

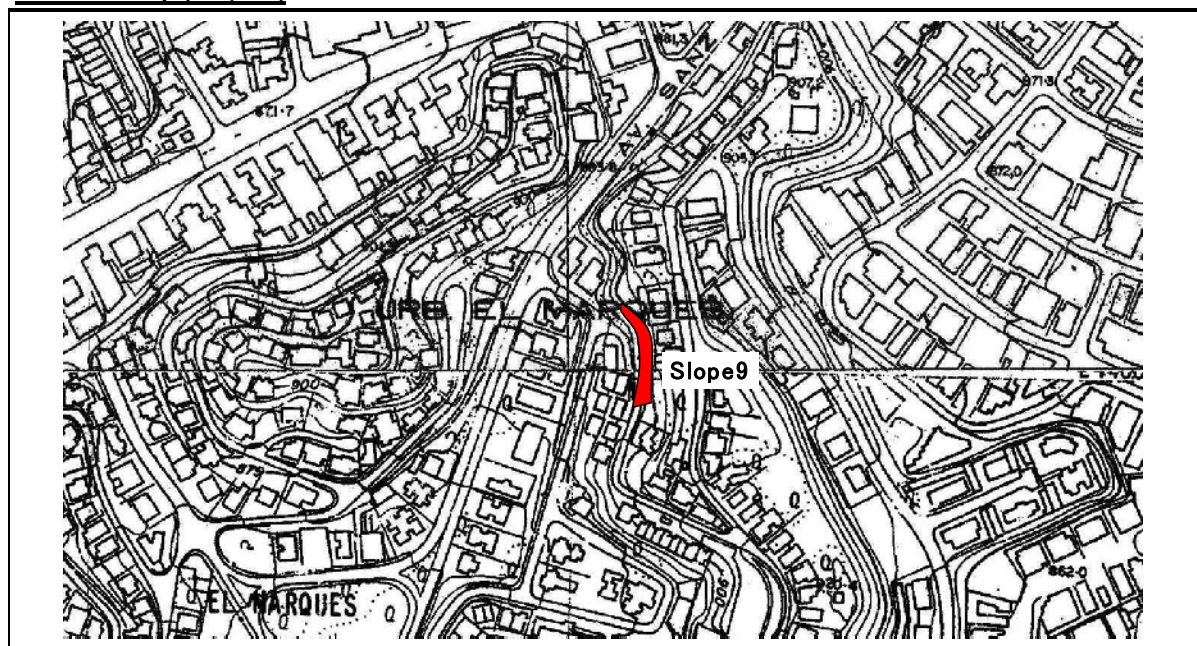
# SLOPE INSPECTION SHEET

**SHEET 1 / 4**

## General Slope Data

Type of Disaster	<u>Slope Failure</u> / Landslide	Municipality	SUCRE (El Marques)
Slope ID	9		
Date Checked	28/7/2003	Data Inspected	9/7/2003
Checked by	Fumihiko Yokoo	Inspected by	Takashi Hara
Vegetation /Cultivation	Primary Fores( <u>Trees</u> )Grass / Others		
Target of Preservation	<u>Residencial</u> / Hotel / Commercial /Hospital / Factory /School / Others		
Disaster Record	No Records		
Existing Countermeasure	Nothing		
Hazard Score	62	Comment: The direction of geological structure dip against slope direction. Therefore, small collapse shall be easy to occure on the slope.	
Proposed Countermeasure			
Cost Estimation	Quantity	Unit Rate	Amount

## Location Map (1:5,000)

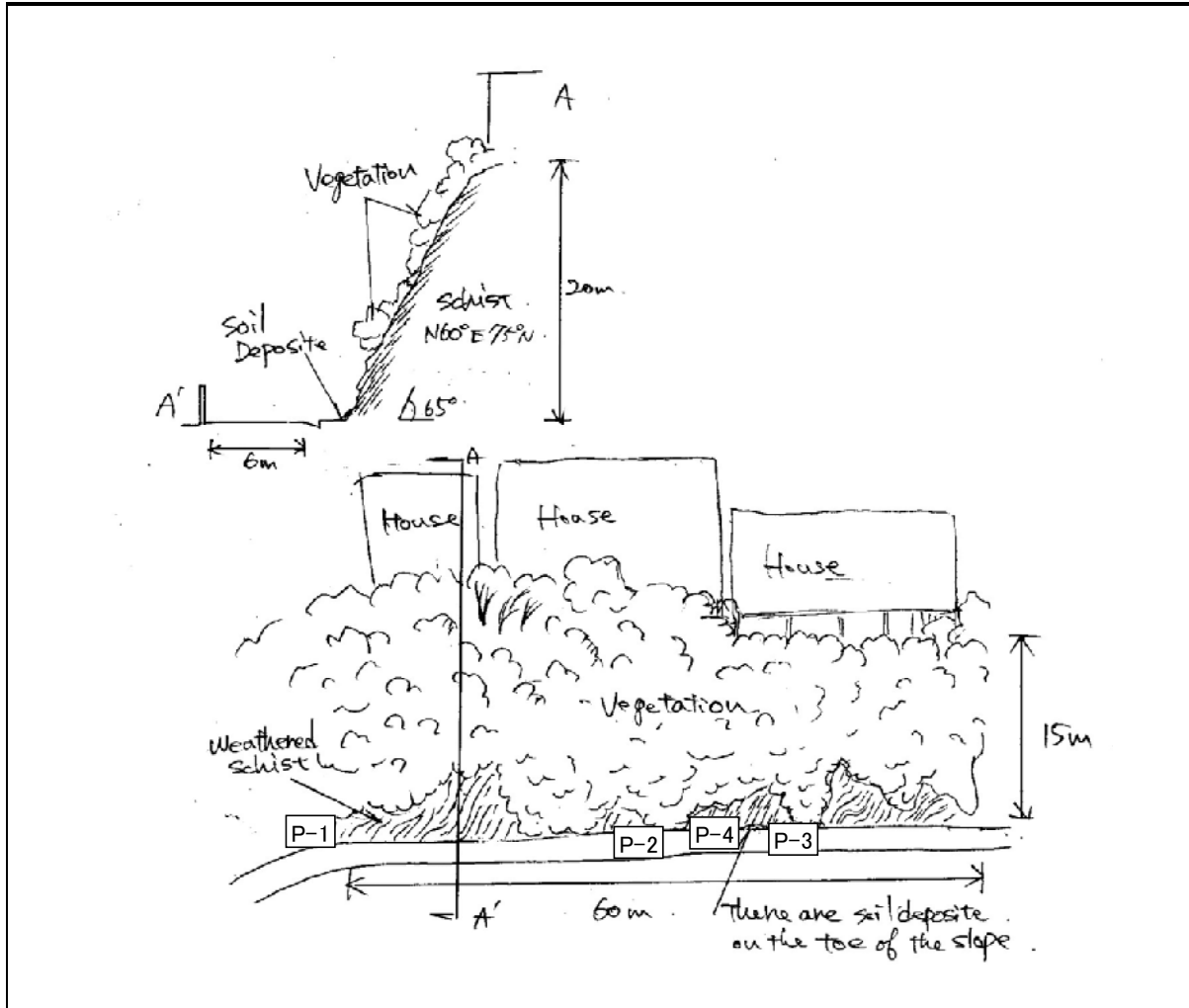


# SLOPE INSPECTION SHEET

SHEET 2/4

Slope ID	9	Type of Disaster	Slope Failure / Landslide	Date	9/7/2003
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## Sketch



## Remarks

- The slope is consisted of weathered schist.
- The direction of the geological structure dip against the slope direction steeply.

# SLOPE INSPECTION SHEET

**SHEET 3/4**

Slope ID	9	Type of Disaster	<u>Slope Failure</u> / Landslide	Date	9/7/2003
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## Photograph



P-1 View of North part of the slope



P-2 View of South part of the slope



P-3 Outcrops (Weathered mica schist)



P-4 Surface collapse

<b>SLOPE INSPECTION SHEET</b>				
<b>1 SLOPE FAILURE</b>		<b>SHEET 4 / 4</b>		
Slope ID	9	Type of Disaster	<u>Slope Failure.</u> / Landslide	Date 9/7/2003

