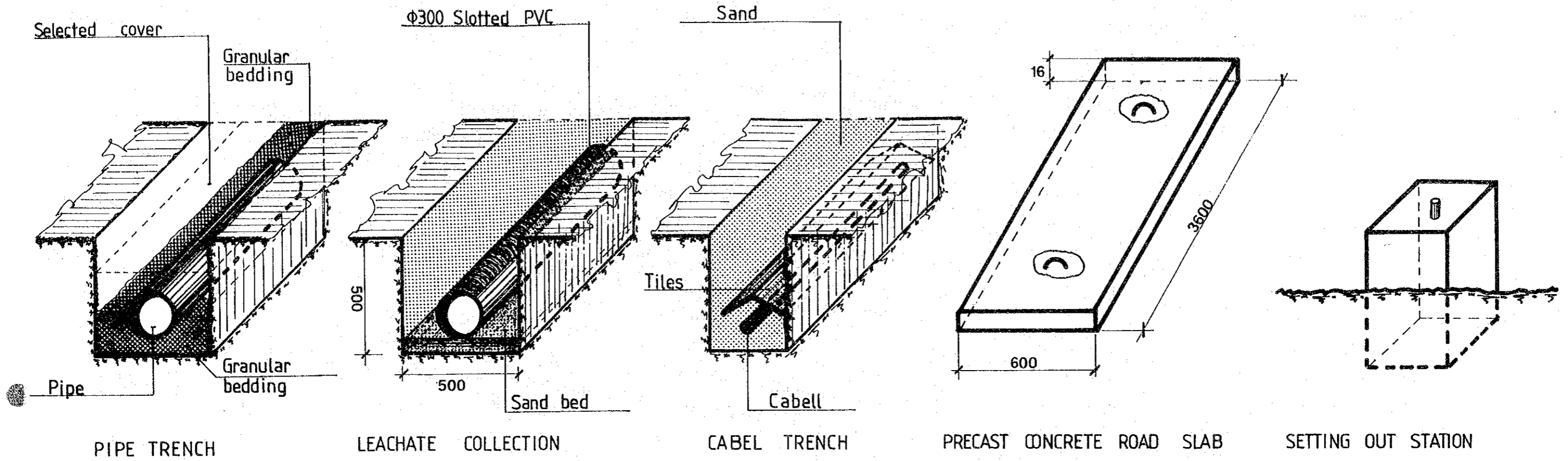


Fig 1.11 Typical Details

LOCATION OF DEPOT scale 1:10000

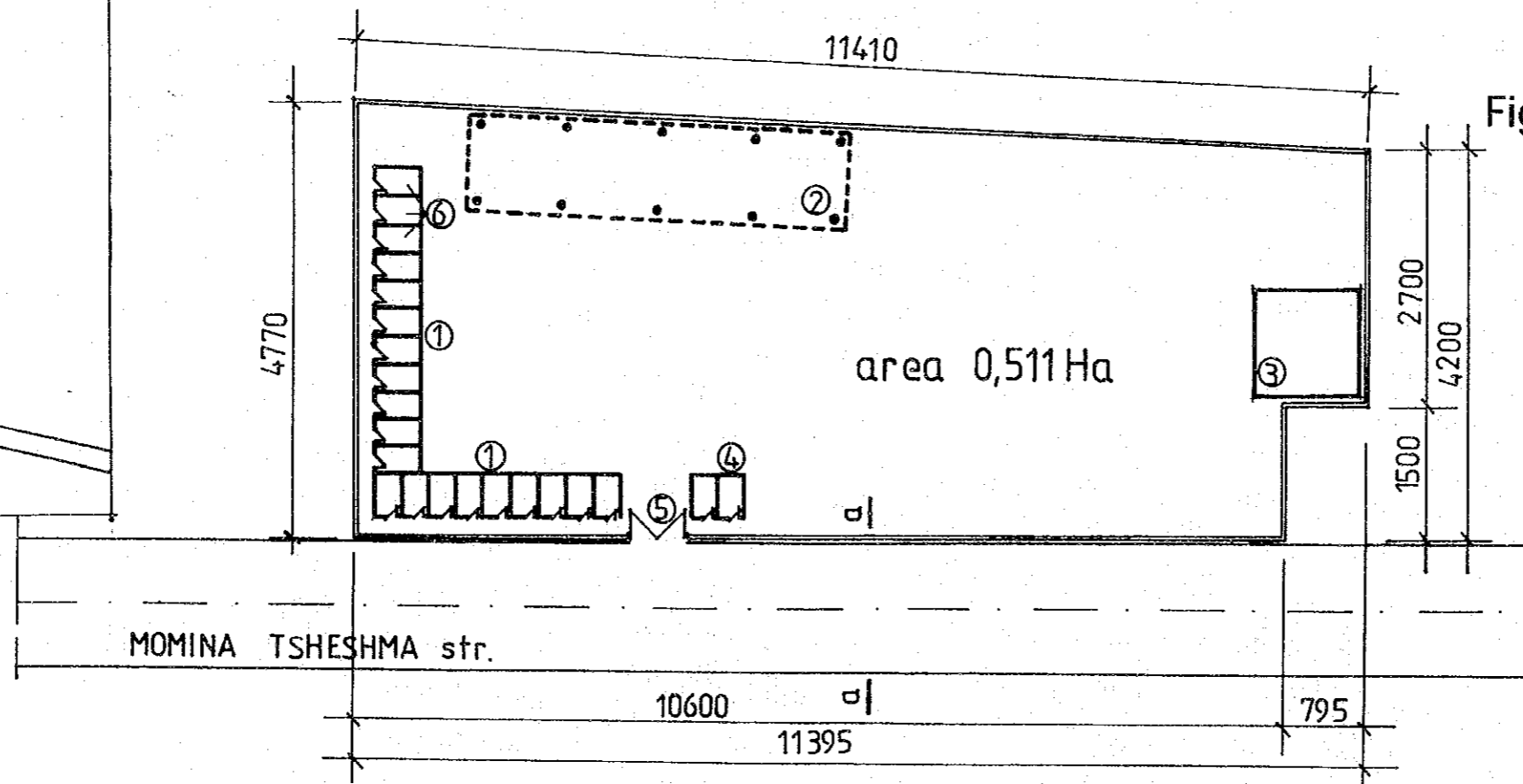
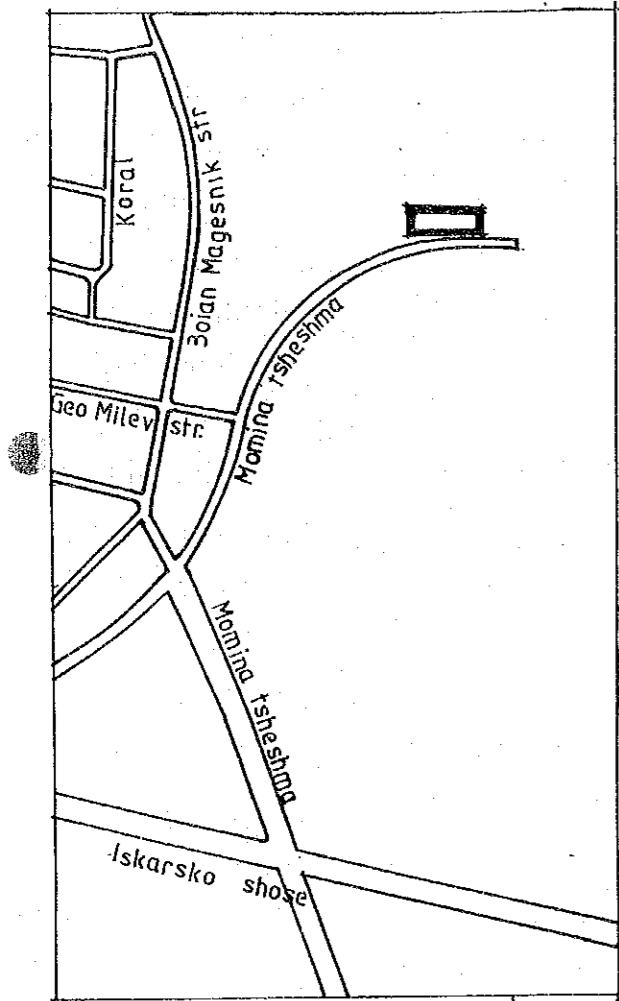
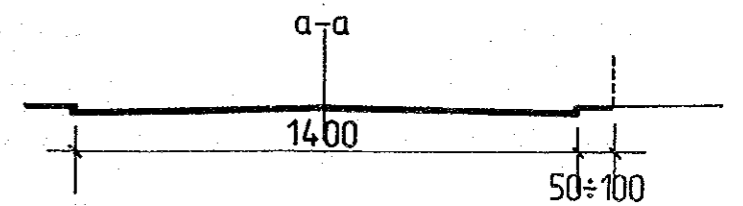
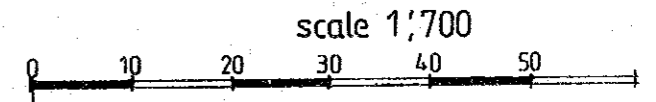


