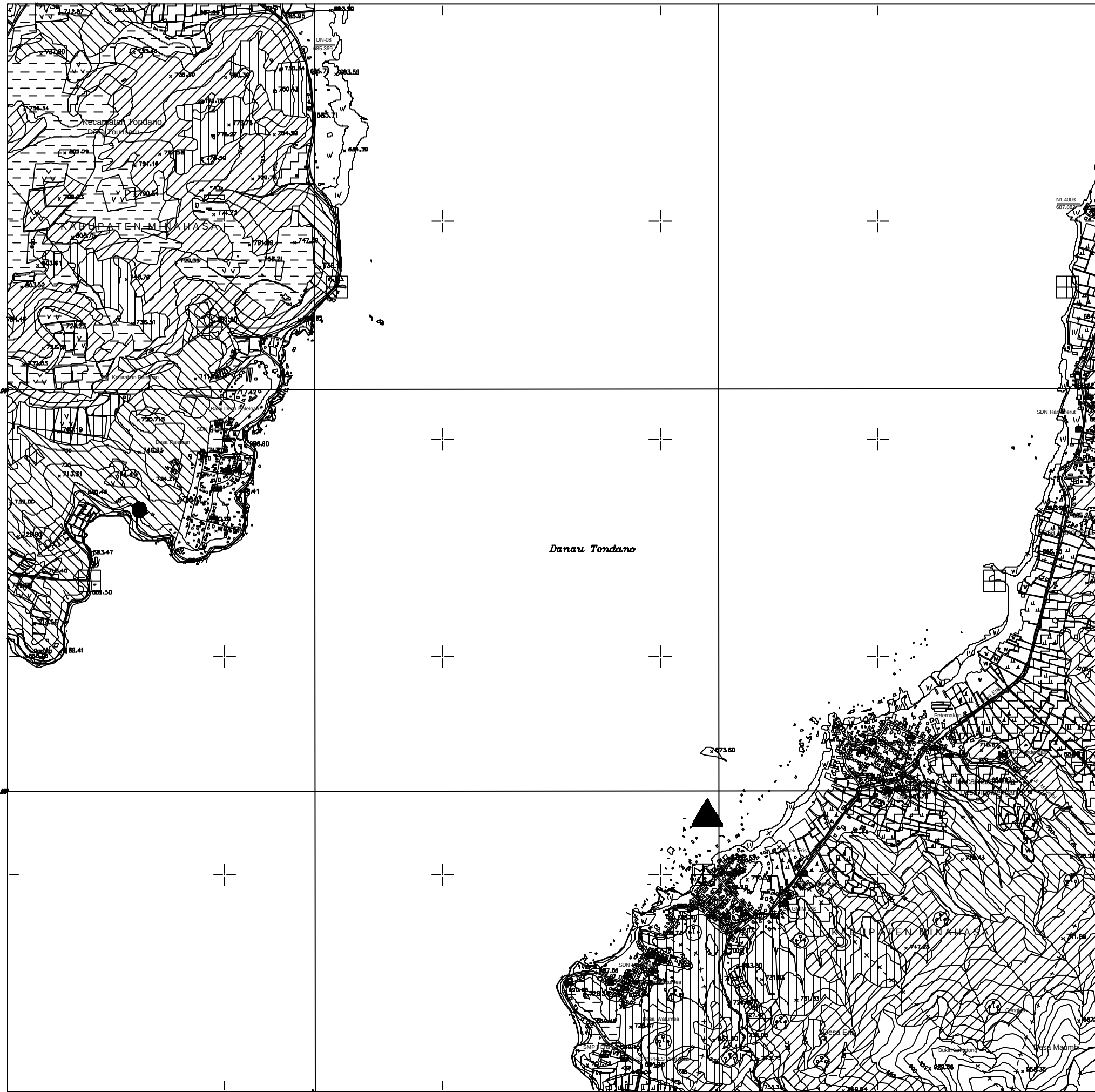
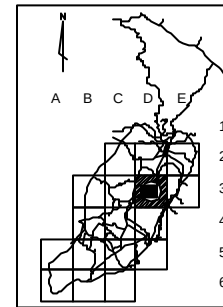




INDEX MAP



LEGEND

WATERSHED CONSERVATION PLAN

WATERSHED CONSERVATION PLAN	
INTENSIVE AREA BOUNDARY	
FORESTRY	AGRICULTURE / AGROFORESTRY
Protection Forest	AGF - I / IM
Community Forest	AGF - II / IM
Nursery	AGF - III / IM
Forest Guard Station	UF / IM
EROSION CONTROL FACILITY	
Rehabilitation of Existing Earth Fill Check Dam	IF
Rehabilitation of Existing Gabion Box Check Dam	Non-Agricultural Area
Check Dam	MONITORING SYSTEM
River Bed Protection Works	Soil Erosion Monitoring Station
River Bank Protection Works	Rainfall Monitoring Station
Slope Protection Works for Hillside	Flow Rate Monitoring Station
Slope Protection Works for Road	Water Quality Monitoring Station
	Bench Mark

TOPOGRAPHICAL MAP

Existing Triangulation Point Titik Tetap Triangulasi	Electric Power Line Jalur Tegangan Tinggi
Existing Bench Mark Bench Mark	Cutting and Embankment Kerukan dan Timbunan
Spot Height Titik Tinggi	Swamp Rawa
House / Building Bangunan	Paddy field Sawah
Gasoline Pump Pompa Bensin	Boundary of Vegetation Batas Tanaman
Road Jalan	Field Ladang
Path Jalan Setapak	Forest Hutan
Bridge Jembatan	Grass Rumput
Station	Tree Pohon
Kecamatan Boundary Batas Kecamatan	Water hole Lubang Air
Kelurahan Boundary Batas Kelurahan	Sluice Pintu Air
Land Slide Gorong	Pipe Culvert Gorong - gorong
a. River / Sungai	Line Contour Garis Kontur
b. Rivulet / Anak Sungai	Pond, lake Kolam, danau
c. Direction / Arah Sungai	Sand Pasir

