Description of Existing Intake Facilities

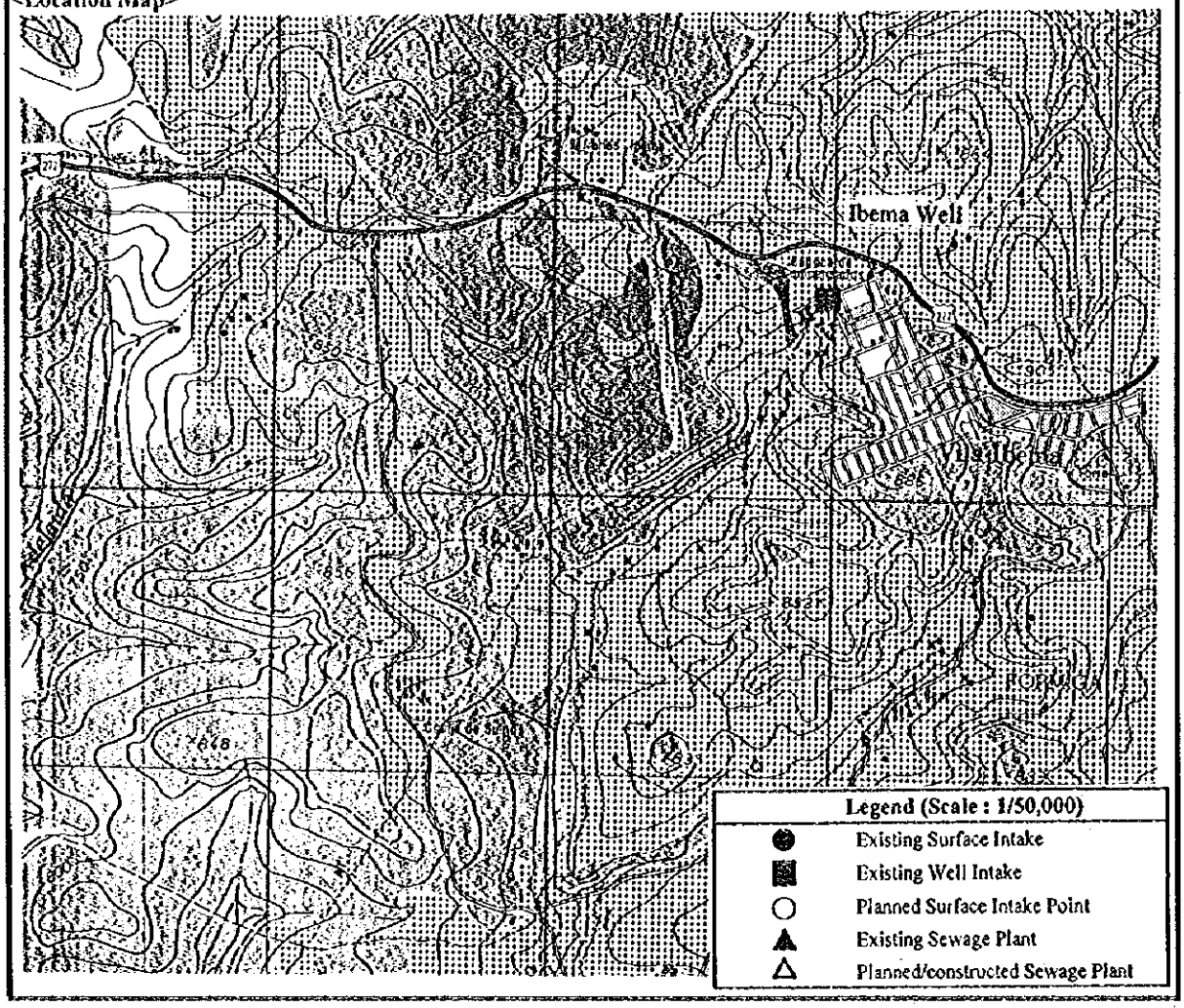
No./Name				
Ibema (Well) (Ibema)				
<Location>				
Basin	**Source**	**Municipality**	**Proprietor**	**Others**
Iguacu		Ibema	SANEPAR	

<Description of System>				
Intake Method	**Intake Rate (Operation hour)**	**Supply System**	**Supply Connection**	**Operation Year**
Groundwater	27.90 (15.8 hours/day)			
Direct from 1 well	35.00 (Design rate) (m3/hour)	Ibema Area	4,534 (inhabitants)	Aug.1993 (date of drilling)

<Description of Pipeline>					
Length	**Diameter**	**Depth of Well**	**Intake Pump**	**Intermediate Pump**	**Others**
			1 pump		Water head of pipeline is 134 m
3 (km)	200 (mm)	150 (m)			Gross Water loss 34.9 %

<Future Plan / or Other informations, if any>

<Location Map>



Description of Existing Intake Facilities

No./Name	Cohab Inegrado Well (2 wells) (Londrina)			
<Location>				
Basin	Source	Municipality	Proprietor	Others
Tibagi	North Area	Londrina	SANEPAR	

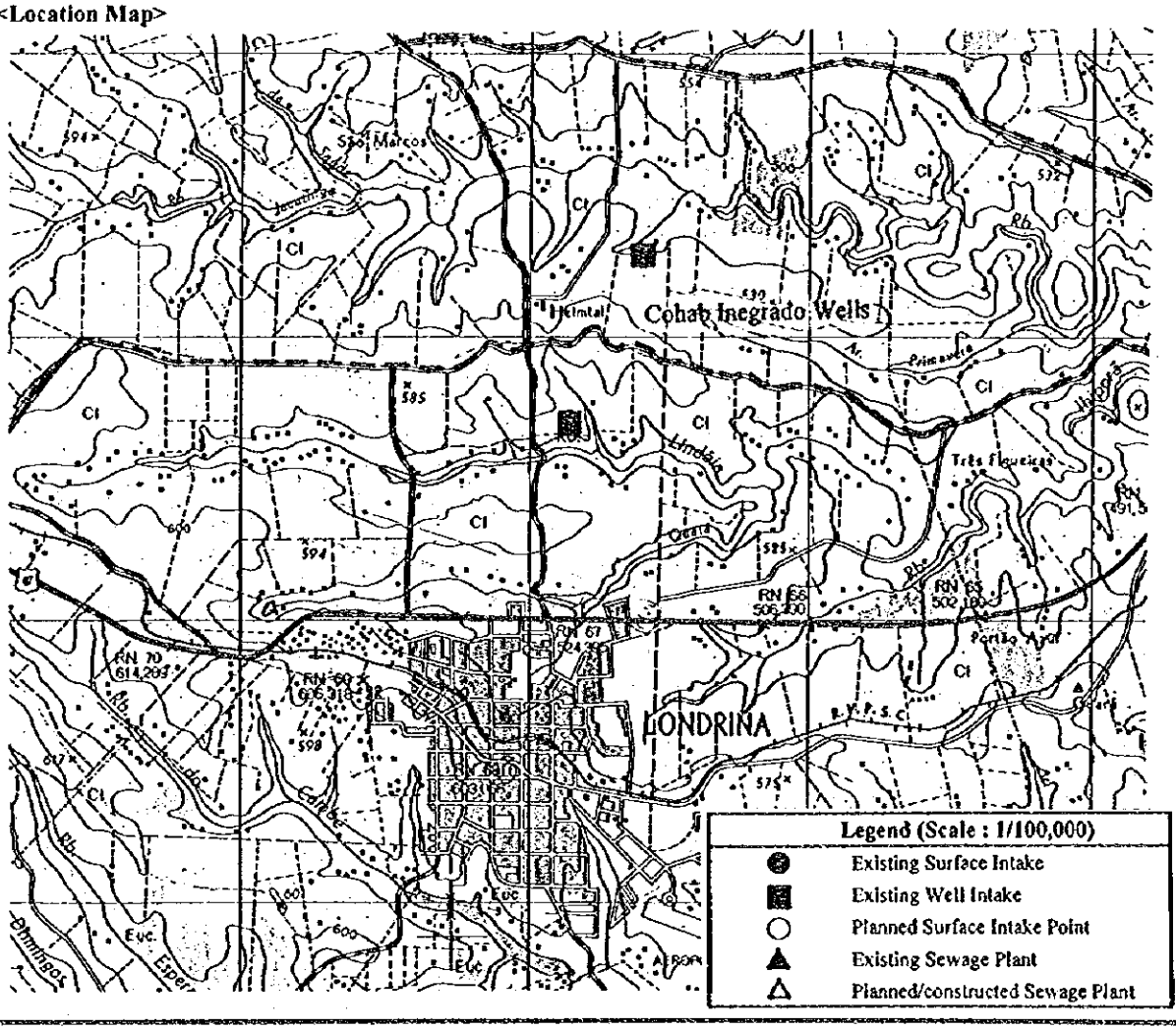
<Description of System>				
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Groundwater Direct from 2 well	105.00 (2 wells, Max.) (18 hours/day) (m3/hour)	North Area	(inhabitants)	

<Description of Pipeline>					
Length	Diameter	Depth of Well	Intake Pump	Intermediate Pump	Others
(km)	(inches)	(m)			

<Future Plan / or Other informations, if any>

2 wells were opearated before such as Vivi Xavier (1 well) and Sao Lourrenco (1 well), but no more operation.
Future wells are not considered by SANEPAR except for individual demand water by farmer or factory.
At present, 2 wells in Londrina and 3 wells in Cambe town are operating by SANEPAR.

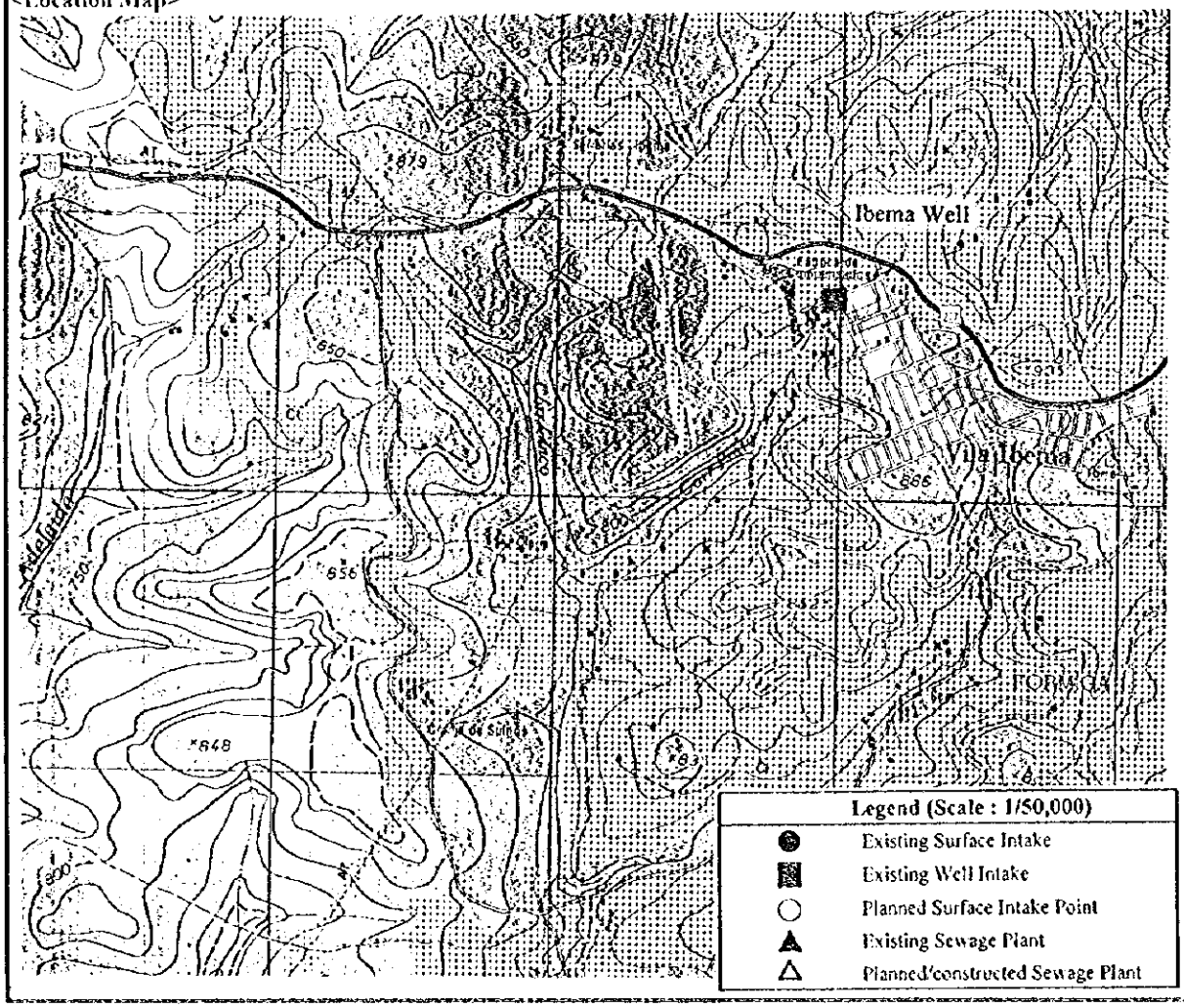
<Location Map>



Description of Existing Intake Facilities

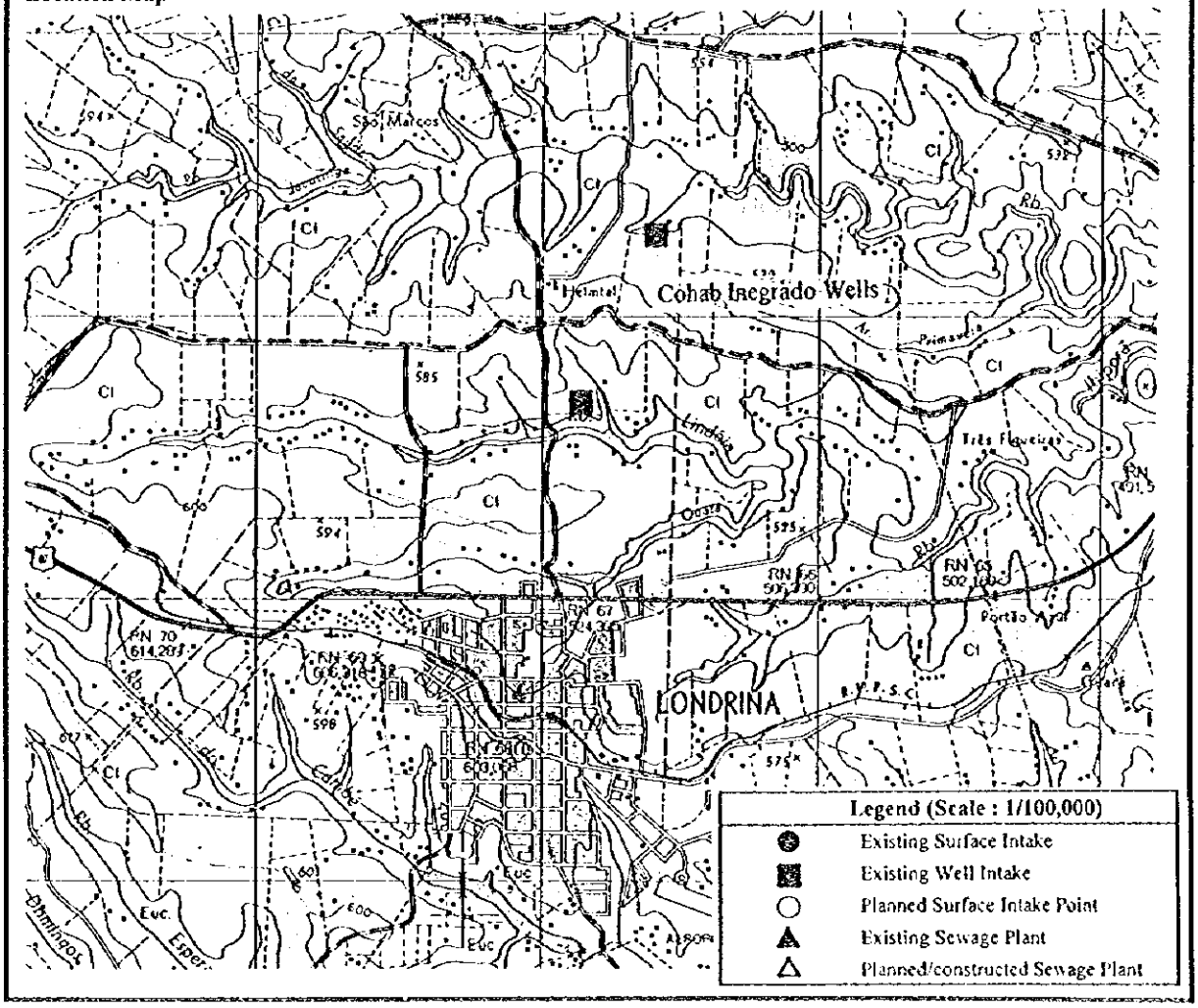
No./Name					
Ibema (Well) (Ibema)					
<Location>					
Basin	**Source**	**Municipality**	**Proprietor**	**Others**	
Iguacu		Ibema	SANEPAR		
<Description of System>					
Intake Method		**Intake Rate (Operation hour)**	**Supply System**	**Supply Connection**	**Operation Year**
Groundwater		27.90 (15.8 hours/day)			
Direct from 1 well		35.00 (Design rate)	Ibema Area	4,534	Aug.1993
		(m3/hour)		(inhabitants)	(date of drilling)
<Description of Pipeline>					
Length	**Diameter**	**Depth of Well**	**Intake Pump**	**Intermediate Pump**	**Others**
			1 pump		Water head of pipeline is 134 m
3	200	150			Gross Water loss 34.9 %
(km)	(mm)	(m)			
<Future Plan / or Other informations, if any>					