**Condition of Slope**

✓ Tick One

<b>Topography</b>	Alluvium Slope	Yes		2
		No	✓	0
	Trace of Collapse	Yes	✓	1
		No		0
	Clear Knick Point or Overhang	Yes		1
		No	✓	0
Concave Slope or Debris Slope	Yes		1	
	No	✓	0	
<b>Geometry</b> Select A or B	A : Soil Slope H : Height i : Angle of Slope	H > 30m		30
		$H \leq 30m, i > 45 \text{ deg}$		24
		$15m \leq H < 30m, i \leq 45 \text{ deg}$		20
		$H < 15m, i \leq 45 \text{ deg}$		10
	B : Rock Slope H : Height	H > 50m		30
		$30 m \leq H < 50m$		26
$15 m \leq H < 30m$		✓	20	
	H < 15m		10	
<b>Material</b> Select A and B	A : Soil Character Swelling Clay Contents	Conspicuous		8
		Slightly		4
		No Swelling Clay	✓	0
	B : Rock Quality Sheared Rock or Weathered Rock	Conspicuous		8
		Slightly	✓	4
		No Available		0
<b>Geological Structure</b>	Dip Slope (Bedding, Weak Plane)		✓	8
	Soft Soil over Base Rock			6
	Hard Rock over Weak Rock			4
	Others			0
<b>Deformation</b>	Slope Deformation Gully Erosion, Rill Erosion, Mass Erosion, Fretting Erosion, Rockfall, Exfoliation, Swelling	Clear		10
		Obscure	✓	8
		No Slope Deformation		0
	Slope Deformation at adjacent slope Rockfall, Collapse, Crack, Swelling, Other deformation	Clear		5
		Obscure		3
		No Slope Deformation	✓	0
<b>Surface Condition</b>	Condition of Surface	Unstable	✓	8
		Moderate	✓	6
		Stable		0
	Ground Water	Natural water spring		8
		Water seepage	✓	4
		Dry		0
	Cover	No-vegetation, Grassland		4
		Complex (Grass, Structure)	✓	3
		Structure		1
	Surface Drainage	Available (Good)		0
		Available (Need Repair)		3
		Not Available	✓	6
			Score	<b>62</b>

**Countermeasure**

✓ Tick One

Effective		-20
Partially effective		-10
Not effective or nothing	✓	0
Hazard Score		<b>62</b>

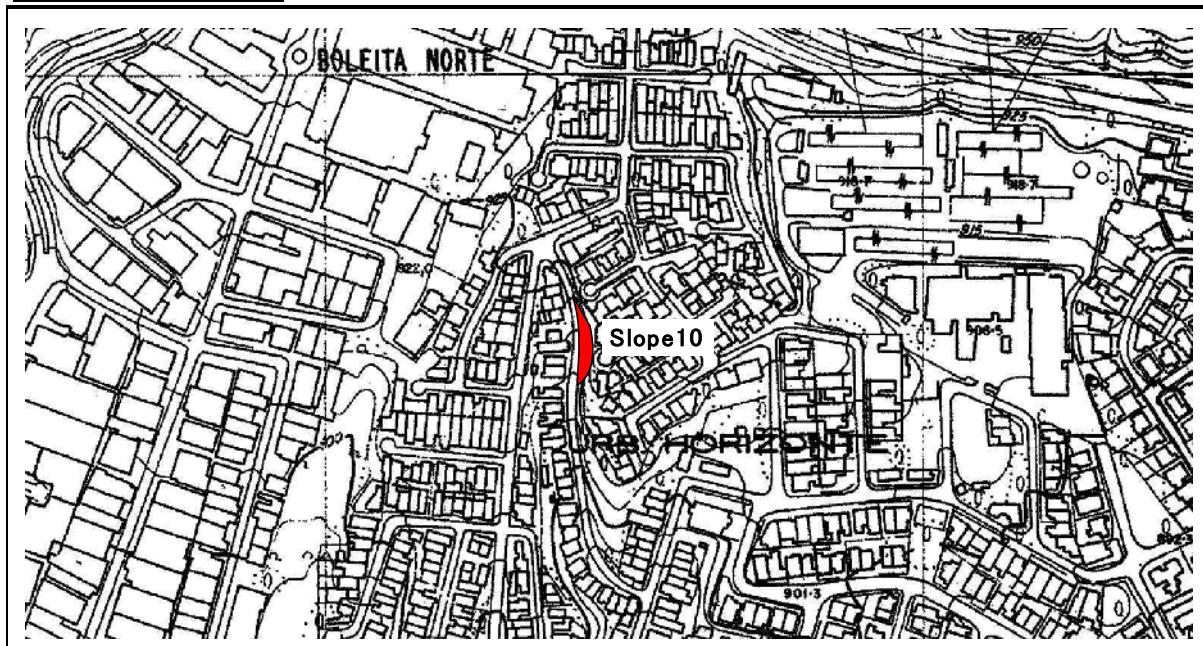
# SLOPE INSPECTION SHEET

**SHEET 1 / 4**

## General Slope Data

Type of Disaster	Slope Failure / <u>Landslide</u>	Municipality	SUCRE (Horizonte)
Slope ID	10		
Date Checked	28/7/2003	Data Inspected	9/7/2003
Checked by	Fumihiko Yokoo	Inspected by	Takashi Hara
Vegetation /Cultivation	Primary Fores / <u>Trees</u> / Grass / Others		
Target of Preservation	<u>Residencial</u> / Hotel / Commercial / Hospital / Factory / School / Others		
Disaster Record	No Records		
Existing Countermeasure	Nothing		
Hazard Score	41	Comment: Some deformations are found the toe of the block wall and road. Therefore, it is necessary to take notice the structures conditions.	
Proposed Countermeasure			
Cost Estimation	Quantity	Unit Rate	Amount

## Location Map (1:5,000)

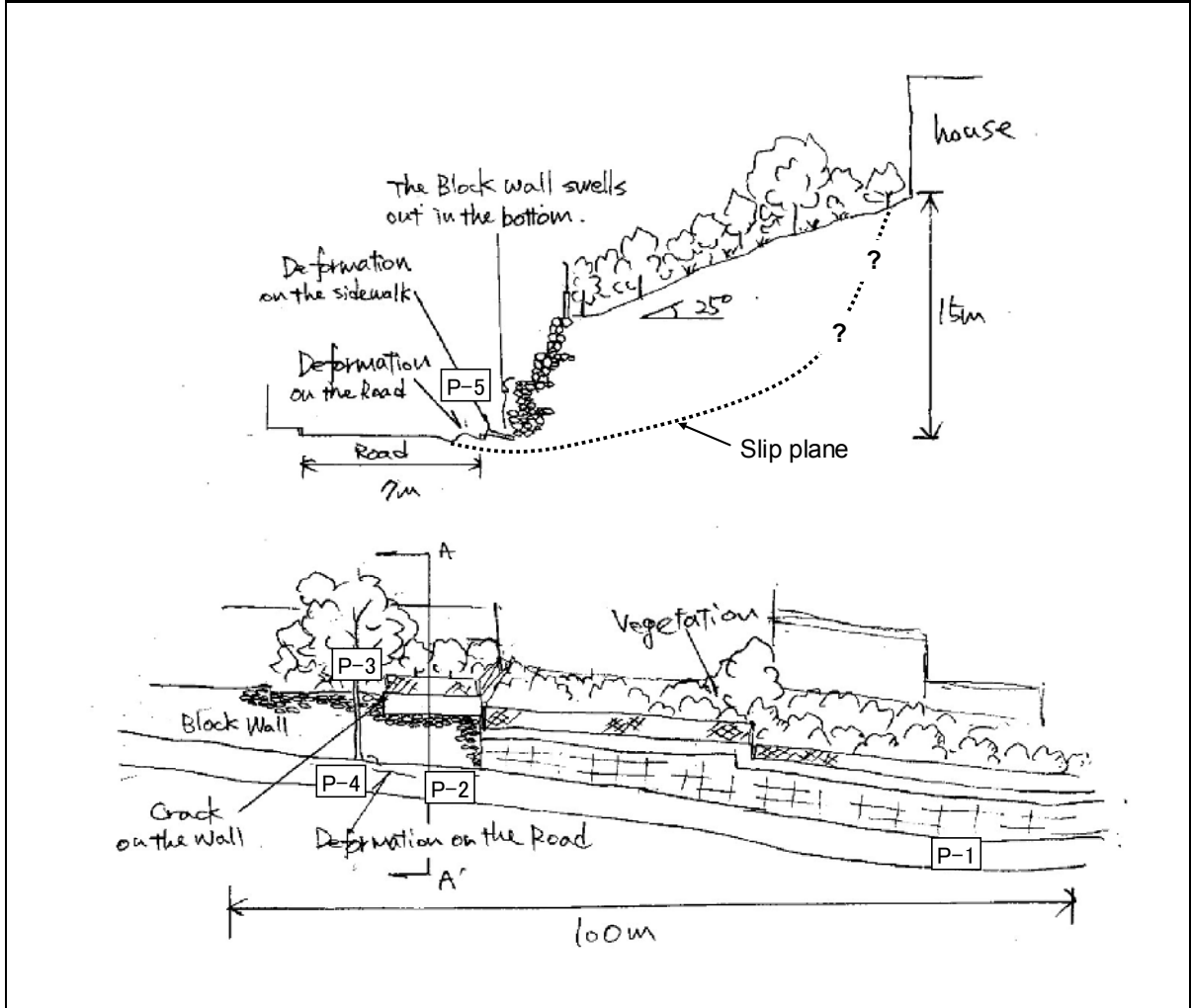


# SLOPE INSPECTION SHEET

**SHEET 2/4**

Slope ID	10	Type of Disaster	Slope Failure / <u>Landslide</u>	Date	9/7/2003
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**Sketch**



**Remarks**

-Deformation are found on the road.  
 -There are bulging lower part of the stone block wall.