Scale 1 : 10,000



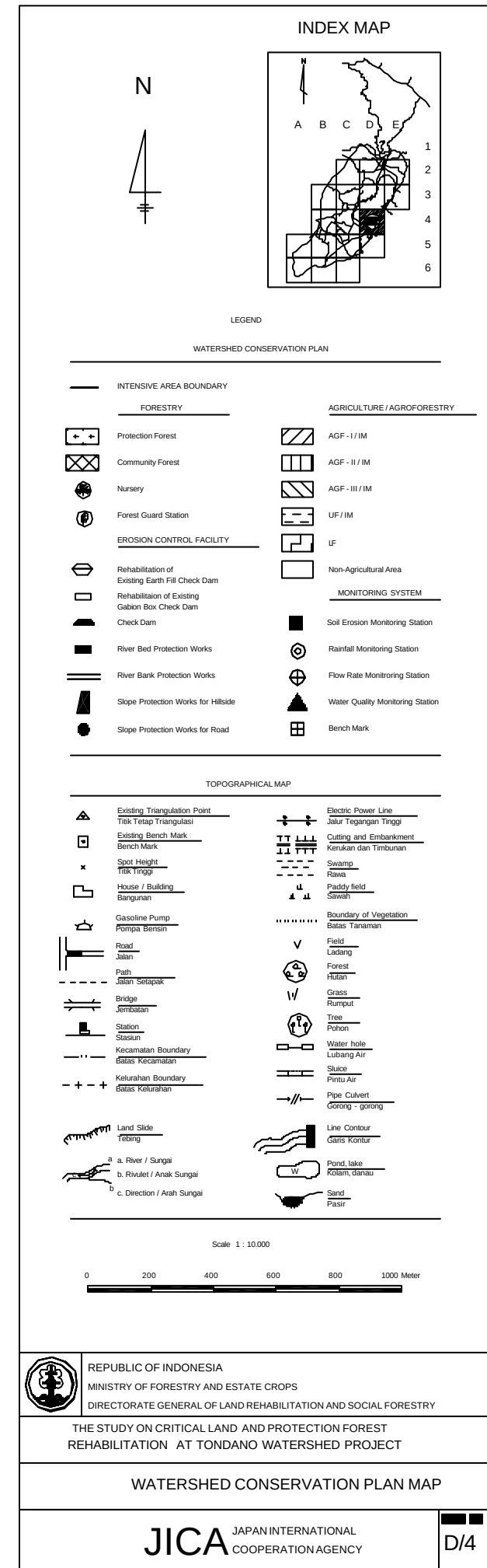
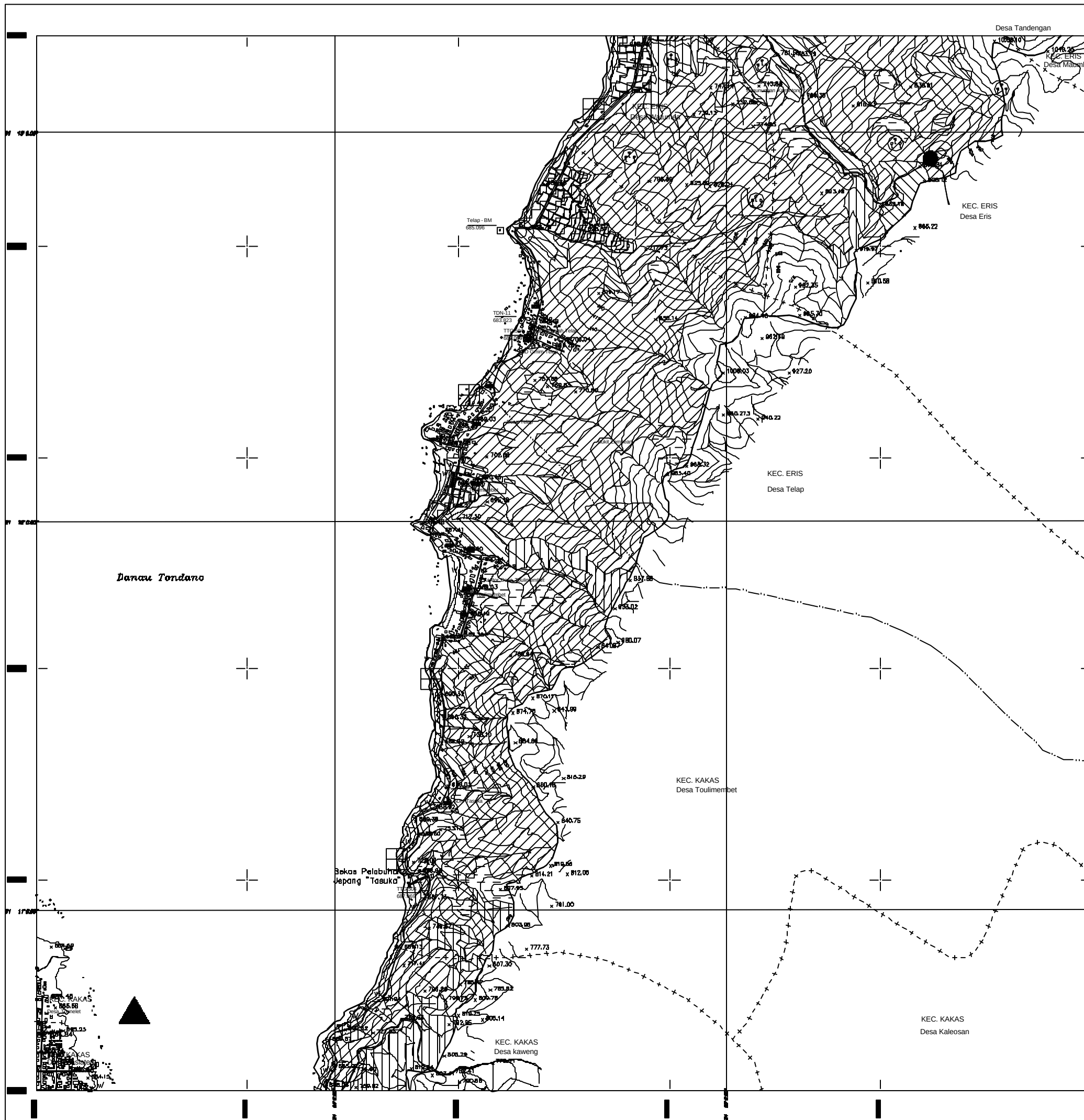
REPUBLIC OF INDONESIA
MINISTRY OF FORESTRY AND ESTATE CROPS
DIRECTORATE GENERAL OF LAND REHABILITATION AND SOCIAL FORESTRY

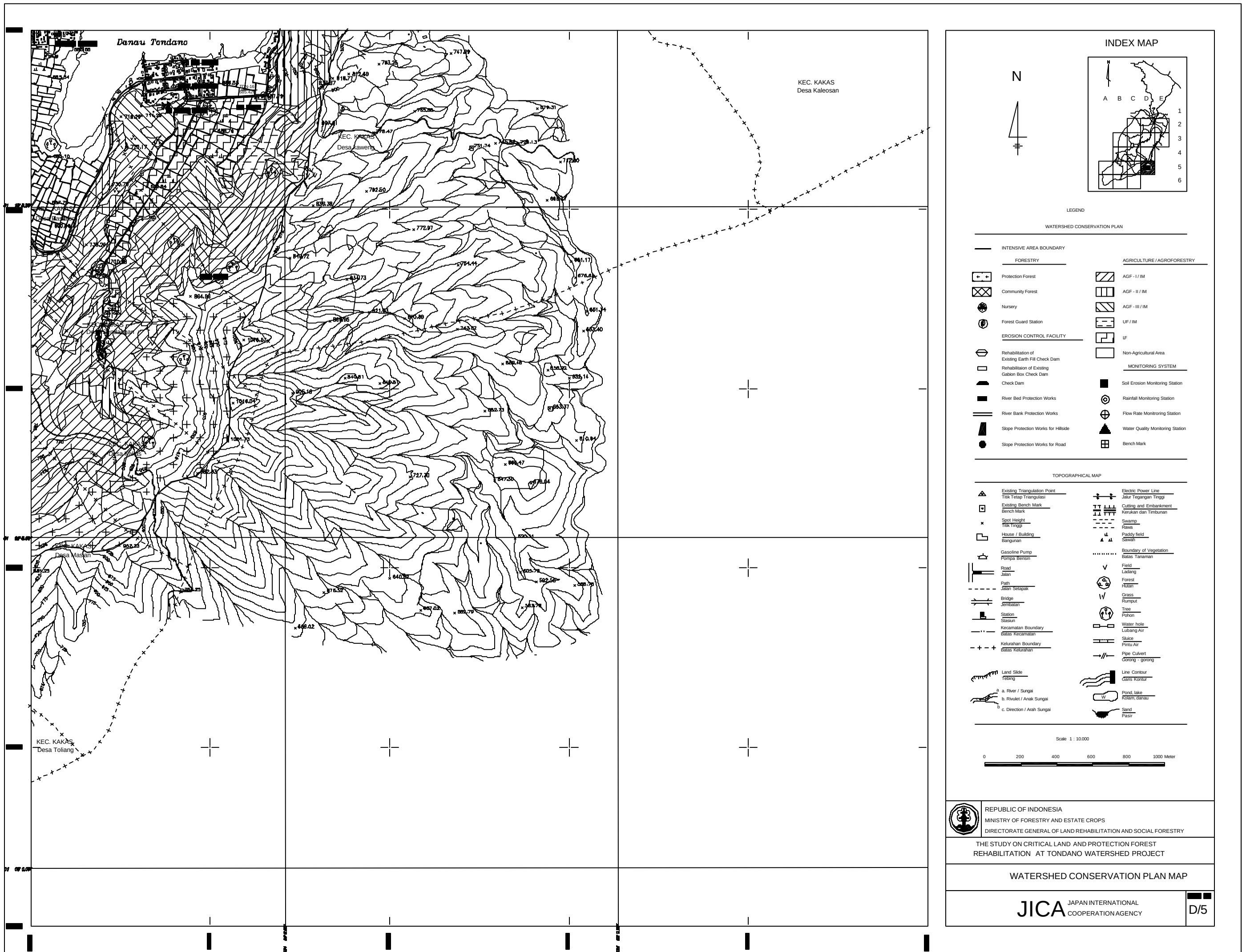
THE STUDY ON CRITICAL LAND AND PROTECTION FOREST
REHABILITATION AT TONDANO WATERSHED PROJECT