<Location Map>



Description of Existing Intake Facilities

No./Name					
Cohab Inegrado Well (2 wells) (Londrina)					
<Location>					
Basin	Source	Municipality	Proprietor	Others	
Tibagi	North Area	Londrina	SANEPAR		
<Description of System>					
Intake Method		Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Groundwater Direct from 2 well		105.00 (2 wells, Max.) (18 hours/day) (m3/hour)	North Area	(inhabitants)	
<Description of Pipeline>					
Length	Diameter	Depth of Well	Intake Pump	Intermediate Pump	Others
(km)	(inches)	(m)			
<Future Plan / or Other informations, if any>					
2 wells were opearated before such as Vivi Xavier (1 well) and Sao Lourrenco (1 well), but no more operation. Future wells are not considered by SANEPAR except for individual demand water by farmer or factory. At present, 2 wells in Londrina and 3 wells in Cambe town are operating by SANEPAR.					
<Location Map>					



Description of Existing Intake Facilities

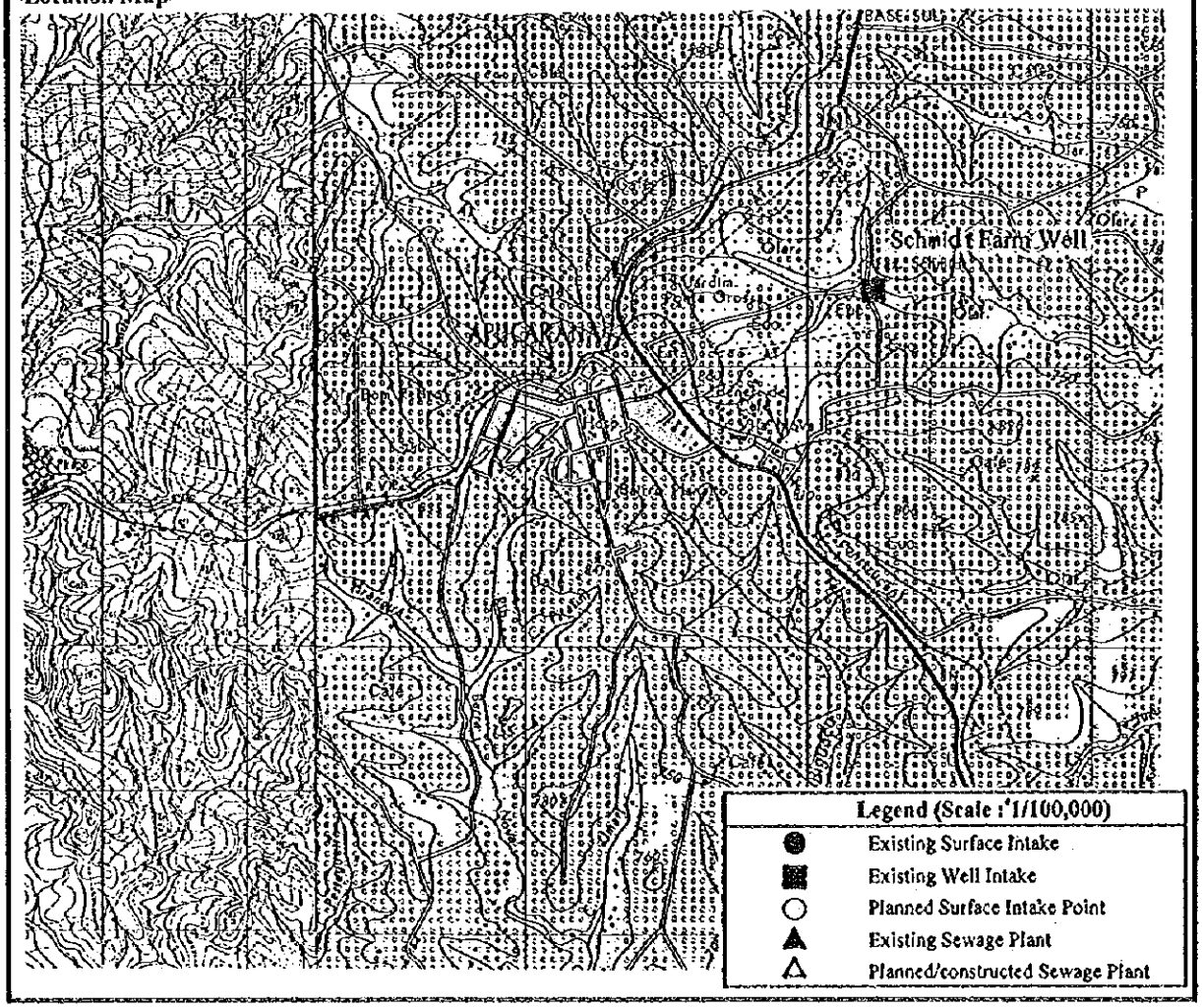
No./Name	Schmidt Farm Well (Fox water) (Apucarana)			
<Location>				
Basin	Source	Municipality	Proprietor	Others
Tibagi	Serra Geral	Apucarana	SANEPAR	

<Description of System>				
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Groundwater Direct from 1 well	94.00 (4 hours/day) (m3/hour)		4,000 (inhabitants)	1991

<Description of Pipeline>					
Length	Diameter	Depth of Well	Intake Pump	Intermediate Pump	Others
(km)	6 - 8 (inches)	150 (m)			Water Quality is good.

<Future Plan / or Other informations, if any>

<Location Map>



Description of Existing Intake Facilities

No./Name				
Ortigueira Well (Ortigueira)				
<Location>				
Basin	**Source**	**Municipality**	**Proprietor**	**Others**
Tibagi		Ortigueira	SANEPAR	Well locates near main reservor tank. (150 m away)

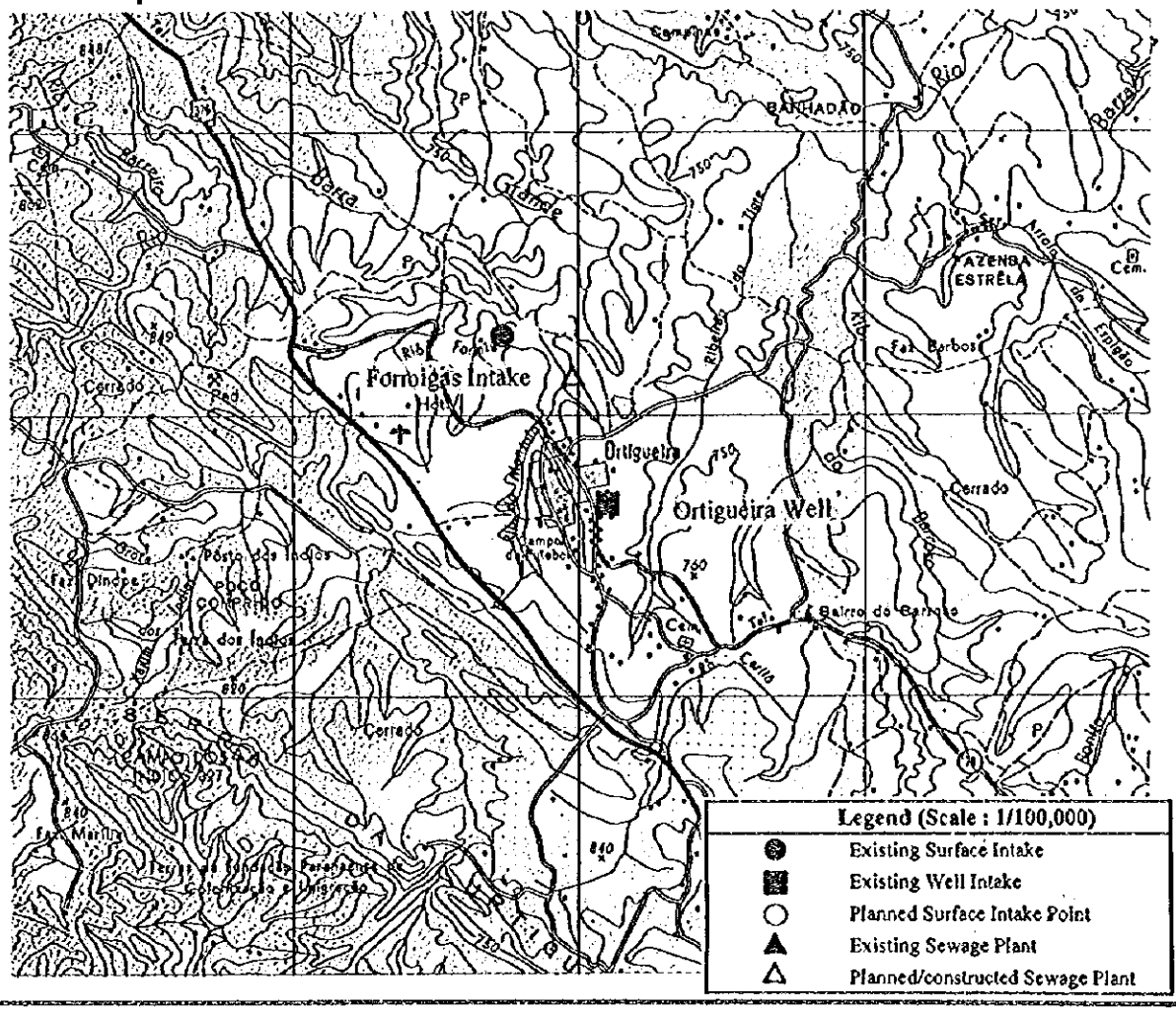
<Description of System>				
Intake Method	**Intake Rate (Operation hour)**	**Supply System**	**Supply Connection**	**Operation Year**
Groundwater Direct from 1 well	5.00 (10-12 h/day) (m3/hour)	Integrated sys. with Formigas intake	(1530) (inhabitants)	

<Description of Pipeline>					
Length	**Diameter Pipeline**	**Depth of Well**	**Intake Pump**	**Intermediate Pump**	**Others**
0.15 (km)	60 mm	36 (m)			

<Future Plan / or Other informations, if any>

There was one well at treatment plant, but it is not operated recently.

<Location Map>



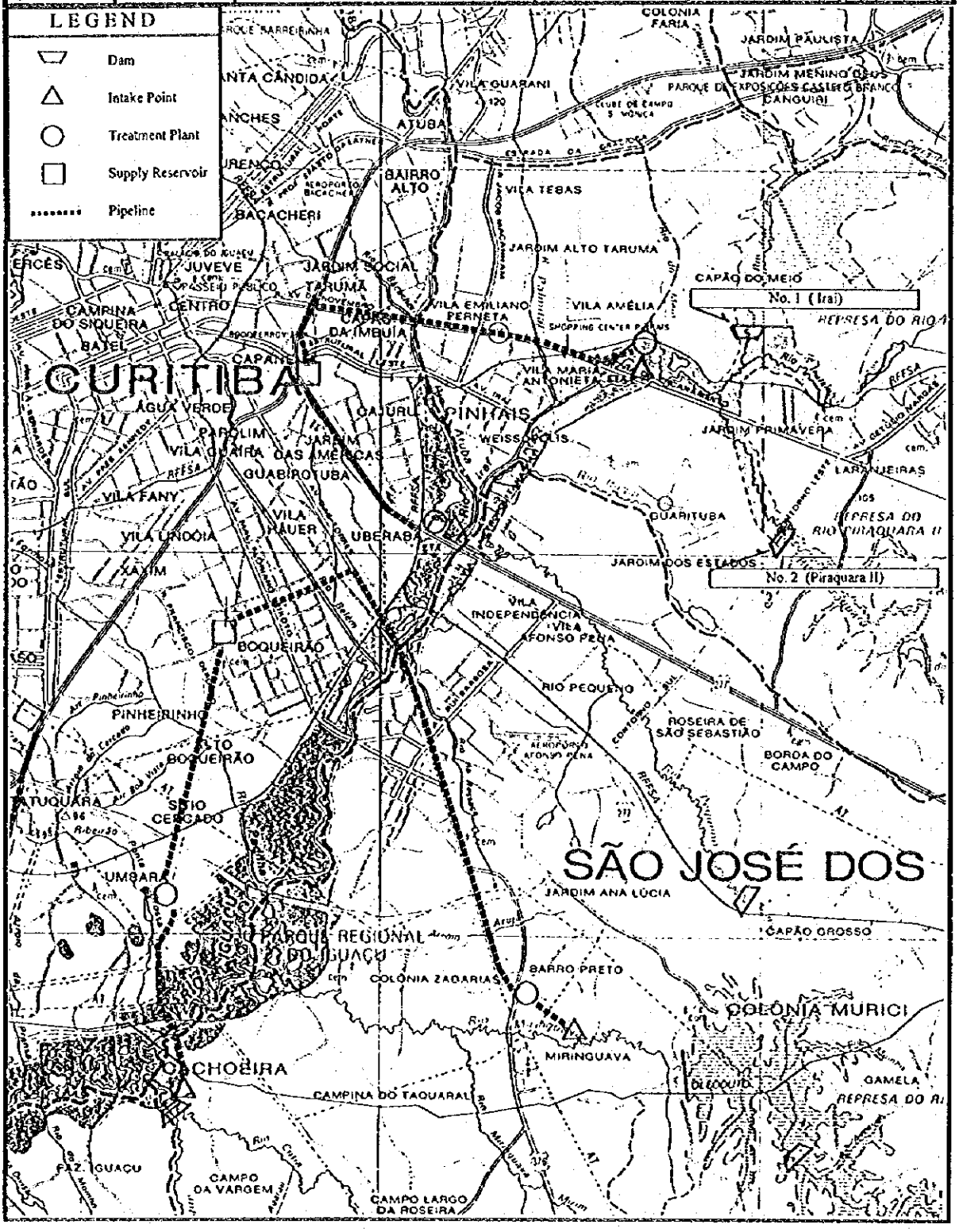
II-6 Planning Development Points in Iguaçu River Basin

Description of Planning Development Points

No. 1&2 (Irati,Piraquarait)						
(Location) X=686 Y=7185						
Basin	River		Municipality		Others	
Iguacu	Piraquara	Piraquara				
(Description of Development Method)						
Development Method		$Q_{10,7}$ x 50 %	Catchment Area	Supply Area	Supply house	Target Year
		0.46	226.6			
Direct Intake		(m^3/sec)	(km^2)	(km^2)	(houses)	
(Topographic Condition)						
EL.	Width	Riverbed	Riverbed Gradient	Foundation type/Others		
(m)	(m)					
(Land Use /Preservation Characteristics, at effected area of future reservoir)						
House	Agriculture	Industry	Others			
(Description of Facility)						
Height	Length	Crest EL.	Volume	Others		
(m)	(m)	(m)	(m^3)			
(Description of Pipeline)						
Head	Length	Diameter	Pumping capacity	Others		
(m)	15,000 (m)	(mm)	(kw)			

Location of Planning Development Points

No. 1 & 2 (Irai,Piraquara II)			Scale : 1 / 200,000
(Location)	X =686	Y=7185	
Basin	River	Municipality	Others
Iguacu	Piraquara	Piraquara	