Fig 2.1 SREDETS DEPOT scale 1:700

- ① OFFICES
- ② SHED UNDER CONSTRUCTION
- ③ WORK SHOP
- ④ CHECK POINT
- ⑤ ENTRANCE
- ⑥ WAREHOUSES



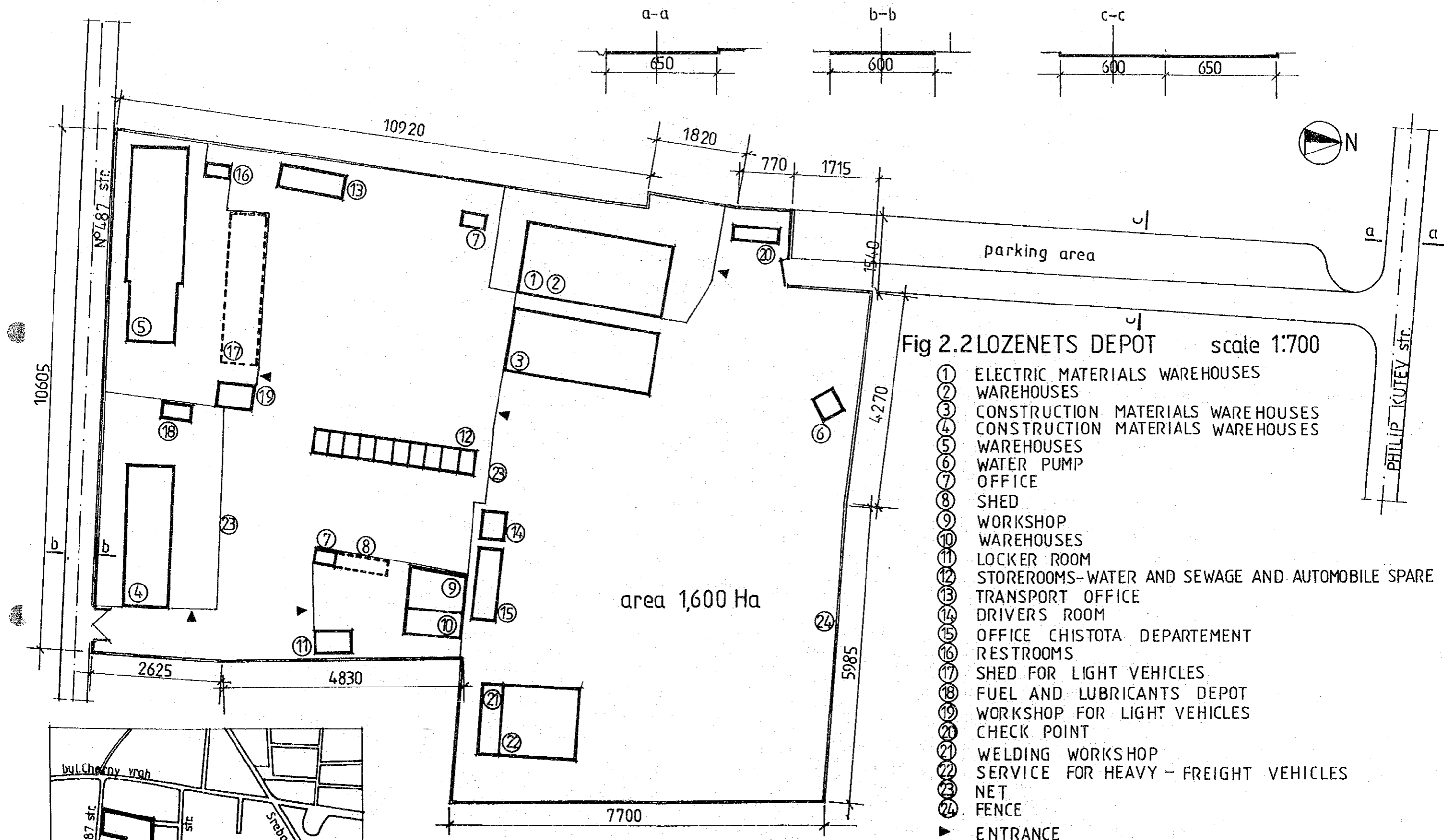
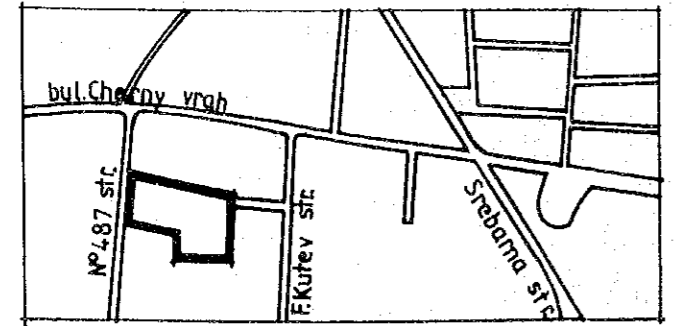
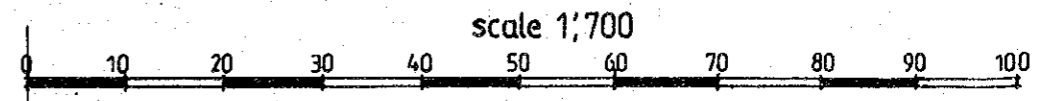


Fig 2.2 LOZENETS DEPOT scale 1:700

- ① ELECTRIC MATERIALS WAREHOUSES
- ② WAREHOUSES
- ③ CONSTRUCTION MATERIALS WAREHOUSES
- ④ CONSTRUCTION MATERIALS WAREHOUSES
- ⑤ WAREHOUSES
- ⑥ WATER PUMP
- ⑦ OFFICE
- ⑧ SHED
- ⑨ WORKSHOP
- ⑩ WAREHOUSES
- ⑪ LOCKER ROOM
- ⑫ STOREROOMS-WATER AND SEWAGE AND AUTOMOBILE SPARE P
- ⑬ TRANSPORT OFFICE
- ⑭ DRIVERS ROOM
- ⑮ OFFICE CHISTOTA DEPARTEMENT
- ⑯ RESTROOMS
- ⑰ SHED FOR LIGHT VEHICLES
- ⑱ FUEL AND LUBRICANTS DEPOT
- ⑲ WORKSHOP FOR LIGHT VEHICLES
- ⑳ CHECK POINT
- ㉑ WELDING WORKSHOP
- ㉒ SERVICE FOR HEAVY - FREIGHT VEHICLES
- ㉓ NET
- ㉔ FENCE
- ▲ ENTRANCE



LOCATION OF DEPOT scale 1:10000





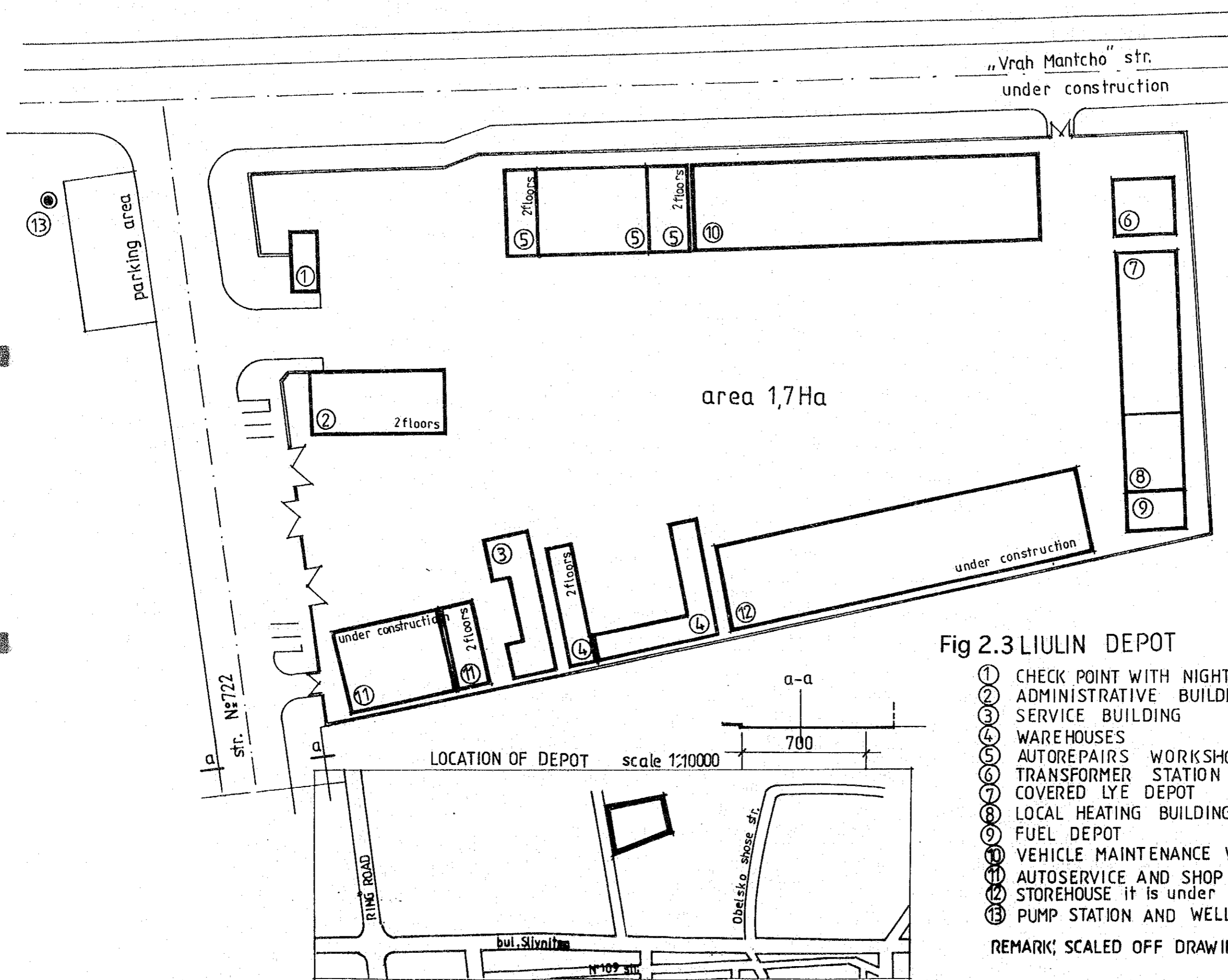


Fig 2.3 LIULIN DEPOT

- ① CHECK POINT WITH NIGHT-SHIFT PREMICES
- ② ADMINISTRATIVE BUILDING
- ③ SERVICE BUILDING
- ④ WAREHOUSES
- ⑤ AUTOREPAIRS WORKSHOP
- ⑥ TRANSFORMER STATION
- ⑦ COVERED LYE DEPOT
- ⑧ LOCAL HEATING BUILDING
- ⑨ FUEL DEPOT
- ⑩ VEHICLE MAINTENANCE WORKSHOP
- ⑪ AUTOSERVICE AND SHOP FOR THE STAFF
- ⑫ STOREHOUSE it is under construction
- ⑬ PUMP STATION AND WELL

