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AUTONOMOUS PROVINCE OF VOJVODINA
MUNICIPALITY INDJIJA
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Date:

DETAILED REGULATION PLAN FOR BLOCK NO. 96 IN INDJIJA (NORT-EAST WORKING ZONE)

Public Company PLANNING INSTITUTE OF VOJVODINA – NOVI SAD

E - 2267

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Novi Sad, December 2007

NAME OF DOCUMENTATION:	DETAILED REGULATION PLAN FOR BLOCK 96 IN INDJIJA (NORTH-EAST WORKING ZONE)
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C O N T E N T S

A) TEXTUAL PART:

4. AREAS WITH SPECIAL CHARACTERISTICS, RESTRICTIONS AND REGIMES AND RULES OF THE DEVELOPMENT AND USE OF SUCH AREAS

   4.1 PROTECTION ZONES FOR PARTICULARLY VALUABLE PARTS OF NATURE
   4.2 PROTECTION OF IMMOVABLE CULTURAL ASSETS
   4.3 ENVIRONMENTAL PROTECTION
   4.4 RULES AND REQUIREMENTS FOR DEVELOPMENT OF AREAS FOR DEFENCE AND PROTECTION AGAINST NATURAL DESASTERS AND OTHER MAJOR RISKS
   4.5 RULES FOR AREA FENCING (FENCING REGIMES)
   4.6 RULES AND REQUIREMENTS FOR UNHINDERED MOVEMENT OF HANDICAPPED AND DISABLES PERSONS

5. ESTIMATE OF FUNDS REQUIRED FOR THE DEVELOPMENT OF TRAFFIC AND PUBLIC COMMUNAL INFRASTRUCTURE

6. STAGES (PHASES) OF PLAN IMPLEMENTATION

B) GRAPHIC PART:

No.	Name of Map	Scale
1.	Excerpt from the Master Plan of Indjija	
2.	Cadastral/Topographic Plan Including the Boundary of the Area covered by the Plan	1:2500
3.	Functional Organisation of the Area (Division into Zones)	1:2500
4.	Boundary of the Area covered by the Plan including the boundaries of public and other building land	1:2500
5.	Traffic Infrastructure, Regulation, Levelling and Cross-Section Profiles	1:2500
6.	Parcelling and Re-Parcelling 6.A. – Proposed Parcelling – 6.B. – Proposed Re-Parcelling –	1:2500
7.	Infrastructure Network and Facilities	1:2500

C) DOCUMENTATION:

1. Applications to competent authorities, institutions and agencies required for the Plan preparation
2. Requirements of competent authorities, institutions and agencies obtained for the Plan preparation
3. Excerpt from a plan of a higher order
4. Original basic data obtained for the Plan preparation
5. Program for the preparation of the Regulation Plan
6. Minutes of the Committee for the Plans of Municipality of Indjija
7. Decision on the preparation of Detailed Regulation Plan for Block No. 96 (north-east working zone) in Indjija
8. Decision that Strategic Environmental Impact Assessment is not to be made
9. Resolution Strategic Environmental Impact Assessment shall not be made
10. Report on carried out public insight
11. Report of the Committee for the Plans of Municipality of Indjija
12. Decision on adoption of the Detailed Regulation Plan for Block No. 96 (north-east working zone) in Indjija

Pursuant to Article 46 of the Law of Planning and Development ("Official Gazette of the Republic of Serbia" No. 47/2003) and Article 25 of the Statute of Indjija Municipality ("Official Gazette of the Municipalities of Srem", No. 10/02, 26/03, 30/04, 5/06 and 1/07), the Assembly of Indjija Municipality on its session held on October 29, 2007 has passed the following:

DETAILED REGULATION PLAN FOR BLOCK NO. 96 IN INDJIJA (NORTH-EAST WORKING ZONE)

INTRODUCTION

Master Plan of Indjija ("Official Gazette of the Municipalities of Srem", No. 14/06) has provided the concept of development and organisation of physical space and building of settlements, i.e. the rules of spatial structure of settlements as per anticipated use and functions.

Working zones formed in Indjija are located in the south and north-east part of the settlement. Within these zones, all built working complexes are kept and new ones planned. Production capacities with large area requirements and a larger scope of transport, as well as capacities which in terms of environmental protection are not compatible with housing and functions of a town centre should be located within working zones. The Master Plan offered options for the development of larger complexes in the north-east working zone (industrial, warehousing, service, traffic, etc.) as well as possibility for the further development of existing capacities.

In addition, the Master Plan anticipated the extension of the north-east working zone thereby offering possibility for accommodation of new industrial capacities and small-scale industry facilities, warehouses, stock yards, etc. for which further elaboration of planning is needed).

Cadastral parcel No. 2315 of Cadastral Municipality Novi Karlovci is by-plan-earmarked land situated in the north-east zone in Block No. 96 for which further planning elaboration is required, i.e. preparation of a Detailed Regulation Plan and town planning designs.

Long-term development strategy within the field of economy implies making development processes more dynamic, formation of a stable and development-oriented economy structure which will make possible sustainable use of present resources and comparative advantages of the planned area; this primarily refers to the formation of industrial zones wherewith special prerequisites for establishment of small- and medium-size companies will be provided and thus unemployment issues overcome.

Potentials of the planned region in terms of industry are based on available natural conditions and resources and by work created values. In the domain of industry (production activities) it is necessary to develop all branches in compliance with environmental protection (use of "clean technologies" in production process) and control the impact of production activities on environment. More dynamic development should be based on technological, economic and ownership re-structuring, high-level finalisation of production; and providing physical space prerequisites for the establishment of small- and medium-size companies (which represents the main strategic objective).

Making of the Master Plan of Indjija created planning assumptions for new investments subject to preservation of natural and acquired values of the area which are oriented towards optimisation of the resources of the municipality and town of Indjija.

1. PLAN COVERAGE INCLUDING DIVISION INTO PUBLIC AND OTHER BUILDING LAND

1.1 DESCRIPTION OF THE PLAN COVERAGE BOUNDARY

Starting point of the Plan coverage description is Point 1 located in C.M. Indjija on a three-border point of field roads, parcels No. 6925 and 7750 and parcel No. 6943.

From the three-border point, the boundary continues in the direction of east and following the north border of the field road - parcel No. 7750, comes to Point 2 which is on the three-border point of the field road - parcel 7750 (C.M. Indjija), canal - parcel No. 2337 (C.M. Novi Karlovci, and field road - parcel No. 2314 (C.M. Novi Karlovci).

From Point No. 2, the boundary crosses into C.M. Novi Karlovci and in the direction of east follows the north border of parcel No. 2315 up to Point No. 3 which is situated on the north-east border of parcel No. 2315 and field road – parcel 2354.

From Point No. 3, the boundary in the south direction follows the east border of parcel No. 2315 up to Point No. 4 situated of the three-border point of the state minor road – P-109, field road – parcel No. 2354, and parcel No. 2315.

From the three-border point, the boundary in south-west direction follows the south border of parcels Nos. 2315, 2336 and 2337 (C.M. Novi Karlovci) and parcel No. 7750 (C.M. Indjija) up to Point No. 5 which is on the three-border point of the state minor road – P-109 parcel 7751/4, field road – parcel No. 7750, and parcel No. 6926/2.

From Point No. 5, the boundary in the north direction follows the west border of the field road – parcel No. 7750 up to Point No. 6 which is located on the border of the field road – parcel No. 7750 and parcel No. 6926/2.

From Point No. 6 in the north direction, crossing Points 7, 8, 9, and 10, the boundary cuts through parcels Nos. 6926/2 and 6926/1 up to Point No. 1 which is located on the border of the field road – parcel No. 7750 and parcel No. 6926/1.

From Point 11, the boundary in the direction of north follows the north border of the field road – parcel No. 7750 up to Point No. 1 which is at the same time the starting point of the description of the Plan coverage.

Total area of the Plan coverage is approx. 101.09 ha.

List of coordinates of the points of inflecture of the Plan coverage

Point No.	Y	x	Point No.	y	z
6	7431627.45	4992025.56	9	7431590.23	4992038.94
7	7431609.02	4992028.04	10	7431601.05	4992044.18
8	7431598.23	4992022.82	11	7431618.37	4992066.11

1.2 BUILDING LAND DIVISION

1.2.1 Public Building Land

Planned public building land is formed by the following:
- whole parcels:
    - in C.M. Indjija: 7750;
    - in C.M. Novi Karlovci: 2336 and 2337;
- parts of parcels:
    - in C.M. Indjija: 6296/1 and 6296/2;
    - in C.M. Novi Karlovci: 2315

New boundary lines are defined by the existing border points as well as with newly determined border points.

1.2.2 Other Building Land

Other building land is formed by:
- whole parcel: 2345
- part of parcel: 2315

These parcels are in C.M. Novi Karlovci.