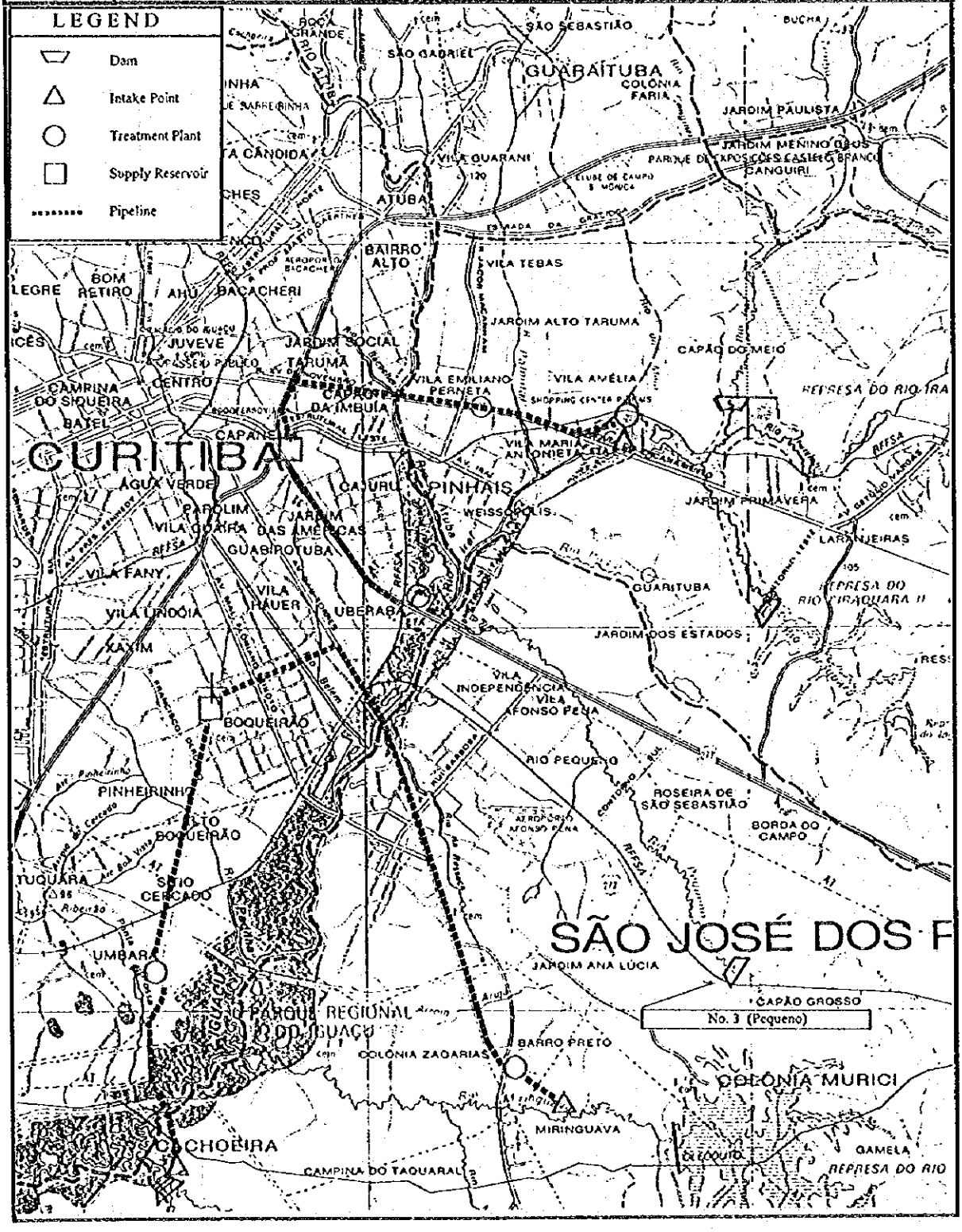
P-IGUACU.XLSMap

Description of Planning Development Points

No. 3 (Pequeno)					
(Location) X=681 Y=718					
Basin	River		Municipality		Others
Iguacu	Pequeno	Curitiba			
(Description of Development Method)					
Development Method	$Q_{10,7}$ x 50 %	Catchment Area	Supply Area	Supply house	Target Year
	0.255	110.0			
Direct Intake	(m^3/sec)	(km^2)	(km^2)	(houses)	
(Topographic Condition)					
EL.	Width	Riverbed	Riverbed Gradient	Foundation type/Others	
(m)	(m)				
(Land Use /Preservation Characteristics, at effected area of future reservoir)					
House	Agriculture	Industry	Others		
(Description of Facility)					
Height	Length	Crest EL.	Volume	Others	
(m)	(m)	(m)	(m^3)		
(Description of Pipeline)					
Head	Length	Diameter	Pumping capacity	Others	
(m)	8,000 (m)	(mm)	(kw)		

Location of Planning Development Points

No. 3 (Pequeno)			Scale : 1 / 200,000
(Location)	X =681	Y =7181	
Basin	River	Municipality	Others
Iguacu	Pequeno	Curitiba	



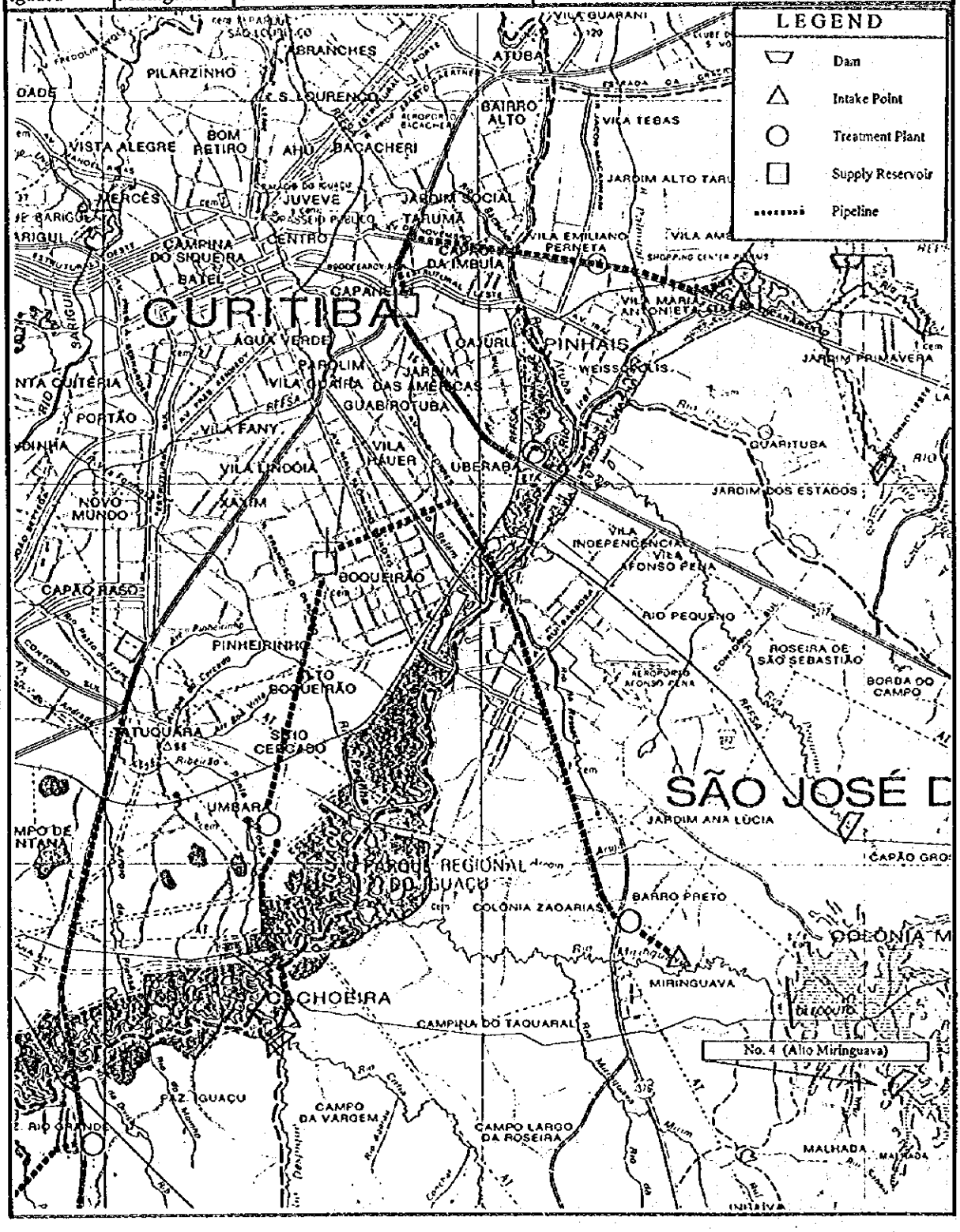
P-IGUACU.XLSMap

Description of Planning Development Points

No. 4 (Alto Miringuava)					
(Location) X=685 Y=7167					
Basin	River	Municipality	Others		
Iguacu	Miringuava	Sao Jose Dos Pinhais			
(Description of Development Method)					
Development Method	$Q_{10,7}$ x 50 %	Catchment Area	Supply Area	Supply house	Target Year
	0.195	97.1			
Direct Intake	(m^3/sec)	(km^2)	(km^2)	(houses)	
(Topographic Condition)					
EL.	Width	Riverbed	Riverbed Gradient	Foundation type/Others	
(m)	(m)				
(Land Use /Preservation Characteristics, at effected area of future reservoir)					
House	Agriculture	Industry	Others		
(Description of Facility)					
Height	Length	Crest EL.	Volume	Others	
(m)	(m)	(m)	(m^3)		
(Description of Pipeline)					
Head	Length	Diameter	Pumping capacity	Others	
(m)	23,500 (m)	(mm)	(kw)		

Location of Planning Development Points

No. 4 (Alto Miringuava)			Scale : 1 / 200,000
(Location)	X =685	Y =7167	
Basin	River	Municipality	Others
Iguacu	Miringuava	Sao Jose Dos Pinhais	



P-IGUACU.XLSMap

Description of Planning Development Points

No. 5 (Cotia Despique)

(Location) X=675 Y=7165

Basin	River	Municipality	Others
Iguacu	Cotia	Sao Jose Dos Pinhais	

(Description of Development Method)

Development Method	$Q_{10,7}$ x 50 %	Catchment Area	Supply Area	Supply house	Target Year
	0.21	154.7			
Dam Intake	(m^3/sec)	(km^2)	(km^2)	(houses)	

(Topographic Condition)

EL.	Width	Riverbed	Riverbed Gradient	Foundation type/Others
(m)	(m)			

(Land Use /Preservation Characteristics, at effected area of future reservoir)

House	Agriculture	Industry	Others

(Description of Facility)

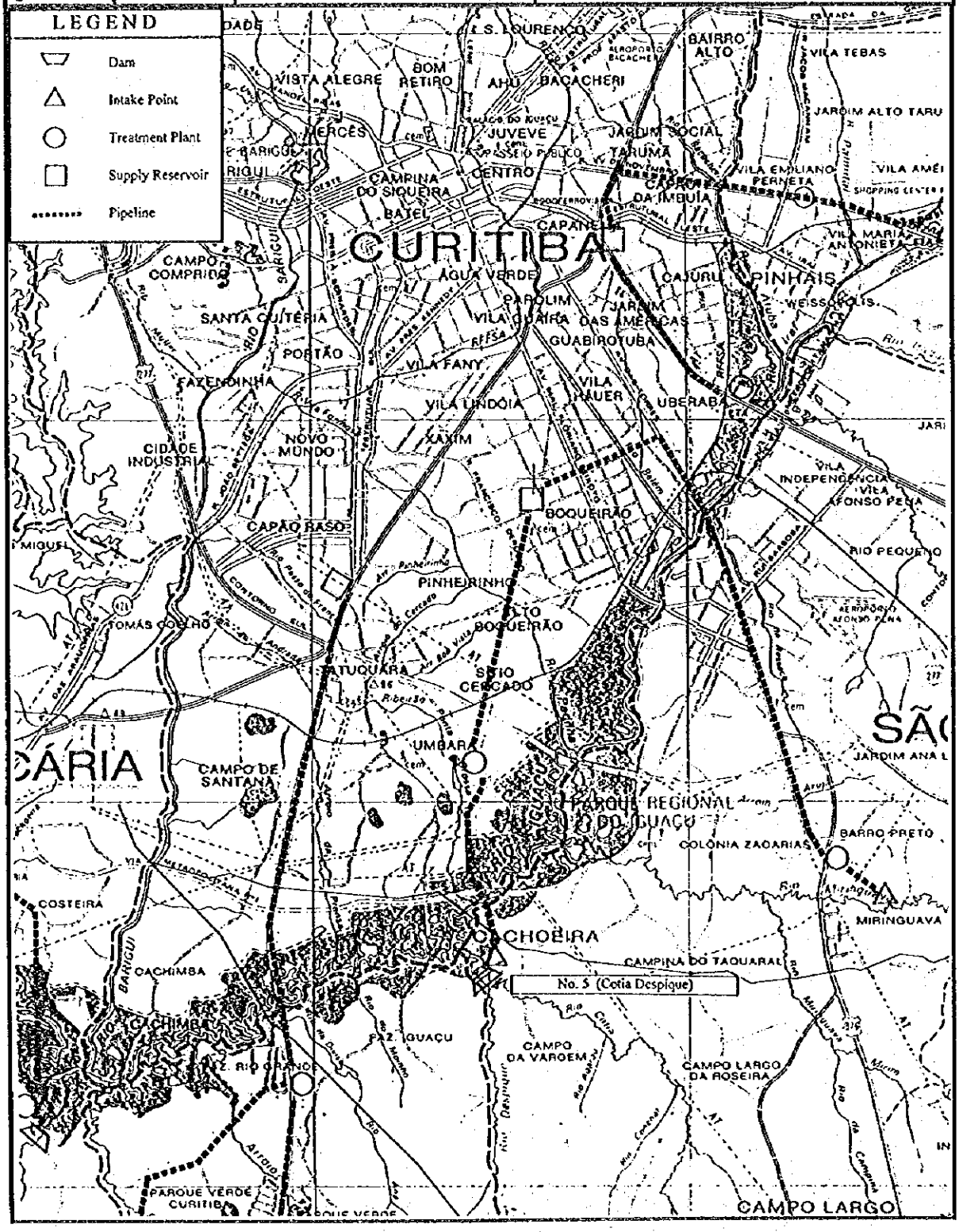
Height	Length	Crest EL.	Volume	Others
(m)	(m)	(m)	(m^3)	

(Description of Pipeline)

Head	Length	Diameter	Pumping capacity	Others
(m)	13,500 (m)	(mm)	(kw)	

Location of Planning Development Points

No. 5 (Cotia Despique)			Scale : 1 / 200,000
(Location) X =675	Y =7165		
Basin	River	Municipality	Others
Iguacu	Cotia	Sao Jose Dos Pinhais	



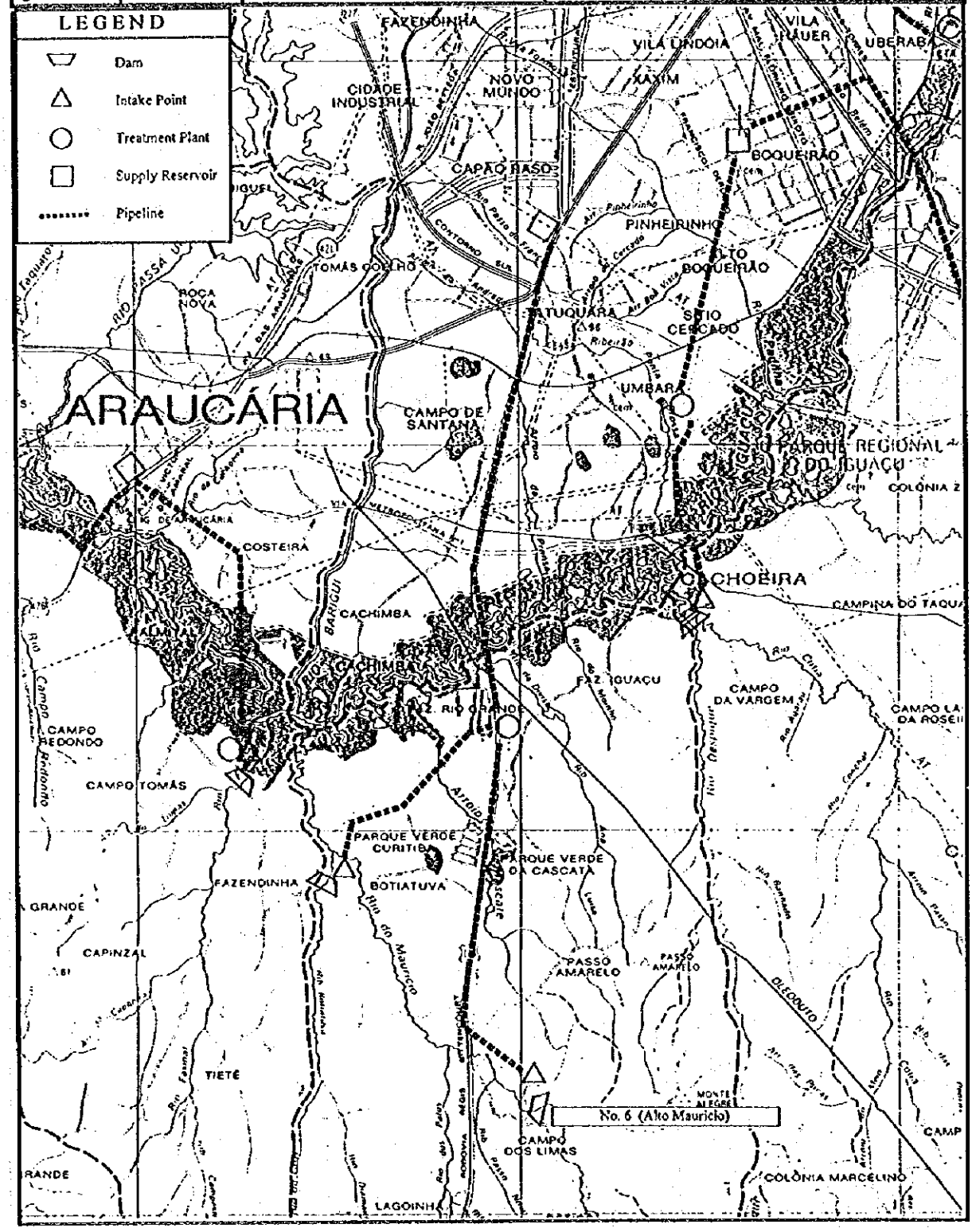
P-IGUACU.XLSMap

Description of Planning Development Points

No. 6 (Alto Mauricio)					
(Location) X=670 Y=7153					
Basin Iguacu	River Mauricio	Municipality Mandirituba	Others		
(Description of Development Method)					
Development Method	$Q_{10,7}$ x 50 % 0.05 (m^3/sec)	Catchment Area 36.0 (km^2)	Supply Area (km^2)	Supply house (houses)	Target Year
Dam Intake					
(Topographic Condition)					
EL. (m)	Width (m)	Riverbed	Riverbed Gradient	Foundation type/Others	
(Land Use /Preservation Characteristics, at effected area of future reservoir)					
House	Agriculture	Industry	Others		
(Description of Facility)					
Height (m)	Length (m)	Crest EL. (m)	Volume (m^3)	Others	
(Description of Pipeline)					
Head (m)	Length 32,000 (m)	Diameter (mm)	Pumping capacity (kw)	Others	