REMARK: SCALED OFF DRAWING



LOCATION OF DEPOT scale 1:10 000

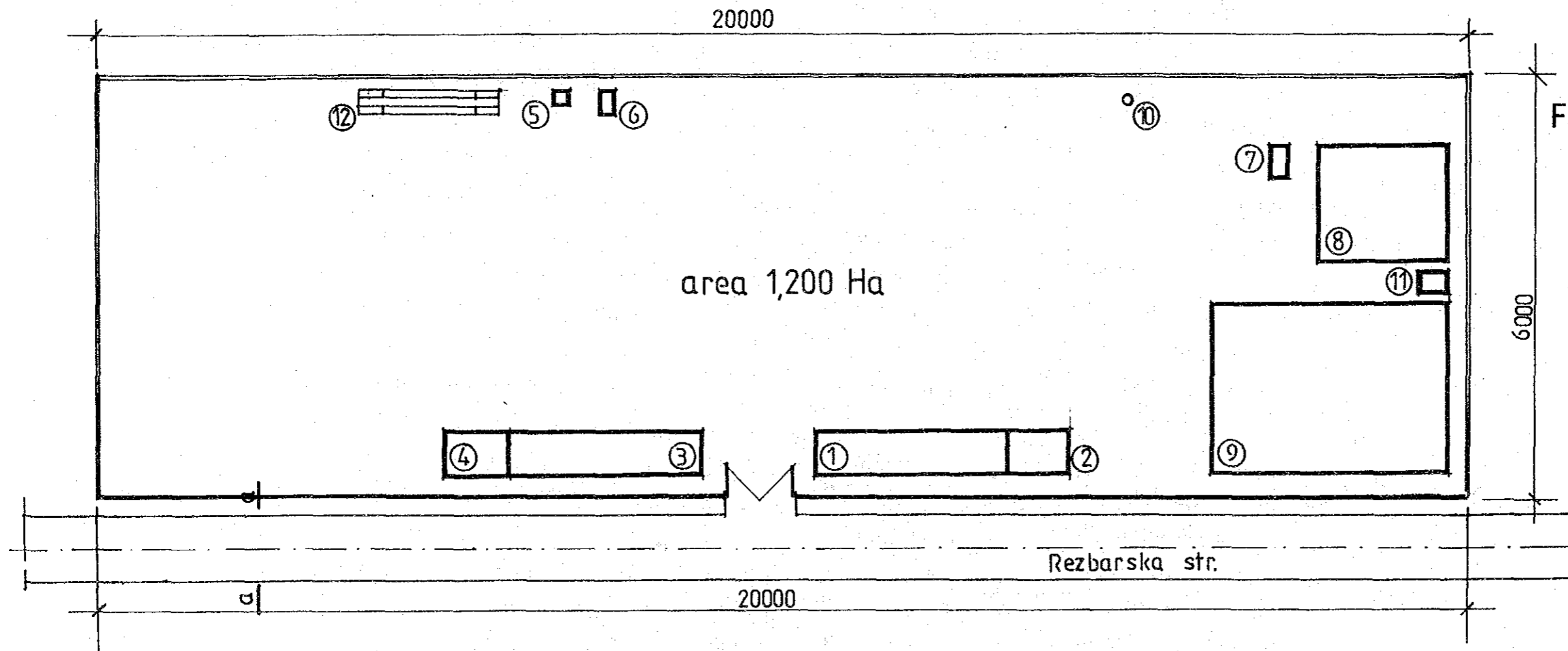
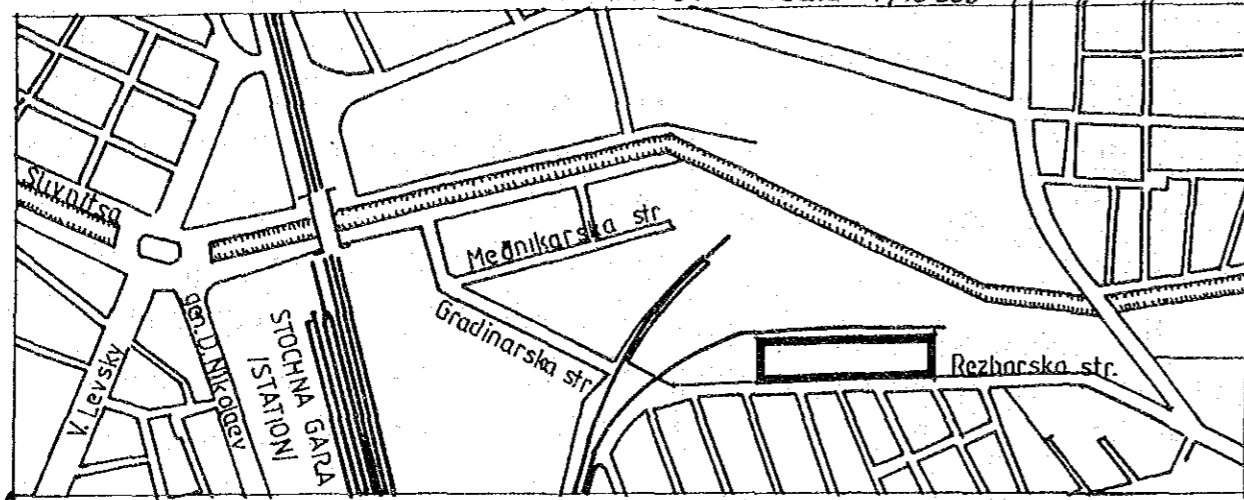
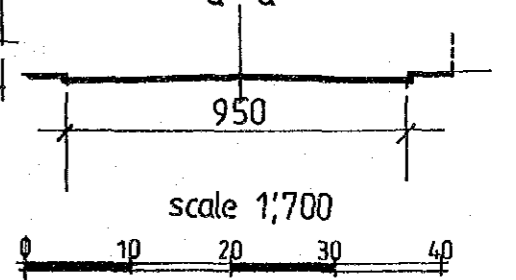


Fig 2.4 CHISTOTA DEPOT scale 1:700

- ① OFFICES
- ② STORE
- ③ DISPATCHER
- ④ TYRES STOREROOM
- ⑤ LIGHTING TOWER
- ⑥ CARWASHER
- ⑦ PUMPS
- ⑧ LYE DEPOT
- ⑨ LYE DEPOT
- ⑩ WELL
- ⑪ PUMP STATION
- ⑫ INSPECTION BRIDGE