# SLOPE INSPECTION SHEET

**SHEET 3/4**

Slope ID	10	Type of Disaster	Slope Failure / Landslide	Date	9/7/2003
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## Photograph



P-1 General View



P-2 Deformation on the road



P-3 Crack on the concrete wall



P-4 Deformation on the sidewalk



P-5 Bulging at toe of the block wall

<b>SLOPE INSPECTION SHEET</b>				
<b>2 LANDSLIDE</b>			<b>Sheet 4 / 4</b>	
Slope ID	10	Type of Disaster	Steep Slope Failure / <u>Landslide</u>	Data
				9/7/2003

**Condition of Slope**

✓ Tick One

<b>Topography</b>	History of Landslide	Yes		10	
		No	✓	0	
	Anomaly Disturbe Contour Lines Geographical Features like Scarp at Top of Slope Subsidence at Upper Part of Slope Heaving or Swelling at Toe of Slope	Obvious			40
		Patially		✓	30
		Uncertain			10
<b>Geological Structure</b>	Fault, Sheared Zone			10	
	Alteration Zone			10	
	Dip Slope			6	
	Opposite dip Slope			3	
	Intrusive structure, Cap rock structure			3	
	Others		✓	0	
<b>Geological Condition</b>	Schist		✓	3	
	Gneiss			2	
	Others (Volcanic Rock, Igneous Rock)			2	
<b>Deformation</b>	Bulging at Toe	Yes	✓	8	
		No		0	
	Depresion of Subsidence	Yes		8	
		No	✓	0	
	Cracks on Surface, Diagonal tension, Sher Cracking	Yes		8	
		No	✓	0	
	Deformation of Countermeasure	Yes		8	
		No	✓	0	
<b>Suraface Condition</b>	Spring, Natural Waterpath	Yes		3	
		No		0	
	Surface Drainage	Available (Good)		✓	0
		Available (Need Repair)			1
		Not Available			2
	<b>Score</b>				<b>41</b>

**Countermeasure**

✓ Tick One

Effective			-20
Partially effective			-10
Not effective or nothing		✓	0
<b>Hazard Score</b>		<b>41</b>	



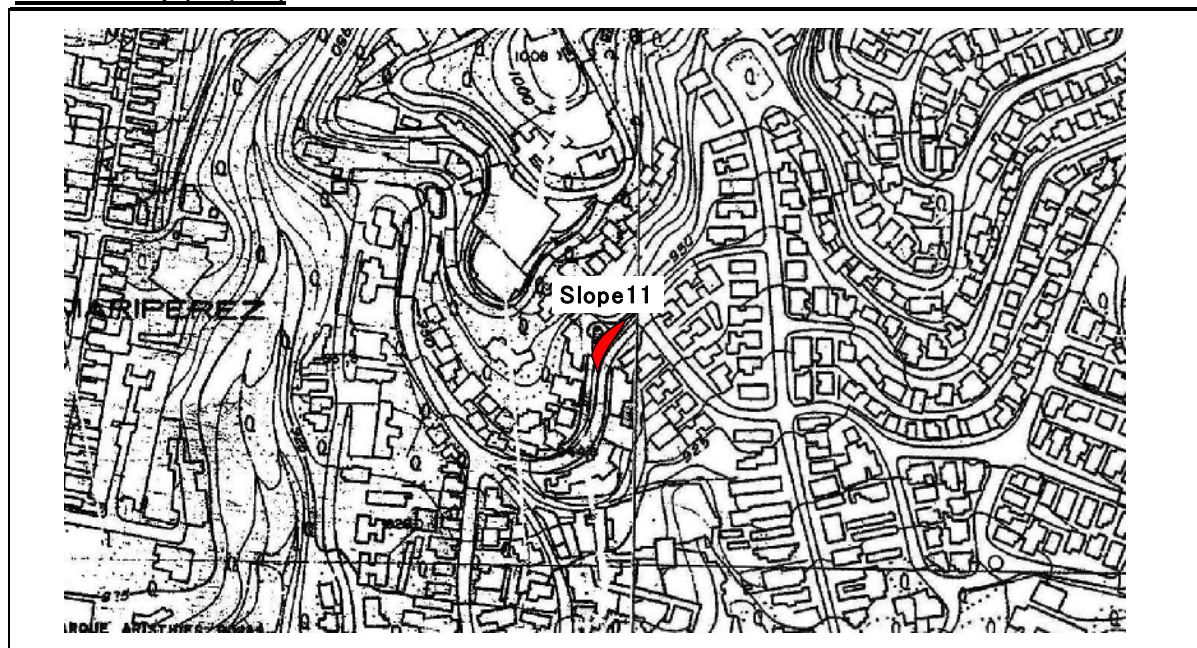
# SLOPE INSPECTION SHEET

**SHEET 1 / 4**

## General Slope Data

Type of Disaster	Slope Failure / <u>Landslide</u>	Municipality	Libertador (Las Palmas)
Slope ID	11		
Date Checked	28/7/2003	Data Inspected	9/7/2003
Checked by	Fumihiko Yokoo	Inspected by	Takashi Hara
Vegetation /Cultivation	Primary Fores / <u>Trees</u> / <u>Grass</u> / Others		
Target of Preservation	<u>Residencial</u> / Hotel / Commercial / Hospital / Factory / School / Others		
Disaster Record	No Records		
Existing Countermeasure	Concrete wall + Ancho work, Shotcrete + Anchor work.		
Hazard Score	<b>63</b>	Comment: The toe of the slope are put some countermeasures. Some deformations are found on the countermeasure. This slope seems to still move.	
Proposed Countermeasure			
Cost Estimation	Quantity	Unit Rate	Amount

## Location Map (1:5,000)

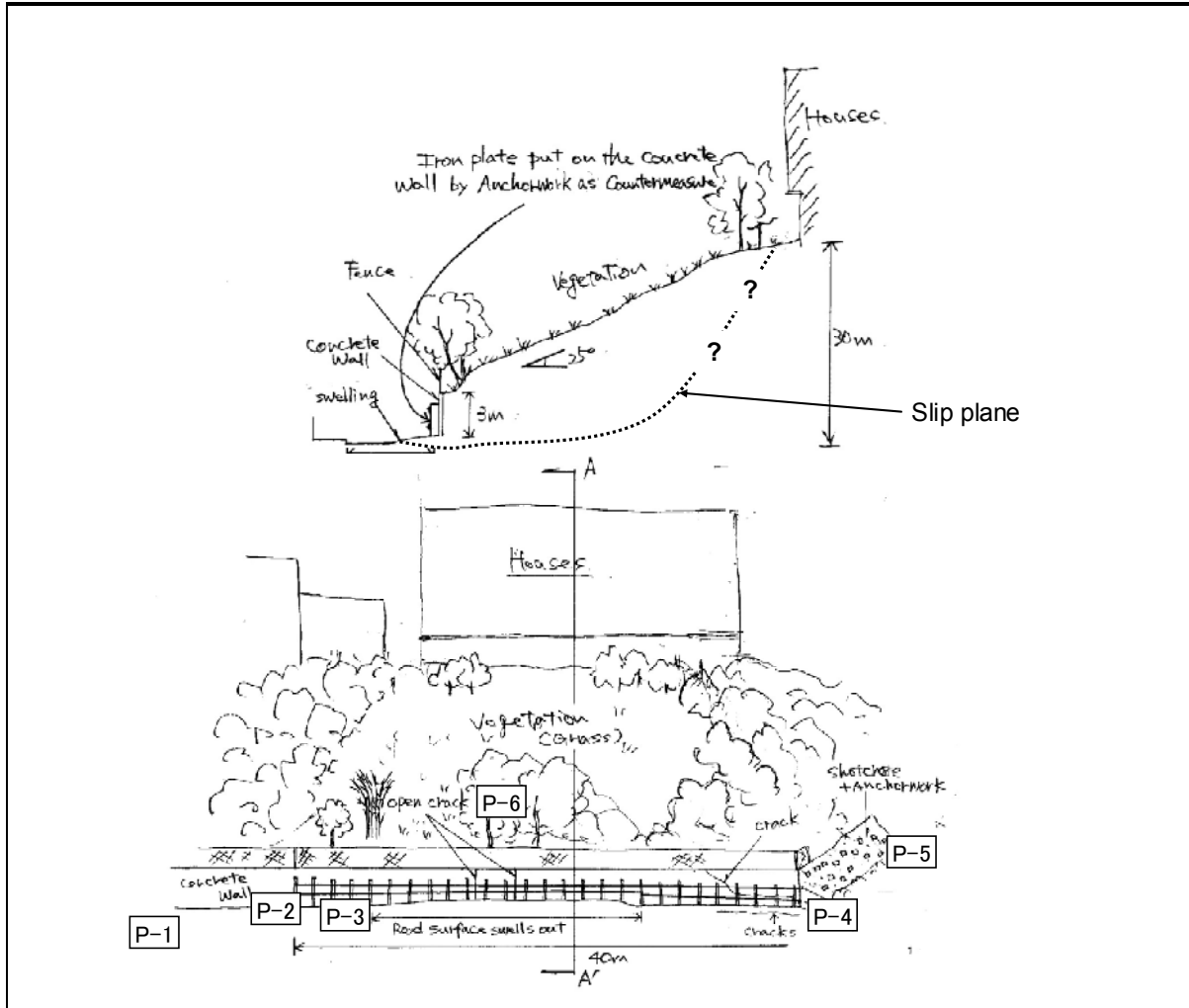


# SLOPE INSPECTION SHEET

**SHEET 2/4**

Slope ID	11	Type of Disaster	Slope Failure / <u>Landslide</u>	Date	9/7/2003
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**Sketch**



**Remarks**

- Many deformations are found on the road and toe of the slope.
- Open cracks are found on the construction joint of the concrete wall
- North part of the slope is put shotcrete work and Anchor work lately.