1.2.3 Parcelling Plan

1.2.3.1 Public Building Land

This Plan has anticipated formation of a public building land as follows:
- Parcel A (collection road) in C.M. Indjija
- Parcel B (collection road) in C.M. Novi Karlovci

Parcelling

Parcels bearing number from 1 to 5 shall be formed from present parcels in the following way:
- Parcel 1 as a part of parcel 6926/2 (C.D. Indjija)
- Parcel 2 as a part of parcel 6026/1 (C.M. Indjija)
- Parcels 3, 4 and 5 as parts of parcel 2315/1 (C.M. Novi Karlovci).

Re-Parcelling

New Parcels A and B created by the division of the parcels shall be formed in the following way:

New parcels	Parcels	
	Existing cadastral parcels	Parcels created by parcelling
A	7750	1, 2
B	2336, 2337	3. 4, 5

New boundary lines are defined by the existing and newly determined boundary points.

List of newly determined boundary points

Point number	Y	X	Point number	Y	X
1	7431627.45	4992025.56	7	7431647.38	4992027.37
2	7431609.02	4992028.04	8	7431664.11	4992053.21
3	7431598.23	4992022.82	9	7431655.60	4992071.31
4	7431590.23	4992038.94	10	7431637.35	4992071.34
5	7431601.05	4992044.18	11	7431496.96	4992693.43
6	7431618.23	4992065.93			

1.2.3.2 Other Building Land

Other building land is formed from a part of parcel 2315/1 and the whole parcel 2345 which are in C.M. Novi Karlovci.

Proposed formation of the parcels of other building land has been defined by the existing border points, newly determined border points, as well as analytical elements, and it has been shown in the graphic attachment.

The use of newly determined parcels of other building land has been determined by the Plan as follows:

	Use	Parcel number determined by re-parcelling
1	Service roads	1, 2, 3, 4, 7
2	Protective greenery	6
3	Working areas	from 8 to 55

List of newly determined boundary points

Point number	Y	X	Point number	Y	X
20	7431499.76	4992744.33	54	7431715.84	4992033.02
21	7431505.63	4992757.55	55	7431674.29	4991917.62
22	7431620.35	4992829.96	56	7431738.71	4992091.07
23	7431625.08	4992830.56	57	7431726.71	4992065.38
24	7431620.14	4992841.06	58	7431727.97	4992047.51
25	7431632.92	4992849.13	59	7431726.68	4992032.11
26	7431638.23	4992837.85	60	7431695.11	4991944.43
27	7431642.59	4992844.00	61	7431689.68	4991917.06
28	7431815.94	4992953.40	62	7431692.30	4991889.29
29	7431930.70	4993025.84	63	7431721.55	4991771.90
30	7431964.20	4993041.51	64	7431784.58	4991518.88
31	7431986.44	4993047.58	65	7431789.88	4991510.50
32	7432003.54	4993040.12	66	7431797.49	4991504.56
33	7432313.58	4992383.65	67	7431806.90	4991502.45
34	7432311.16	4992376.99	68	7431816.74	4991503.66
35	7431942.25	4992203.42	69	7432006.06	4991593.33
36	7431935.60	4992205.81	70	7432164.22	4991668.24
37	7431922.03	4992199.42	71	7432167.55	4991677.60
38	7431919.63	4992192.77	72	7432175.44	4991660.83
39	7431735.04	4992105.92	73	7432188.98	4991667.28
40	7431701.73	4992113.89	74	7432190.43	4991680.65
41	7431687.19	4992129.73	75	7432181.12	4991683.99
42	7431657.63	4992150.28	76	7431926.02	4992179.20
43	7431633.26	4992174.97	77	7431932.67	4992176.80
44	7431619.28	4992206.73	78	7431946.24	4992183.19
45	7431574.60	4992400.66	79	7431948.64	4992189.84
46	7431529.47	4992601.57	80	7432317.55	4992363.41
47	7431508.49	4992695.72	81	7432324.23	4992361.03
48	7431616.63	4992165.99	82	7432441.91	4992110.83
49	7431677.60	4992123.61	83	7432556.70	4991866.79
50	7431690.42	4992109.64	84	7432553.38	4991857.54
51	7431696.90	4992090.74	85	7432534.35	4991848.53
52	7431706.78	4992073.28	86	7432503.08	4991828.74
53	7431715.40	4992058.09	87	7432373.94	4991767.44

2. PLANNING RULES

Objectives of the planning and development of this part of Indjija, i.e. the subject area within the planned working zone, and the main program elements are the following:

- creation of physical conditions on order to provide flexible realisation option for the land earmarked by the Plan through modular development system;
- defining new traffic areas, new roads, dormant traffic, and bicycle and pedestrian courses;
- demarcation of public building land areas from the other land in compliance with the Law and regulations;
- defining the rules of building and development on public and other building land;
- defining the options of parcelling and re-parcelling;
- defining and implementation of environmental protection measures.

2.1 SPATIAL ORGANISATION OF THE COMPLEX AND DIVISION INTO FUNCTIONAL WHOLES (ZONES)

The following factors had decisive effect in the course of the Plan preparation:

- observance of guidelines given in the Physical Plan on the Republic of Serbia from 1996;
- observance of guidelines given in the Master Plan of Indjija from 2006;
- compliance to development objectives which relate to the subject area;
- respecting the expressed requests of future users of the area, conformed with the expert opinion of the Plan developers;
- compliance with the preconditions given by competent authorities and institutions.

Resulting from the effects of the specified factors, there will be both functional wholes (zones) as well as planned public areas in the future physical/functional structure of the subject area.

Working zone in Block No. 96 shall be made of three main functional wholes (zones) together with an collector road and each of them within its own area shall have option for formation of the following sub-wholes:

- production-service zone;
- commercial-service zone;
- zone of street corridors within the working zone.

Adequate organization of the space (through a modular development system) offers possibility for utmost flexible organisation and realisation, i.e. the main characteristics of the organisation of the subject area is flexibility and possibility to be adjusted to market requirements subject to observance of the principles of rationality, priority and correct redistribution of capacities. The above stated is possible to materialise subject to the observance of proposed solution regarding infrastructural equipping as well as compliance to high ecological standards.

2.1.1 Production-Service Zone

Formation of sub-wholes is possible within in-terms-of area functional whole (zone) Production-Service Zone. The program offers modular wholes for the development of business, production, business-production, business-service, service and other facilities which may be merged or divided in accordance with market requirements.

Within this zone, development of the following facilities is possible:

- production plants (metal-working activities, specialist's trade activities, etc.);
- light industry production plants (product finishing);
- trade activity;
- service/storage terminals;
- facilities for logistic support to production (forwarding, service warehousing, services, etc.);
- technical maintenance and repair service for vehicles and equipment (washing, maintenance and repair of vehicles, fuel supply, platform weighing machines, etc.).

2.1.2 Commercial-Service Zone

Within in-terms-of area functional whole (zone) Commercial-Service Zone, the program offers modular wholes for the development of a business-management system of the zone, selling areas, accommodation/service activities, auxiliary and service rendering services, and technical services.

Development of the following facilities is possible within this zone:

- business-management system of the zone (modern business/administrative/information system);
- selling area (modern shopping centres);
- accommodation/service activities (hotel, motel, restaurants, recreational areas, facilities meeting everyday needs of participants);
- auxiliary and service-rendering services (custom, sanitary, bank and postal services, insurance, etc.);
- technical service (maintenance and repair service, fuel supply, vehicle washing, etc.).

2.1.3 Zone of Street Corridors within the Working Zone

Zone of Street Corridors within Block No. 96 represents areas in their planned width which serve for setting up traffic, hydro-engineering, utility and other planned communal infrastructure.

Planned width of internal roads as well as planned infrastructural equipping shall provide each of the proposed lots within the Working Zone both adequate road access as well as option for quite easy connection to all types of infrastructure.

2.1.4 Zone of Planned Collector Road

Master Plan of Indjija Settlement has envisaged a settlement collector road which will connect the state minor road No. 109 and planned bypass road.

In addition, this collector road shall also serve as an access road to planned working zones in blocks number 93, 95 and 96.

Within planned public area – Collector Road, construction has been planned of a carriageway, bicycle path, pedestrian path, as well as planting of line greenery.

2.1.5 Area Balance

Building land	Area in ha	%
1. Public building land	2.69	2.67
2. Other building land	98.40	97.33
Total area of the Plan coverage	101.09	100

Use of areas (zone)	Area in ha	%
1. Public building area	**2.69**	**2.69**
- collector road		
. carriageway	1.0	0.99
. bicycle path	0.13	0.13
. pedestrian path	0.27	0.27
. road line greenery	1.29	1.28
2. Other building land	**98.40**	**97.33**
- production-service zone	45.70	45.20
- commercial-service zone	43.30	42.84
- corridors of internal roads	8.43	8.34
- green areas	0.97	0.95
Total area in the Plan coverage	**101.09**	**100**

2.2 PLANNED ROUTES, ROAD CORRIDORS AND PUBLIC COMMUNAL INFRASTRUCTURE NETWORK

2.2.1 Planned Routes and Corridors of Traffic Infrastructure

Indirect exit to **Motorway E-75 state road No. 22** – as a part of Pan-European Corridor X and exit by road connection to **category II state road No. 109** (GNS) are elements which provide the subject area with exquisite predisposition for unhindered development in terms of physical location and traffic, particularly from the point of road transportation.