LOCATION OF DEPOT scale 1:10000

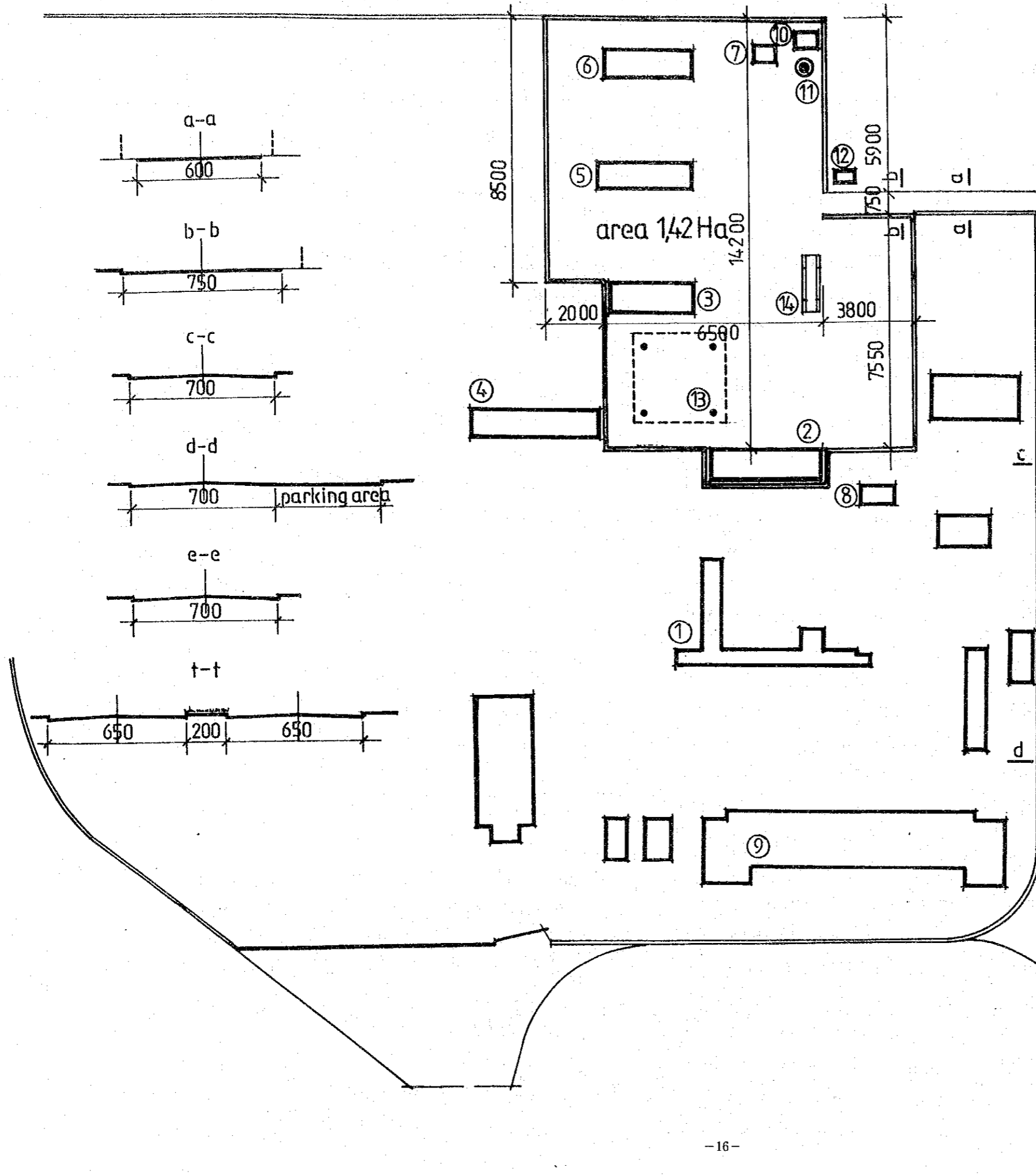
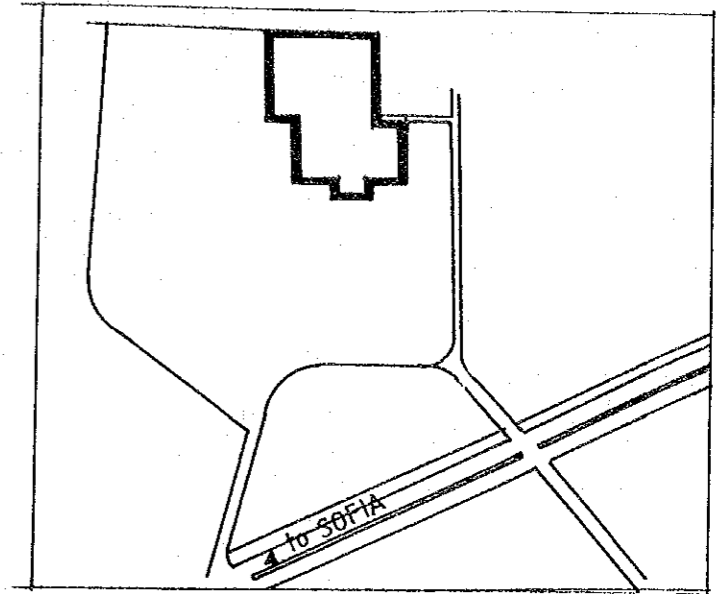
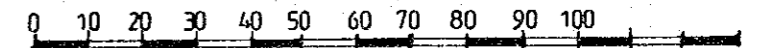


Fig 2.5 KREMIKOVTSI DEPOT scale 1:1400

- ① BKS KREMIKOVTSI-ADMINISTRATIVE BUILDING
- ② ELECTRO-MECHANICAL DEPARTEMENT BUILDING
- ③ WAREHOUSE
- ④ WAREHOUSE FOR CONSTRUCTION MATERIALS
- ⑤ CARPENTRY WORKSHOP
- ⑥ SMITHERY WORKSHOP
- ⑦ TRANSFORMER STATION
- ⑧ TRANSFORMER STATION
- ⑨ KREMIKOVTSI DISTRICT ADMINISTRATION
- ⑩ WELL AND PUMPING STATION
- ⑪ STEEL TANK FOR LYE
- ⑫ CHECK POINT
- ⑬ STEEL SHED FOR STORAGE OF SAND
- ⑭ INSPECTION BRIDGE

scale 1:1400



LOCATION OF DEPOT scale 1:10000

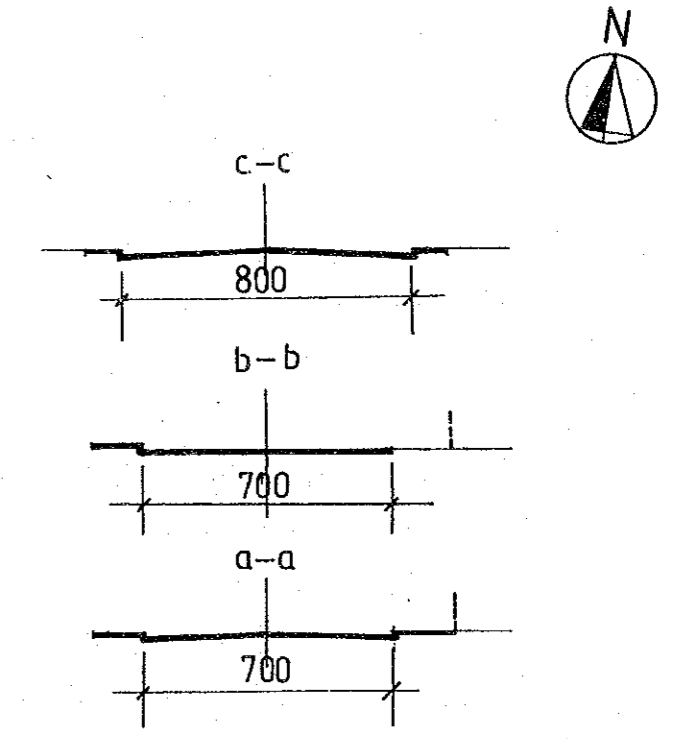
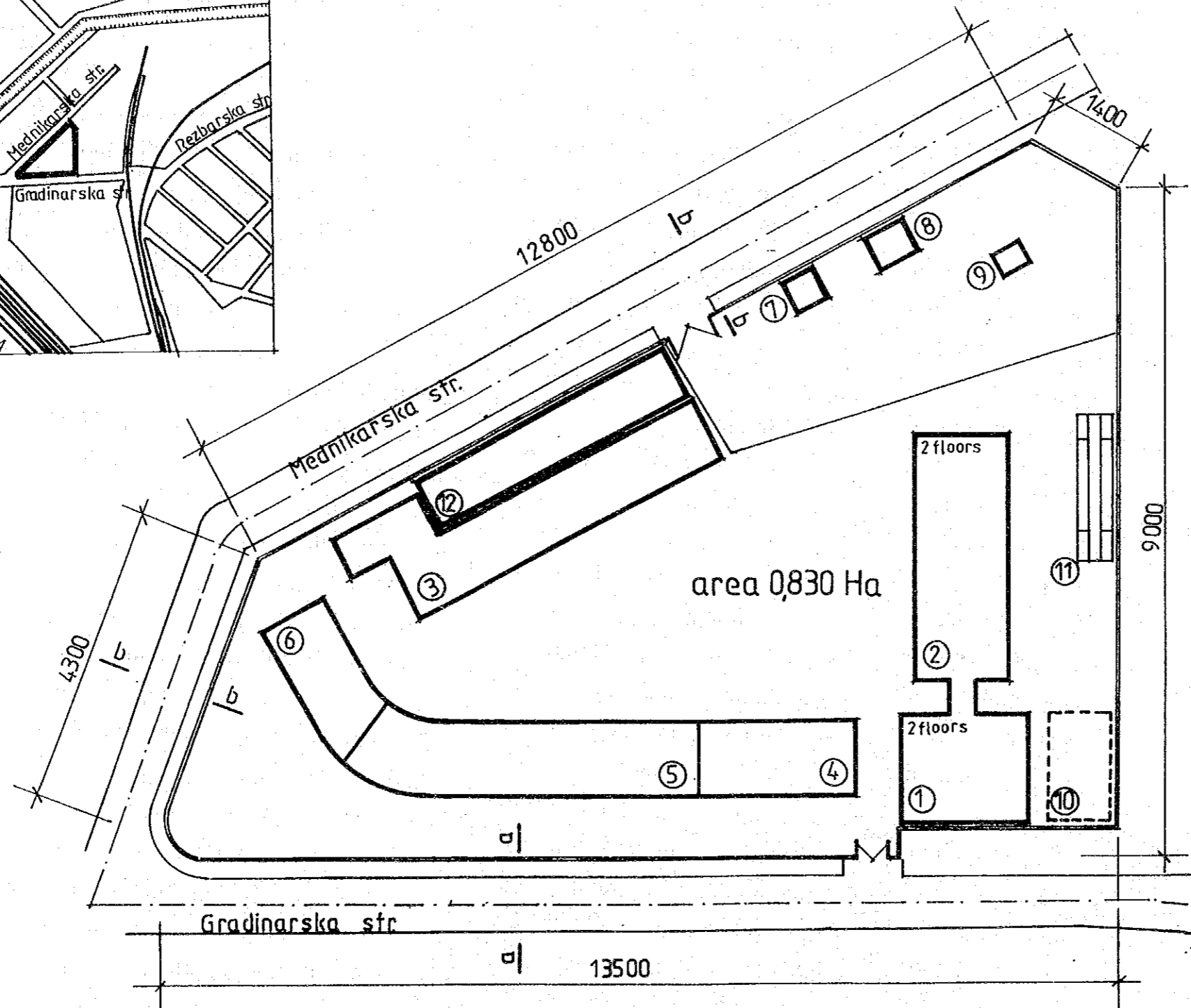
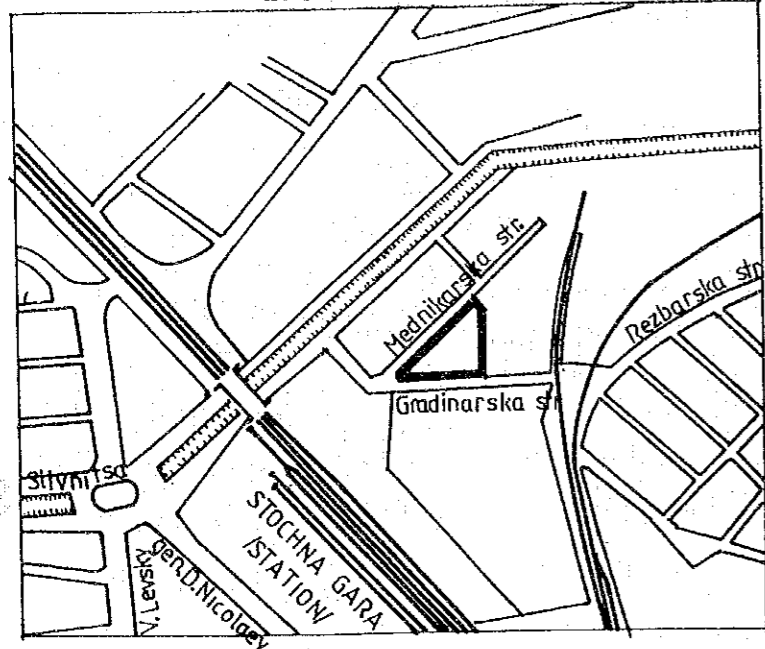