# SLOPE INSPECTION SHEET

**SHEET 3/4**

Slope ID	11	Type of Disaster	Slope Failure / Landslide	Date	9/7/2003
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## Photograph



P-1 General View



P-2 Existing Countermeasure



P-3 Deformation on the road



P-4 Cracks on the road



P-5 Existing Countermeasure at North part of the slope



P-6 Crack on the concrete wall

<b>SLOPE INSPECTION SHEET</b>				
<b>2 LANDSLIDE</b>			<b>Sheet 4 / 4</b>	
Slope ID	11	Type of Disaster	Steep Slope Failure / <u>Landslide</u>	Data
				9/7/2003

**Condition of Slope**

✓ Tick One

<b>Topography</b>	History of Landslide	Yes	✓	10	
		No		0	
	Anomaly				
	<u>Disturbe Contour Lines</u>	Obvious		✓	40
	Geographical Features like Scarp at Top of Slope Subsidence at Upper Part of Slope Heaving or Swelling at Toe of Slope	Patially			30
		Uncertain		10	
<b>Geological Structure</b>	Fault, Sheared Zone			10	
	Alteration Zone			10	
	Dip Slope			6	
	Opposite dip Slope		✓	3	
	Intrusive structure, Cap rock structure			3	
	Others			0	
<b>Geological Condition</b>	Schist		✓	3	
	Gneiss			2	
	Others (Volcanic Rock, Igneous Rock)			2	
<b>Deformation</b>	Bulging at Toe	Yes	✓	8	
		No		0	
	Depresion of Subsidence	Yes		✓	8
		No	✓		0
	Cracks on Surface, Diagonal tension, Sher Cracking	Yes		✓	8
		No	✓		0
	Deformation of Countermeasure	Yes	✓		8
		No		✓	0
<b>Suraface Condition</b>	Spring, Natural Waterpath	Yes		3	
		No	✓	0	
	Surface Drainage	Available (Good)			0
		Available (Need Repair)			2
		Not Available		✓	1
	<b>Score</b>				<b>73</b>

**Countermeasure**

✓ Tick One

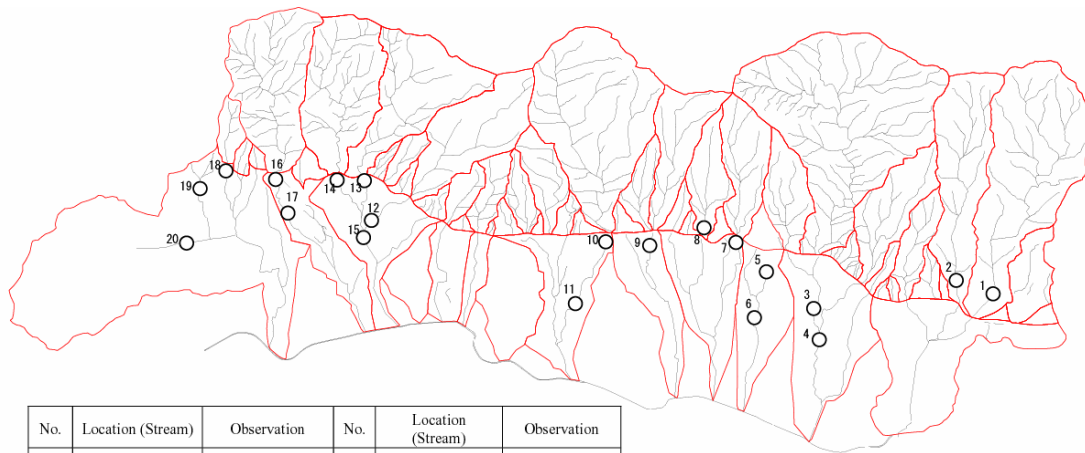
Effective			-20
Partially effective		✓	-10
Not effective or nothing			0
<b>Hazard Score</b>		<b>63</b>	

## ***Libro de Datos E***

**Calibrador del Nivel de Agua**

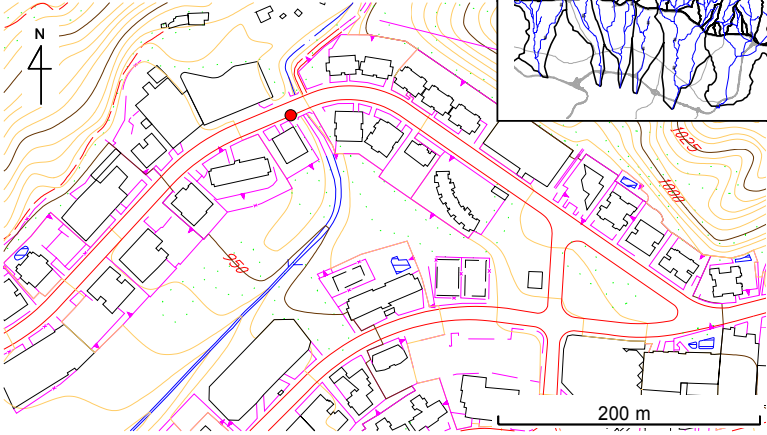
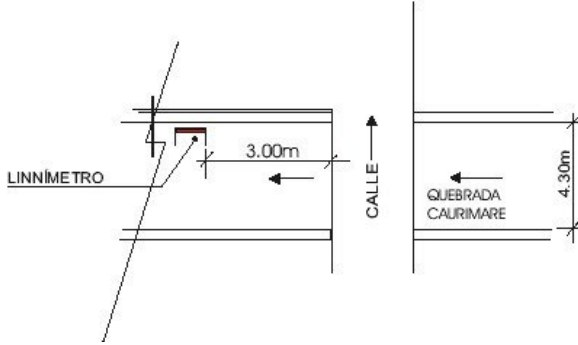
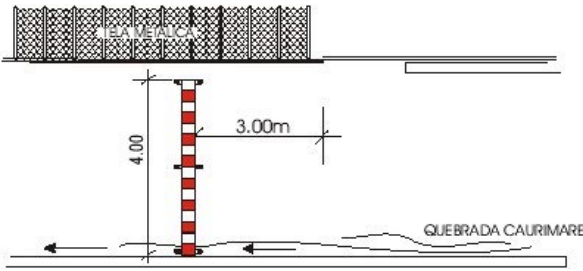

**Tabla DB.4.1 Lista de Limnómetros**

No.	Ubicación (Quebrada)	Observación	Latitud	Longitud	Elevación (m)
1	Caurimare	Comunidad	1,162,207	741,721	956
2	Galindo	Guardabosque en la Estación Galindo	1,162,070	741,077	919
3	Tocome (1)	Comunidad	1,161,848	738,309	883
4	Tocome (2)	Comunidad	1,160,777	738,272	850
5	Agua de Maiz (1)	Comunidad	1,162,452	737,336	904
6	Agua de Maiz (2)	Comunidad	1,161,489	737,155	860
7	Sebucan	Comunidad	1,163,156	736,756	974
8	Pajarito	INPARQUE	1,163,362	736,043	1,012
9	Quintero	Guardia Nacional	1,162,730	735,011	929
10	Chacaito (1)	Comunidad	1,163,126	734,237	967
11	Chacaito (2)	Comunidad	1,161,903	733,633	894
12	Gamboa	Comunidad	1,163,593	729,762	913
13	Anauco (1)	Comunidad	1,164,225	729,555	928
14	Cotiza	Policía Metropolitana	1,164,395	729,048	943
15	Anauco (2)	Comunidad	1,163,329	729,537	894
16	Catuche (1)	Comunidad	1,164,360	727,818	1020
17	Catuche (2)	Comunidad	1,163,714	728,074	969
18	Agua Salud	Comunidad	1,164,178	726,837	1,002
19	Agua Salada	Comunidad	1,164,208	726,383	963
20	Caroata	Comunidad	1,163,113	726,127	933



No.	Location (Stream)	Observation	No.	Location (Stream)	Observation
1	Caurimare	Community	11	Chacaito (2)	Community
2	Galindo	Sucre Municipality	12	Galindo	Community
3	Tocome (1)	Community	13	Anauco (1)	Community
4	Tocome (2)	Community	14	Cotiza	Metropolitan Police
5	Agua de Maiz (1)	Community	15	Anauco (2)	Community
6	Agua de Maiz (2)	Community	16	Catucho (1)	Community
7	Sebucan	Community	17	Catucho (2)	Community
8	Pajarito	INPARQUE	18	Agua Salud	Community
9	Seca	National Guard	19	Agua Salada	Community
10	Chacaito (1)	Community	20	Caroata	Community

**Figura DB-4.1 Ubicación de de Limnómetros**

No.	Stream Name	Station
1	Caurimare	Urb. Terrazas de El Avila (Calle N°5. La Urbina). Sucre Municipality
<p>Location Map</p> 		<p>Location of Staff Gauge</p> <p>Longitude : 741,721  Latitude : 1,162,207  Elevation of Gauge Datum : 956 above MSL  (Coordinates UTM Datum La Canoa)</p>
<p>Plan</p> 	<p>Front</p> 	
<p>Photos</p> 		