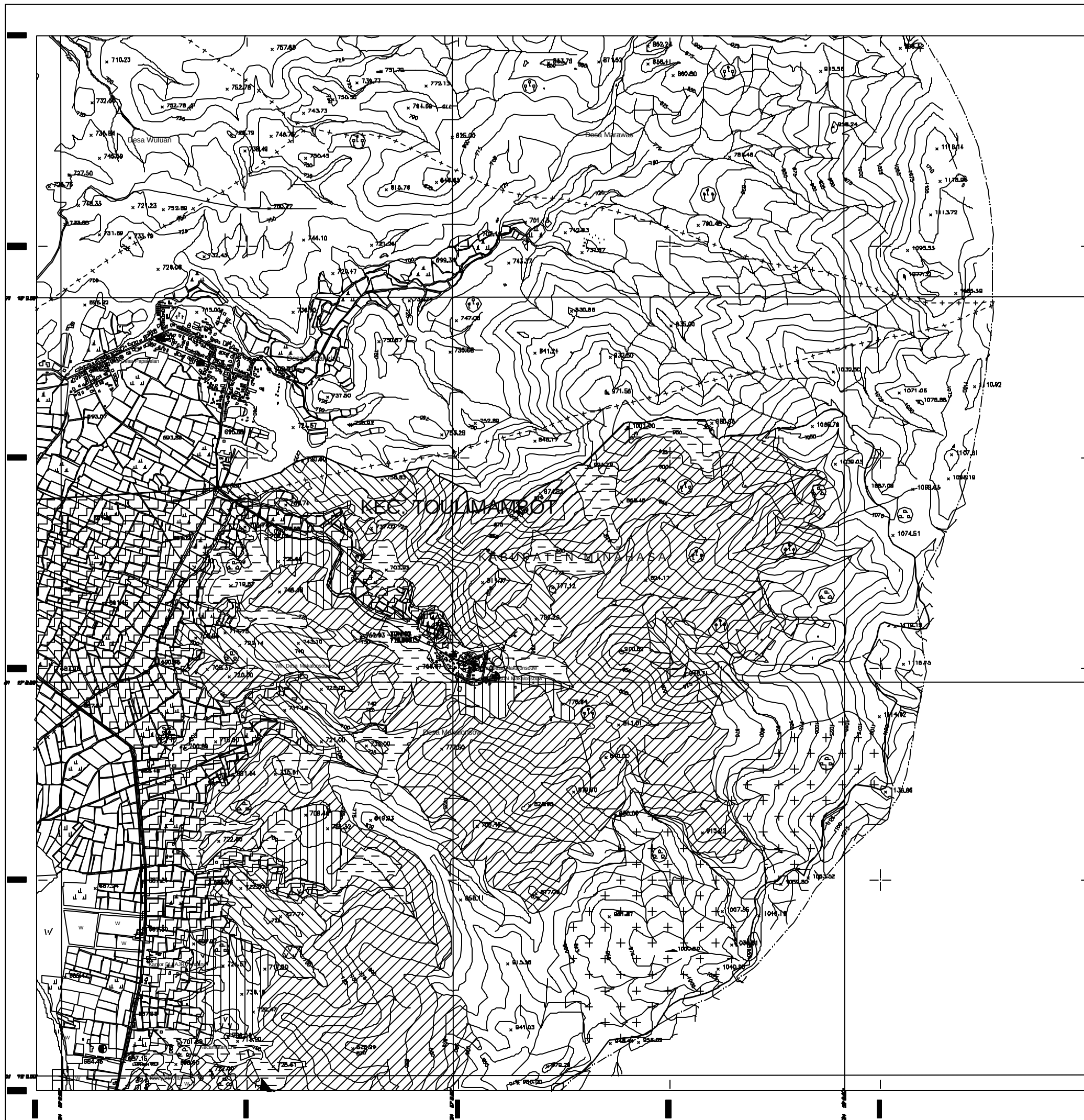
WATERSHED CONSERVATION PLAN MAP

JICA JAPAN INTERNATIONAL
COOPERATION AGENCY

D/3







INDEX MAP

LEGEND

WATERSHED CONSERVATION PLAN

FORESTRY	AGRICULTURE / AGROFORESTRY
Protection Forest	AGF - I / IM
Community Forest	AGF - II / IM
Nursery	AGF - III / IM
Forest Guard Station	UF / IM
EROSION CONTROL FACILITY	
Rehabilitation of Existing Earth Fill Check Dam	Non-Agricultural Area
Rehabilitation of Existing Gabion Box Check Dam	MONITORING SYSTEM
Check Dam	Soil Erosion Monitoring Station
River Bed Protection Works	Rainfall Monitoring Station
River Bank Protection Works	Flow Rate Monitoring Station
Slope Protection Works for Hillside	Water Quality Monitoring Station
Slope Protection Works for Road	Bench Mark

TOPOGRAPHICAL MAP

Existing Triangulation Point Titik Tetap Triangulasi	Electric Power Line Jalur Tegangan Tinggi
Existing Bench Mark Bench Mark	Cutting and Embankment Kerukan dan Timbunan
Spot Height Titik Tinggi	Swamp Rawa
House / Building Bangunan	Paddy field Sawah
Gasoline Pump Pompa Bensin	Boundary of Vegetation Batas Tanaman
Road Jalan	Field Ladang
Path Jalan Setapak	Forest Hutan
Bridge Jembatan	Grass Rumput
Station	Tree Pohon
Kecamatan Boundary batas Kecamatan	Water hole Lubang Air
Kalurahan Boundary batas Kalurahan	Sluice Pintu Air
Land Slide Gorong	Pipe Culvert Gorong - gorong
a. River / Sungai	Line Contour Garis Kontur
b. Rivulet / Anak Sungai	Pond, lake Kolam, danau
c. Direction / Arah Sungai	Sand Pasir

Scale 1 : 10,000

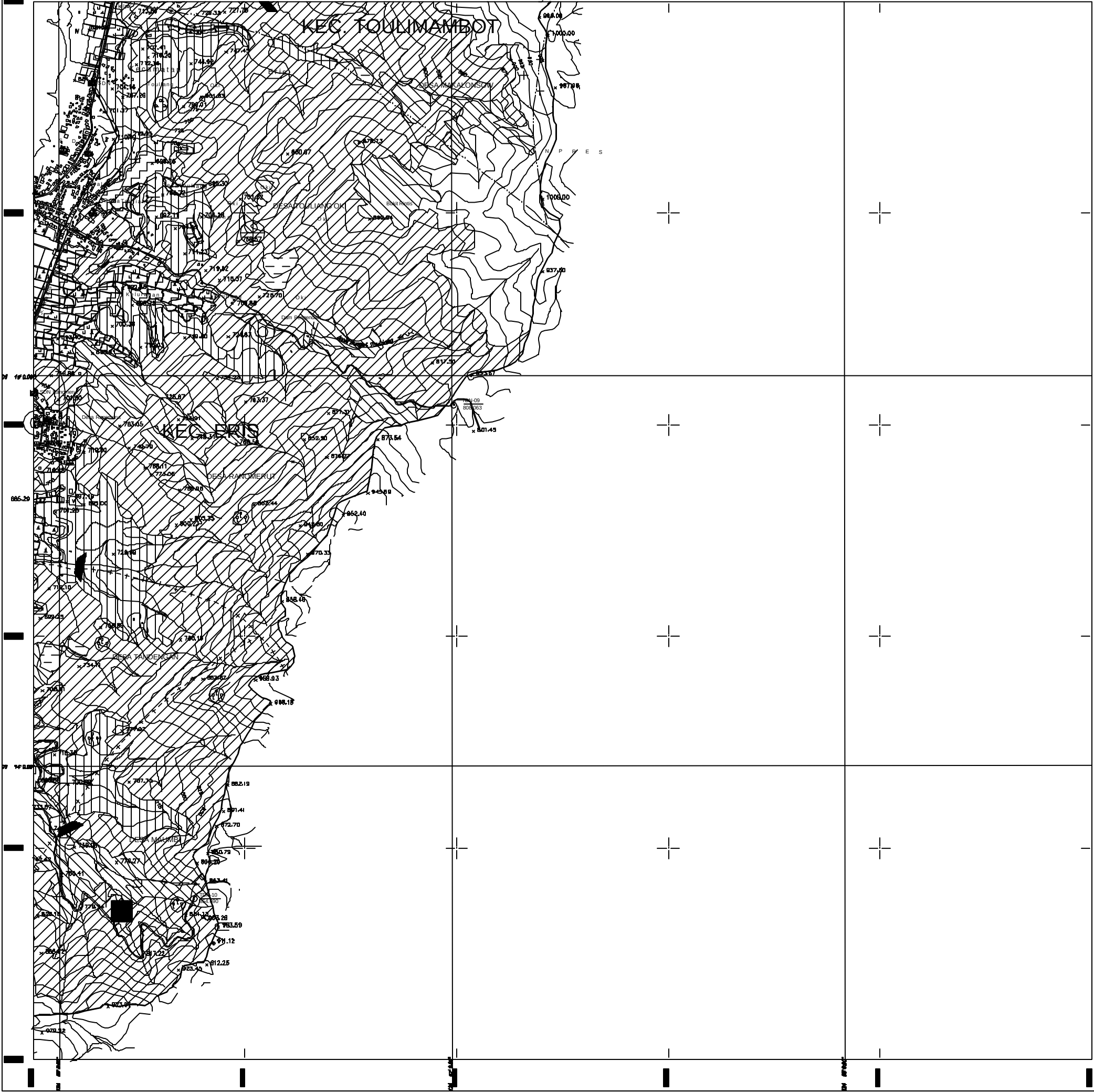
REPUBLIC OF INDONESIA
MINISTRY OF FORESTRY AND ESTATE CROPS
DIRECTORATE GENERAL OF LAND REHABILITATION AND SOCIAL FORESTRY