Fig 2.6 CHISTOTA DEPOT scale 1:700

- ① ADMINISTRATIVE BUILDING
- ② DORMITORY
- ③ SERVICE CENTER
- ④ CANTEEN
- ⑤ DIAGNOSTIC CENTER
- ⑥ WAREHOUSE
- ⑦ STORE
- ⑧ FUEL AND LUBRICANTS DEPOT
- ⑨ GASOLINE STATION
- ⑩ STORE HOUSE /SHED/
- ⑪ INSPECTION BRIDGE
- ⑫ ADDITIONAL PREMICE TO THE SERVICE

scale 1:700



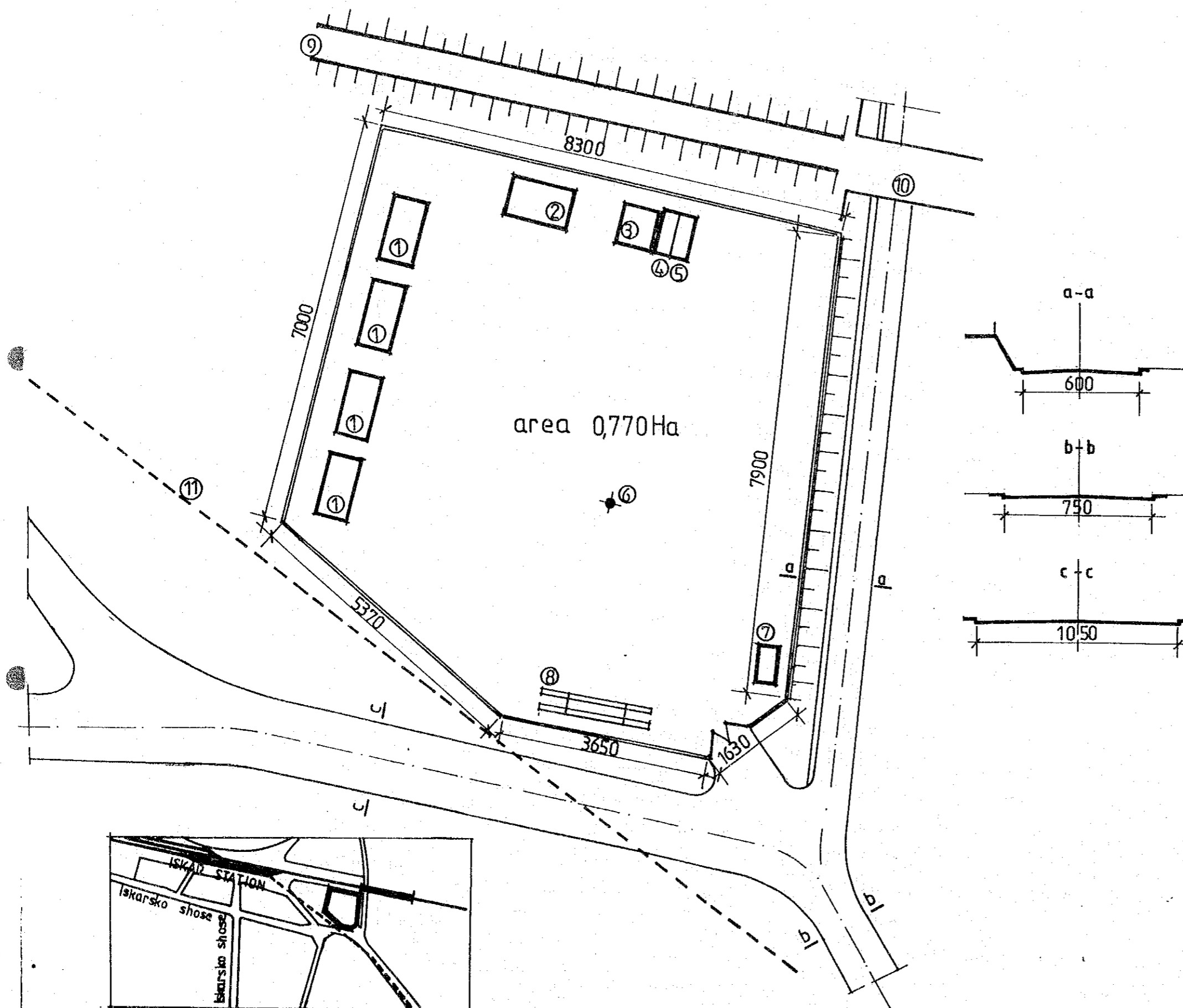
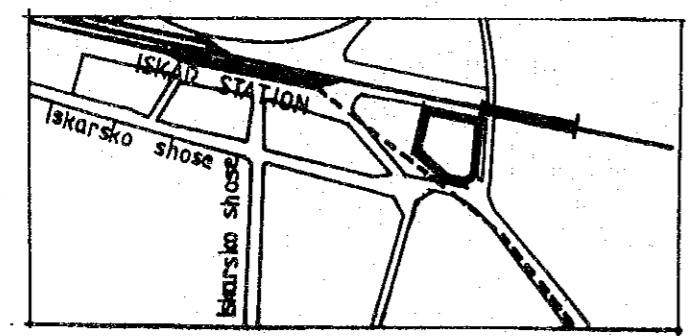
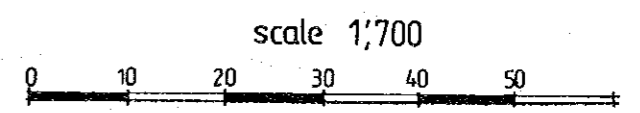


Fig 2.7 ISKAR DEPOT scale 1,700

- ① OFFICES
- ② WAREHOUSE
- ③ METAL WORKSHOP
- ④ WAREHOUSE FOR COAL
- ⑤ FUEL DEPOT
- ⑥ WELL
- ⑦ CHECK POINT
- ⑧ INSPECTION BRIDGE
- ⑨ RAILWAY
- ⑩ RAILWAY OVERFLAY
- ⑪ ABANDONED RAILWAY