Location in terms of traffic of the planned working zone in Block No. 96 may be described as a very favourable taking into account the vicinity of the capital city Belgrade, neighbouring municipalities: Stara Pazona to the south, Ruma to the west, and macro-regional centre Novi Sad to the north as very important generators of the flows of traffic and goods.

Facilities of the future Working Zone in Block No. 96 will be connected by access roads from several streets which is also very favourable considering the importance and future use of the viewed area.

The main connection between the entire Working Zone complex of Block No. 96 and categorised road network and the system of streets will make a collector road (SNS) – (**public land**) which in its north-east part transforms into a local (municipal) road with a connection to **DP I No. 22.2** (category I state road No. 22.2); its south connection is connected to **DP II No. 109** (category II state road No. 109), i.e. main road (GNS).

In other street corridors (**other land**) access roads have been planned which are not directly connected to either collector road (SNS) or main road (GNS).

Traffic solution in this zone has been conceived in such way to avoid direct clashes of traffic flows on roads with significant present/prospective traffic flows (GNS, SNS), including a system of service roads and minimum number of intersections. Intersections are planned of roundabout type with separation of traffic flows wherewith multiple effects are achieved through:

- increase of safety parameters (decrease of the number of conflict points);
- larger capacity of the intersection itself compared to traditional intersection;
- aesthetic and visual effect of the intersection itself.

Within the scope of **public** areas – collector road corridor, a road will be constructed to include relevant elements and areas for movements of all traffic participants (pedestrians, cyclists) as well as a roundabout which will ensure safe and unhindered movement.

In the corridors of access streets (**other** building land), there will be constructed communications, a roundabout, including all necessary elements which will ensure safe and unhindered movement of all road vehicles; adequate drainage of all traffic surfaces will also be provided. In addition, this Plan defines suitable number of areas for dormant traffic within street area corridors in the Working Zone.

Construction of walkways will also ensure unhindered and safe movement of all traffic participants considering the tradition of non-motorised movements and their number.

Position of all elements (carriageways, pedestrian and bicycle paths, intersections and traffic areas) and all installations is given in graphic attachment No. 5 in cross-section profile for each street/road separately.

Regulation and Levelling

Regulation Plan

New boundary lines of the parcels of public and other building land have been given by the regulation solution and these are defined in the text (para 1.2.3 Parcelling Plan).

Levelling Plan

Levelling solution has given the points of inflecture of finished grade level and road inclination values which should be observed in general during preparation of design documentation.

2.2.2 Planned Routes and Corridors of Water Management Infrastructure

In the subject area in Block No. 96, anticipated as a Working Zone complex, there are no water supply and sewage installations. The closest water supply pipeline, dia. 400 mm, is in the belt of the regional road No. 109 which supplies facilities in block No. 11.

It is necessary to provide supply to all facilities and users of the area with required quantity of quality drinking water by way of a water reticulation.

Foul water sewage is to provide emptying of used sanitary water via an interceptor into final recipient (discharge pipeline of regional sewage system). Waste waters are collected from toilet facilities, water taps, etc.

Mali Begej canal serves to receive and evacuate rainwater from the subject Block as well as to transfer excessive rainwater from the settlement.

Mali Begel canal belongs to the water basin of Golubinci – Stari Banovni canal; hydraulic elements of the canal in the part where it goes through the complex parcel are the following:

- canal bottom level (11+900) 101.38 m a.s.l.
  (13+350) 108. 10 m a.s.l.
- canal bottom width 1.0 m
- slope inclination 1 : 1.5

Along melioration canal, on the left and on the right, a belt 10 m wide will be left to provide passage for machines which maintain the canal.

Rainwater sewerage should provide rainwater to be drained from roads, roofs and other surfaces within the viewed area to the recipient. Rainwater, depending on its origin, should be discharged into the recipient after adequate treatment. This means that oiled drained water will be discharged into the recipient only after being treated in adequate treatment unit.

Drainage and provisionally clean process water (cooling water, etc.) which quality corresponds to class II.b water quality may be discharged without treatment into natural water courses, melioration canals, retention reservoirs on the settlement circumference, etc.

For waste rainwater drained from oiled or dirty surfaces adequate treatment should be provided in oil separator and settling tank. Oil content in treated water must not exceed 0.1 mg/l and the content of suspended matters must not exceed 35 mg/l.

Rain- and treated water effluent outlets to melioration canals must be designed in a specific way in order to prevent degradation of and damage to the stability of canal slopes.

Rainwater sewerage shall be designed to meet relevant conditions (time profile, degree of urban development of the area, calculated rain volume, etc.) and constructed in phases so that the constructed part rationally fits into future solution.

The bed of Mali Begej will keep its main function also in future which is to receive and transfer excessive drainage water from the settlement to melioration canal network subject to adequate redevelopment of its banks and leaning surfaces.

All works are to be performed subject to prior requirements and approvals obtained from competent water management company.

As concerns industrial waste waters, they will be solved by a separate system. Depending on the kind and type of polluted waters, they will be pre-treated to the quality which meets sanitary-technical requirements for the discharge into public sewerage and then they will be transferred to joint treatment with sanitary waste water.

2.2.3 Planned Routes and Corridors of Electric Power Infrastructure

On part of the area in the Plan coverage there is an overhead 20 kV medium voltage power network built which needs to be cabled.

New electric power supply network and transformer stations need to be built to supply new facilities with electricity.

In order to supply consumers in the Plan coverage with electric power, in the initial phase of realisation it is necessary to provide a new MBTS transformer station having 20/0.4 kV voltage and up to 2x100 kVA power. New transformer stations on user's parcels on other land shall be built as necessary in further phases of realisation to supply consumers. Estimated total maximum power amounts to approximately 2 – 3 MVA.

20 kV network to supply the new transformer station should be provided by an underground cable from the existing 20 kV substation "Indjija Mini" until such time a new 110/20 kV transformed station "Indjija 2" is built which will ensure supply for the total demands of facilities in the final development phase.

This transformer station shall distribute electric power to newly planned consumers via low voltage cable lines.

Public lighting system is to be built along roads and pedestrian paths.

Existing 20 kV overhead line in the Plan coverage needs to be cabled.

2.2.4 Planned Routes and Corridors of Thermal Power Infrastructure

Working Zone in Block No. 96 will be supplied with gas from newly built REDUCING GAS ODORISING STATION of 1600 m^3/h capacity which will be connected to the existing gas pipeline Ø168.3 x 4.5 mm with Ø 88.9 x 3.2 mm pipeline to PPS for working zone DN80NP16. From the REDUCING GAS ODORISING STATION of 1600 m^3/h capacity, gas distribution polyethylene network with pertaining polyethylene connections and polyethylene fire-resistant ball valves will be built. Gas network will is to be laid in utility channels in road corridors. REDUCING GAS ODORISING STATION is to be situated in a fenced area which will ensure protection, controlled entrance to and repair of the facility as well as performance of other maintenance and protection measures.

2.2.5 Planned Routes and Corridors of Telecommunication Infrastructure

Immediately next to the Plan coverage area there is a service optic cable. To suit the needs of new users, it is necessary to build suitable telecommunication network.

From the existing optic cable, connection should be provided to planned RSL (remote subscriber point) or outdoor or indoor MMC in the Plan coverage. Capacity of the telephone exchange should be for maximum 500 phone connections; and, from the RSP along street corridors, telecommunication network should be built to suit the needs of new users. Telecommunication network should be completely cabled. To suit the needs of mobile communications, basic radio stations may be built according to the development plans of relevant companies in compliance with the development terms defined in Chapter 3.6 Development Rules for Telecommunication Infrastructure.

2.2.6 Green Areas

In the scope of this Plan there are green areas on public building land and green areas within working facilities on other building land.

In street corridors, depending on the width of street profile, a line of greenery will be formed of tall and medium-height deciduous trees and shrubbery.

Within working facilities it is necessary to have green areas established on 30% of the complex area. These green areas should be formed by greenery planted on the circumference of the complex and parks at the entrance to the complex and around administrative facilities.

Planned corridors of public green areas

Public green areas are made of green areas within the corridor of the main road and collector road. Depending on the width of street corridors, line of trees should be formed from tall, medium- or small-height deciduous trees or next-to-ground greenery. Species should be chosen which are resistant to dust, gases and compactness of soil; such plants shall contribute to the protection of environment against adverse effects of traffic and isolate pedestrian courses.

Objective of landscaping the areas in Block No. 96 is to plant greenery on minimum 30% of the total area in order to improve sanitation-hygienic and decorative-aesthetic conditions. Implementation of the landscaping concept given by this Plan will materialise numerous functions of green areas and particularly the one of protection.