THE STUDY ON CRITICAL LAND AND PROTECTION FOREST
REHABILITATION AT TONDANO WATERSHED PROJECT

WATERSHED CONSERVATION PLAN MAP

JICA JAPAN INTERNATIONAL COOPERATION AGENCY

E/2



INDEX MAP

N

LEGEND

WATERSHED CONSERVATION PLAN

FORESTRY	AGRICULTURE / AGROFORESTRY
Protection Forest	AGF - I / IM
Community Forest	AGF - II / IM
Nursery	AGF - III / IM
Forest Guard Station	UF / IM
EROSION CONTROL FACILITY	
Rehabilitation of Existing Earth Fill Check Dam	Non-Agricultural Area
Rehabilitation of Existing Gabion Box Check Dam	MONITORING SYSTEM
Check Dam	Soil Erosion Monitoring Station
River Bed Protection Works	Rainfall Monitoring Station
River Bank Protection Works	Flow Rate Monitoring Station
Slope Protection Works for Hillside	Water Quality Monitoring Station
Slope Protection Works for Road	Bench Mark

TOPOGRAPHICAL MAP

Existing Triangulation Point Titik Tetap Triangulasi	Electric Power Line Jalur Tegangan Tinggi
Existing Bench Mark Bench Mark	Cutting and Embankment Kerukan dan Timbunan
Spot Height Titik Tinggi	Swamp Rawa
House / Building Bangunan	Paddy field Sawah
Gasoline Pump Pompa Bensin	Boundary of Vegetation Batas Tanaman
Road Jalan	Field Ladang
Path Jalan Setapak	Forest Hutan
Bridge Jembatan	Grass Rumput
Station	Tree Pohon
Kecamatan Boundary batas Kecamatan	Water hole Lubang Air
Kelurahan Boundary batas Kelurahan	Sluice Pintu Air
Land Slide Tebing	Pipe Culvert Gorong - gorong
a. River / Sungai	Line Contour Garis Kontur
b. Rivulet / Anak Sungai	Pond, lake Kolam, danau
c. Direction / Arah Sungai	Sand Pasir

Scale 1 : 10,000

REPUBLIC OF INDONESIA
MINISTRY OF FORESTRY AND ESTATE CROPS
DIRECTORATE GENERAL OF LAND REHABILITATION AND SOCIAL FORESTRY