LOCATION OF DEPOT scale 1,10000

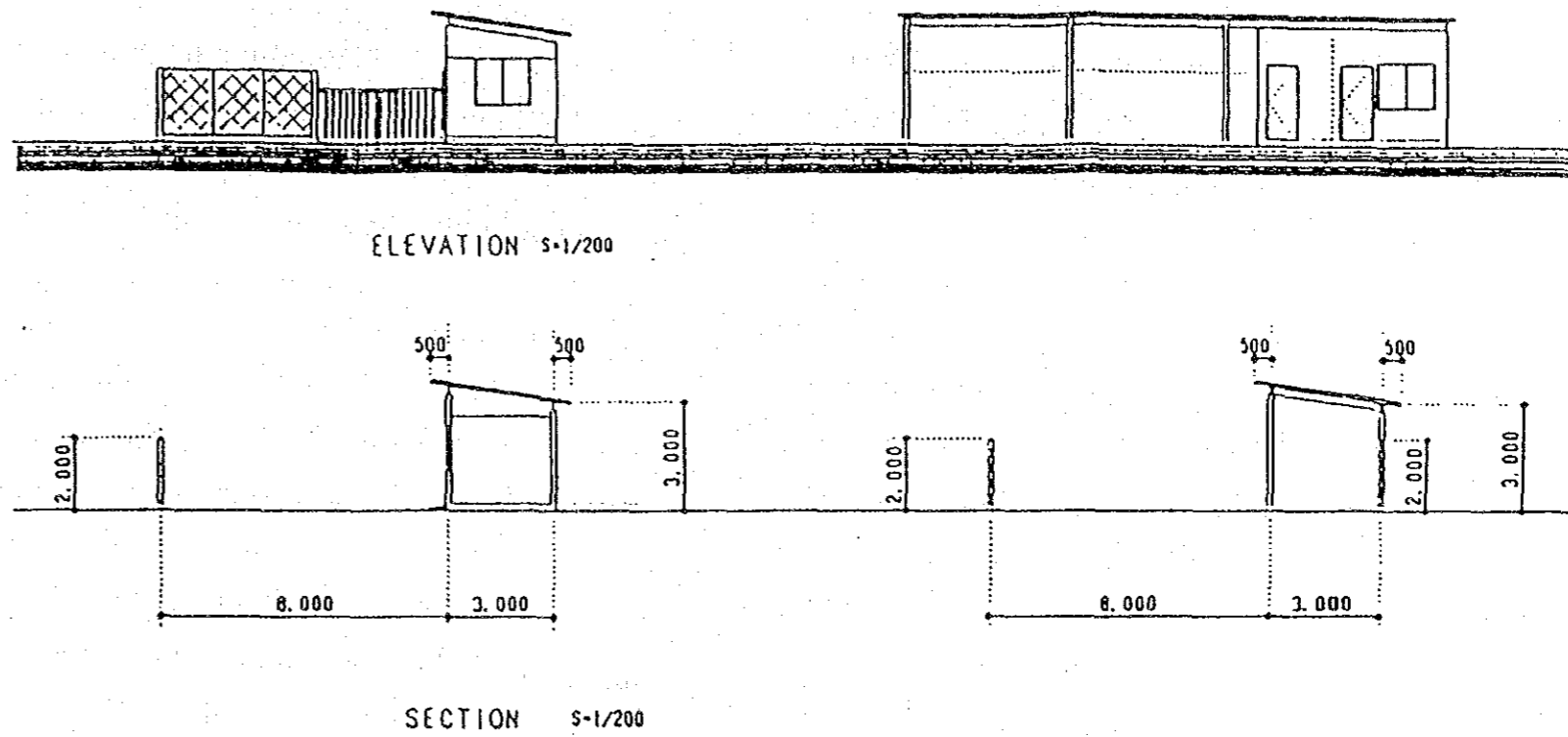
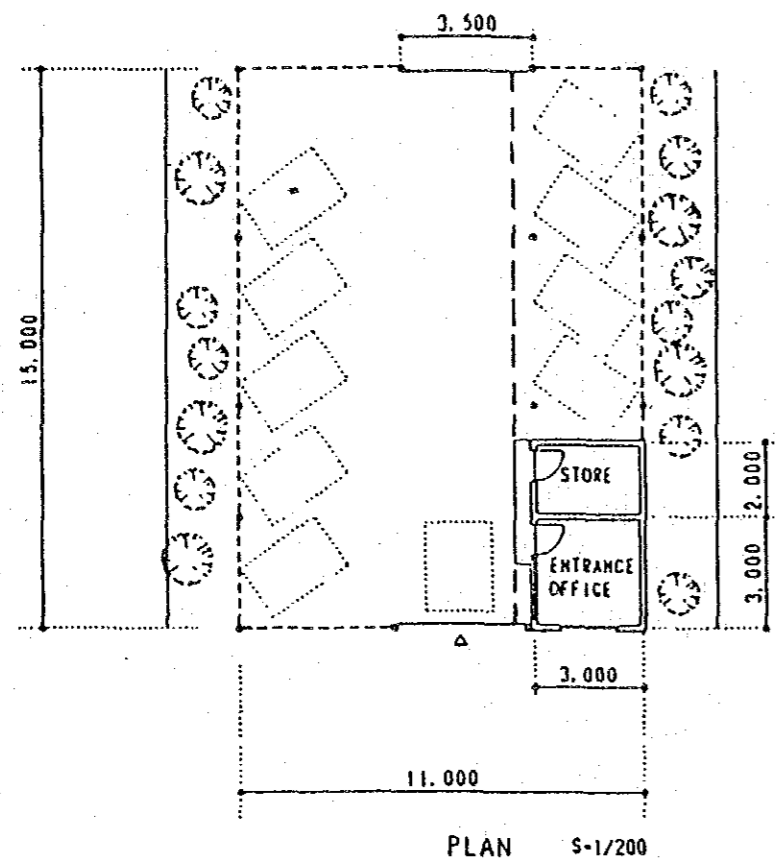


Fig 3.1 Amenity Center ( Plan, Elevation, Section )

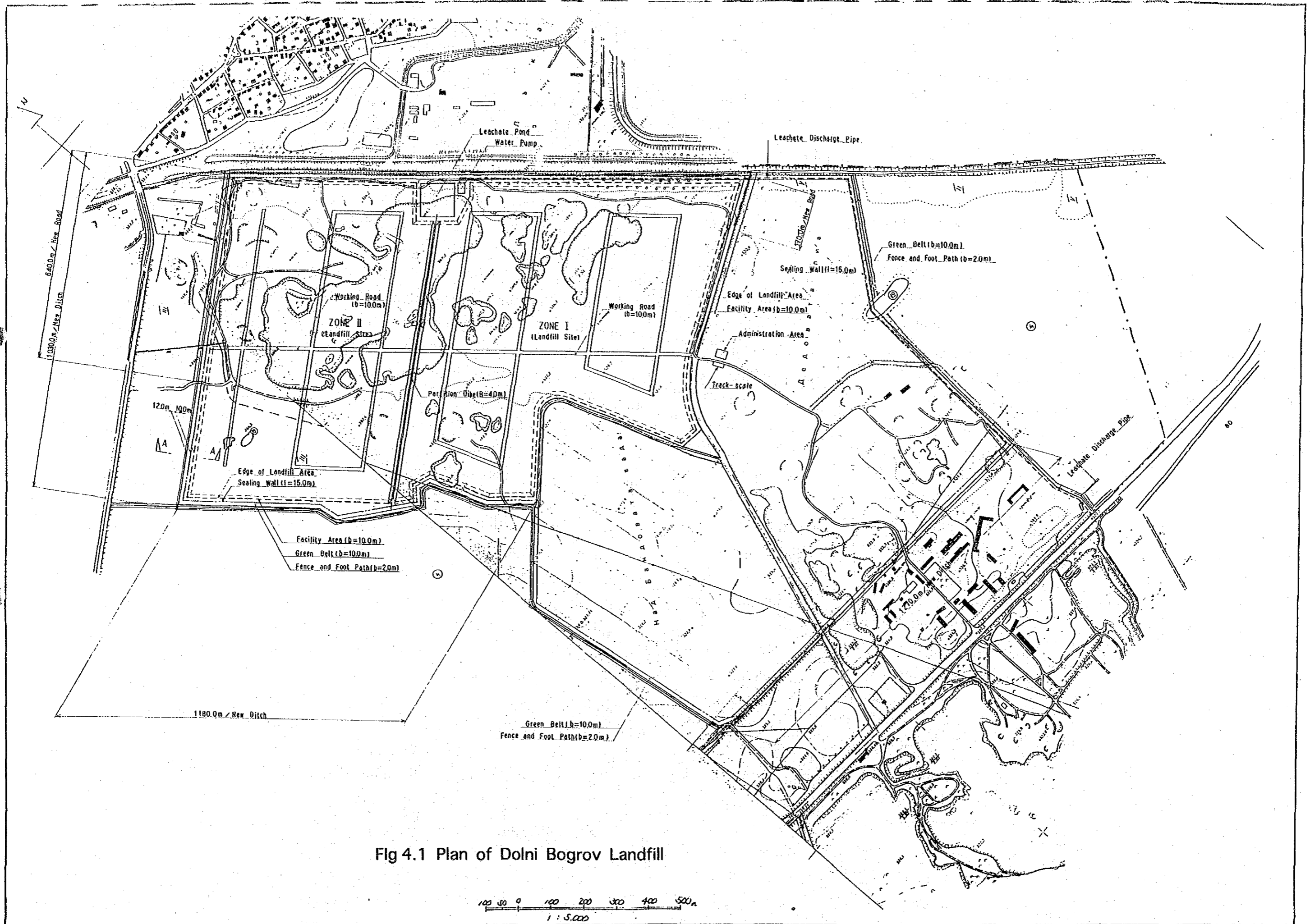
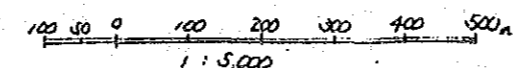
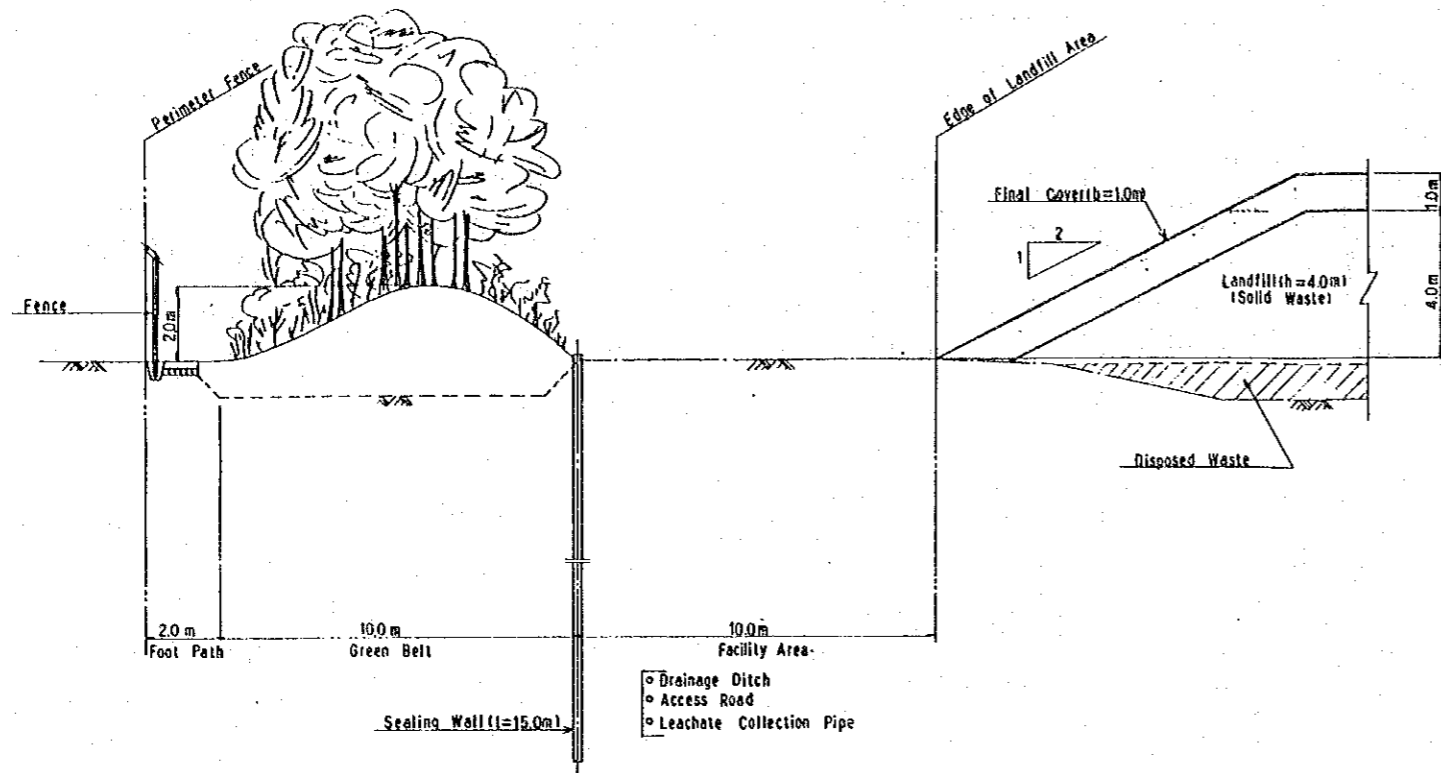
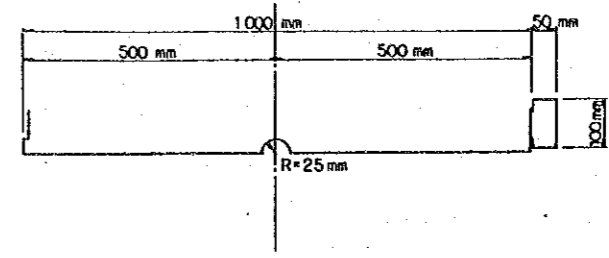