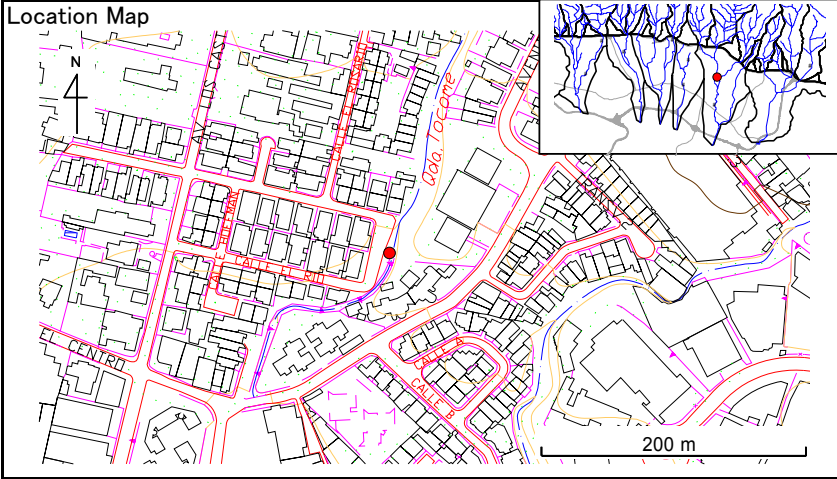
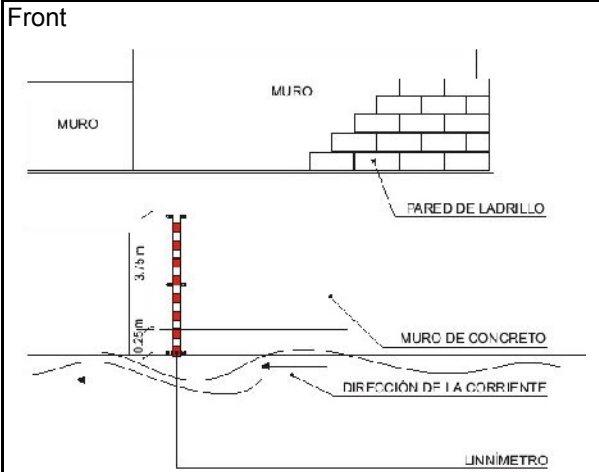



No.	Stream Name	Station
2	Galindo	Cota Mil, Estación de Guarda Parques Galindo, Urb. La Urbina. en la Estación del I.M.A.S. Sucre Municipality

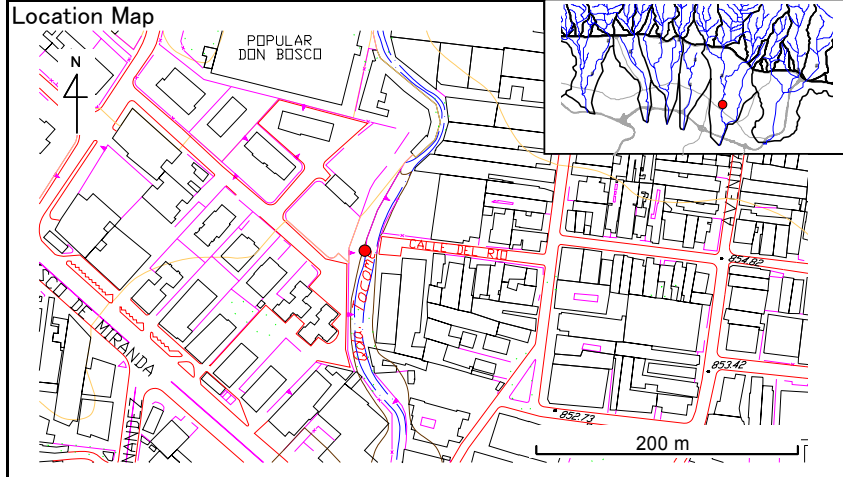
<p>Location Map</p>		<p>Location of Staff Gauge</p> <p>Longitude : 741,077  Latitude : 1,162,070  Elevation of Gauge Datum : 919 above MSL  (Coordinates UTM Datum La Canoa)</p>
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<p>Plan</p>	<p>Front</p>
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Photos

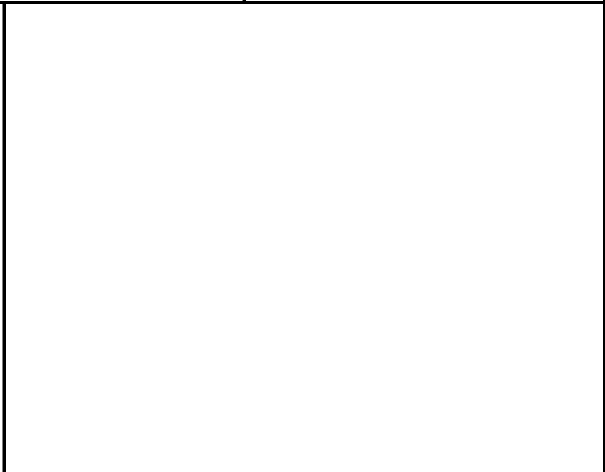
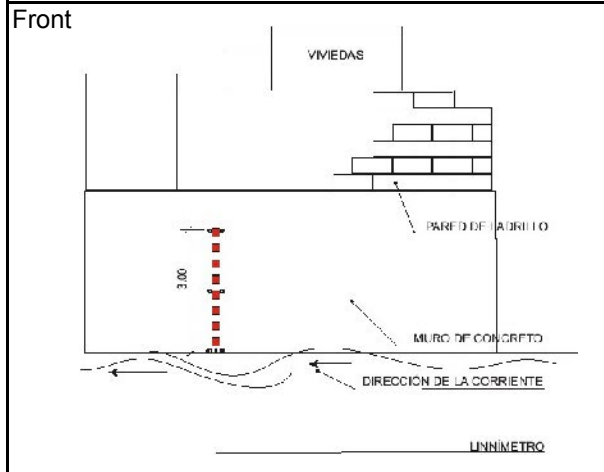
No.	Stream Name	Station
3	Tocome (1)	1 <sup>ra</sup> Transversal de Los Castaños con calle El Río Sucre Municipality
<p>Location Map</p> 		<p>Location of Staff Gauge</p> <p>Longitude : 738,309  Latitude : 1,161,848  Elevation of Gauge Datum :883 above MSL  (Coordinates UTM Datum La Canoa)</p>
<p>Front</p> 		
<p>Photos</p> 		

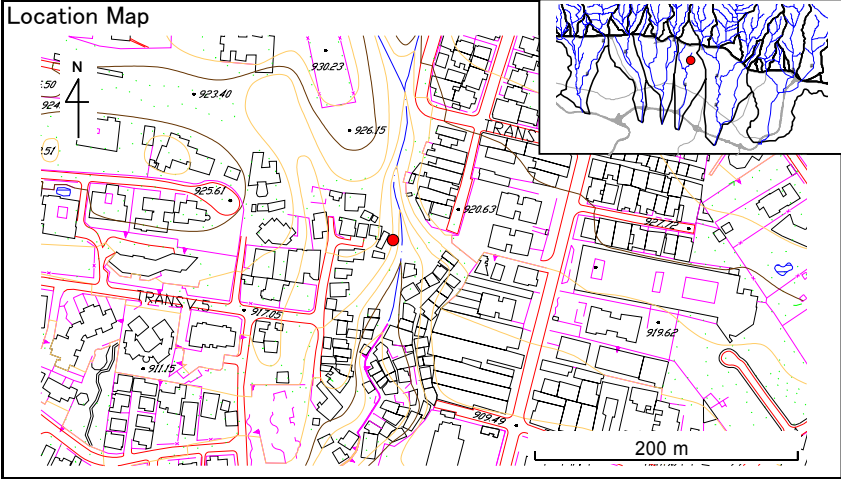
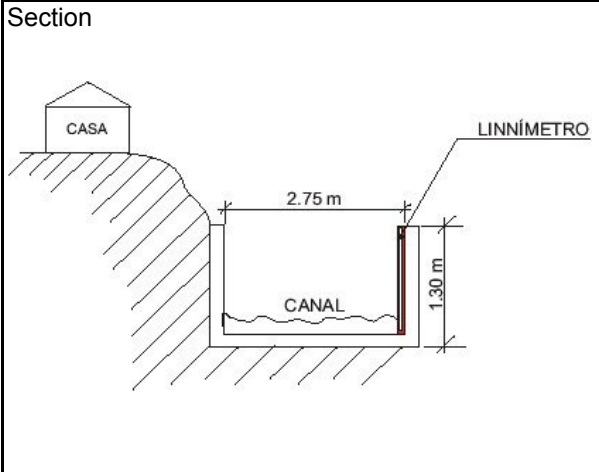
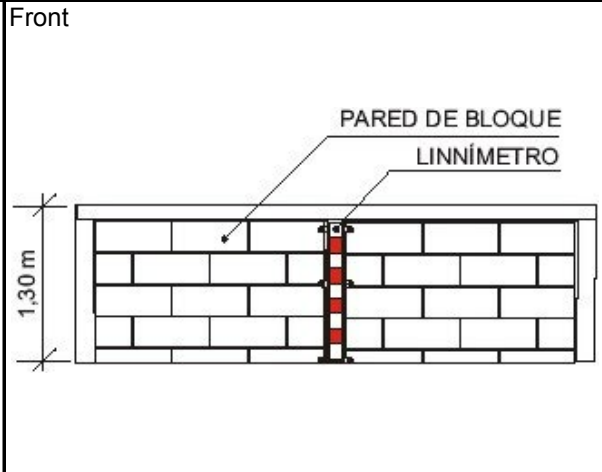