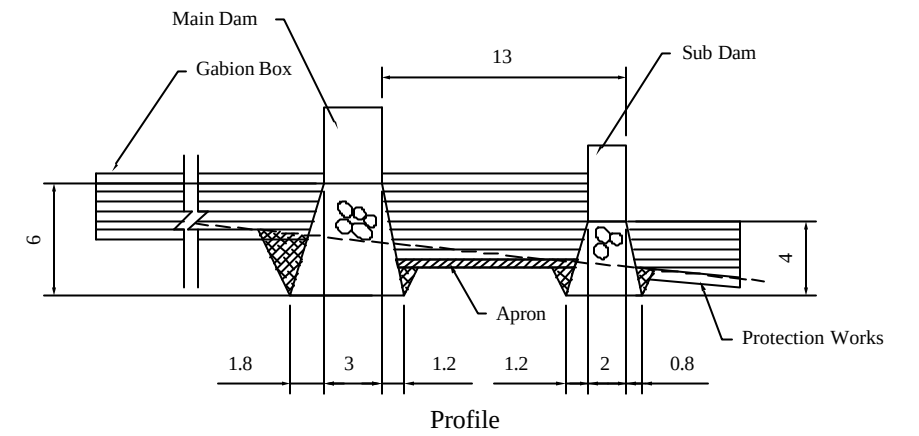
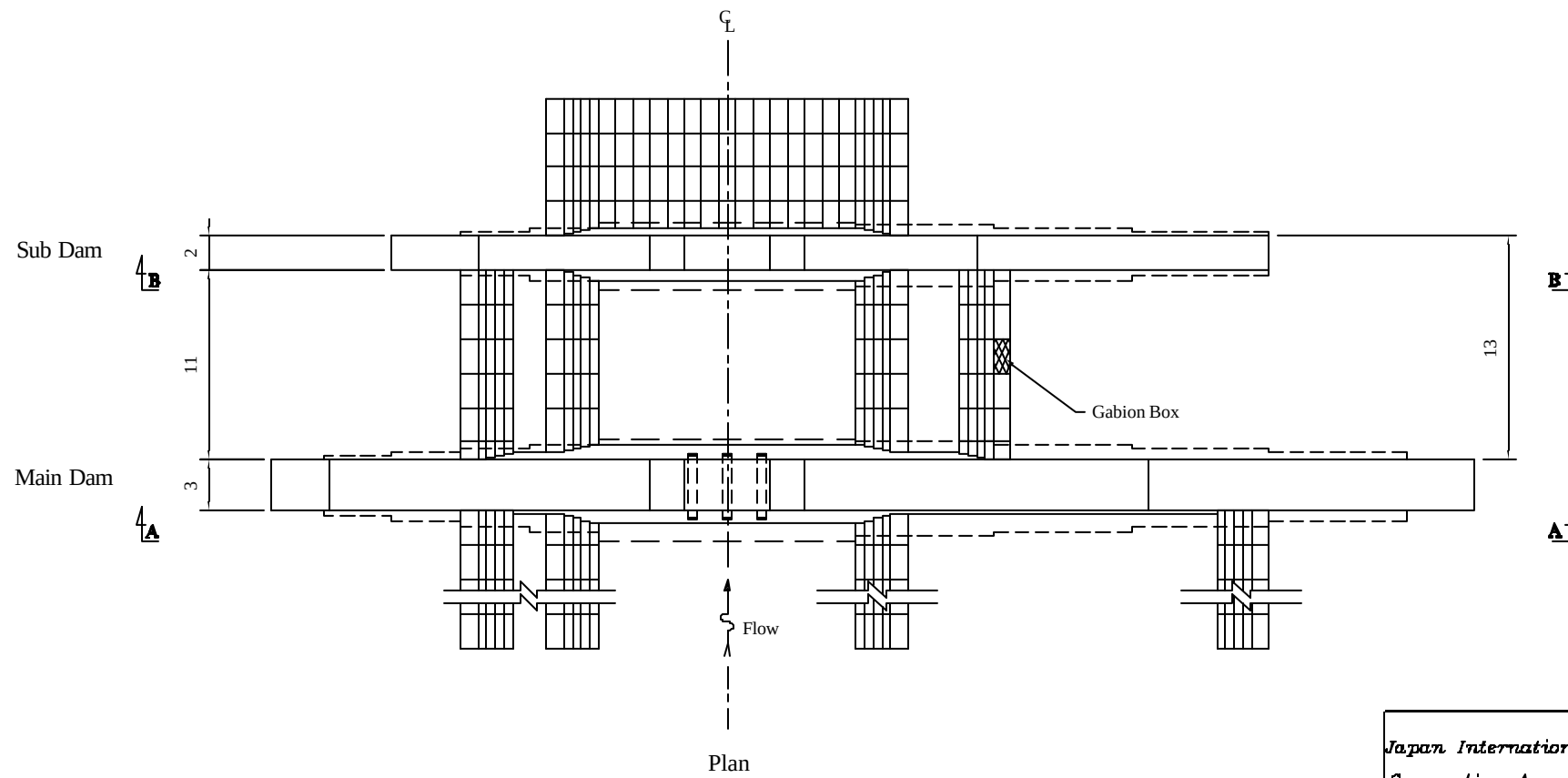
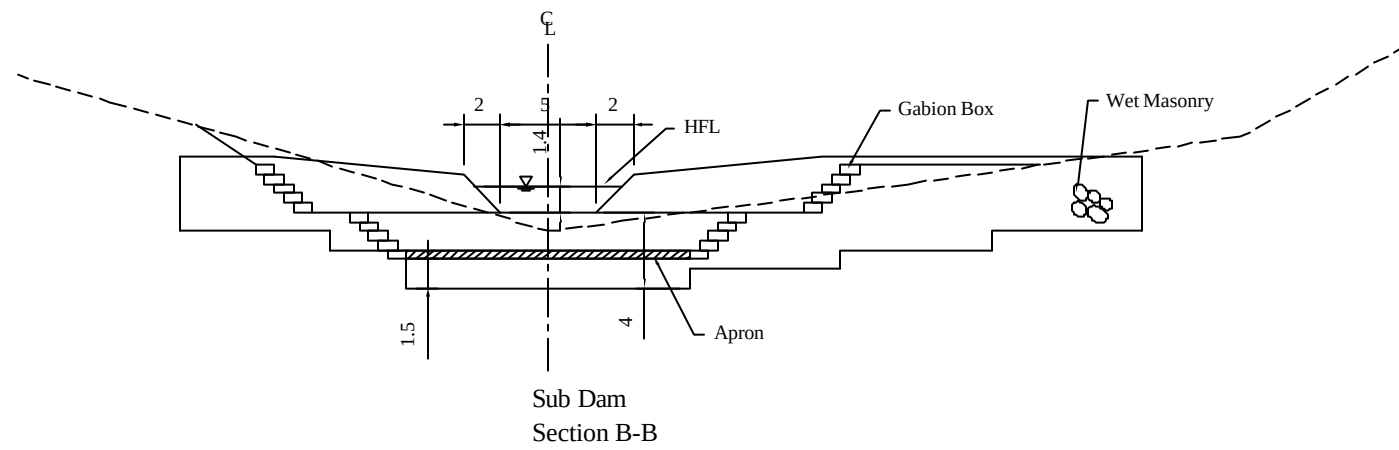
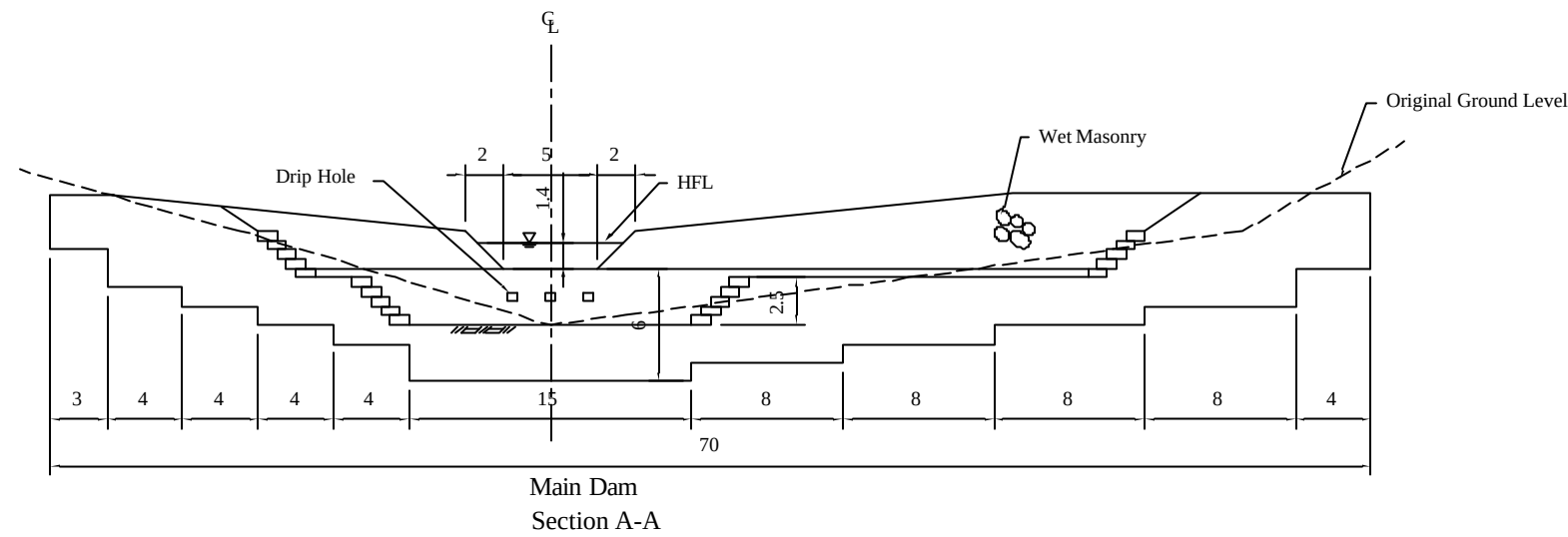
THE STUDY ON CRITICAL LAND AND PROTECTION FOREST
REHABILITATION AT TONDANO WATERSHED PROJECT

WATERSHED CONSERVATION PLAN MAP

JICA JAPAN INTERNATIONAL
COOPERATION AGENCY

E/3

***EROSION CONTROL
FACILITY***



Note:
See Watershed Conservation Map Sheet No. C/2 for the location.
Foundation is assumed to be sand and gravel.

Japan International
Cooperation Agency
(JICA)