For planting purposes within the complex dendric species resistant to gases, dust and noise are to be used. Species are to be selected according to ecological, functional and decorative properties and characteristics of production, and character and concentration of harmful substances.

Adequate selection of plant species will make it possible for greenery to provide:

- mechanical purification of air by way precipitation, filtration and absorption of matters;
- purification of air through lowering pollutant concentration by way of their absorption into plant tissues;
- purification of air by way of destruction of micro-organisms thanks to bactericide and phytocide action of specific species;
- increase of oxygen balance in air;
- decrease of air temperature by 2-3 ^{o}C;
- increase of relative air humidity (18-20% more compared to areas without greenery);
- protection against wind;
- protection against noise (noise reduction by 5-10 dB if trees are in tight arrangement up to 35 m width); and
- aesthetic-decorative function at the entrance part of the complex.

Green areas in the Plan coverage are made of public green areas and restricted-use green areas, i.e. green areas of the complex in Block No. 96.

3. BUILDING RULES

3.1 DEVELOPMENT RULES FOR BUILDINGS

It is necessary to provide suitable functional-technological and sanitary-technical conditions for the work and stay of employees in conformance with valid standards and regulations by way of applying modern technical solutions, adequate capacities and functional organisation of space and buildings (production, storage, warehouse, administrative, commercial, technical, auxiliary, etc.), installation of all necessary systems, interconnections between work places (particularly in individual functional entities).

If present position of investors is taken into account that it is impossible to obtain precise information about planned development of buildings and facilities then preparation of planning projects for all planned functional zones, i.e. their sub-wholes is imposed as a must. Based on concrete investors' requests, planning projects would provide location summary of planning and ground level conception, layout of buildings including levelling and regulation conception, planning-architectural conception of area development and building, architectural conceptual design of building and landscaping, roads, aggregate summary of communal infrastructure including service connections to external systems and development plan for free (not- built upon) areas.

Production-Service Zone

Within in-terms-of-area functional whole (zone) Production-Service Zone establishing of sub-wholes is possible. Program has given minimum modular wholes for the development of business, production, business-production, production-service, service and other facilities which also may be merged as per market requirements.

Within this working zone, development is possible of the following substance:

- production plants (metal-working activities, specialist's trade activities, etc.);
- light industry production plants (product finishing);
- trade activity;
- service/storage terminals;
- facilities for logistic support to production (forwarding, service warehousing, services, etc.);
- technical maintenance and repair service for vehicles and equipment (washing, maintenance and repair of vehicles, fuel supply, platform weighing machines, etc.).

Commercial-Service Zone

Within in-terms-of-area functional whole (zone) Commercial-Service Zone establishing of sub-wholes is possible. The program offers basic modular wholes for the development of a business-management system of the zone, selling areas, accommodation/service activities, auxiliary and service rendering services, technical services and other auxiliary facilities:

- business-management system of the zone (modern business/administrative/information system);
- selling area (modern shopping centres);
- accommodation/service activities (hotel, motel, restaurants, recreational areas, facilities meeting everyday needs of participants);
- auxiliary and service-rendering services (custom, sanitary, bank and postal services, insurance, etc.);
- technical service (maintenance and repair service, fuel supply, vehicle washing, etc.).

Type and Earmarking of Buildings

Within a building parcel in the Working Zone development is permitted of business, production and storage facilities, as well as development in the following combinations: business-production facility, business-storage facility, production-storage facility, or business-production-storage facility.

Buildings may be built as free-standing or buildings in row depending on technical-technological production process and fulfilment of stipulated protection terms and conditions.

On a building parcel in the Working Zone, construction of ancillary works next to main buildings is permitted such as: storerooms, typical transformed stations, fences, wells, water-impermeable concrete septic tanks (as transitional solution) etc.

Terms for Formation of Building Parcel

Size of a parcel intended for development of business capacities must be sufficient to accept all facilities which are conditioned by specific technological process, as well as auxiliary facilities, subject to ensuring permitted development index and degree of land occupation.

Area of a building parcel amounts to minimum 900.0 m^2 with street front width of minimum 35.0 m.

Location of building structures in relation to the regulation and building parcel boundaries

Building line is minimum 10.0 m pulled back in respect of the boundary line (see graphic attachment). Building lines within the working complex are given in graphic attachment. Buildings situated at the entrance of a working complex must have frontage built on the building line.

Organisation of the working complex yard should be directed towards north, namely west side. In this connection, building line is at 5.0 m distance from the boundary of the neighbouring parcel on the east (i.e. south) side. If necessary, permitted distance is minimum 1.0 m provided that all fire protection conditions have been fulfilled, i.e. that the distance between two buildings on two neighbouring parcels is larger than 4.0 m, i.e. larger that the half height of a taller building.

Building line is at 10.0 m distance from the boundary of the parcel on the west (i.e. north) side. If necessary, permitted distance is minimum 6.0 m if circular traffic flow is provided on the building parcel.

Building parcel development index and degree of occupancy

Maximum permitted development index on a building parcel in the working zone with plateaus and roads is 2.1.

Maximum permitted degree of occupancy of a building parcel is 70%.

Maximum permitted number of floors

Number of floors of buildings depends on their earmarked use. Buildings may have the following number of floors:

- business building: max. P+2+Pk (ground floor + two floors + loft);
  In exceptional cases even bigger number of floors is permitted if a business buildings represent area landmarks of larger complexes.
- production building: P (ground floor), P+1 (ground floor + one floor), and if necessary more if required by production technological process;
- warehouse building: P (ground floor), if necessary P+1 (ground floor + one floor).

Building of auxiliary facility – storage: permitted maximum number of floors is P (ground floor).

Minimum distance between buildings

Buildings may be built as free-standing buildings or buildings in a row (within a parcel).

Development of buildings in a row (distance between buildings is 0.0 m, i.e. dilatation width) may be permitted if this is required by production technological process and if fire protection requirements have been fulfilled.

Distance between free-standing buildings is minimum a half of the height of a taller building providing that the distance may not be less than 4.0 m.

Terms for the development of other buildings on the same building parcel

In addition to the main and auxiliary buildings on the building parcel of the working complex building is permitted of a family house containing one dwelling unit, namely building of a business-housing building with one dwelling unit.

If within a working complex building is anticipated of a family house, when determining the location of the house on the parcel care should be taken for the house to be placed in a more peaceful part of the yard and ensured separate access to the house without any intersection with the access to the working area.

Maximum number of floors of a family house is P+2+Pk (ground floor + two floors + loft). Within this building construction is permitted of a parking for cars belonging to residential occupants.

Fencing of building parcel

Height of a fence with which working complex is fenced-in may not be higher than h = 2.2 m. Fence on boundary line and fence on a corner must be transparent, i.e. a combination of a brick fence wall and a transparent fence. Transparent fence is placed onto a parapet maximum 0.2 m high and in case of a combination fence, brick fence wall may not be higher than 0.9m.

Lateral and back part of fence may be transparent, combination of brick and transparent fence or a brick fence wall maximum 1.8 m high.

Fence, fence posts and gates must be on the building parcel which is fenced-in.

partition of functional units within a building parcel is permitted providing that the height of such fence must not exceed the height of the outer fence and that free flow of traffic has been ensured.

Gates on boundary line may not open outside the boundary line.

Providing access to the parcel and parking for vehicles

Vehicle and pedestrian access must be provided for each building parcel in this zone. Vehicle access to the parcel is minimum 4.0 m wide with minimum inner curve diameter of 7.0 m. Pedestrian access is minimum 1.5 m wide.

Within the frame of a building parcel, traffic areas may be constructed under the following conditions:

- minimum road width is 3.5 m with inner curve radius of 5.0 m, i.e. 7.0 m where free flow of traffic has to be ensured for fire protection reasons;
- for vehicle parking for own needs parking space within building parcel must be provided (for passenger car min. 2.5 m x 5.0 m, for cargo vehicle minimum 3.0 m x 6.0 m, i.e. in accord with the size of cargo vehicle).

Protection of neighbouring buildings

Construction of buildings on a parcel and anticipated activity within the parcel must not damage the environment.

Juts on buildings may not exceed building line by more than 1.2 m and this on the part of building higher than 2.5 m. If horizontal projection of a jut is bigger than 1.2 m then it is to be positioned on the building line.

Development of buildings next to east (namely south) side of parcel must not disturb aerial line of the neighbouring parcel and draining of rainwater from roof surfaces must be solved within the building parcel on which the building is constructed.

Next to the west (namely north) boundary of the parcel perimeter green areas should be formed to function as an isolation of the complex from neighbouring parcels. This green tampon (coniferous trees, deciduous trees or shrubs) would reduce noise and retain exhaust gases and dust.

Greenery mist take minimum 30% of the total building parcel area. Selection of plant species is determined in accordance with the characteristics of production, character and concentration of harmful substances, as well as according to ecological, functional and decorative properties of said species. Greenery should provide isolation of administrative buildings from production (warehousing) buildings, isolation of pedestrian courses, as well as protection of parking space against sun.