No.	Stream Name	Station
4	Tocome (2)	Final calle Del Río, Boleita Norte Sucre Municipality



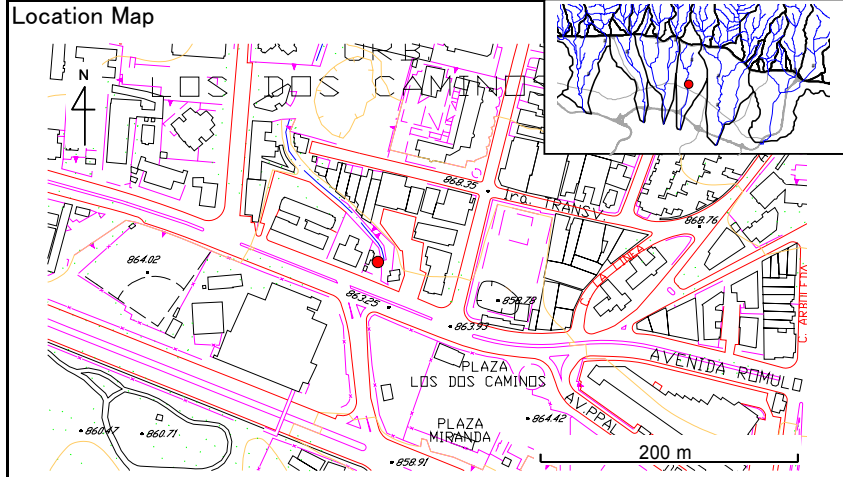
Location of Staff Gauge

Longitude : 738,272  
Latitude : 1,160,777  
Elevation of Gauge Datum : 850 above MSL  
(Coordinates UTM Datum La Canoa)



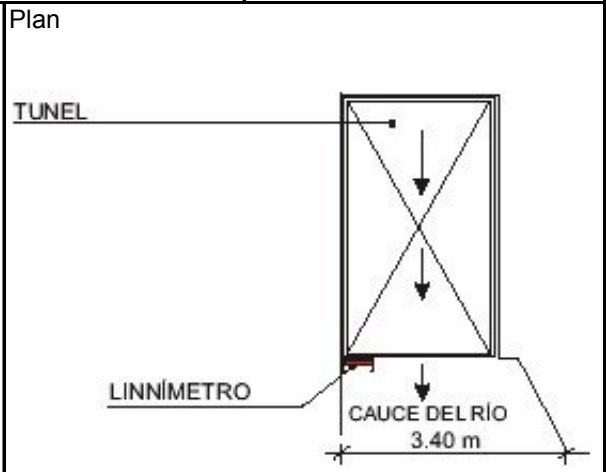
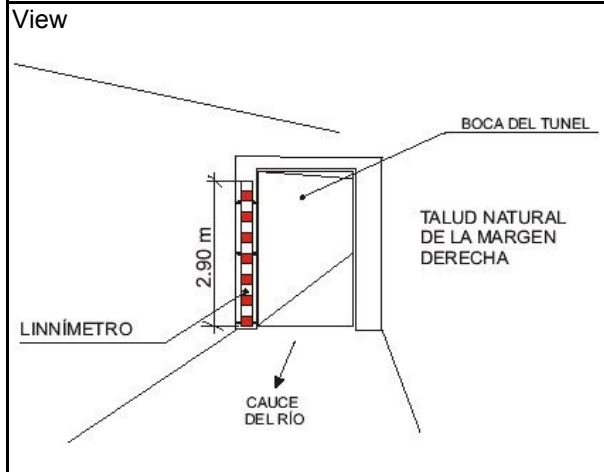
No.	Stream Name	Station
5	Agua de Maiz (1)	Barrio Agua de Maíz, 10 <sup>ma</sup> Transversal de Los Dos Caminos Sucre Municipality
<p>Location Map</p> 		<p>Location of Staff Gauge</p> <p>Longitude : 737,336  Latitude : 1,162,452  Elevation of Gauge Datum : 904 above MSL  (Coordinates UTM Datum La Canoa)</p>
<p>Section</p> 	<p>Front</p> 	
<p>Photos</p> 		

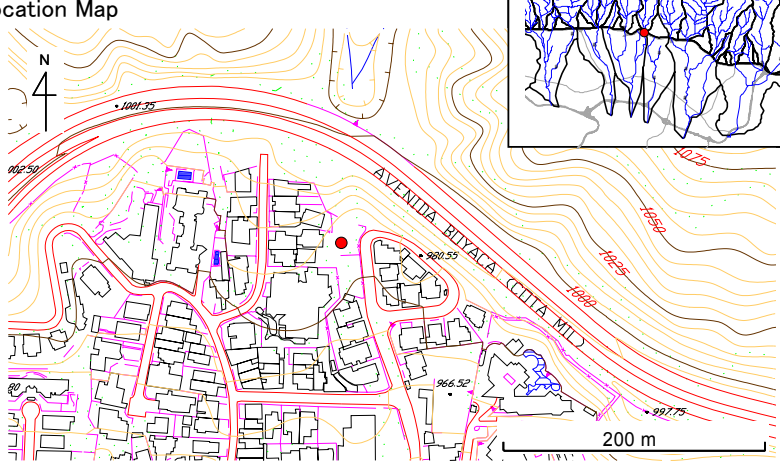
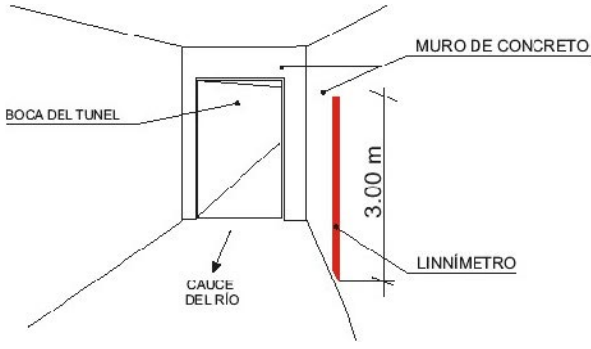
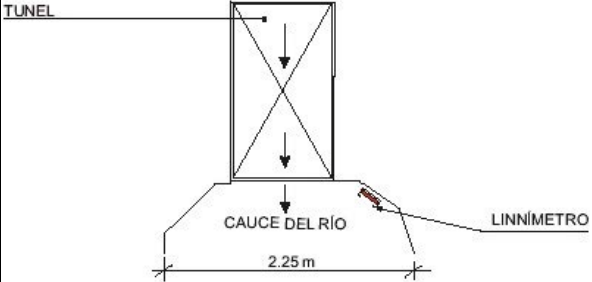

No.	Stream Name	Station
6	Agua de Maiz (2)	Av. Rómulo Gallegos detrás del Conj. Res. Los Dos Caminos. Sucre Municipality

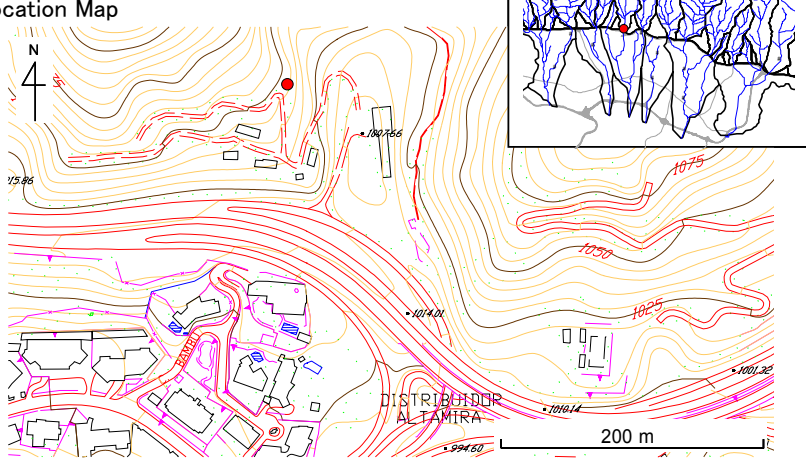
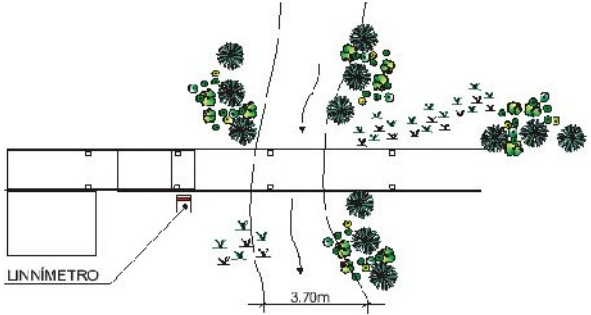
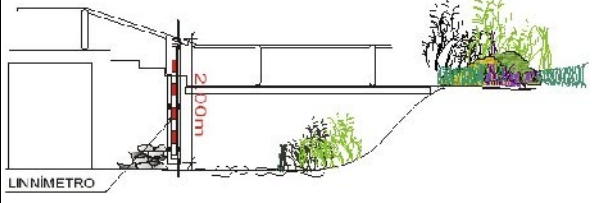