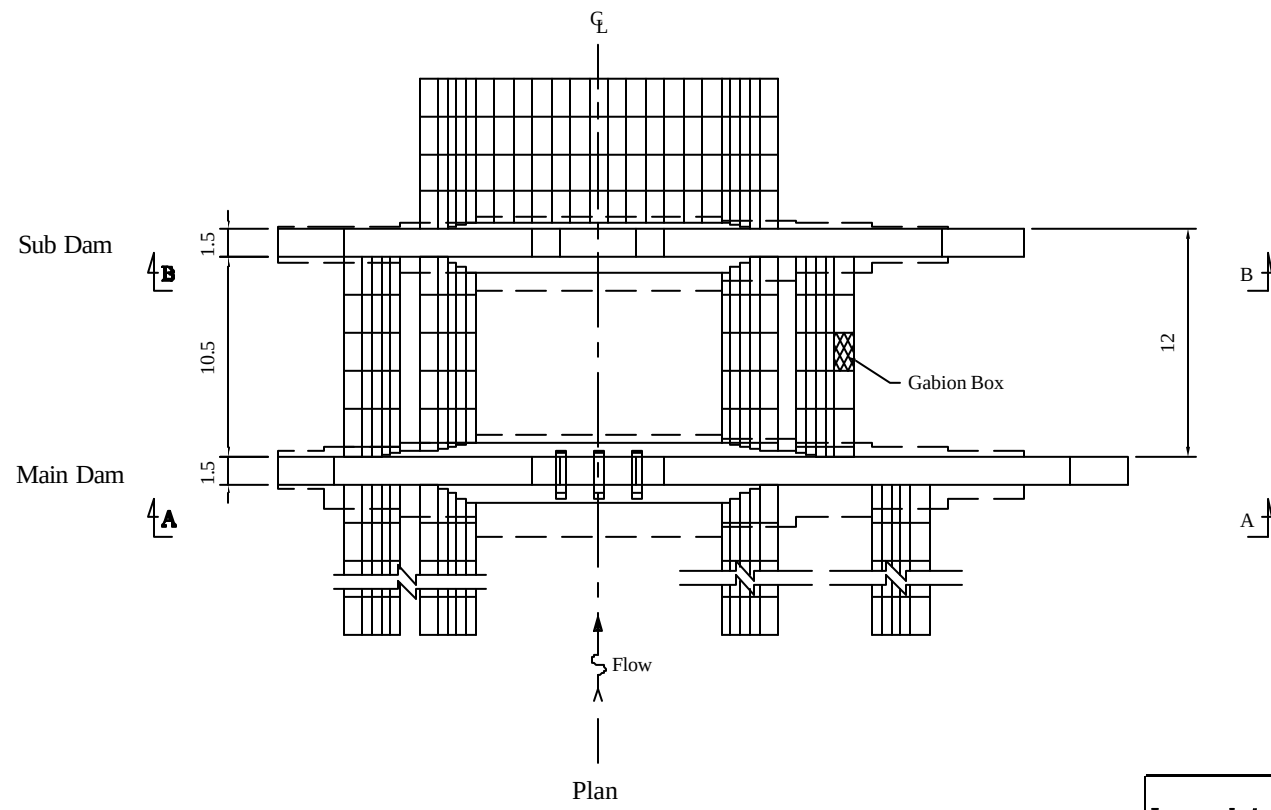
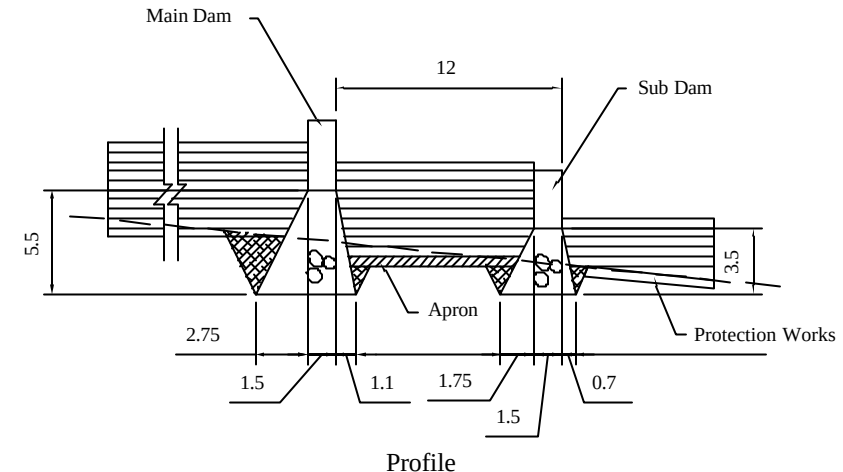
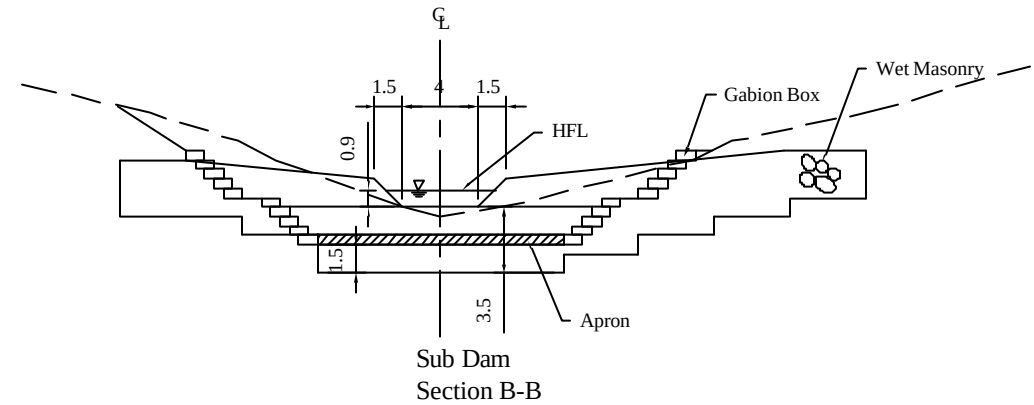
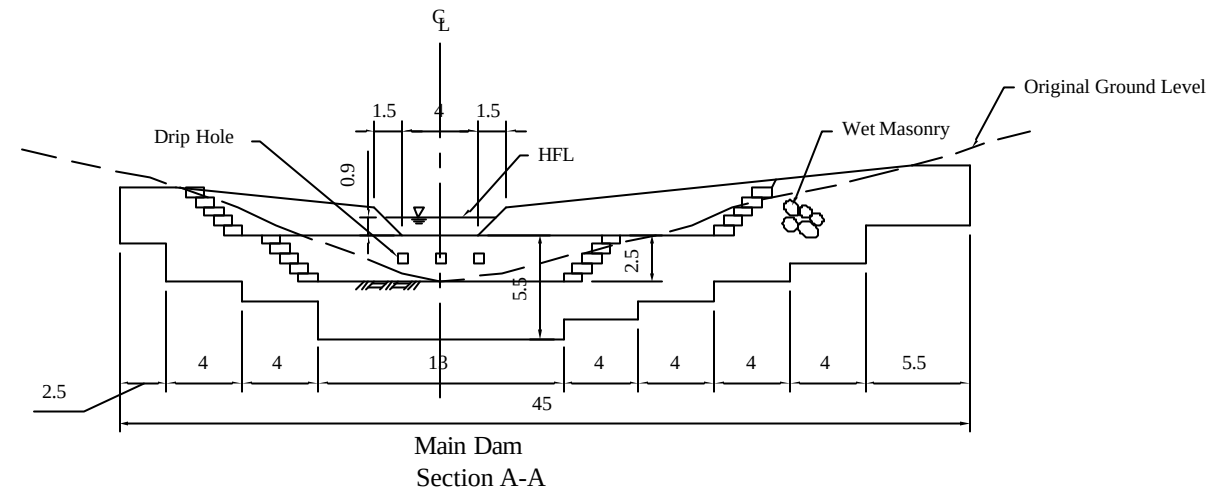
THE STUDY ON CRITICAL LAND AND
PROTECTION FOREST REHABILITATION
AT TONDANO WATERSHED