Levelling of traffic surfaces should resolve draining of rainwater within the parcel on which development is carried out.

Architectural that is aesthetical shaping of individual elements of a building

Buildings may be built from any solid material which is currently in use and this in a traditional or more modern manner.

Sloped roof is obligatory and roofs may be single pitched, double-pitched or roofs with multiple roof planes. Deck roof is permitted only in cases when it is necessary die to technological process.

Roof structure may be made of wood, steel or reinforced concrete and roofing of material conforming to the roof pitch.

Building façade may be plastered and painted in colour at investor's option; it may be made from facing brick or other natural or man-made facing.

Architectural forms, materials and colours used must aim at establishing a unique aesthetic visual whole within a building parcel, i.e. working complex.

Environmental protection requirements, technical, sanitary, fire protection, safety and other terms and conditions

Development of buildings, performance of works, namely performance of production/storage activities may be carried out providing that they do not cause permanent damage, pollution or degradation of environment in some other way. Environmental protection includes measured which will protect water, air and soil from degradation.

Area must be provided on each building parcel where containers (bins) for communal waste will be placed, as well as area for disposal of waste generated in the course of technological process, in accordance with valid regulations covering collection of the said waste. Location of concreted area for containers on the parcel must be such to enable easy access for communal services and it has to be designed in conformance with environmental protection requirements.

Evacuation of foul water must be resolved by a closed sewerage system which is to be connected to the public sewerage system. As a transitional solution, until such time a public sewerage system is built, construction is permitted of concrete water-impermeable septic tanks which should be located on the parcel at minimum 3.0 m from the buildings and parcel boundaries.

Waste waters generated in production technological process are to be treated in oil and grease separator before they are released into public sewerage system.

Provisionally clean rainwater from building roofs and handling area surfaces may be released into open-channel reticulation laid along streets.

All buildings must be built (reconstructed) in accordance with valid Laws and Regulations which govern relevant domain. When designing and performing work on buildings with used materials, specific functional earmarked use of the building (space) should be taken into account in respect of their use, maintenance, that is providing sanitary-hygienic requirements.

When selecting materials, their resistance should be taken into account in terms of technical and fire protection. For buildings with increased fire risk, access road, turning point and plateaus for fire-engine movement and performance of interventions must be designed and constructed.

When working complexes are designed and constructed, valid regulations should be taken into account referring to lighting arresters, electricity system, furnaces, stacks, tanks and plants containing easily inflammable materials. Inflammable material may not be stored in an area which is not minimum 6.0 m far from a building or part thereof unless otherwise stipulated by technical regulations. In buildings and rooms where inflammable and other material (raw materials, finished products, packing material, etc.) are stored or kept, free passage must be provided and access to fire extinguishing devices and apparatuses. In buildings and rooms which are jeopardised by explosives, sufficient quantity of window area should be envisaged including light partition walls and light roofing.

Business buildings (namely business premises) intended for public use, as well as access to them, must be executed in accordance with the Rules on the Terms of Planning and Design of Buildings with regard to unhindered movement of children, senior people, handicapped and disabled persons.

When designing and constructing a working complex, it is necessary to also provide construction of additional protection shelters having 30 kPa protection capacity.

3.2 DEVELOPMENT RULES FOR TRAFFIC INFRASTRUCTURE NETWORK AND FACILITIES

Basic conditions for the development of traffic infrastructure (**public land**) are obligatory preparation of final designs for all traffic capacities subject to compliance with the provisions of the following:

- Law on Public Roads ("Official Gazette of the Republic of Serbia", 101/2005);
- Law on Traffic Safety on Roads ("Official Gazette of the Republic of Serbia", number 53/82, revised wording, 15/84, 5/86, 21/90, 28/91 amendments);
- Book of Rules on Main Requirements which Public Roads and Their Elements Must Fulfil from the Aspect of Traffic Safety ("Official Gazette of SFRY", No. 35/81 and 41/81);
- Technical regulations from the domain of road engineering;
- JUS for contents covered by projects.

When designing traffic capacities within the corridors of public areas and buildings, the following physical basic data should be ensured as follows:

- all roads within public land to be designed in compliance with the provisions of the Book of Rules on Main Requirements which Public Roads and Their Elements Must Fulfil from the Aspect of Traffic Safety ("Official Gazette of SFRY", No. 35/81 and 41/81) and in accordance with the provisions of the Law on Public Roads ("Official Gazette of the Republic of Serbia", 101/2005);
- collector road should be laid into a corridor 18 m wide; road carriageway structure should be envisaged for medium heavy traffic, with one side carriageway inclination, width of 6.6 m and other pertaining elements;
- collector road intersection (junction) to the existing category II state road to be designed strictly complying with – fulfilling conditions regarding visibility and unhindered inclusion (visibility triangles, passability diameter of relevant vehicle min. 12.0 m);
- roundabout to be designed to have adequate radius and area for passage of over-size vehicles, including obligatory equipping with horizontal (markings on carriageway) and vertical signalization (traffic signs);
- pedestrian paths (within collector road – on both sides) to be executed in concrete – Behaton tiles, 2.25 m wide, as per layout in the Plan;
- bicycle paths (within collector road – on both sides) to be executed in concrete – Behaton tiles, 1.0 m wide, as per layout in the Plan;
- carriageway areas draining to be resolved by transversal and longitudinal drops to gulleys and further on to recipient;
- characteristic elements of the collector road section profile elements are given in graphic attachment.

Basic urban planning requirements covering traffic infrastructure (**other building land**) would be preparation of final designs for all traffic capacities in accordance with the Law on Roads ("Official Gazette of the Republic of Serbia", 46/11991) and the Book of Rules on Main Requirements which Public Roads and Their Elements Must Fulfil from the Aspect of Traffic Safety ("Official Gazette of SFRY", No. 35/81 and 41/81), and as per the enclosed location plan:

- communication roads with working zone should be laid into corridors of various width (11.5 to 16.0 m) and should have width ranging from 6.0 – 7.0 m and all elements necessary for comfortable movement (fan-shaped radius min. 8.0 m);
- carriageway structure of internal roads within a working zone should be sized for medium heavy traffic on the basis of data obtained by soil mechanics tests;
- roundabout to be designed to have adequate radius and area for passage of over-size vehicles, including obligatory equipping with horizontal (markings on carriageway) and vertical signalization (traffic signs);
- pedestrian paths (within internal roads) to be executed in concrete – Behaton tiles, 2.00 m wide, as per layout in the Plan;
- parking areas within internal roads for all types of traffic vehicles to be designed as a longitudinal parking system, with parking space dimensions: 5.5 x 2.0 m; and asphalt or concrete finished layer;
- draining of carriageways and parking areas to be designed as transversal and longitudinal drops to gulleys and further on to recipient;
- characteristic elements of the collector road section profile elements are given in graphic attachment.

3.3 DEVELOPMENT RULES FOR WATER MANAGEMENT INFRASTRUCTURE NETWORK AND FACILITIES

Public building land

Water supply

- Sanitary water supply to consumers to be provided exclusively from a water source. Water source capacity to be ensured by drilling sufficient number of water wells;
- Anticipated water supply reticulation to be connected to the existing public water supply system in accordance with prior requirements and approvals obtained from competent public utility company;
- Maximum number of section stop valves, air valves and slurry outlet to be anticipated for the reticulation;
- Distribution reticulation to be connected into a ring with as little blind leads as possible;
- Distribution reticulation piping material to be as per valid regulations and standards;
- Water supply installation to be routed through green areas everywhere where the available width of street profile thus allows;
- Passage under roads and intersections with other street installations to be secured by steel conduits;
- Burying depth should not be less than 1.0 – 1.2 m from the ground level because of freezing zone and traffic load.

Evacuation of waste and rain waters

- Sewage to be executed as per a separate system;
- faces sewerage system to cover the complete area which is in the Plan coverage; also, service connections to be provided for all households and economic operators;
- Faces waste water treatment to be carried out in already built waste water treatment unit (WWTU) of the settlement;
- Faces sewerage system routes to be lead along the axis of the street profile, i.e. communication road;
- Minimum diameter of street channels must not be less that Ø 200 mm.
- Minimum interceptor drops to be determined with respect to adopted piping material, in accordance with valid regulations and standards (concrete pipes are not recommended);
- Depth of a network of channels at the most-upstream end must make possible the connection of consumers with minimum service connection gradient to the pipe apex via two 45^{o} bends and with minimum cascade in manhole;
- Depth must not be less than 1.2 m from the carriageway level;
- Pipe rainwater sewage reticulation to be constructed which is to include street gulleys and a system of gutters and drain flumes;
- Gulleys to include sand traps; or, stilling basins for sand to be provided upstream the point of discharge into oil and grease separator;
- Installation to be routed through the green belt along the road (former routes of open channels) or below the carriage along the carriageway line axis;
- Recipient is open canal Mali Begej;
- End recipient in the Danube;
- Levels of the bottom of sewerage discharge outlets to be design to be o.5 m above the bottom of the canal they empty into;
- All works to be performed in accordance with prior terms and approvals obtained from competent public utility company;
- Development of banks and canals to be carried out in accordance with prior terms and approvals obtained from competent water management company.