Location of Planning Development Points

No. 6 (Alto Mauricio)			Scale : 1 / 200,000
(Location)	X =670	Y =7153	
Basin	River	Municipality	Others
Iguacu	Mauricio	Mandirituba	



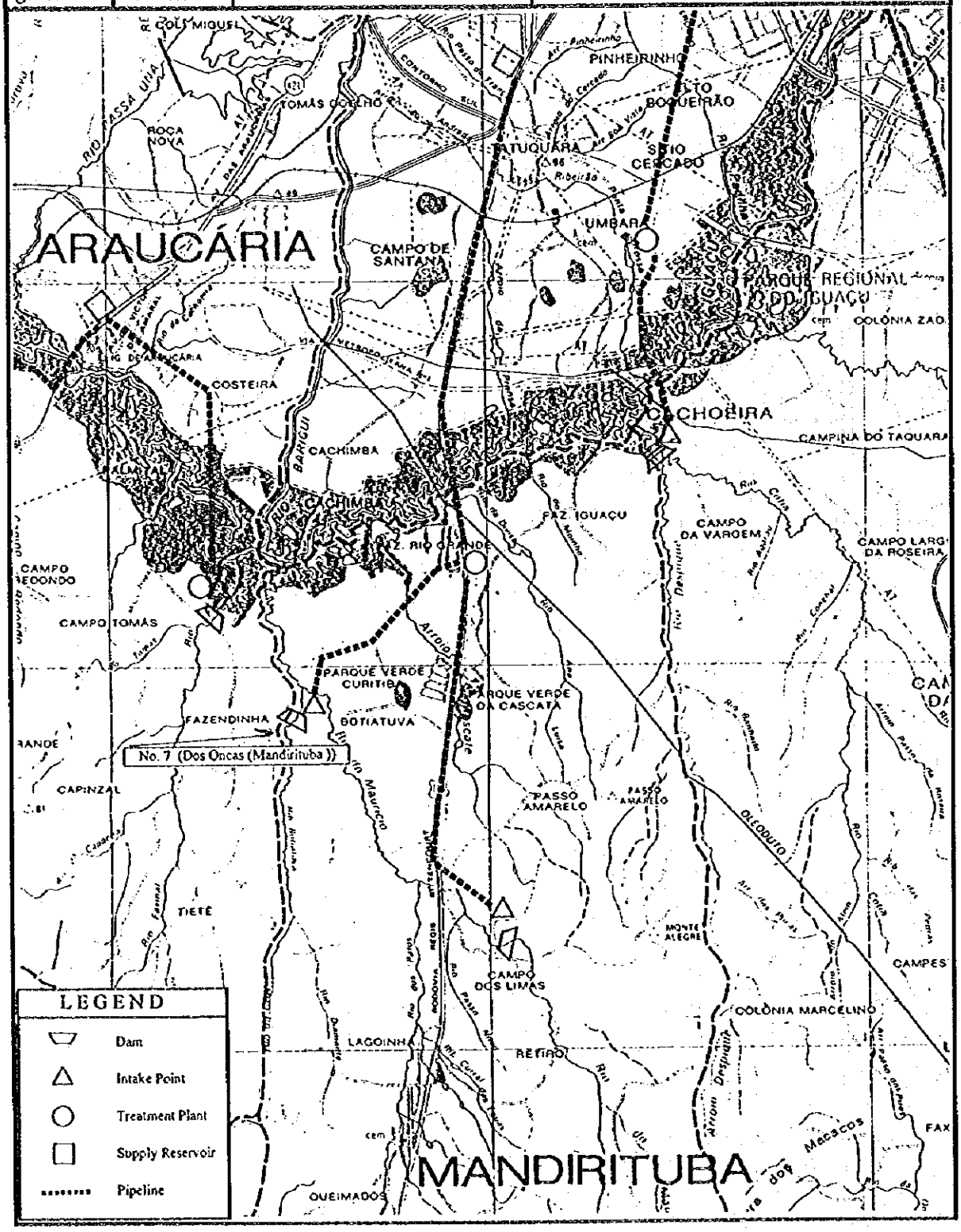
P-IGUACU.XLSMap

Description of Planning Development Points

No. 7 (Dos Oncas(Mandirituba))					
(Location) X=665 Y=7158					
Basin	River		Municipality		Others
Iguacu	Mauricio		Mandirituba		
(Description of Development Method)					
Development Method	$Q_{10,7}$ x 50 %		Catchment Area	Supply Area	Supply house	Target Year
	0.04		29.0			
Dam Intake	(m^3/sec)		(km^2)	(km^2)	(houses)	
(Topographic Condition)					
EL.	Width	Riverbed	Riverbed Gradient	Foundation type/Others	
(m)	(m)				
(Land Use /Preservation Characteristics, at effected area of future reservoir)					
House	Agriculture	Industry	Others		
(Description of Facility)					
Height	Length	Crest EL.	Volume	Others	
(m)	(m)	(m)	(m^3)		
(Description of Pipeline)					
Head	Length	Diameter	Pumping capacity	Others	
(m)	26,500 (m)	(mm)	(kw)		

Location of Planning Development Points

No. 7 (Dos Oncas (Mandirituba))			Scale : 1 / 200,000
(Location)	X =665	Y =7158	
Basin	River	Municipality	Others
Iguacu	Mauricio	Mandirituba	



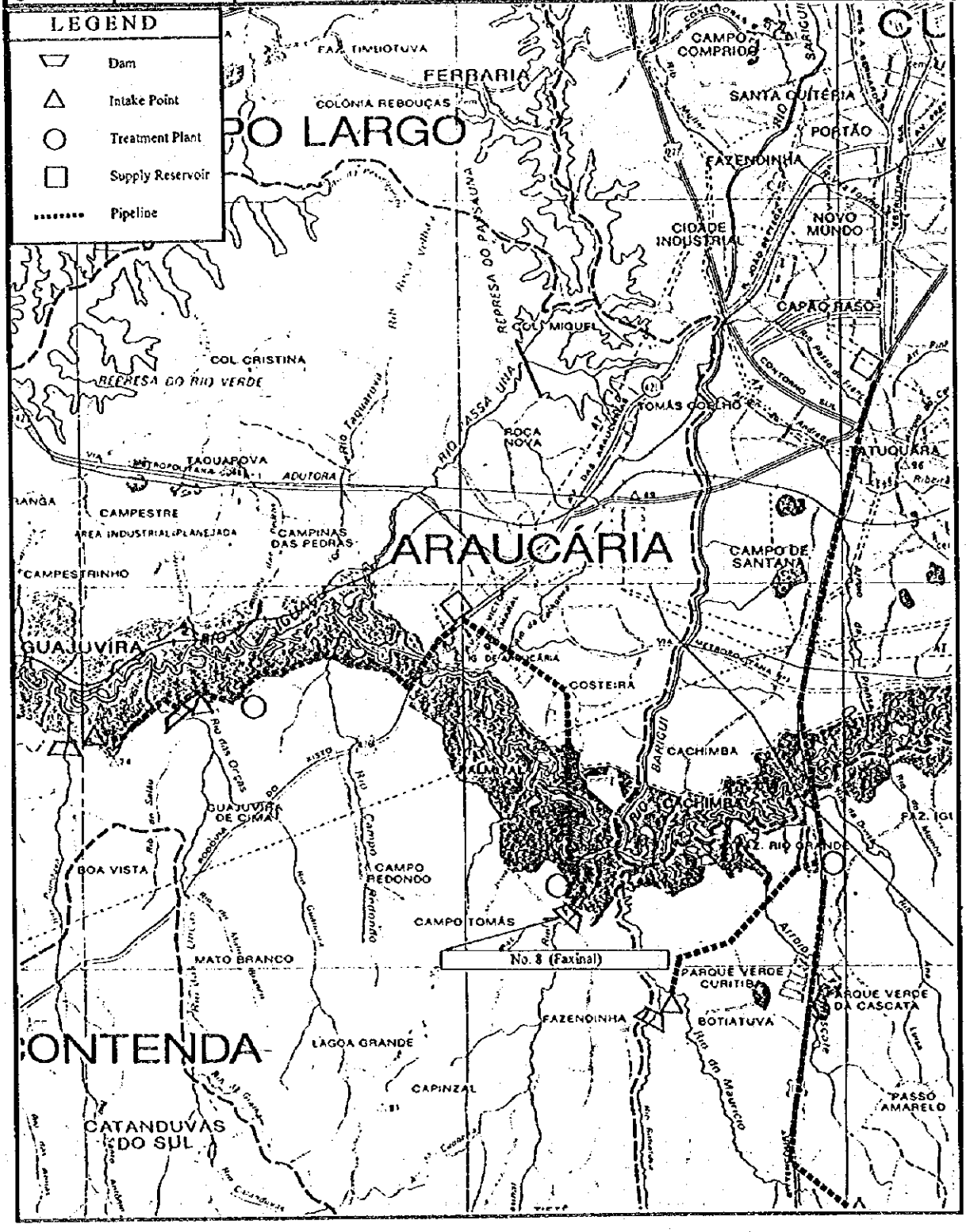
P-IGUACU.XLSMap

Description of Planning Development Points

No. 8 (Faxinal)					
(Location) X=663 Y=7162					
Basin	River		Municipality		Others
Iguacu	Faxinal		Araucaria		
(Description of Development Method)					
Development Method		$Q_{10,7}$ x 50 %	Catchment Area	Supply Area	Supply house	Target Year
		0.085	63.3			
Dam Intake		(m^3/sec)	(km^2)	(km^2)	(houses)	
(Topographic Condition)						
EL.	Width	Riverbed	Riverbed Gradient	Foundation type/Others		
(m)	(m)					
(Land Use /Preservation Characteristics, at effected area of future reservoir)						
House	Agriculture	Industry	Others			
(Description of Facility)						
Height	Length	Crest EL.	Volume	Others		
(m)	(m)	(m)	(m^3)			
(Description of Pipeline)						
Head	Length	Diameter	Pumping capacity	Others		
(m)	13,000 (m)	(mm)	(kw)			

Location of Planning Development Points

No. 8 (Faxinal)			Scale : 1 / 200,000
(Location)	X =663	Y =7162	
Basin	River Corrego	Municipality	Others
Iguaçu	Faxinal	Araucaria	



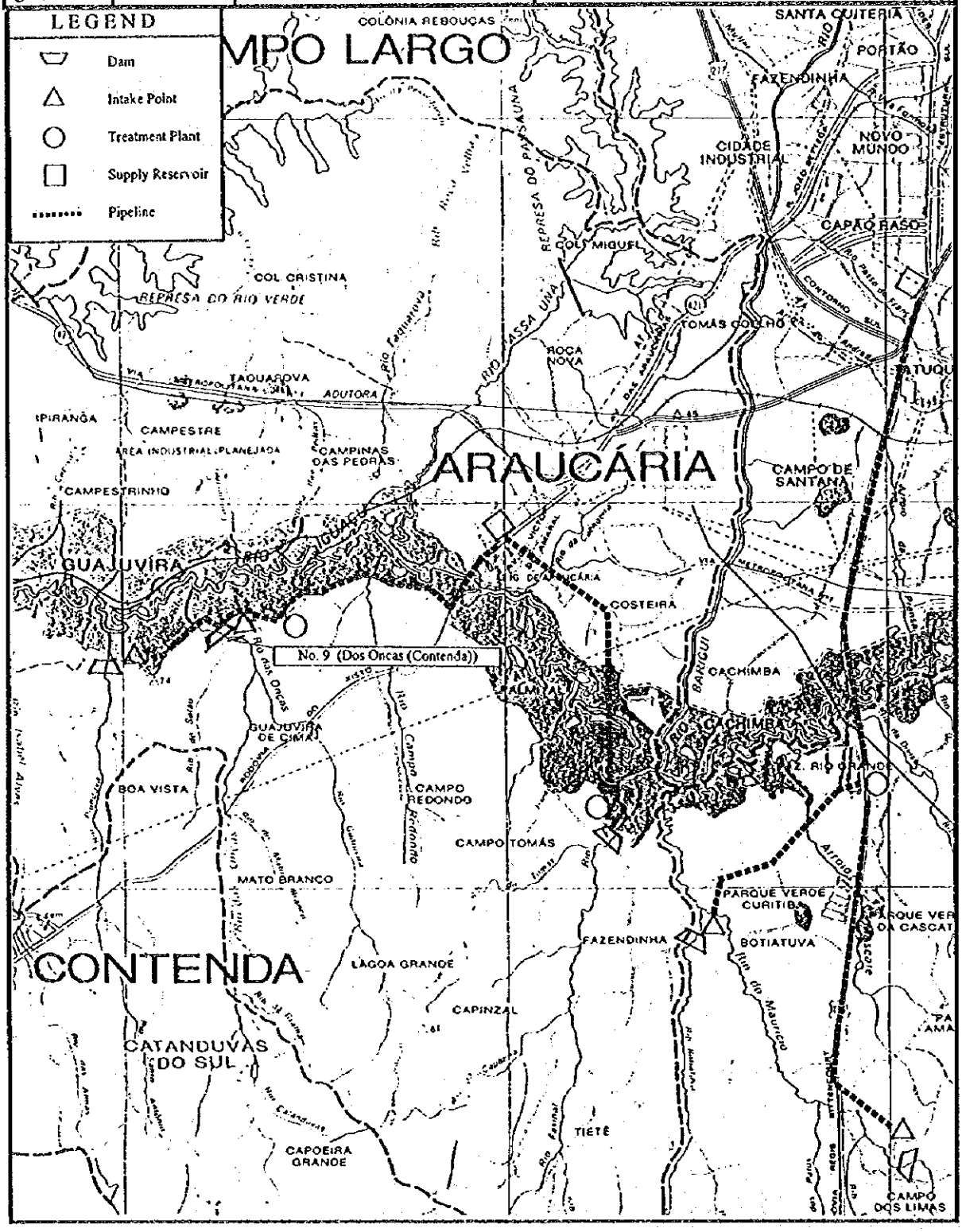
P-IGUACU.XLSMap

Description of Planning Development Points

No. 9 (Dos Oncas(Contenda))					
(Location) X=653 Y=7167					
Basin	River		Municipality		Others
Iguacu	Dos Oncas		Araucaria		
(Description of Development Method)					
Development Method	$Q_{10,7}$ x 50 %		Catchment Area	Supply Area	Supply house	Target Year
	0.1		75.6			
Dam Intake	(m^3/sec)		(km^2)	(km^2)	(houses)	
(Topographic Condition)						
EL.	Width	Riverbed	Riverbed Gradient	Foundation type/Others		
(m)	(m)					
(Land Use /Preservation Characteristics, at effected area of future reservoir)						
House	Agriculture	Industry	Others			
(Description of Facility)						
Height	Length	Crest EL.	Volume	Others		
(m)	(m)	(m)	(m^3)			
(Description of Pipeline)						
Head	Length	Diameter	Pumping capacity	Others		
(m)	13,000 (m)	(mm)	(kw)			

Location of Planning Development Points

No. 9 (Dos Oncas (Contenda))			Scale : 1 / 200,000
(Location) X =653	Y =7167		
Basin	River	Municipality	Others
Iguacu	Dos Oncas	Araucaria	