THE REPUBLIC OF INDONESIA

CHECK DAM AT TATAARAN

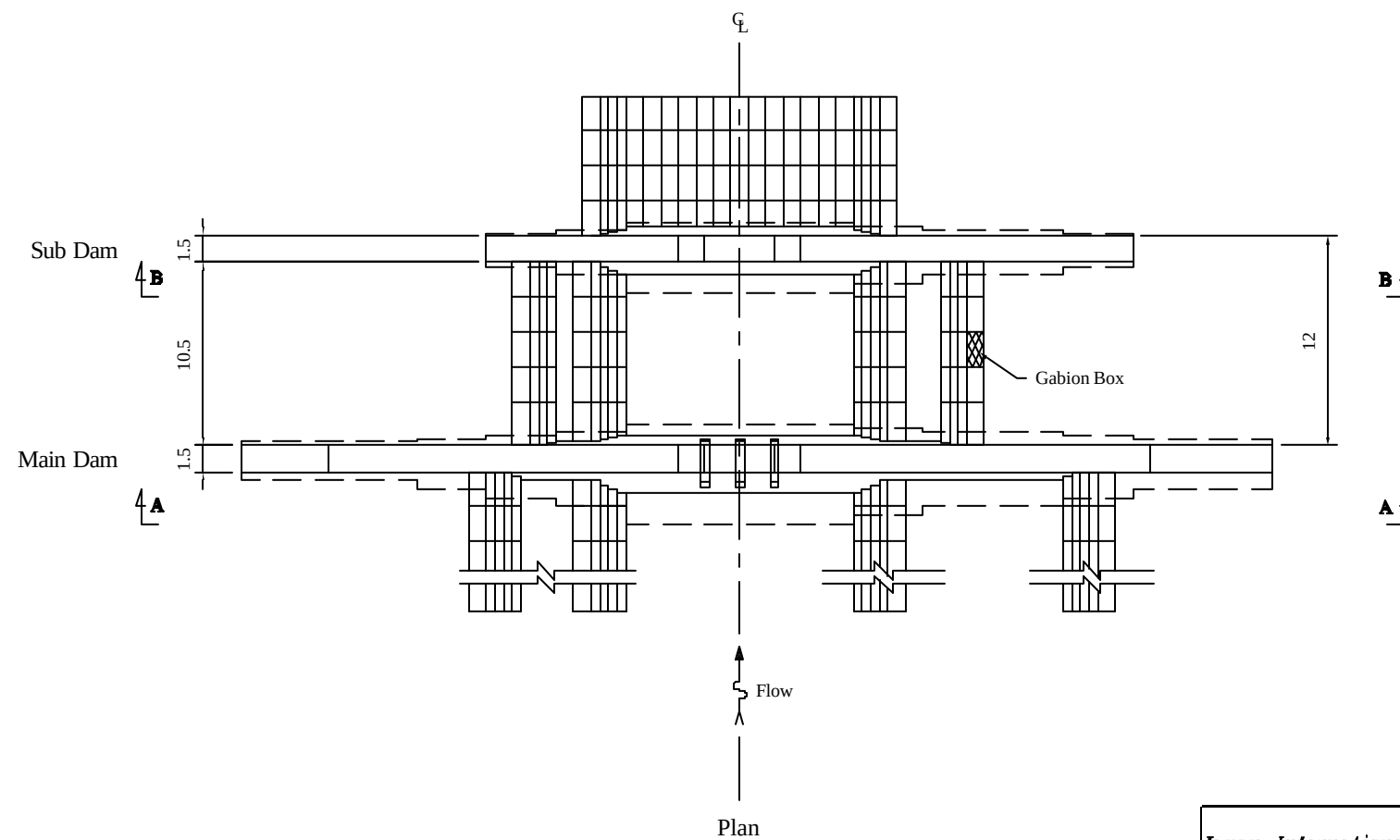
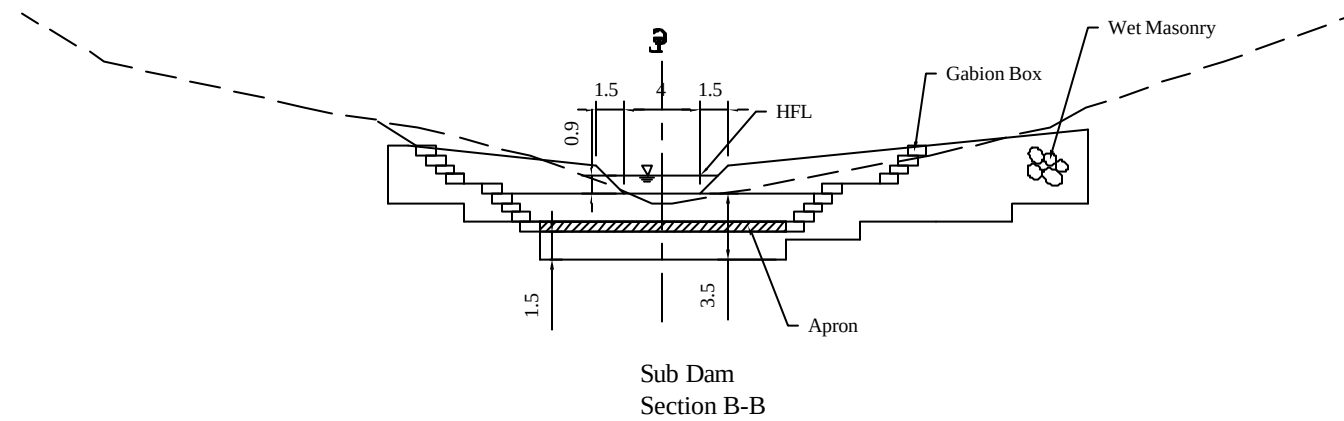
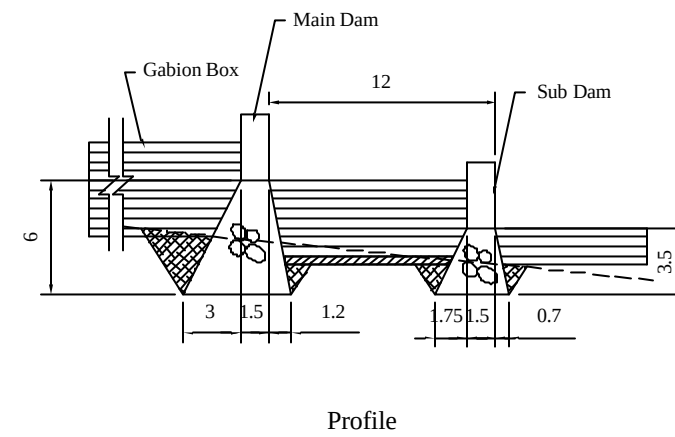
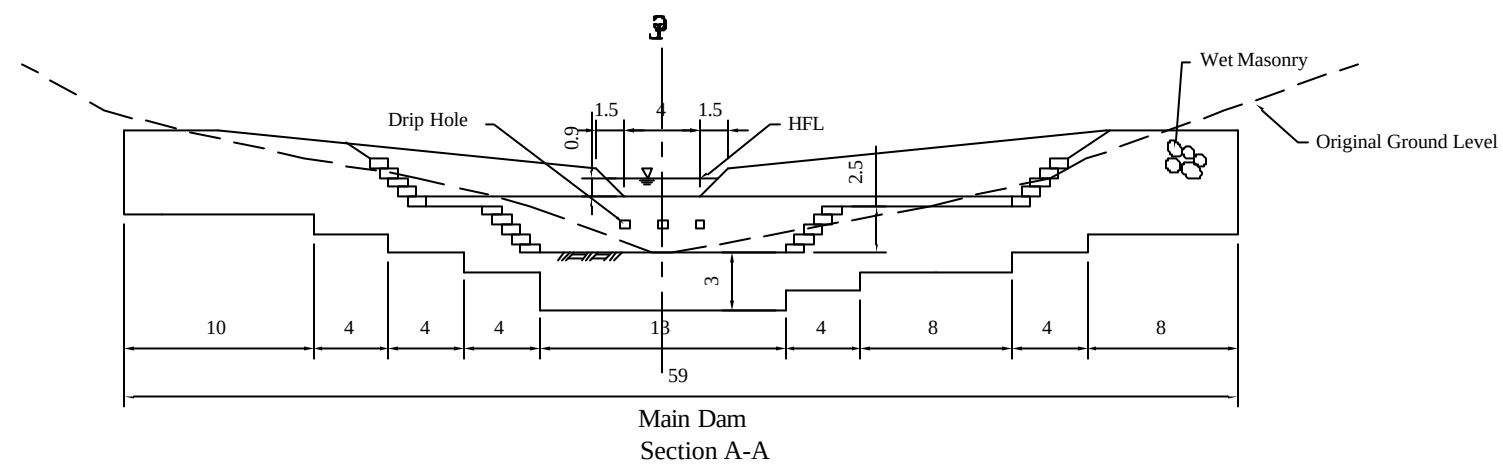
DATE MARCH 2000