Other building land

- Service connections of newly planned business, dwelling and other buildings to water supply and sewage system of the settlement to be executed in accordance with prior terms and approvals obtained from competent public utility company;
- Water supply reticulation within complex to be laid in compliance to the conditions valid for development on public building land;
- Distribution reticulation to be laid in the internal communication road belt.

3.4 DEVELOPMENT RULES FOR ELECTRIC POWER INFRASTRUCTURE NETWORK AND FACILITIES

Public building land

- Transformer stations to be built as instant building concrete structures for 20/0.4 kV voltage transmission;
- Minimum distance of a transformer station from other building structures must be 3.0 m;
- For transformer station structure minimum area of 7 x 7 m must be provided;
- Medium and low voltage electric power network in the Plan coverage to be made under ground;
- When led in parallel, power cables to be laid in an earthen trench or cable underground system at minimum depth of 0.8 m ;
- When power cables of maximum 10 kV and telecommunication cables are led in parallel, minimum distance between them must be 0.50 m, that is 1.0 m in case of power cables over 10 kV;

- When intersecting power and telecommunication cables, intersection angle to be about 90°;
- It is not permitted to lay power cables above telecommunication cables except in case of intersection where minimum vertical distance between them must be 0.5 m;
- Parallel laying of power cables and water supply and sewage pipes is permitted in horizontal plane where horizontal distance must be bigger than 0.50 m;
- It is not permitted to lay power cable above or below water supply or5 sewage pipe;
- When power cables and gas pipeline intersect, vertical distance between them must exceed 0.30 m, and when they draw near and are led in parallel it is 0.50 m;
- Luminaires for illumination of road are to be fitted on posts next to the road at minimum distance of 0.5 m;
- As light fixture should be used high pressure mercury lamps or low (high) pressure sodium lamps, namely light fixture in accord with new development technologies.

Connection of facilities to electric power network to be executed by ground cables in accordance with the terms and conditions of competent company in Ruma.

Other building land

- Transformer stations to be executed as free-standing prefabricated concrete structures, masonry structure, or as a structured within a building;
- Electric power network in a complex, both medium and low voltage one, should be fully cabled;
- For construction of underground electric power network in a complex the same terms and conditions apply as for the construction of underground electric power network on public land.

3.5 DEVELOPMENT RULES FOR THERMAL POWER INFRASTRUCTURE NETWORK AND FACILITIES

Public building land

Gas pipeline laying depth is minimum 0.6 m to maximum 1.0 m from its upper edge. Recommended depth is 0.8 m. As an exception, permitted depth is 0.5 m when it intersects with other buried installations or where ground is extremely difficult, subject to implementation of supplemental protection measures.

Trenches should be located in green belt, between the foot-walk and street curb, foot-walk and gutters, foot-walk and concrete channel. On sites where there is no green belt, gas pipeline is led under foot-walks, concrete plateaus and surfaces or under street sewers for evacuation of rainwater, at the depth of 1.0 m from the channel or gutter bottom. As an exception, gas pipeline is laid along road trunk subject to implementation of special measures for protection against mechanical and other damage.

Routes of trenches for laying gas installation are positioned in such way to ensure that the gas network fulfils minimum stipulated distances from other installations and infrastructure facilities.

Values of minimum stipulated gas pipeline distance from buried installations are as follows:

Minimum permitted distance	Intersection	Leading in parallel
- other gas pipeline	0.2 m	0.3 m
- water supply and sewerage systems	0.5 m	1.0 m
- high and low voltage electric cables	0.5 m	0.5 m
- telephone cables	0.5 m	1.0 m
- process sewage system	0.5 m	1.0 m
- concrete manholes and channels	0.5 m	1.0 m
- tall greenery	-	1.5 m
- foundation of building structures	-	1.0 m
- local roads and streets	1.0 m	0.5 m
- petrol stations	-	5.0 m

Distance between gas pipeline and electric illumination system posts, overhead low voltage and PTT network must be minimum o.5 m.

Other building land

Gas service connection is a part of distribution gas pipeline which connects street network with internal gas installation.

When laying gas service connection, the following regulation provisions should be particularly observed:

- piping is laid to burying depth of minimum 0.8 m;
- minimum distance of the piping from any other buried installation must be 0.2 m;
- piping route must take the shortest path and must remain permanently accessible;
- gas service connection position and burying depth are to be geodetically surveyed;
- gas service connection beginning is permanently marked with a name plate;
- through cavities or parts of buildings (terraces, stairwells), the piping is laid in a conduit;
- when it is put in a building, room must be dry and accessible and the piping accessible and protected against mechanical damage;
- gas service connection is not to be put in storages for inflammable or explosive material;
- polyethylene pipes of gas service connection are laid into ground under building providing that the transition from PE to steel pipe is executed in a metal capsule; the transition is, as a rule, performed under ground, next to building;
- surface parts of the connection made of PE pipe are to be protected against sun with steel conduit;
- buried and surface parts of the connection made of steel pipes must be protected against corrosion by way of casings, coating, cathodic protection, galvanisation, etc.;
- gas service connection ends on an accessible place with a main stop valve which may be fitted immediately after it enters a building or outside the building (in a gas connection box or in a wall box);
- for gas service connection having working pressure above 1.0 bar and connection larger than DN80 one check valve is installed into pipe in front of building;
- location of main check valve is to be marked;
- if one gas service connection supplies several buildings, in the vicinity of the main check valve a name plate stating designations of the buildings which are supplied shall be placed and stop valves of such buildings marked;
- when gas is for the first time released into a gas service connection, complete evacuation of air-and-gas mixture into atmosphere should be provided;
- metering-control set must not be placed inside building, to place where there is no natural ventilation; the set must be minimum 1 m far from electric cubicle, and minimum 1 m far from building openings (windows, doors) measured at horizontal.

Construction of MRS and ROS

Minimum distance between metering-control stations (MRSs) and control-odorising stations (ROSs) housed in structures made from solid material and housing, business and factory buildings, workshops and inflammable material storages amounts to 15 m.

Minimum distance between metering-control stations (MRSs) housed in structures made from solid material and transformer stations amounts to 30 m.

Minimum distance between metering-control stations (MRSs) housed in structures made from solid material and other infrastructure facilities is as follows:

Arterial roads	20 m
Regional and local roads	10 m
Other roads	6 m
Water courses	5 m
Promenades and parking lots	10 m
Other building structures	10 m

Distances given in the table are expressed in meters which, in respect of roads, are counted from the edge of a road belt.

3.6 DEVELOPMENT RULES FOR TELECOMMUNICATION INFRASTRUCTURE NETWORK AND FACILITIES

Public building land

- TT network shall be completely installed under ground;
- Laying depth of TT cables should be minimum 0.8 m;
- When intersecting with road, cables should be run through conduit and intersection angle should be about 90°;
- When telecommunication cables and power cables of maximum 10 kV are led in parallel, minimum distance between them must be 0.50 m, that is 1.0 m in case of power cables over 10 kV;
- When intersecting, minimum vertical distance from a power cable must be 0.50 m and angle of intersection about 90°;
- When telecommunication cable is drown nearer or run in parallel with a gas pipeline, water supply or sewer installation, horizontal distance between them must be minimum 0.50 m.

UPS facility

- Minimum parcel for erection of an UPS facility should be 4.0 x 5.0 m
- Facility should be built as a prefabricated-concrete or masonry structure;
- Number of floors of the facility: P (ground floor).

Radio-base station facility

- Minimum parcel for erection of an RBS facility should be 10.0 x 10.0 m;
- To meets the needs of its equipment, a reinforced concrete column as antenna support;
- Vehicle access to be provided to the structure minimum 3.0 m wide from the existing access road, as well as pedestrian access;
- All not-built upon and not covered with concrete areas on the parcel are to be adequately planted with greenery and landscaped in terms of horticulture;
- Fence should be erected around the complex; is to be placed on the own parcel or on the border with neighbouring parcel in agreement with neighbour. Doors and gates on street fence may not open outside boundary line. Minimum height of the fence is about 2.0 m.

Other building land

- Underground telecommunication installation is to be constructed in accordance with rules covering construction of underground telecommunication network on public land;
- Facilities for housing telecommunication units for RR links, as well as antennas and antenna supports should be erected in accordance with development rules defined for public building land.

Users should be connected to telecommunication network by way of a ground service connection in accordance with the terms and conditions of competent company.

3.7 RULES FOR LANDSTAPING AREAS WITH GREENERY

Green areas on **public building land** in the corridor of main and collector roads of the settlement should be formed with plants of tall or medium- and low-height deciduous trees and ground-level greenery. Distance between trees should be from 5 m - max 15 m depending on the height of plants; also, trees should be at adequate from infrastructural corridors. Following species may be planted in tree-rows: *Tilia argentea, Tilia parvifolia, Quercus borealis* and other deciduous trees which are resistant to dust and gases. As for ground-level greenery, various species of shrubs should be used (*Cotoneaster sp., Mahonia sp., Juniperus sp.,* and other species).