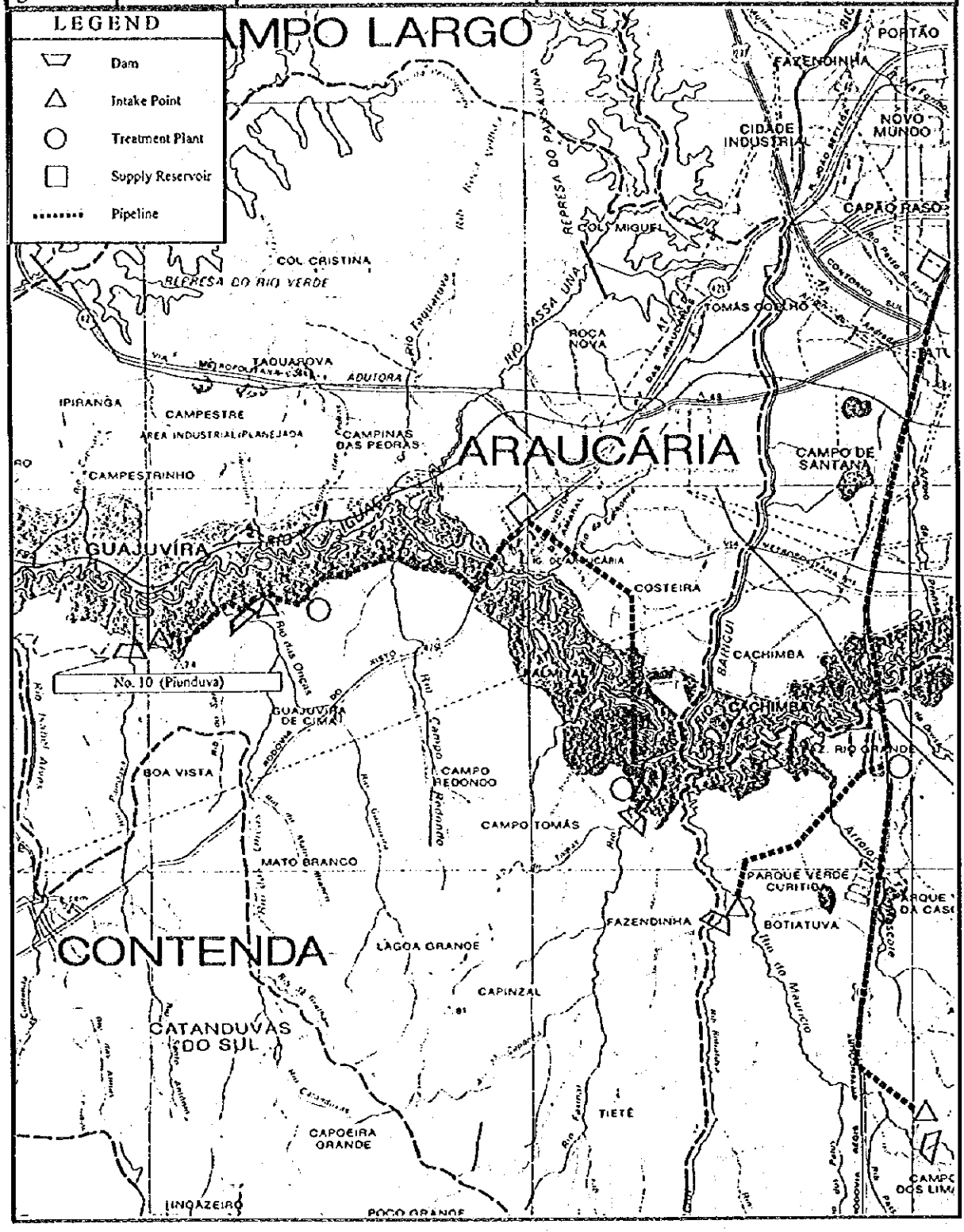
P-IGUACU.XLSMap

Description of Planning Development Points

No. 10 (Piunduva)					
(Location) X=650 Y=7166					
Basin	River		Municipality		Others
Iguacu	Piunduva		Arancaria		
(Description of Development Method)					
Development Method	$Q_{10,7}$ x 50 %	Catchment Area	Supply Area	Supply house	Target Year
	0.035	25.4			
Dam Intake	(m^3/sec)	(km^2)	(km^2)	(houses)	
(Topographic Condition)					
EL. (m)	Width (m)	Riverbed	Riverbed Gradient	Foundation type/Others	
(Land Use /Preservation Characteristics, at effected area of future reservoir)					
House	Agriculture	Industry	Others		
(Description of Facility)					
Height (m)	Length (m)	Crest EL. (m)	Volume (m^3)	Others	
(Description of Pipeline)					
Head (m)	Length 18,000 (m)	Diameter (mm)	Pumping capacity (kw)	Others	

Location of Planning Development Points

No. 10 (Piunduva)			Scale : 1 / 200,000
(Location)	X =650	Y =7166	
Basin	River	Municipality	Others
Iguacu	Piunduva	Arancaria	

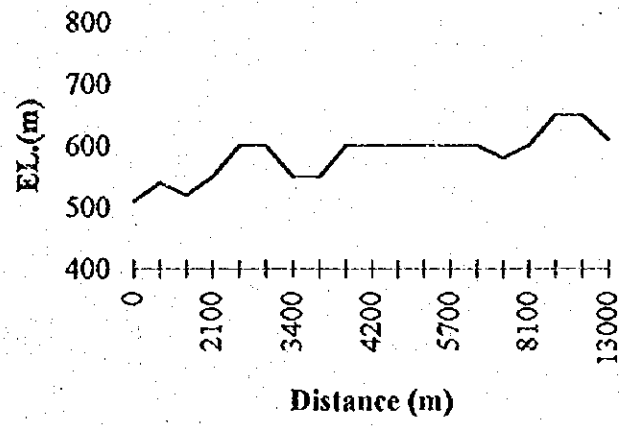


P-IGUACU.XLSMap

Description of Planning Development Points

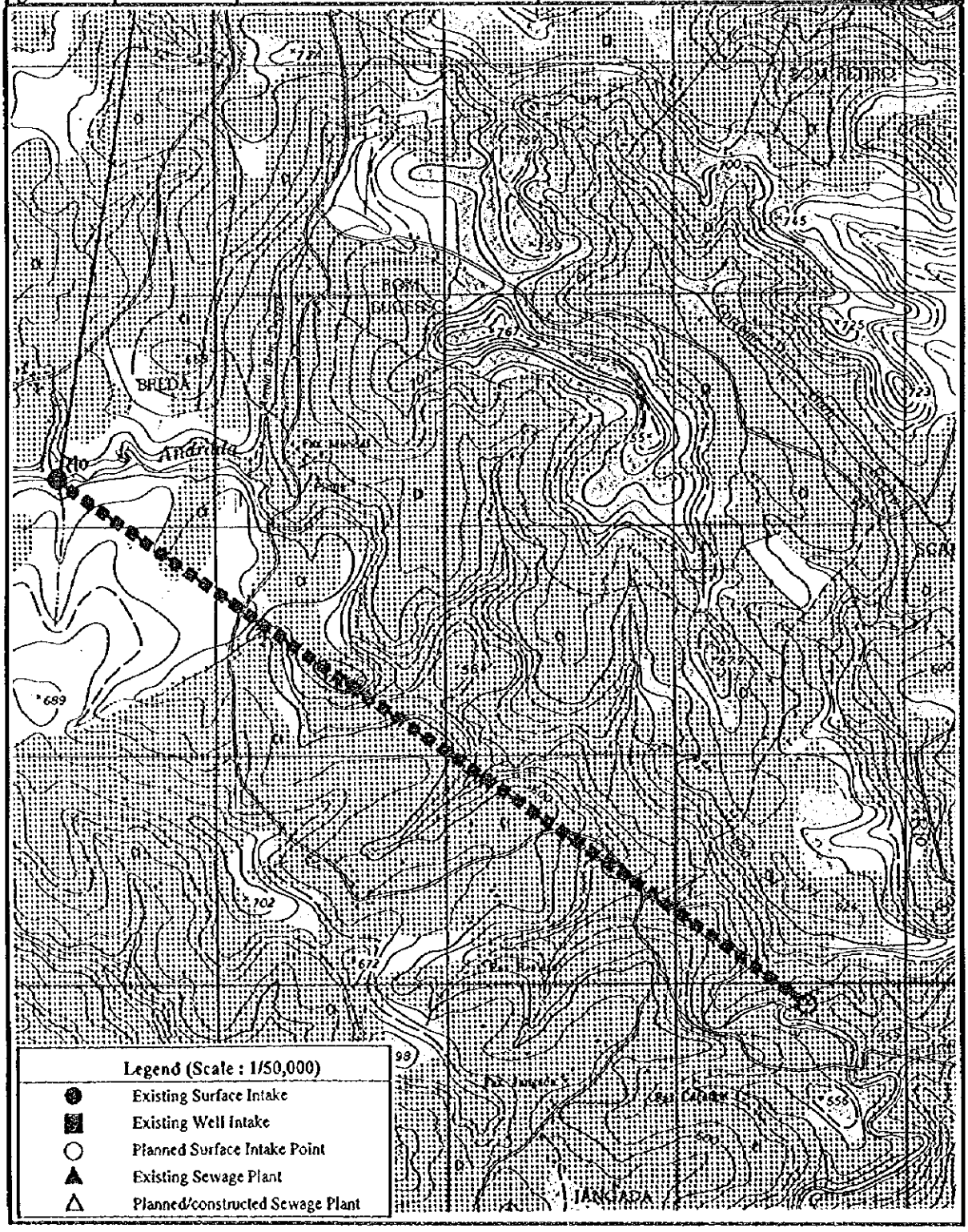
No. S-C1					
(Location) X=257 Y=7224					
Basin Iguacu	River Rio Sao Jose		Municipality Cascavel		Others
(Description of Development Method)					
Development Method	$Q_{10,7}$ x 50 % 0.3 (m^3/sec)	Catchment Area 145 (km^2)	Supply Area (km^2)	Supply house (houses)	Target Year
Direct Intake					
(Topographic Condition)					
EL. 510 (m)	Width (m)	Riverbed	Riverbed Gradient	Foundation type/Others	
(Land Use /Preservation Characteristics, at effected area of future reservoir)					
House	Agriculture	Industry	Others		
(Description of Facility)					
Height (m)	Length (m)	Crest EL. (m)	Volume (m^3)	Others	
(Description of Pipeline)					
Head 100 (m)	Length 13,000 (m)	Diameter (mm)	Pumping capacity (kw)	Others	

Connect to Existing Intake System



Location of Planning Development Points

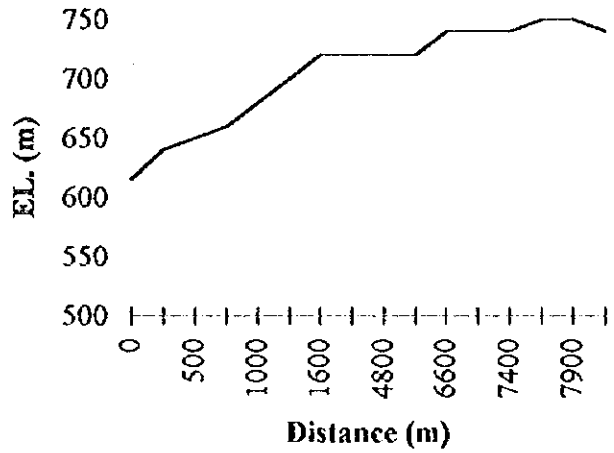
No. S-C1			Scale : 1 / 50,000
(Location)	X =257	Y =7224	
Basin	River	Municipality	Others
Iguacu	Rio Sao Jose	Cascavel	



P-IGUACU.XLSMap

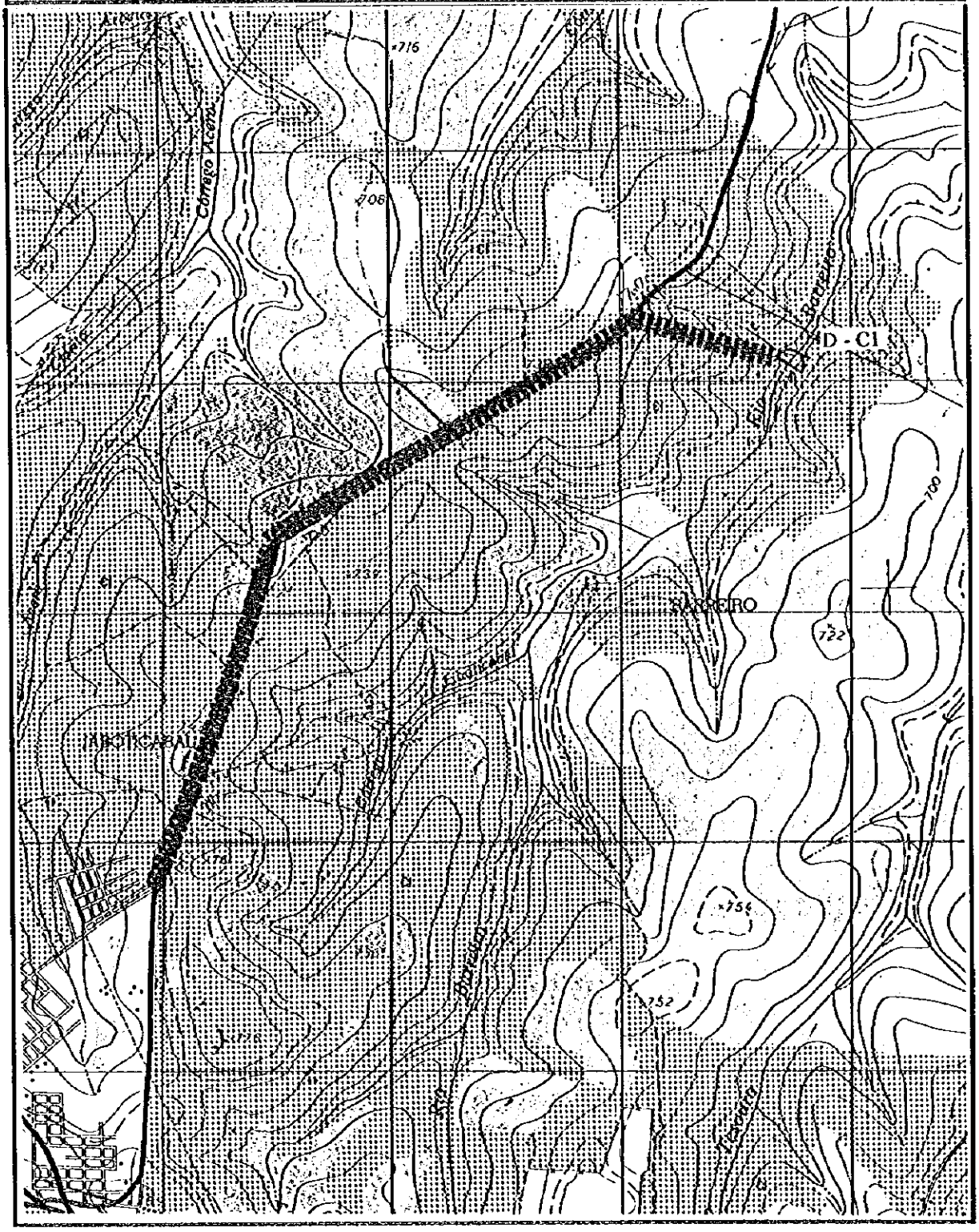
Description of Planning Development Points

No. D-C1					
(Location) X=264 Y=7244					
Basin Iguacu	River Barreiro		Municipality Cascavel		Others
(Description of Development Method)					
Development Method	Volume	Catchment Area	Supply Area	Supply house	Target Year
Dam Intake	0.55 (m^3/scc)	38.6 (km^2)	(km^2)	(houses)	
(Topographic Condition)					
EL. 618 (m)	Width (m)	Riverbed	Riverbed Gradient	Foundation type/Others	
(Land Use /Preservation Characteristics, at effected area of future reservoir)					
House	Agriculture	Industry	Others		
(Description of Facility)					
Height 24 (m)	Length 600 (m)	Crest EL. 642 (m)	Volume 799,000 (m^3)	Others	
(Description of Pipeline)					
Head 125 (m)	Length 8,200 (m)	Diameter (mm)	Pumping capacity (kw)	Others	



Location of Planning Development Points

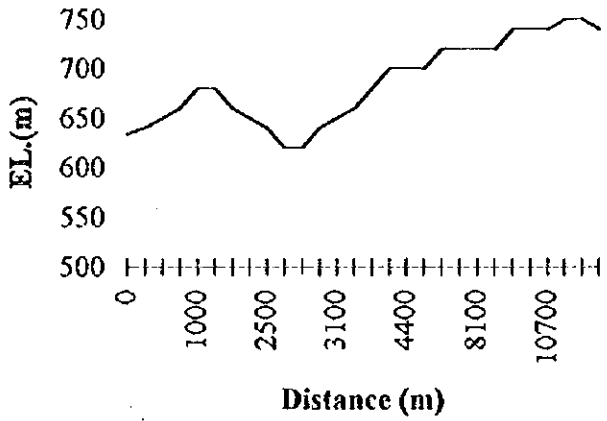
No.D - C1			Scale : 1 / 50,000
(Location)	X =264	Y =7244	
Basin	River	Municipality	Others
Iguacu	Barreiro	Cascavel	