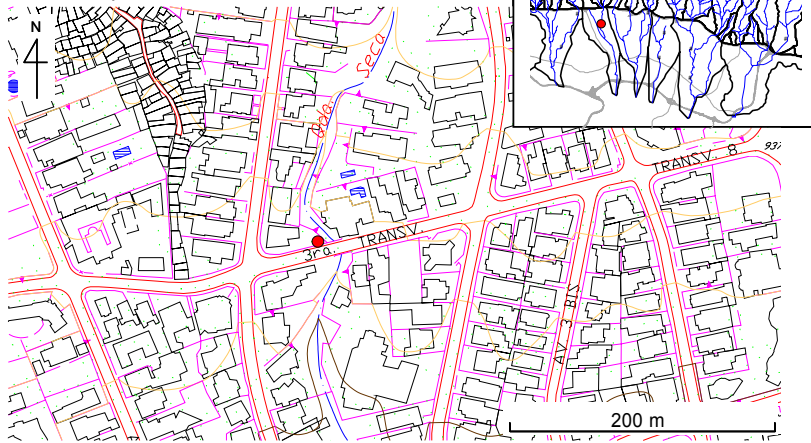
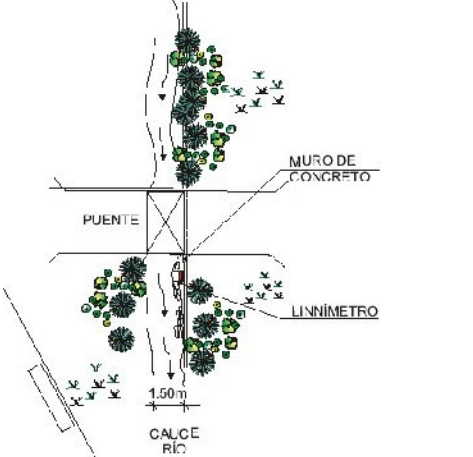

Location of Staff Gauge

Longitude : 737,155  
Latitude : 1,161,489  
Elevation of Gauge Datum : 860 above MSL  
(Coordinates UTM Datum La Canoa)



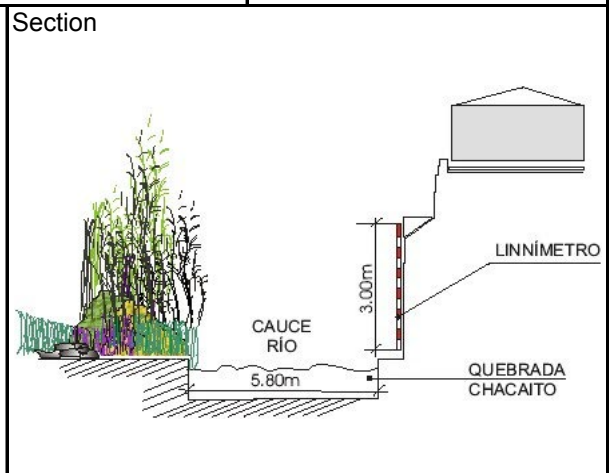
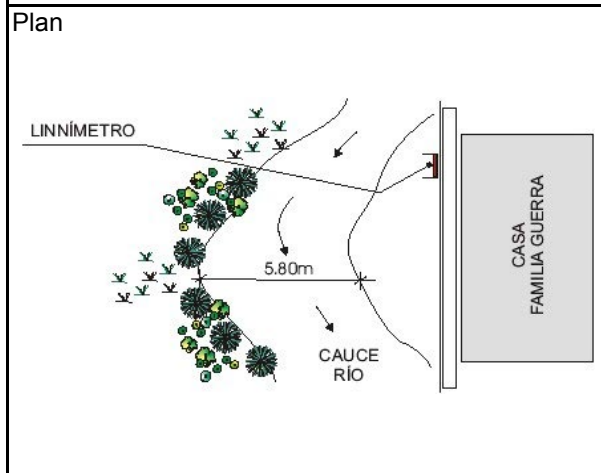
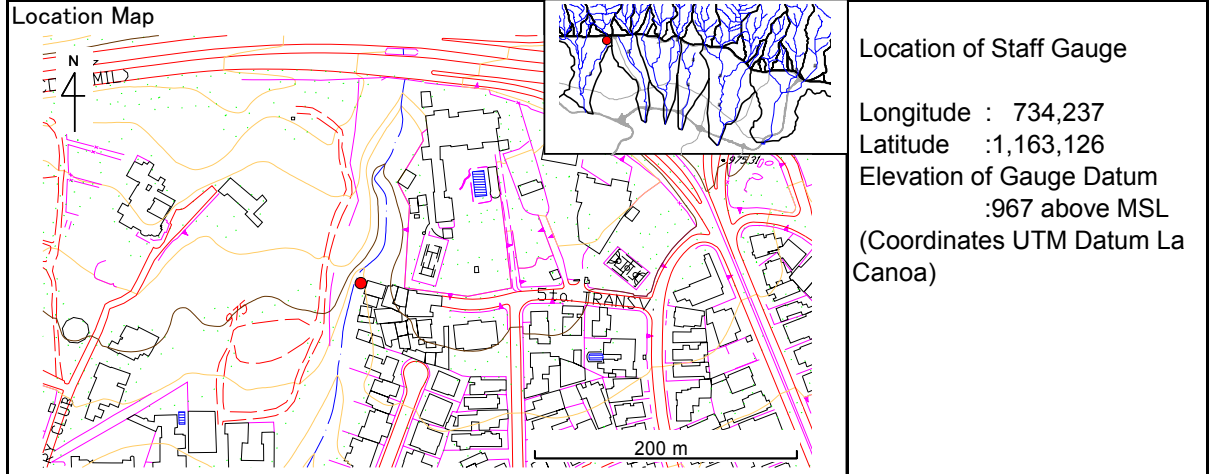
No.	Stream Name	Station
7	Sebucan	Urb. Santa María Norte, final Av. Principal de Santa María y Transversal 11, Urb. Sebucán. Sucre Municipality
<p>Location Map</p> 		<p>Location of Staff Gauge</p> <p>Longitude : 736,756  Latitude : 1,163,156  Elevation of Gauge Datum : 974 above MSL  (Coordinates UTM Datum La Canoa)</p>
<p>View</p> 		<p>Plan</p> 
<p>Photos</p> 		

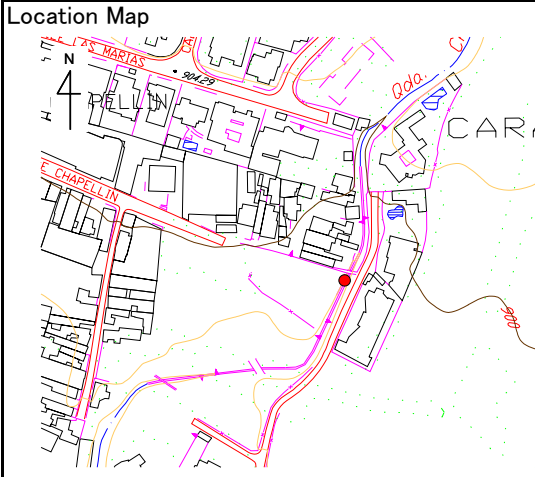
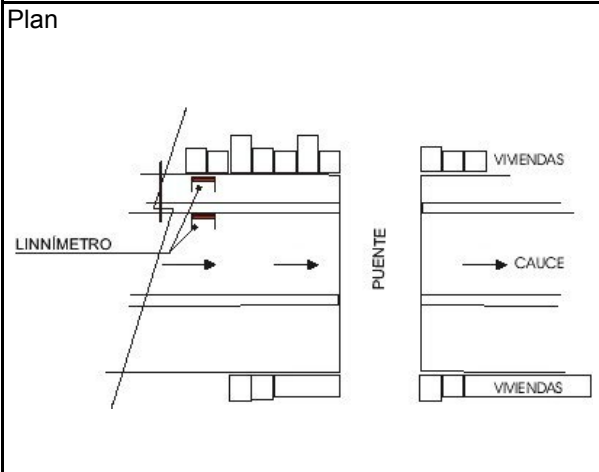
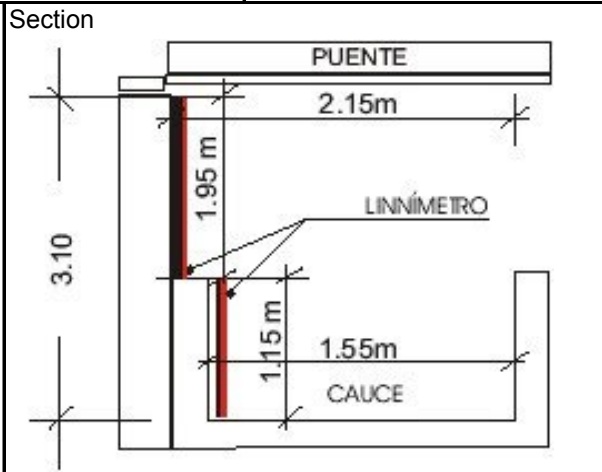