Fig 4.1 Plan of Dolni Bogrov Landfill

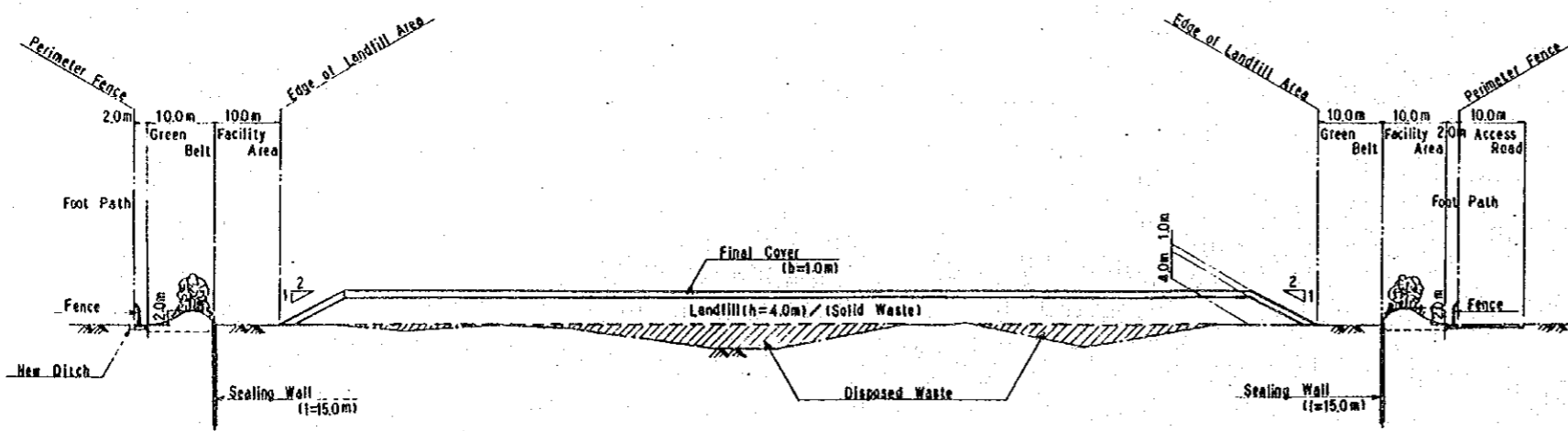




SECTION A-A S=1:100



SECTION OF SEALING WALL



TYPICAL SECTION

Fig 4.2 Section and Details of Facilities

666-4444



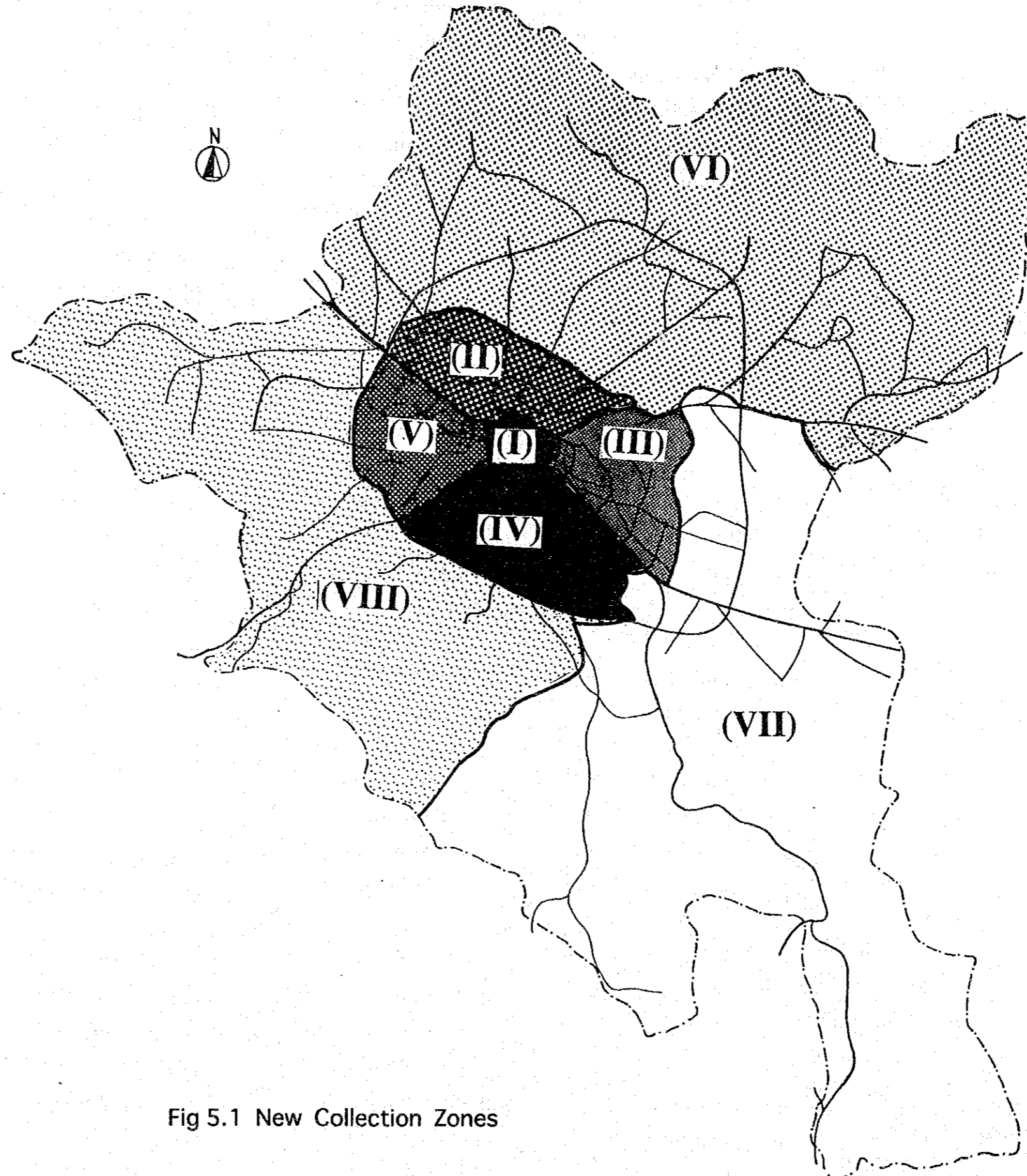
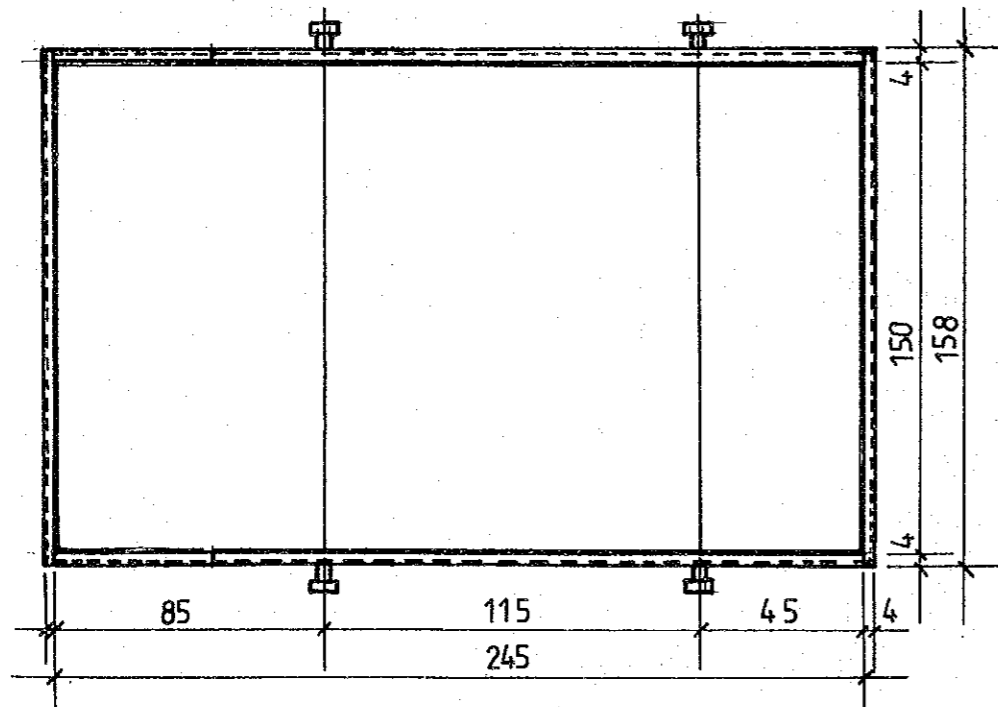
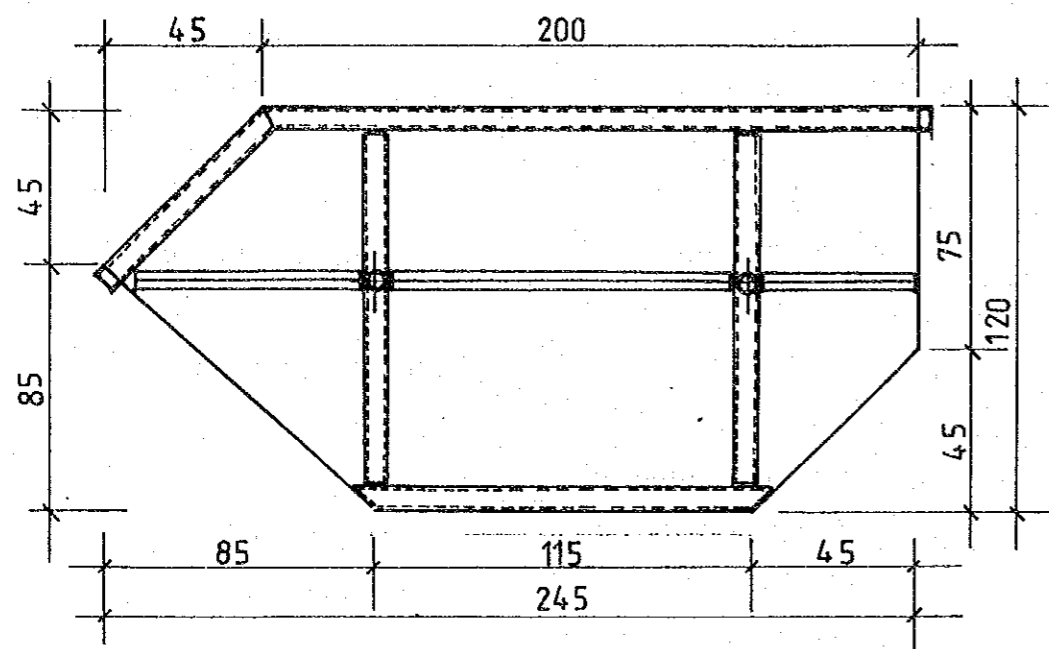