Within the collector road, groups of deciduous plants, coniferous plants and shrubs should be formed in accordance with physical possibilities in terms of space and the Law on Roads ("Official Gazette of RS", No. 46/91); and, within the scope of the roundabout of the said road, ground level greenery should be planted. Care should be taken about traffic safety. On all free surfaces, lawn resistant to being tread upon should be established.

For landscaping with greenery on **other building land** within the complex dendric species resistant to gases, dust and noise are to be used.

Species are to be selected according to ecological characteristics of production, character and concentration of harmful substances, as well as those species suitable for given habitat conditions. In some parts of the complex, surface layer of soil substrate should be replaced prior to planting.

Autochthonous vegetation should be used for planting in the perimeter part of the complex and areas where certain production processes are carried out.

Other part of the complex should be landscaped and thus create a network of green areas. Use deciduous species of medium height with silvery and red leaves which are more resistant than other deciduous and coniferous species. Entrance area to the complex and areas around representative buildings should be planted with decorative plants. Rows of trees should be formed on parking lots which will provide protection against sun and dust. Some parts of the complex should be only seeded with grass if that is necessary due to work process requirements.

It is prohibited to plant trees and shrubs:
- in protection zone around plants where inflammable liquids are stores;
- in the zone extending 10-15 m from transformer and metering-control stations;
- minimum 5 m from waste water treatment facility and units;
- in overhead transmission line protection zone, minimum 15 m on each side of the transmission line.

Terms and conditions for planting greenery

For green areas preparation is obligatory of final designs of planting which will determine precise selection and quantity of dendric planting material, its physical layout, planting technique, care and protection measures, bill of quantities and priced estimate.

Planting to be conformed to ground and surface infrastructure as per technical norms for the design of green areas as follows

- Trees and shrubs to be planted at the determined distance from specific installations as follows:

	Trees	Shrubs
Water supply system	1.5 m	
Sewage system	1.5 m	
Electric cables	up to 2.5 m	0.5 m
TT network	1.0 m	
Gas pipeline	1.5 – 2 m	

- Trees to be planted at the distance of 2 m from carriageway and 4.5 – 7 m from facility;
- Selection of dendric planting material to be oriented to autochthonous and suggested species;
- Deciduous to coniferous plants ratio should be 5 : 1;
- Planting material should be of class I, minimum 4-5 years old.

4. AREAS WITH SPECIAL CHARACTERISTICS, RESTRICTIONS AND REGIMES AND RULES OF DEVELOPMENT AND USE OF SUCH AREAS

4.1 PROTECTION ZONES FOR PARTICULARLY VALUABLE PARTS OF NATURE

In the coverage of this Plan, no either protected or proposed for protection natural assets have been recorded.

4.2 PROTECTION OF IMMOVABLE CULTURAL ASSETS

In the subject area, broader surroundings, there is archaeological site Sutorov Salas. It is about 2 km far, in the west direction, from the outskirts of village Novi Karlovci and about 650 m far from Indjija – Novi Karlovci road. In the course of studying the terrain, quite sporadic surface finds of bones and pottery were confirmed as well as remnants of a Roman road. Area of the site has not been precisely determined. Chronologically, the material belongs to Roman Period (grey pottery of later period is also present). Character of the find is not clear.

Investor is obligated to inform the Institute for the Protection of Cultural Monuments of Sremska Mitrovica about the commencement of earthworks in order for the Institute to monitor them. Also, if during the performance of earthworks archaeological site or archaeological artefacts of particular significance are found, investor is obligated to suspend works for the purpose of the site research.

4.3 ENVIRONMENTAL PROTECTION

Environmental protection concept in the Plan anticipates a whole lot of environmental protection measures and requirements which are of both preventive and rehabilitation nature.

By way of envisaged measure the following requirements must be fulfilled:

- provision, via water supply system of the settlement, of sufficient quantities of water for drinking and sanitary needs of all users within the Plan coverage;
- treatment of all waste waters from planned complexes in the water treatment unit for the purpose of obtaining required water quality before water is released into the end recipient;
- construction of a separate sewerage system as a part of the system of the settlement's sewerage reticulation, this means that excessive precipitation water and foul water will be separately evacuated from all surfaces and areas in the working zone;
- for production plants with immission of air polluters, control measurements of parameters which characterise air quality will be performed in accordance with the Book of Rules;
- gasification of all facilities, namely planned buildings in Block No. 96 which will to a great extent protect air, as a natural resource, against pollution;
- realisation of greenery planting plan, particularly formation of a protective belt, will upgrade micro climatic and sanitary-hygienic conditions in the settlement, i.e. working zone;
- in the context of soil protection, toxic solutions and various non-degradable materials which as waste are generated in the course of regular functioning of a facility needs to be disposed into adequate containers and then removed by relevant utility-service companies.
- preparation of an Environmental Impact Assessment Study in accordance with the Law on the Assessment of impact on Environment ("Official Gazette, No. 135/2004) for all project which could have significant effects on environment, in accordance with the decision of competent authority.

4.4 RULES AND REQUIREMENTS FOR DEVELOPMENT OF AREAS INTENDED FOR DEFENCE AND PROTECTION AGAINST NATURAL DISASTERS AND OTHER MAJOR RISKS

In order to protect life and health of people, material assets and environment against natural disasters', all protection measures must be applied, primarily preventive ones, in order to prevent occurrence of natural catastrophes in this area.

According to seismic map, building area of the town of Indjija is at risk of 7°MCS magnitude earthquake for recurrence period of 100 years, that is 8°MCS magnitude earthquake for recurrence period of 200 years. In order to provide protection against earthquake, in the course of planning, design and construction of buildings it is necessary to apply all protection measures stipulated by law which refer to the construction of buildings in areas of possible earthquakes having magnitude of 7° and 8°MCS.

Fires occur in all regions as a lot analyses showed that "human factor" is the cause of fire in about 80% cases. Protection against fire includes a set of measures and actions of normative, organisational/technical, preventive, educational and other nature. In addition to general terms and conditions stipulated by laws and regulations, in respect of fire protection measures this Program will separately define urban planning protection measures which refer to the sources of water supply, capacity of water supply reticulation which should ensure sufficient quantities of water for fire fighting, distance between facilities, road width and access to every facility provided for fire engines, etc.

Occurrence of explosions is connected with storing, transportation and circulation of naphtha and oil derivates as well as gas and it is usually accompanied with occurrence of fire. In this respect, potential petrol station complex is particularly at risk. The most important preventive protection measure is strict implementation of regulations which stipulate work with explosive substances, as well as the method of storing and transport and circulation of these substances.

Use and development of areas of interest for defence of the country (protection of people and material assets) will be carried out pursuant to the requirements and demands put by the Ministry of Defence of the Republic of Serbia – Defence Section Indjija. Investors of planned facilities are obligated to obtain the said requirements from the Ministry of Defence of the Republic of Serbia – Defence Section Indjija.

4.5 RULES FOR AREA FENCING (FENCING REGIMES)

Basic characteristic of the organisation of the subject area is flexibility and possibility of adjustment to market demands with observance of he principles of rationality, priority and correct redistribution of capacities.

Based on concrete investors' requests, preparation of planning projects would provide location summary of planning and ground level conception (planning-architectural conception of development the area with all necessary infrastructure) as well as exact terms and conditions regarding fencing of subject sub-whole.

General requirements covering fencing of a building parcel are given in chapter 3.1.

4.6 RULES AND REQUIREMENTS FOR UNHINDERED MOVEMENT OF HANDICAPPED AND DISABLES PERSONS

Main function of the Working Zone in Block No. 96 in Indjija is production and handling of large quantities of various cargos and goods and, resultantly, access and movement of disables persons can be expected only in entrance/exit parts of working complexes, management/business facilities and commercial/service activities.

In the specified parts of the complex, adequate pedestrian/bicycle paths should be envisaged with ramps on de-levelled points between different categories of traffic-ridden surfaces which would provide conditions for unhindered movement of disabled persons. For the same reasons, for building structures which ground floor level is de-levelled in respect of the level of adjacent foot-walks in addition to stairs also ramp approaches should be envisaged for movement of handicapped persons in wheel-chairs as well adequate doors at all entrances to planned buildings.

It is also necessary to provide certain number of parking spaces for the above mentioned persons including suitable ramps.