No.	Stream Name	Station
8	Pajarito	Cota Mil, Estación de Guardaparque Pajaritos. Chacao Municipality
<p>Location Map</p> 		<p>Location of Staff Gauge</p> <p>Longitude : 736,043  Latitude : 1,163,362  Elevation of Gauge Datum : 1,012 above MSL  (Coordinates UTM Datum La Canoa)</p>
<p>Plan</p> 	<p>Front</p> 	
<p>Photos</p> 		

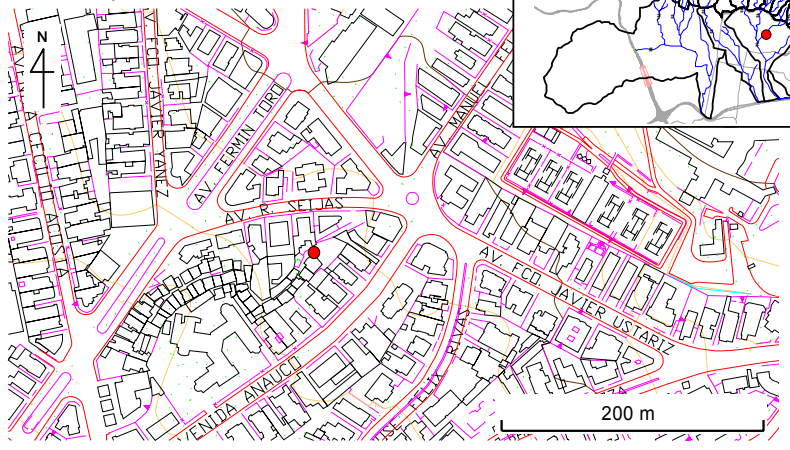
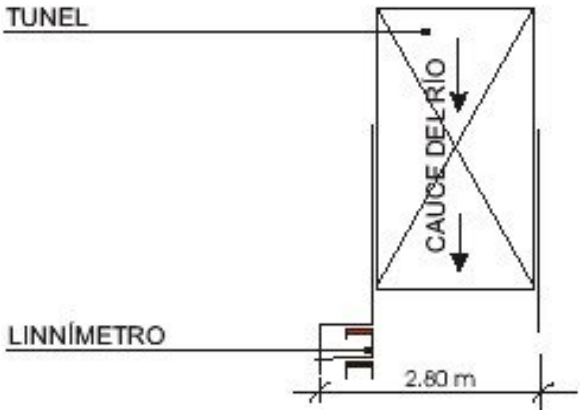
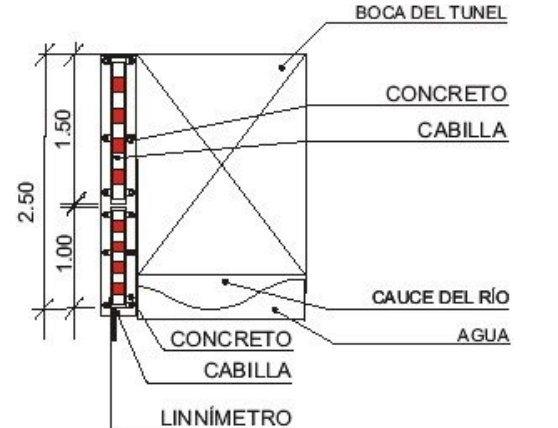

No.	Stream Name	Station
9	Quintero	8 <sup>va</sup> Transversal / con Av. Carlos Frías Y 3 <sup>era</sup> Av. Qta. El Café Chacao Municipality
<p>Location Map</p> 		<p>Location of Staff Gauge</p> <p>Longitude : 735,011  Latitude : 1,162,730  Elevation of Gauge Datum : 929 above MSL  (Coordinates UTM Datum La Canoa)</p>
<p>Plan</p> 		
<p>Photos</p> 		

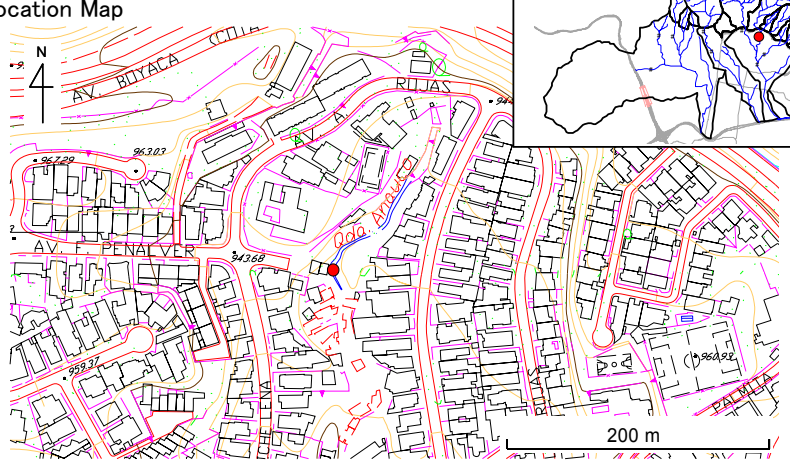
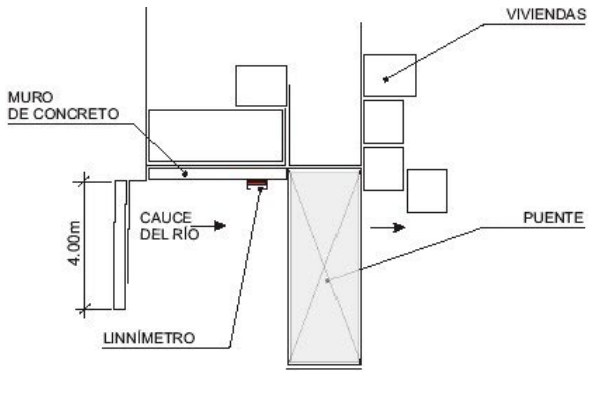



No.	Stream Name	Station
10	Chacaito (1)	Barrio Nuevo, final vereda N° 3, 5 <sup>ta</sup> Transversal de La Castellana Chacao Municipality

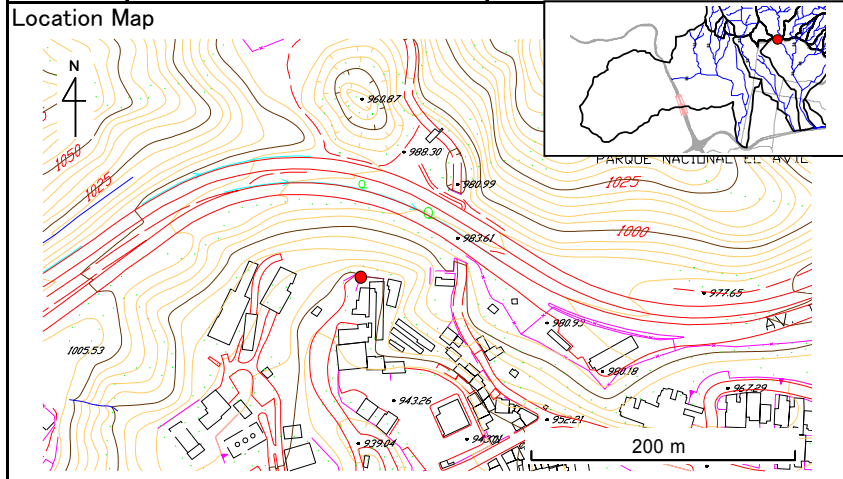


No.	Stream Name	Station
11	Chacaito (2)	Final calle Mohedano, adyacente a las Canchas de Golf, sector Contry Club. Chacao Municipality
<p>Location Map</p> 		<p>Location of Staff Gauge</p> <p>Longitude : 733,633  Latitude : 1,161,903  Elevation of Gauge Datum : 894 above MSL  (Coordinates UTM Datum La Canoa)</p>
<p>Plan</p> 	<p>Section</p> 	
<p>Photos</p> 		

No.	Stream Name	Station
12	Gamboa	Final Callejón Gamboa Barrio Fermín Toro San Bernardino. Libertador Municipality
<p>Location Map</p> 		<p>Location of Staff Gauge</p> <p>Longitude : 729,762  Latitude : 1,163,593  Elevation of Gauge Datum : 913 above MSL  (Coordinates UTM Datum La Canoa)</p>
<p>Plan</p> 	<p>Front</p> 	
<p>Photos</p> 		

No.	Stream Name	Station
13	Anauco (1)	Sector Bambú parte alta Parroquia San Bernardino. Libertador Municipality
<p>Location Map</p> 		<p>Location of Staff Gauge</p> <p>Longitude : 729,555  Latitude : 1,164,225  Elevation of Gauge Datum : 928 above MSL  (Coordinates UTM Datum La Canoa)</p>
<p>Plan</p> 		
<p>Photos</p> 		

No.	Stream Name	Station
14	Cotiza	Policía Metropolitana, Área Canica, Cotiza, Parroquia San José. Libertador Municipality



Location of Staff Gauge

Longitude : 729,048  
Latitude : 1,164,395  
Elevation of Gauge Datum : 943 above MSL  
(Coordinates UTM Datum La Canoa)