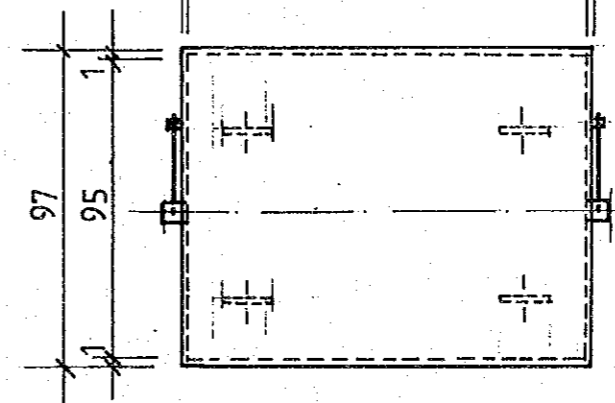
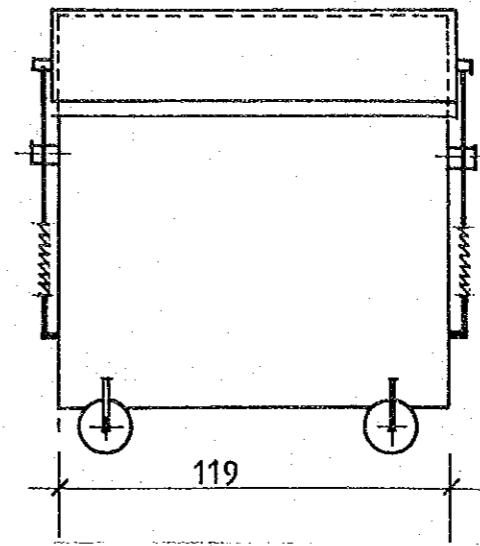
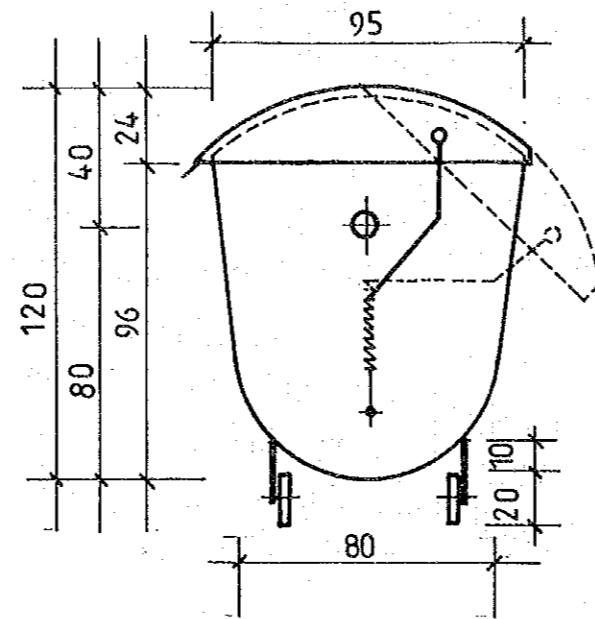


Fig 5.1 New Collection Zones

K I S O N ( 4 m<sup>3</sup> )



R A ( B O B A R ) ( 1.1 m<sup>3</sup> )



M E V A ( 0.1 m<sup>3</sup> )

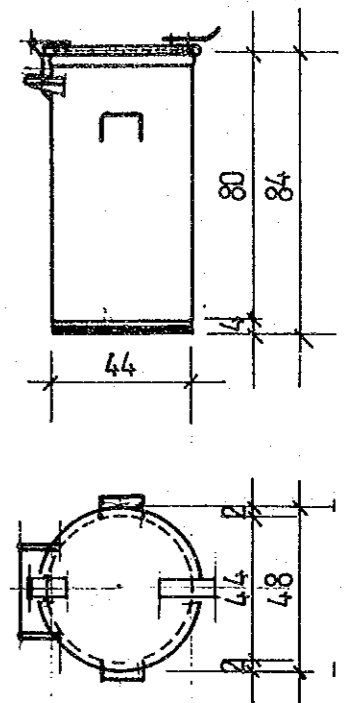


Fig 5.2 Container Types

JICA