P-IGUACU.XLSMap

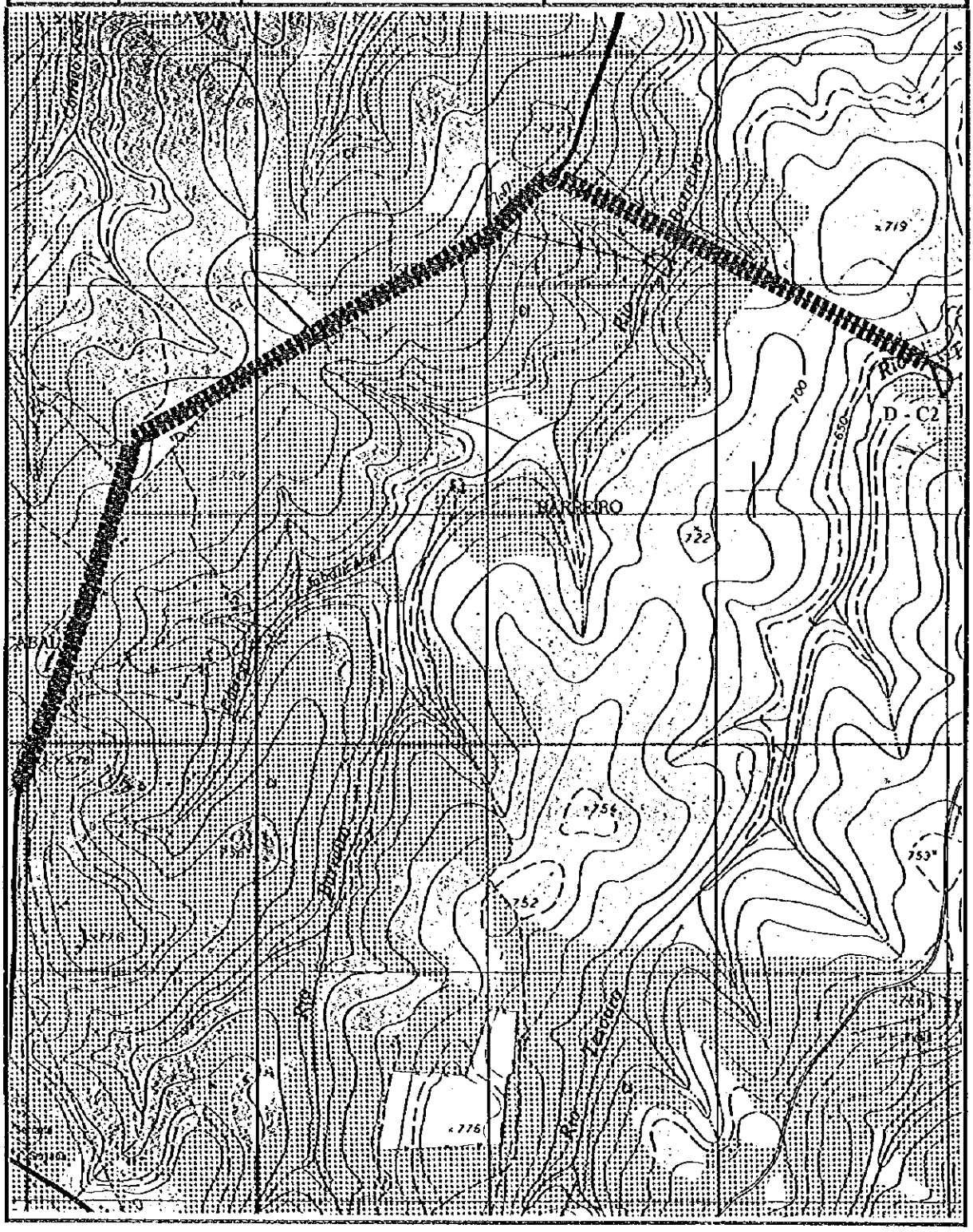
Description of Planning Development Points

No. D-C2					
(Location) X=266 Y=7243					
Basin	River	Municipality	Others		
Iguacu	Tesouro	Cascavel			
(Description of Development Method)					
Development Method	Volume	Catchment Area	Supply Area	Supply house	Target Year
Dam Intake	0.35 (m^3/sec)	24.2 (km^2)	(km^2)	(houses)	
(Topographic Condition)					
EL.	Width	Riverbed	Riverbed Gradient	Foundation type/Others	
628 (m)	(m)				
(Land Use /Preservation Characteristics, at effected area of future reservoir)					
House	Agriculture	Industry	Others		
(Description of Facility)					
Height	Length	Crest EL.	Volume	Others	
22.4 (m)	500 (m)	650.4 (m)	585,000 (m^3)		
(Description of Pipeline)					
Head	Length	Diameter	Pumping capacity	Others	
106 (m)	11,500 (m)	(mm)	(kw)		



Location of Planning Development Points

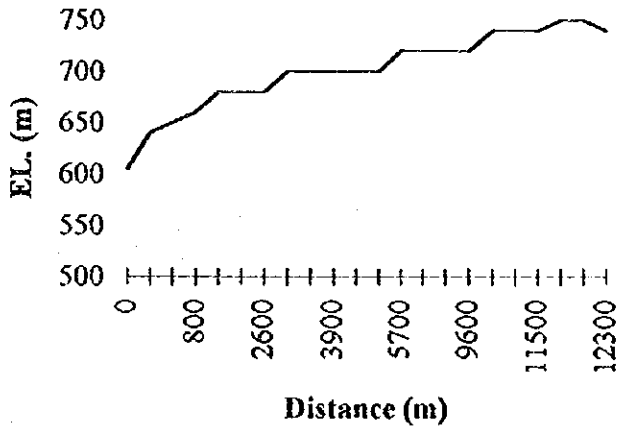
No.D - C2			Scale : 1 / 50,000
(Location)	X =266	Y =7243	
Basin	River	Municipality	Others
Iguacu	Tesouro	Cascavel	



P-IGUACU.XLSMap

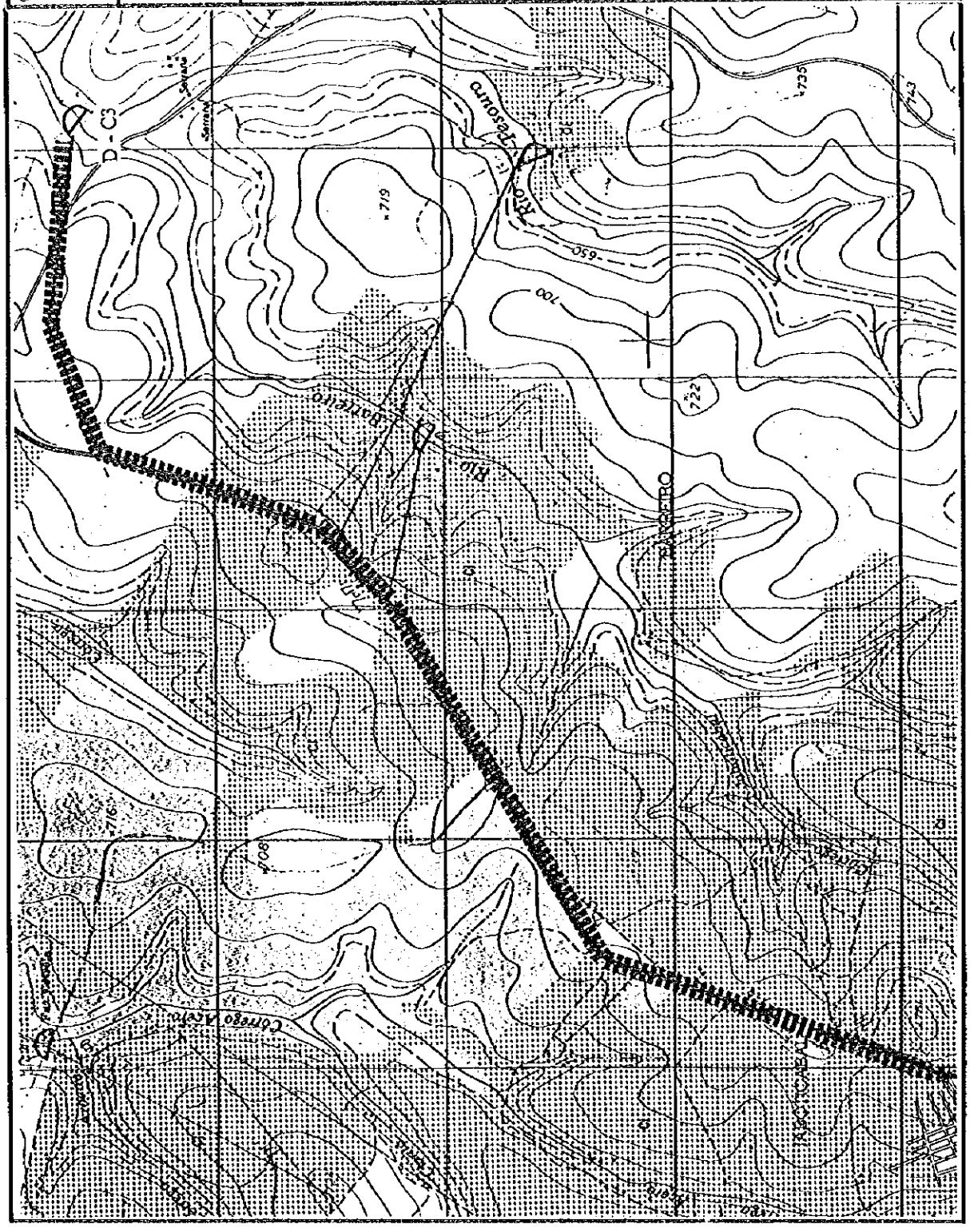
Description of Planning Development Points

No. D-C3					
(Location) X=266 Y=7247					
Basin Iguacu	River Barreiro	Municipality Cascavel		Others	
(Description of Development Method)					
Development Method	Volume	Catchment Area	Supply Area	Supply house	Target Year
Dam Intake	0.69 (m^3/sec)	83 (km^2)	(km^2)	(houses)	
(Topographic Condition)					
EL. 605 (m)	Width (m)	Riverbed	Riverbed Gradient	Foundation type/Others	
(Land Use /Preservation Characteristics, at effected area of future reservoir)					
House	Agriculture	Industry	Others		
(Description of Facility)					
Height 14.5 (m)	Length 500 (m)	Crest EL. 619.5 (m)	Volume 320,000 (m^3)	Others	
(Description of Pipeline)					
Head 135 (m)	Length 12,300 (m)	Diameter (mm)	Pumping capacity (kw)	Others	



Location of Planning Development Points

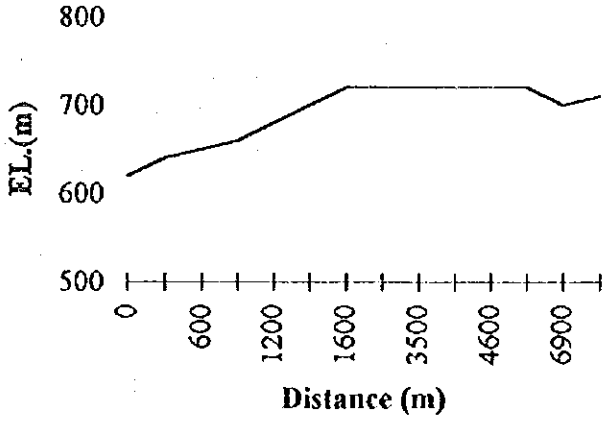
No.D - C3			Scale : 1 / 50,000
(Location)	X =266	Y =7247	
Basin	River	Municipality	Others
Iguacu	Barreiro	Cascavel	



P-IGUACU.XLSMap

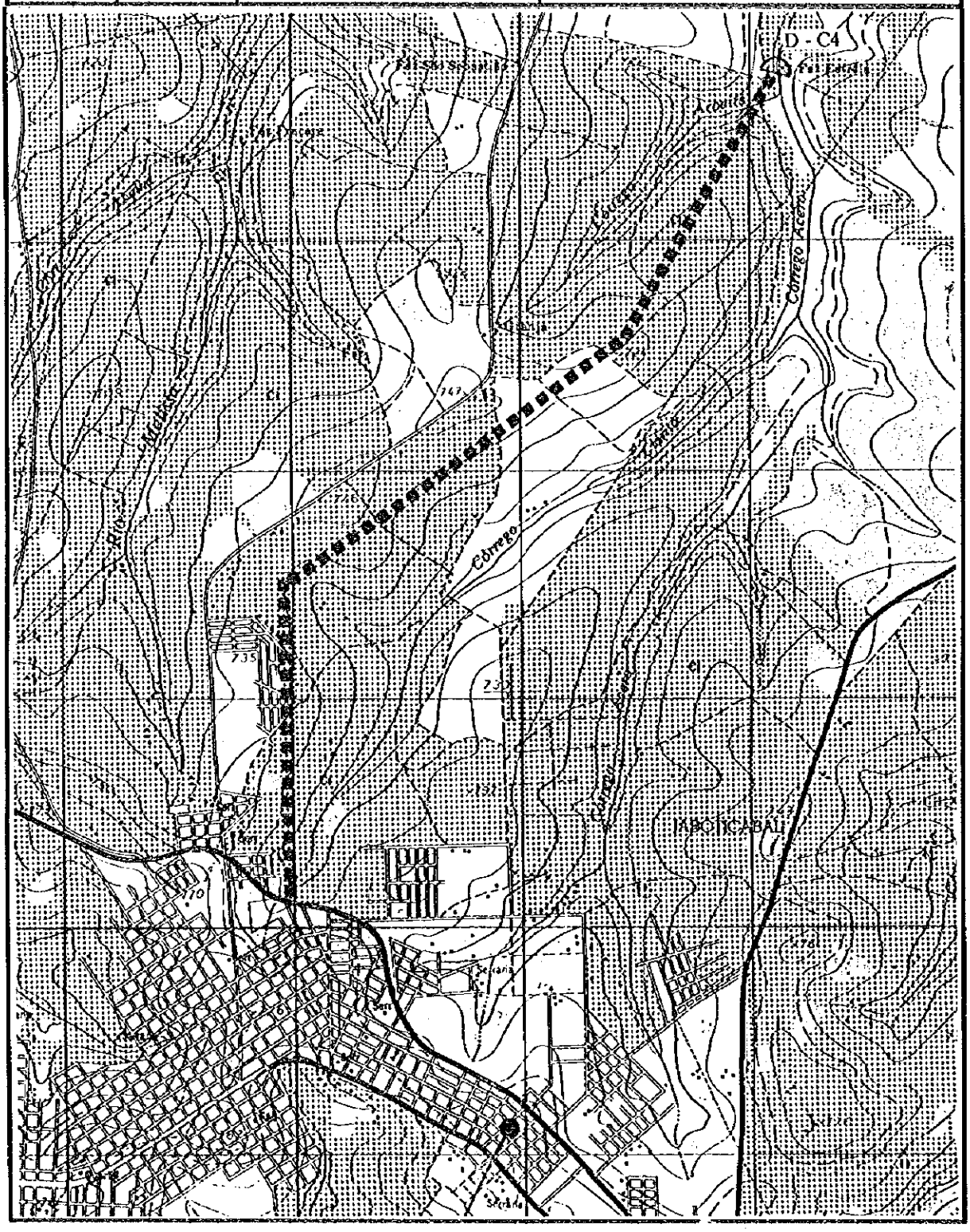
Description of Planning Development Points

No. D-C4					
(Location) X=258 Y=7248					
Basin	River	Municipality	Others		
Iguacu	Arocira	Cascavel			
(Description of Development Method)					
Development Method	Volume	Catchment Area	Supply Area	Supply house	Target Year
Dam Intake	0.6 (m^3/sec)	47.6 (km^2)	(km^2)	(houses)	
(Topographic Condition)					
EL.	Width	Riverbed	Riverbed Gradient	Foundation type/Others	
620	(m)				
(Land Use /Preservation Characteristics, at effected area of future reservoir)					
House	Agriculture	Industry	Others		
(Description of Facility)					
Height	Length	Crest EL.	Volume	Others	
27.5 (m)	600 (m)	647.5 (m)	1,035,000 (m^3)		
(Description of Pipeline)					
Head	Length	Diameter	Pumping capacity	Others	
90 (m)	7,100 (m)	(mm)	(kw)		



Location of Planning Development Points

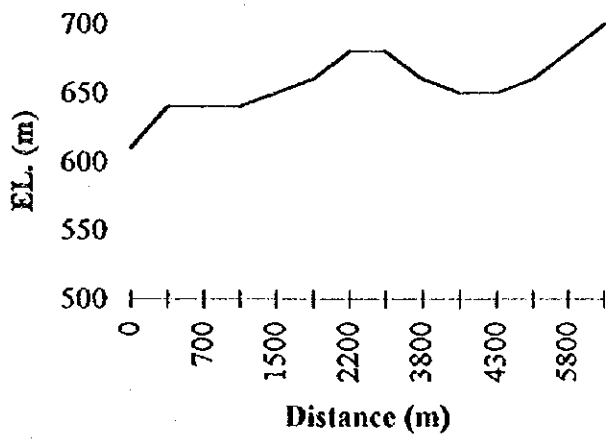
No.D - C4			Scale : 1 / 50,000
(Location)	X =258	Y =7248	
Basin	River	Municipality	Others
Iguacu	Aroeira	Cascavel	