5. ESTIMATE OF FUNDS REQUIRED FOR THE DEVELOPMENT OF TRAFFIC AND PUBLIC COMMUNAL INFRASTRUCTURE

Traffic Infrastructure

Roads	Type of works	Area m^2	Unit price RSD / m^2	Total price RSD
Public building land				
Collector road	construction	8 923	4,500.00	40,154,400.00
Intersections (roundabout)	construction	2 073	4,500.00	9,328,500.00
Total				**49,482,900.00**

Other building land				
Access road	construction	36 900	4,500.00	166,050,000.00
Intersections (roundabout)	construction	1 900	4,500.00	8,550.000,00
Pedestrian areas	construction	15 064	3,000.00	45,192,000.00
Parking areas	construction	13 212	3,000.00	39,636,000.00
Total				**259,428,000.00**

Total				**308,910,900.00**

- Construction of traffic-ridden surfaces within the collector and access roads is 4,500.00 din/m^2
- Construction of pedestrian and parking areas is 3,000.00 din/m^2

Water management infrastructure

Water management infrastructure on public building land	Type of works	Length m	Unit price RSD / m	Total price RSD
Water supply reticulation	excavation, material, laying, facilities in the reticulation	2 630	4,200.00	11,000,000.00
Waste water sewerage	excavation, material, laying, facilities in the reticulation	1 250	7,200.00	9,000,000.00
Rain water sewerage	excavation, material, laying, facilities in the reticulation	2 500	9,500.00	23,000,000.00
Total				**44,750,000.00**

Water management infrastructure on other building land	Type of works	Length m	Unit price RSD / m	Total price RSD
Water supply reticulation	excavation, material, laying, facilities in the reticulation	3 300	4,200.00	13,800,000.00
Waste water sewerage	excavation, material, laying, facilities in the reticulation	3 400	7,200.00	24,200,000.00
Rain water sewerage	excavation, material, laying, facilities in the reticulation	1 100	9,500.00	10,450,000.00
Total				**48,250,000.00**

Price includes excavation, material as well as valve chambers and manholes in the reticulation.

Electric power infrastructure

Electric power infrastructure on public building land	Type of works	Total price RSD
TS 20/0.4 kV	construction	2,500,000.00
20 kV network	construction	8,500,000.00
Low voltage network and public lighting	construction	2,600,000.00
Total		**13,600,000.00**

Electric power infrastructure on other building land	Type of works	Total price RSD
TS 20/0.4 kV	construction	5 x 2,500,000.00
20 kV network	construction	7,000,000.00
Low voltage network and public lighting	construction	6,000.000,00
Total		**25,500,000.00**

Thermal power infrastructure

Gas pipeline infrastructure on public building land	Type of works	Length m	Unit price RSD / m	Total price RSD
Distribution gas pipeline	construction	1 300	640.00	830,000.00
Total				**830,000.00**

Gas pipeline infrastructure on other building land	Type of works	Length m	Unit price RSD / m	Total price RSD
Steel gas pipeline	construction	130	2,000.00	260,000.00
Distribution gas pipeline	construction	4 500	640,00	2,880,000.00
Reducing gas odorising station, capacity 1600 m^3/h	construction	-	-	2,800,000.00
Total				**5,940,000.00**

Telecommunication infrastructure

Telecommunication infrastructure on public building land	Type of works	Total price RSD
Telecommunication network	construction	2,000,000.00
Total		**2,000,000.00**

Telecommunication infrastructure on other building land	Type of works	Total price RSD
Telecommunication network	construction	1,000,000.00
Total		**1,000,000.00**

Total cost of the development of public roads and utility equipping of public areas is approximate and is estimated to amount RSD 449,780,900.00.

6. STAGES (PHASES) OF IMPLEMENTATION OF THE PLAN

Preparation is necessary of a zoning plan covering parcelling and development which would define exact parcels proposed by this Plan of public and other building land, as well as precise organisation of individual parcels in accordance with requirements of technological processes.

Upon completion of design/technical documentation, preparation of the ground will follow (clearing, filling, draining) and equipping of the land.

Due to the specific nature of the planned contents which users are still unknown, preparation is obligatory of town-planning designs which would define individual contents in the planned zones (on the basis of preliminary designs based on exact technological flow sheets which will be defined by interested users).

Implementation of the Plan in the stages defined as above may undergo changes in practice, however, it is for sure that even the stages will be carried out in phases – scope of development in each of the proposed phases will be defined in detail by preliminary and final designs.

ABSTRACT FROM THE MASTER PLAN OF INDJIJA

…

3. RULES OF THE DEVELOPMENT OF PHYSICAL STRUCTURE OF SETTLEMENT AS PER PLANNED EARMARKED USE AND FUNCTIONS

3.3 WORKING ZONES

… "Economic development of Indjija will be, in addition to revival and continuance of existing production activities, based on the development of various production contents connected with local production material background or programs connected with big industrial producers. Although presently there are still no concrete programs in this respect, the Plan should provide more significant surfaces for the development of various production contents within existing north-east (blocks No. 11, 35, 36 and 37) and south-east (blocks No. 91 and 92) working zone, as well as planned extensions (blocks No. 90, 93, 94, 95, 96, 97 and in block No. 23/1) in order to prevent the lack of adequate space to be obstacle for further development once the need for such space is expressed. These zones avail of necessary general and specific factors of attractiveness which are reflected in their favourable location in respect of the town, option for communal equipping and development of common auxiliary facilities, well served traffic, possibilities of communal equipping and providing with utility and other infrastructural systems, etc." …

Working zones

… "Working zones should be established in accordance with the present and future in-terms-of-space functional structure of the settlement, technological interconnection of individual production units, and, at the same time, also in accordance with basic infrastructural systems of the settlement. Within one zone companies should be grouped which are technologically interconnected, which have similar level of harmful effect on environment, and have similar demands in respect of obtaining transportation and other services." …

…"In working zones should be located production capacities with large space requirements and larger-scope transportation, as well as capacities which from the point of environmental protection are not compatible with the living in and functions of the town centre. **Smaller production capacities of tertiary activities should be directed to the south-east zone while in the north-east working zone options in-terms-of-space should be provided for development of big industrial complexes." …**

5. MEASURES FOR IMPLEMENTATION AND REALISATION OF THE MASTER PLAN*

… "Preparation of detailed plans:

The present Plan has set the obligation of preparation of detailed plans for:

- Not built upon parts of building areas on which development of public facilities are planned;
- Not built upon parts of building areas on which development of new roads and public infrastructure are planned.

On the basis of specified criteria, the present Plan sets the obligation of preparation of the following plans of detailed regulation for (whole or parts of) blocks:
3, 3/1 (in the part of residential dwelling), 4, 9/1, 19, 23, 27, 28, 38 (in part of the block), 42, 45, 56, 70, 73, 81 (in the part next to the stream), 93, 94, 95, 96, and 97." …

5.1 DESCRIPTION OF THE BLOSKS

…"In order for continuity to be established in the implementation of basic physical planning concepts of the Master Plan it is necessary to carry out their territorial division into individual wholes in terms of space which will the object of further planning elaboration. In this respect, the entire territory of the settlement is divided into territorial wholes – blocks which have been designated with numbers; for each block (or a group of blocks) instructions are given which will more closely determine its further elaboration and implementation of the Plan in the given area." …

… Blocks No. 93, 94, 95, 96 AND 97	Earmarked for working zones (for larger working complexes). Prior to further area development, further planning elaboration is obligatory, namely preparation of a Detailed Regulation Plan and town planning designs. ….

Detailed Regulation Plan for Block No. 96 in Indjija (North-East Working Zone) is signed, sealed and filed in accordance with the Law on Planning and Development, and the Book of Rules of the Method of Insight into Passed Zoning Plan, Approval, Signing, Delivery, Filing, Multiplication, and Making Available the Zoning Plan Subject to Fee Payment ("Official Gazette of RS", No. 75/03).

Detailed Regulation Plan for Block No. 96 in Indjija (North-East Working Zone) has been made in 7 (seven) copies in analogue and 8 (8) copies in digital format.

One copy of the adopted signed and sealed Detailed Regulation Plan for Block No. 96 in Indjija (North-East Working Zone) in analogue form and one copy in digital format is kept in the Records Office of the Municipality Assembly.

Three copies of the adopted signed and sealed Detailed Regulation Plan for Block No. 96 in Indjija (North-East Working Zone) in analogue form and three copies in digital format are kept in the municipal administration body competent for implementation of the Plan.

Two copies of the adopted signed and sealed Detailed Regulation Plan for Block No. 96 in Indjija (North-East Working Zone) in analogue form and two copies in digital format are kept at the Investor M.P. Versil Legno.

One copy of the adopted signed and sealed Detailed Regulation Plan for Block No. 96 in Indjija (North-East Working Zone) in analogue form and one copy in digital format is kept at P.C "Planning Institute of Vojvodina", Novi Sad, Zeleznicka 6/III.

One copy of the adopted signed and sealed Detailed Regulation Plan for Block No. 96 in Indjija (North-East Working Zone) in analogue form and one copy in digital format is kept in the Ministry responsible for planning affairs.

Detailed Regulation Plan for Block No. 96 in Indjija (North-East Working Zone) shall enter into force on the eight day from the date of publishing in the "Official Gazette of the Municipalities of Srem", No. 20/07.

Republic of Serbia
Autonomous Province of Vojvodina
Municipality of Indjija
Assembly of Indjija Municipality

Number

Date

Chairperson