P-IGUACU.XLSMap

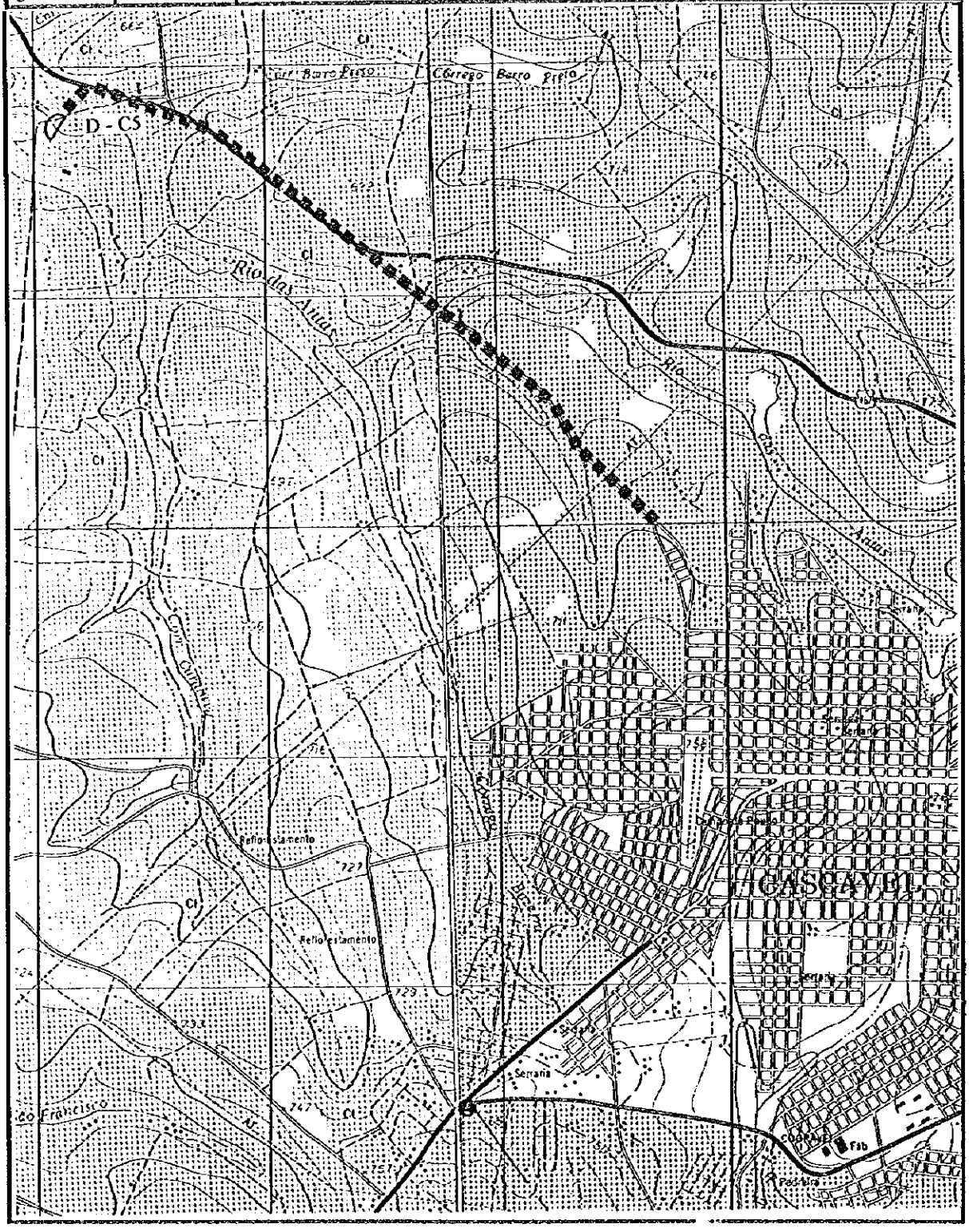
Description of Planning Development Points

No. D-C5						
(Location) X=244 Y=7244						
Basin	River		Municipality		Others	
Iguacu	Antos		Cascavel			
(Description of Development Method)						
Development Method		Volume	Catchment Area	Supply Area	Supply house	Target Year
Dam Intake		0.69 (m^3/sec)	68.9 (km^2)	(km^2)	(houses)	
(Topographic Condition)						
EL.	Width	Riverbed	Riverbed Gradient	Foundation type/Others		
610 (m)	(m)					
(Land Use /Preservation Characteristics, at effected area of future reservoir)						
House	Agriculture	Industry	Others			
(Description of Facility)						
Height	Length	Crest EL.	Volume	Others		
20 (m)	450 (m)	630 (m)	473,000 (m^3)			
(Description of Pipeline)						
Head	Length	Diameter	Pumping capacity	Others		
90 (m)	6,700 (m)	(mm)	(kw)			



Location of Planning Development Points

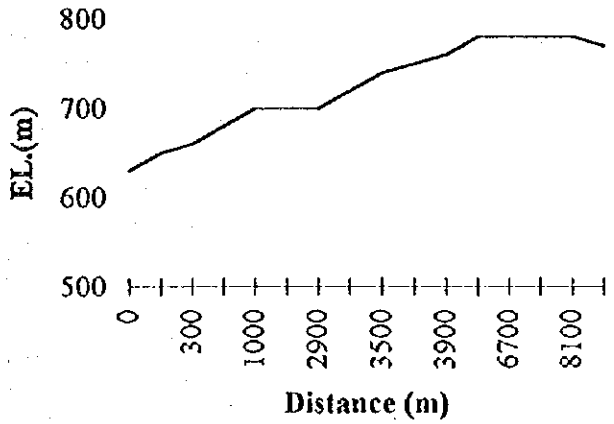
No.D - C5			Scale : 1 / 50,000
(Location)	X =244	Y =7244	
Basin	River	Municipality	Others
Iguacu	Antos	Cascavel	



P-IGUACU.XLSMap

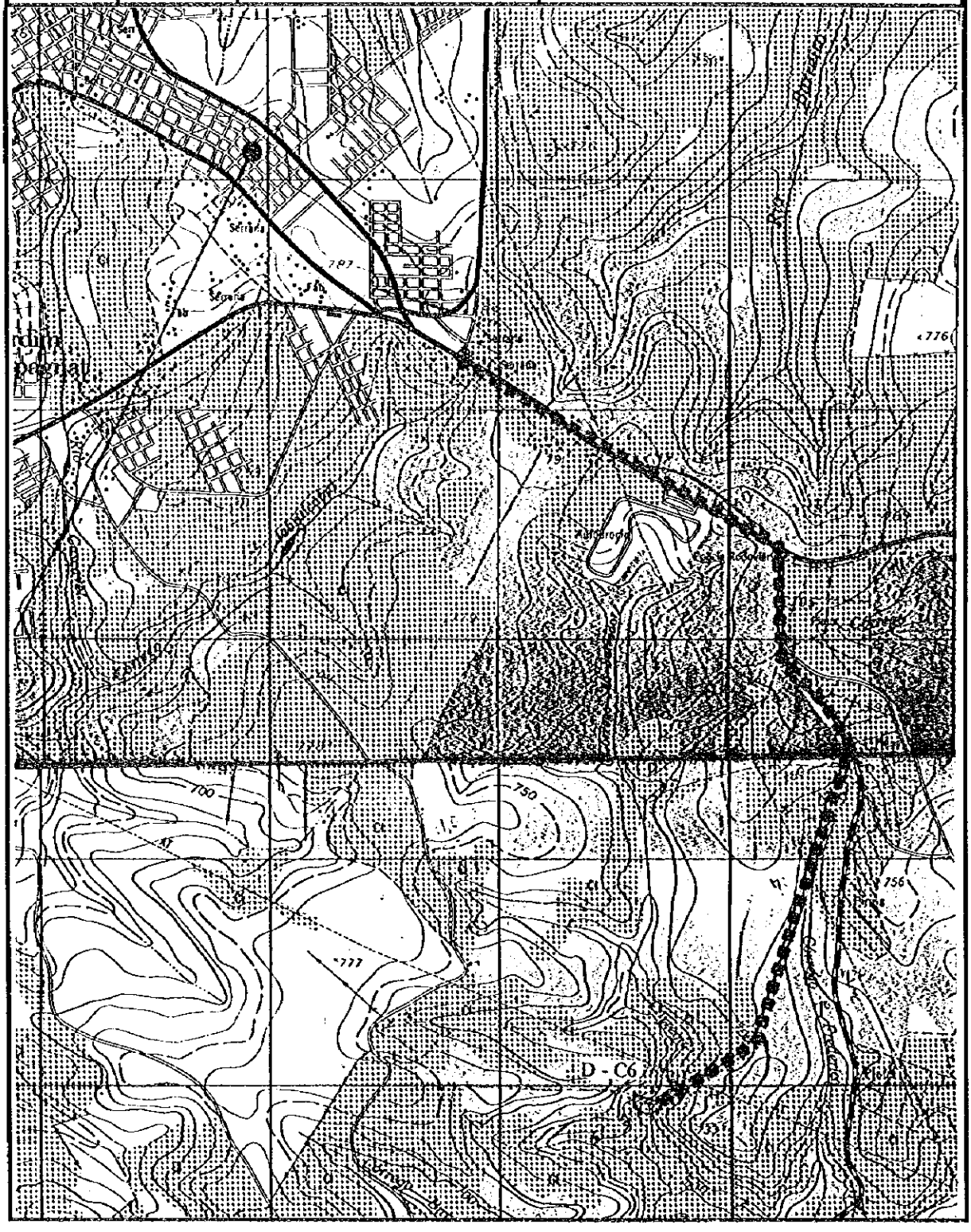
Description of Planning Development Points

No. D-C6					
(Location) X=259 Y=7230					
Basin	River		Municipality		Others
Iguacu	C.S.Salvador		Cascavel		
(Description of Development Method)					
Development Method	Volume		Catchment Area	Supply Area	Supply house	Target Year
Dam Intake	0.2 (m^3/sec)		17.5 (km^2)	(km^2)	(houses)	
(Topographic Condition)					
EL.	Width	Riverbed	Riverbed Gradient	Foundation type/Others	
630 (m)	(m)				
(Land Use /Preservation Characteristics, at effected area of future reservoir)					
House	Agriculture	Industry	Others		
(Description of Facility)					
Height	Length	Crest EL.	Volume	Others	
25.2 (m)	300 (m)	655.2 (m)	438,000 (m^3)		
(Description of Pipeline)					
Head	Length	Diameter	Pumping capacity	Others	
140 (m)	9,200 (m)	(mm)	(kw)		



Location of Planning Development Points

No.D - C6			Scale : 1 / 50,000
(Location)	X =259	Y =7230	
Basin	River	Municipality	Others
Iguacu	C.S.Salvador	Cascavel	

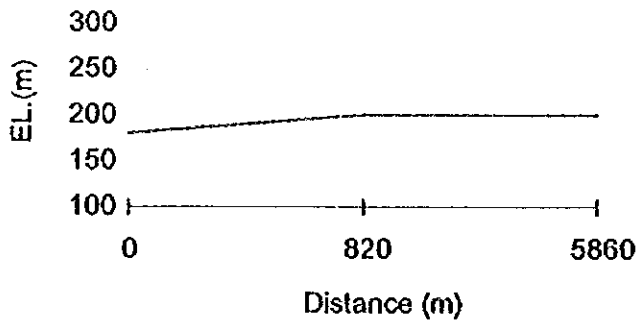


P-IGUACU.XLSMap

Description of Planning Development Points

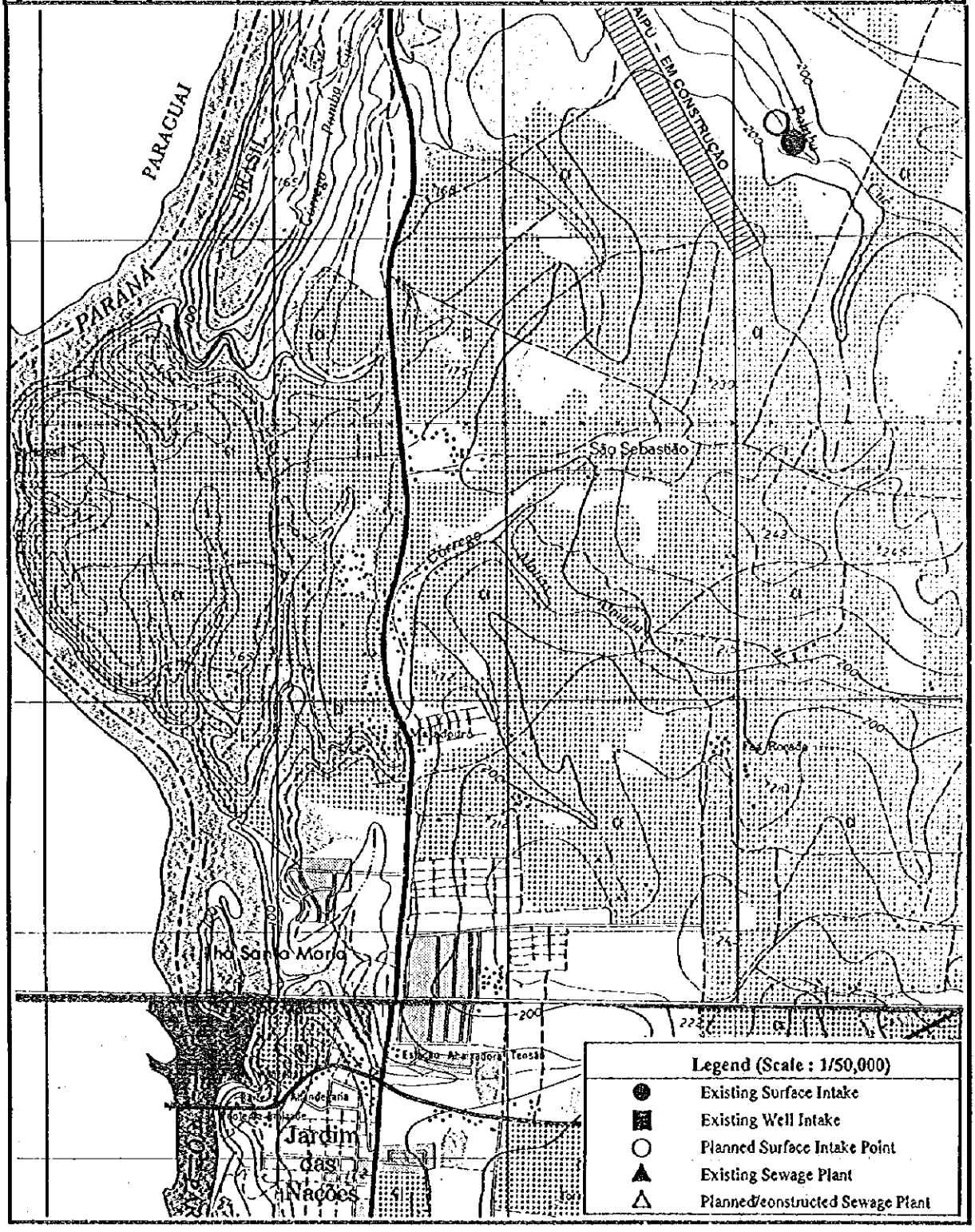
No. S-FII					
(Location) X=746 Y=7185					
Basin Iguacu	River Itaipu Reservoir	Municipality Foz do Iguacu	Others		
(Description of Development Method)					
Development Method	$Q_{10,7}$ x 50 % (m^3/sec)	Catchment Area (km^2)	Supply Area (km^2)	Supply house (houses)	Target Year
Direct Intake					
(Topographic Condition)					
EL. 180 (m)	Width (m)	Riverbed	Riverbed Gradient	Foundation type/Others	
(Land Use /Preservation Characteristics, at effected area of future reservoir)					
House	Agriculture	Industry	Others		
(Description of Facility)					
Height (m)	Length (m)	Crest EL. (m)	Volume (m^3)	Others	
(Description of Pipeline)					
Head 20 (m)	Length 1,900(m)	Diameter (mm)	Pumping capacity (kw)	Others	

Increase of Existing Intake System



Location of Planning Development Points

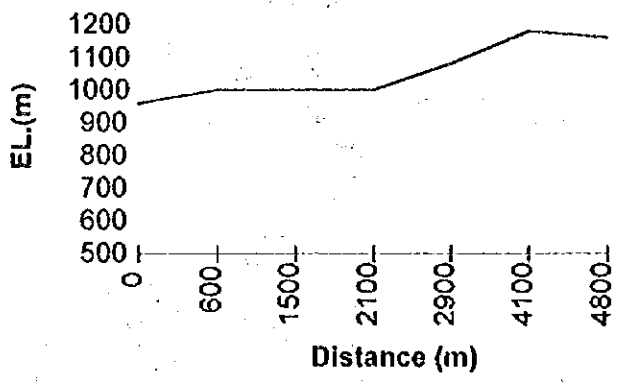
No. S-F11			Scale : 1 / 50,000
(Location)	X =746	Y =7185	
Basin	River	Municipality	Others
Iguacu	Itaipu Reser.	Foz do Iguacu	



P-IGUACU.XLSMap

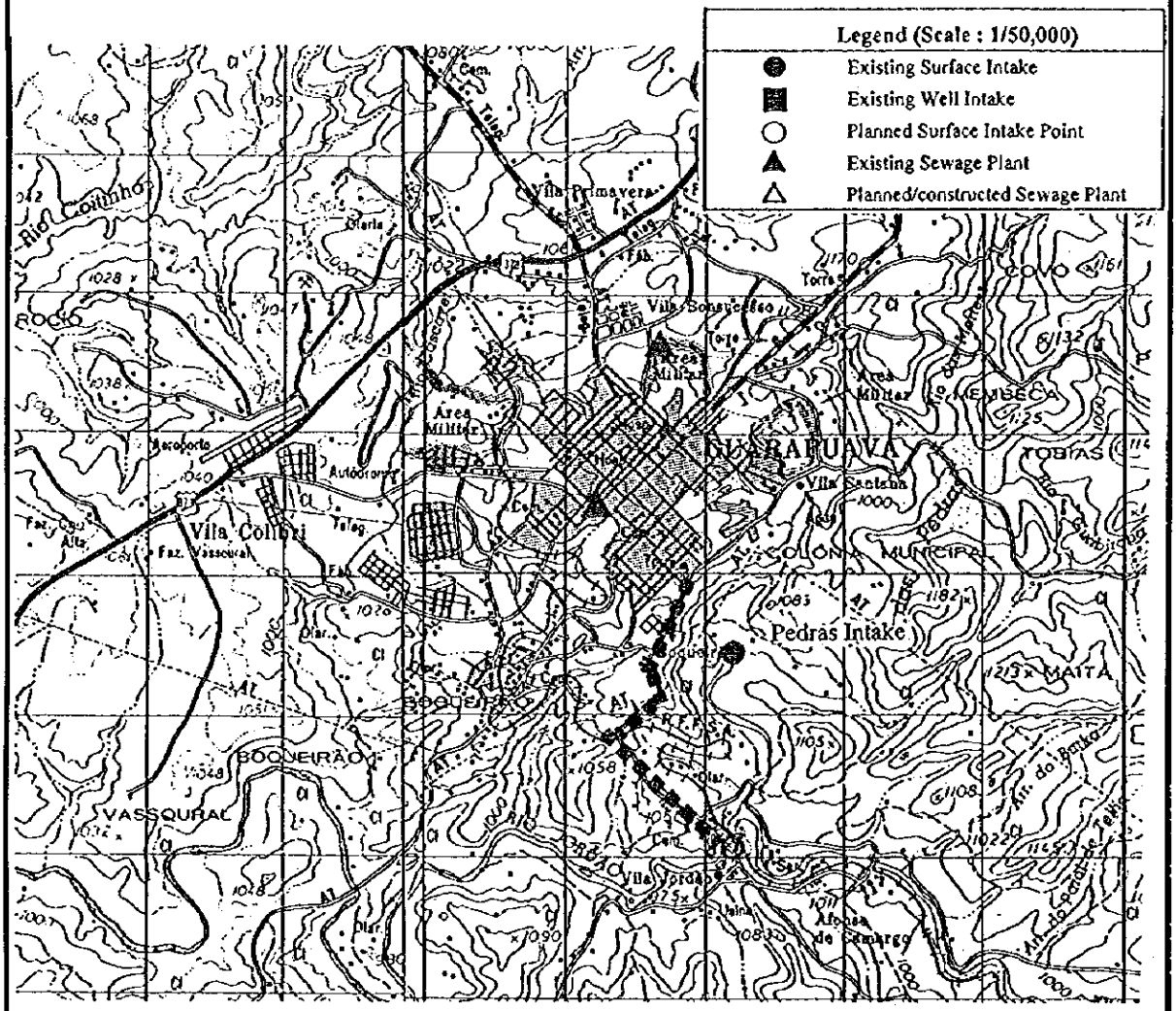
Description of Planning Development Points

No. S-GI					
(Location) X=454 Y=7186					
Basin Iguacu	River Rio Bananas		Municipality Guarapuava		Others
(Description of Development Method)					
Development Method	$Q_{10,7}$ x 50 % 0.63 (m^3/sec)	Catchment Area 704 (km^2)	Supply Area (km^2)	Supply house (houses)	Target Year
Direc Intake					
(Topographic Condition)					
EL. 960 (m)	Width (m)	Riverbed	Riverbed Gradient	Foundation type/Others	
(Land Use /Preservation Characteristics, at effected area of future reservoir)					
House	Agriculture	Industry	Others		
(Description of Facility)					
Height (m)	Length (m)	Crest EL. (m)	Volume (m^3)	Others	
(Description of Pipeline)					
Head 200 (m)	Length 4,800 (m)	Diameter (mm)	Pumping capacity (kw)	Others	



Location of Planning Development Points

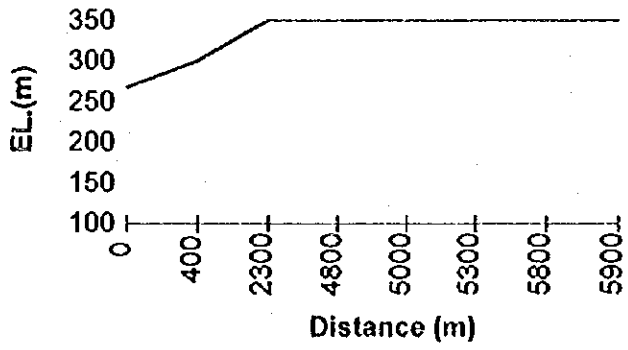
No. S-G1			Scale : 1 / 50,000
(Location)	X =454	Y =7186	
Basin	River	Municipality	Others
Iguacu	Rio Bananas	Guarapuava	



P-IGUACU.XLSMap

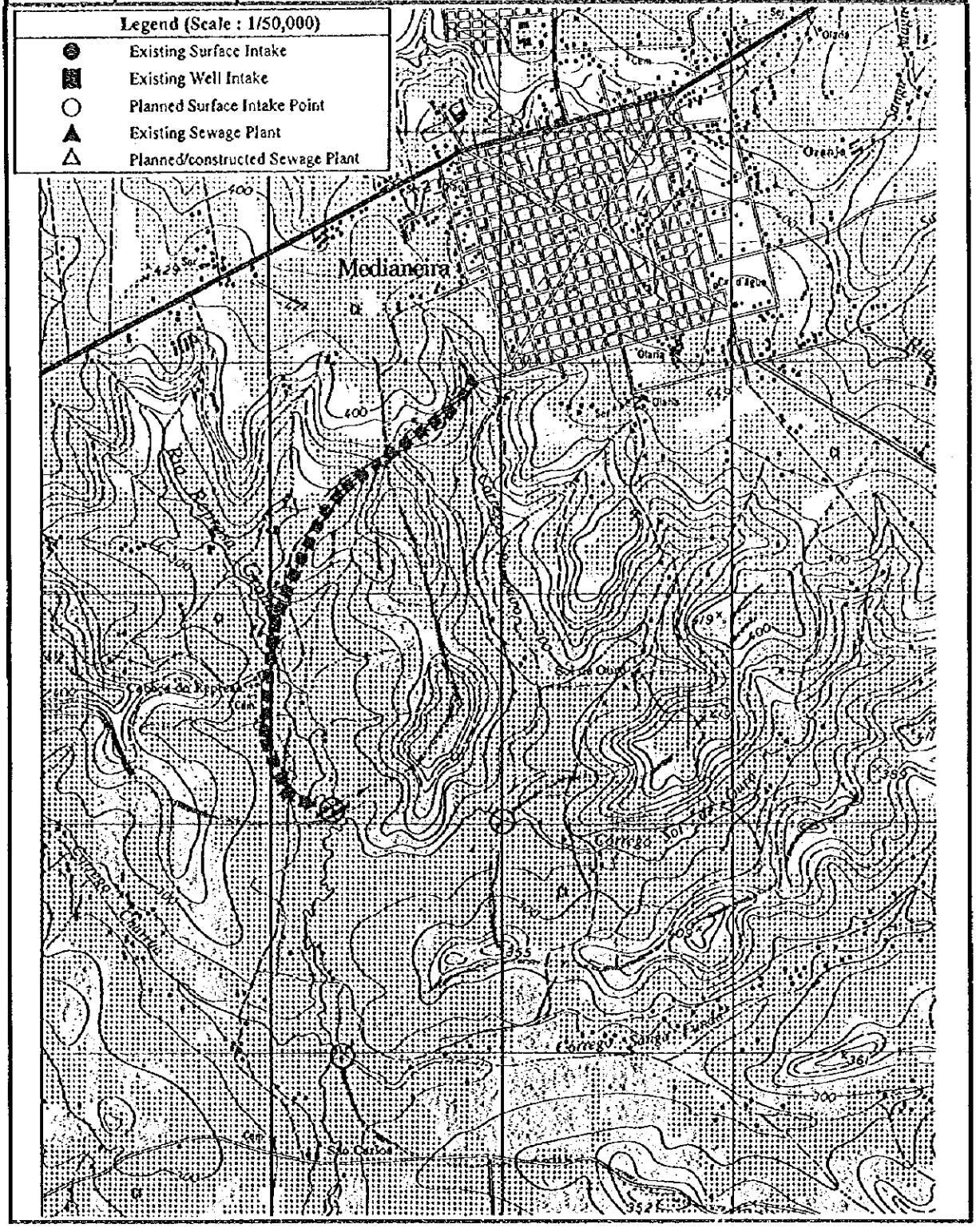
Description of Planning Development Points

No. S-M1					
(Location) X=790 Y=7194					
Basin Iguacu	River Rio Represa Grande	Municipality Medianeira	Others		
(Description of Development Method)					
Development Method	$Q_{10,7}$ x 50 % 0.013 (m^3/sec)	Catchment Area 14.2 (km^2)	Supply Area (km^2)	Supply house (houses)	Target Year
Direct Intake					
(Topographic Condition)					
EL. 268 (m)	Width (m)	Riverbed	Riverbed Gradient	Foundation type/Others	
(Land Use /Preservation Characteristics, at effected area of future reservoir)					
House	Agriculture	Industry	Others		
(Description of Facility)					
Height (m)	Length (m)	Crest EL. (m)	Volume (m^3)	Others	
(Description of Pipeline)					
Head 82 (m)	Length 5,900 (m)	Diameter (mm)	Pumping capacity (kw)	Others	



Location of Planning Development Points

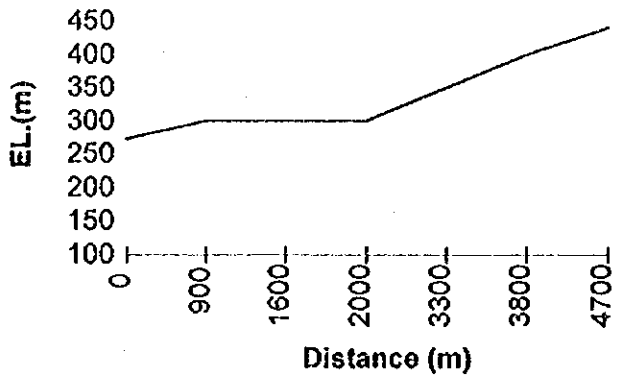
No. S-M1			Scale : 1 / 50,000
(Location)	X =790	Y =7194	
Basin	River Rio	Municipality	Others
Iguacu	Represa G.	Medianeira	



P-IGUACU.XLSMap

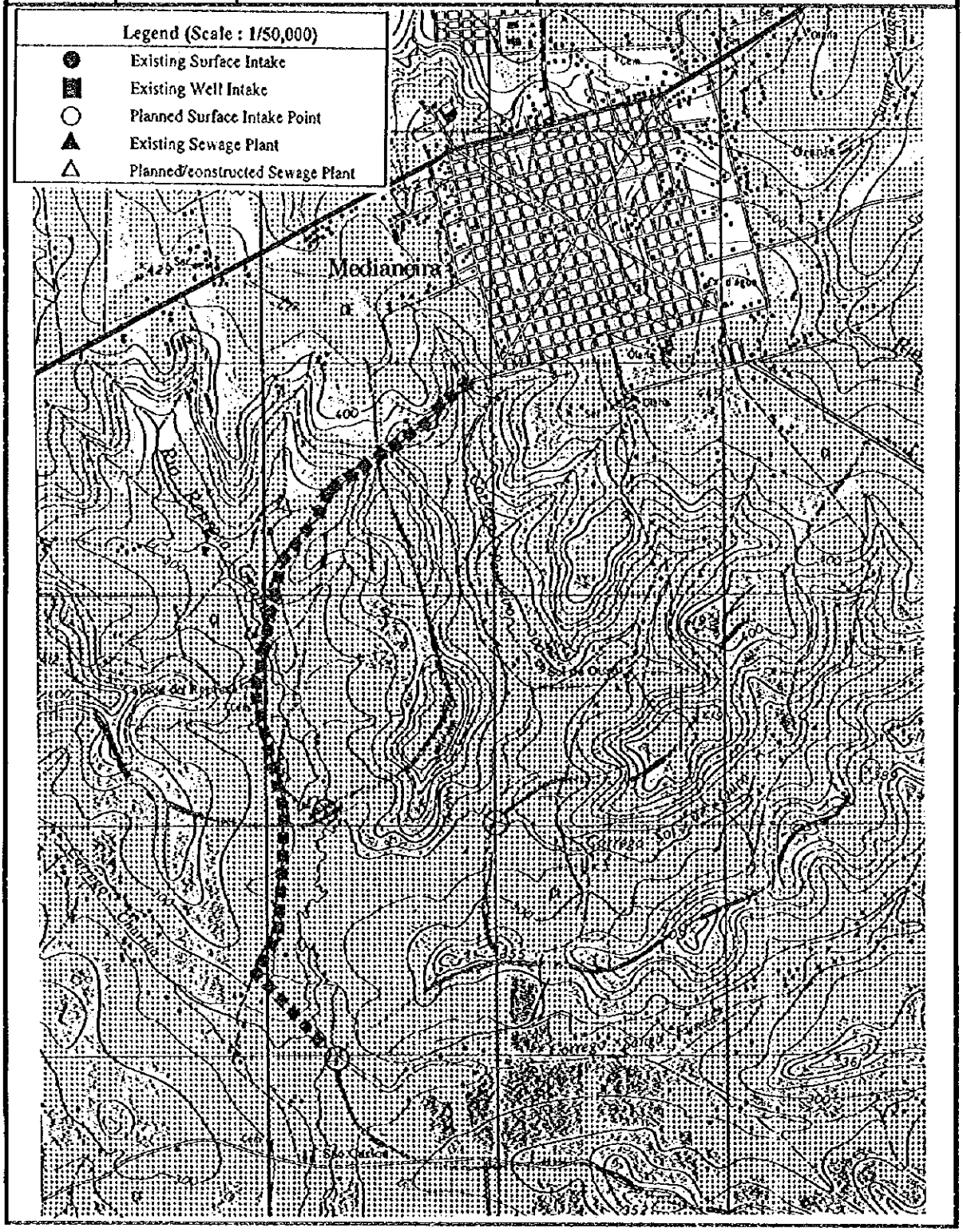
Description of Planning Development Points

No. S-M2					
(Location) X=792 Y=7194					
Basin	River		Municipality		Others
Iguacu	Corrego Sango Funda		Medianeira		
(Description of Development Method)					
Development Method		$Q_{10,7}$ x 50 %	Catchment Area	Supply Area	Supply house	Target Year
		0.017	18.9			
Direct Intake		(m^3/sec)	(km^2)	(km^2)	(houses)	
(Topographic Condition)						
EL.	Width	Riverbed	Riverbed Gradient	Foundation type/Others		
273 (m)	(m)					
(Land Use /Preservation Characteristics, at effected area of future reservoir)						
House	Agriculture	Industry	Others			
(Description of Facility)						
Height	Length	Crest EL.	Volume	Others		
(m)	(m)	(m)	(m^3)			
(Description of Pipeline)						
Head	Length	Diameter	Pumping capacity	Others		
167 (m)	4,700 (m)	(mm)	(kw)			



Location of Planning Development Points

No. S-M2			Scale : 1 / 50,000
(Location)	X =792	Y =7194	
Basin	River Corrego	Municipality	Others
Iguacu	Sango Funda	Medianeira	



P-IGUACU.XLSMap

Description of Planning Development Points

No. S-M3						
(Location) X=791 Y=7192						
Basin	River		Municipality		Others	
Iguacu	Corrego Sol de Ouro		Medianeira			
(Description of Development Method)						
Development Method	$Q_{10,7}$ x 50 %		Catchment Area	Supply Area	Supply house	Target Year
Direct Intake	0.01 (m^3/sec)		10.8 (km^2)	(km^2)	(houses)	
(Topographic Condition)						
EL.	Width	Riverbed	Riverbed Gradient	Foundation type/Others		
260 (m)	(m)					
(Land Use /Preservation Characteristics, at effected area of future reservoir)						
House	Agriculture	Industry	Others			
(Description of Facility)						
Height	Length	Crest EL.	Volume	Others		
(m)	(m)	(m)	(m^3)			
(Description of Pipeline)						
Head	Length	Diameter	Pumping capacity	Others		
90 (m)	6,900 (m)	(mm)	(kw)