DRAWING NO.
EC-1



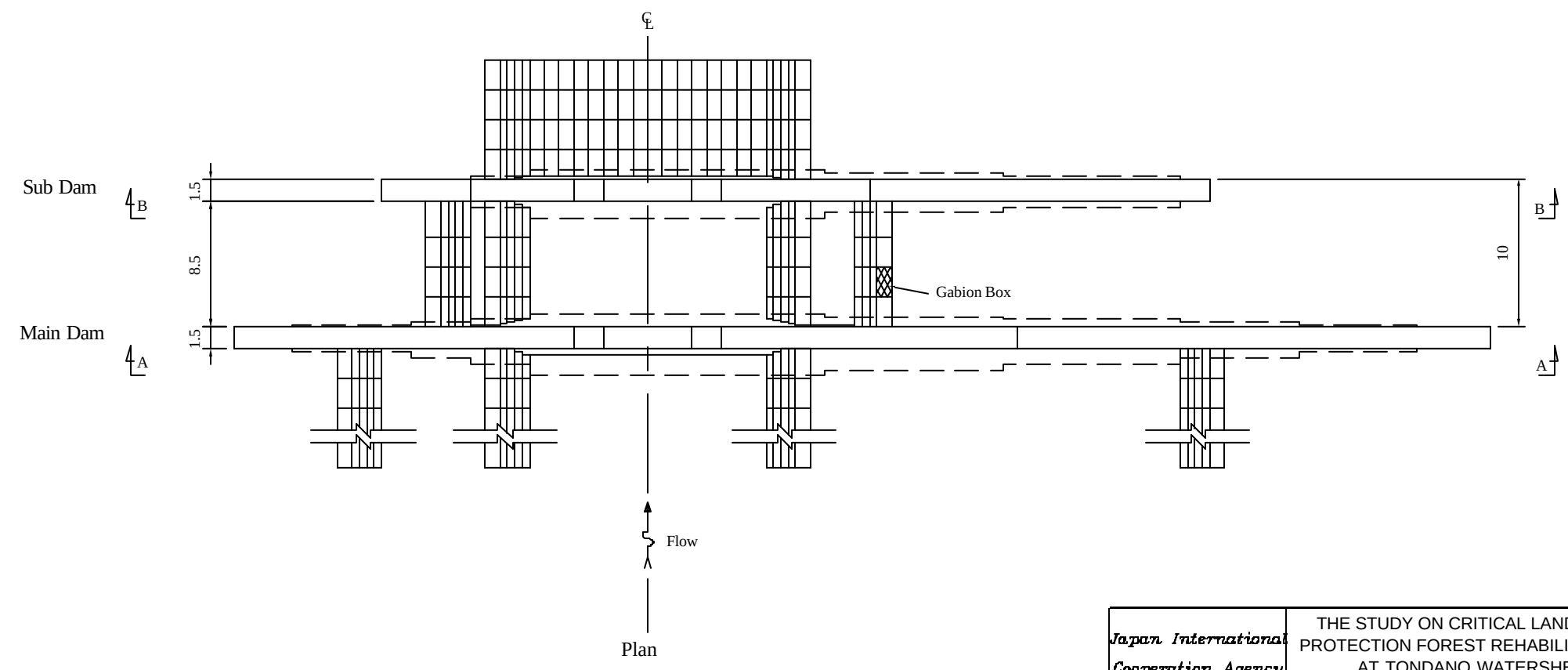
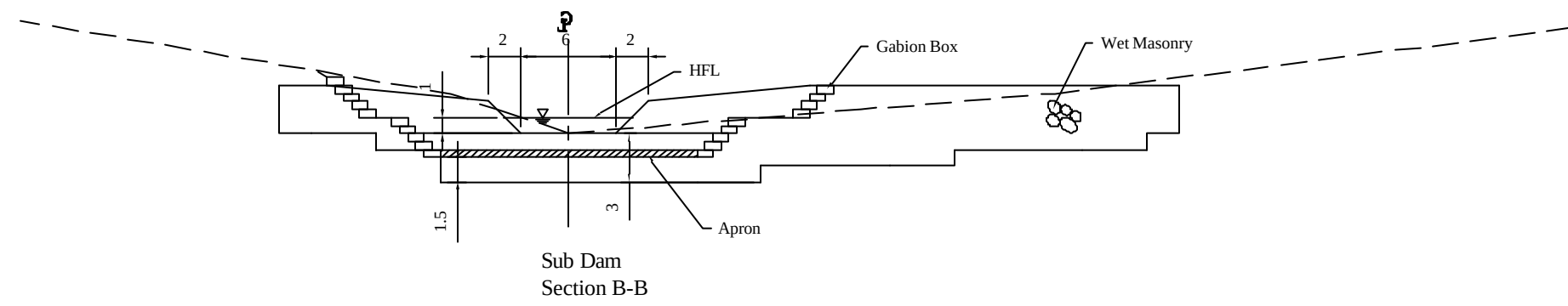
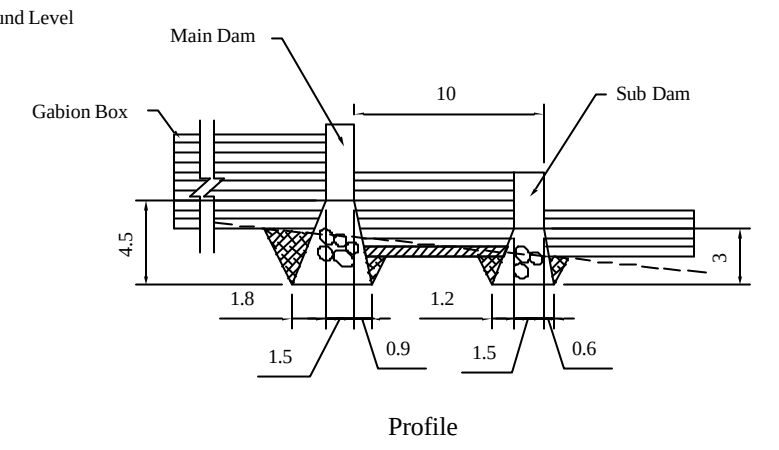
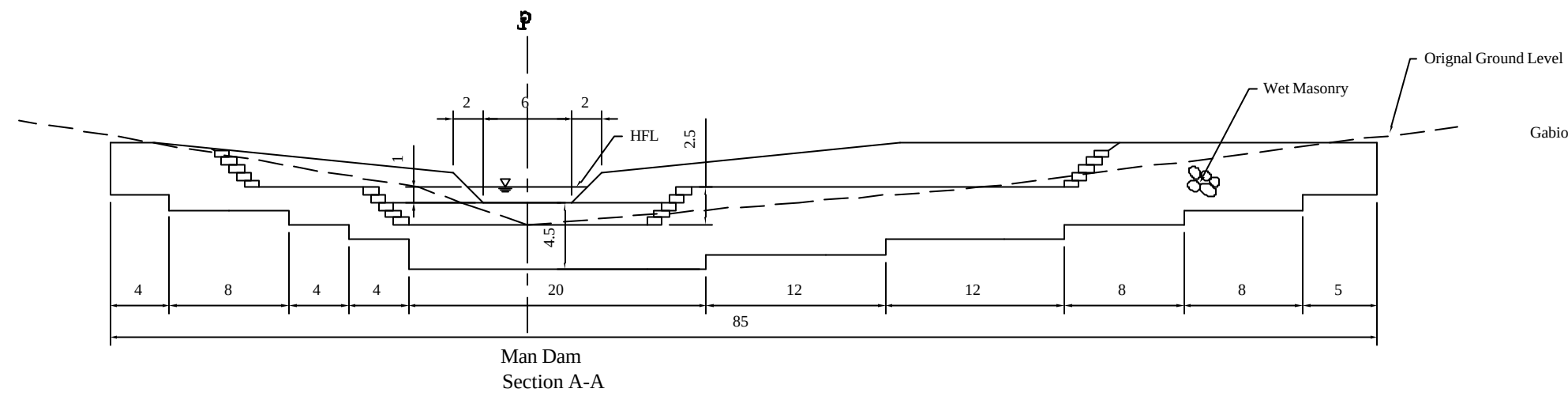
Note:
See Watershed Conservation Map Sheet No. E/3 for the location.
Foundation is assumed to be sand and gravel.

Japan International Cooperation Agency (JICA)	THE STUDY ON CRITICAL LAND AND PROTECTION FOREST REHABILITATION AT TONDANO WATERSHED	CHECK DAM AT TANDENGAN	DATE MARCH 2000
	THE REPUBLIC OF INDONESIA		DRAWING NO. EC-2



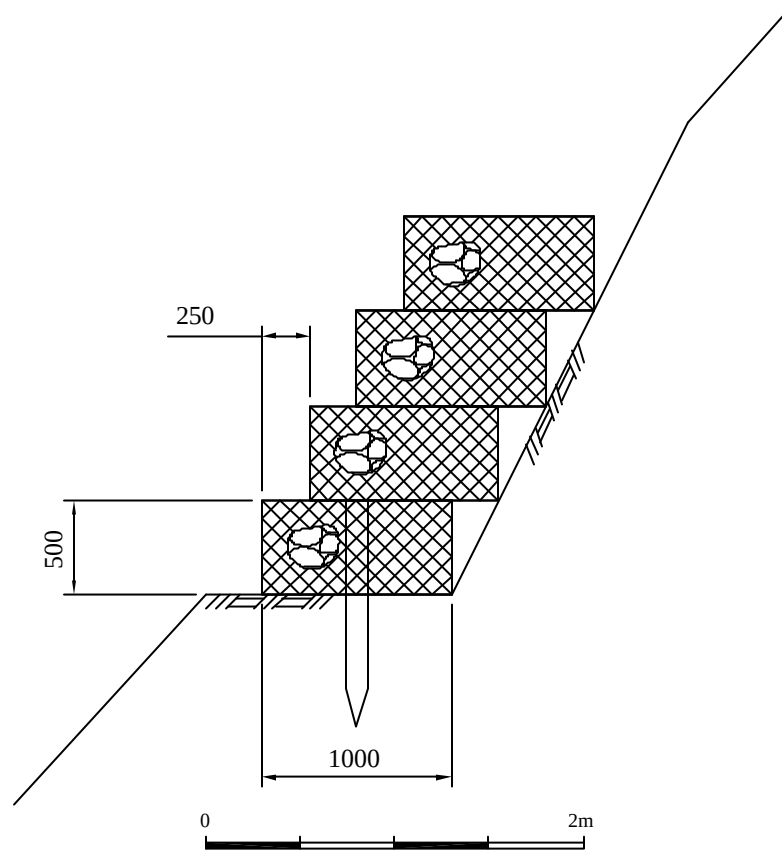
Note:
See Watershed Conservation Map Sheet No. E/3 for the location.
Foundation is assumed to be sand and gravel.

Japan International Cooperation Agency (JICA)	THE STUDY ON CRITICAL LAND AND PROTECTION FOREST REHABILITATION AT TONDANO WATERSHED	CHECK DAM AT RANOMERUT	DATE MARCH 2001
	THE REPUBLIC OF INDONESIA		DRAWING NO. EC-3

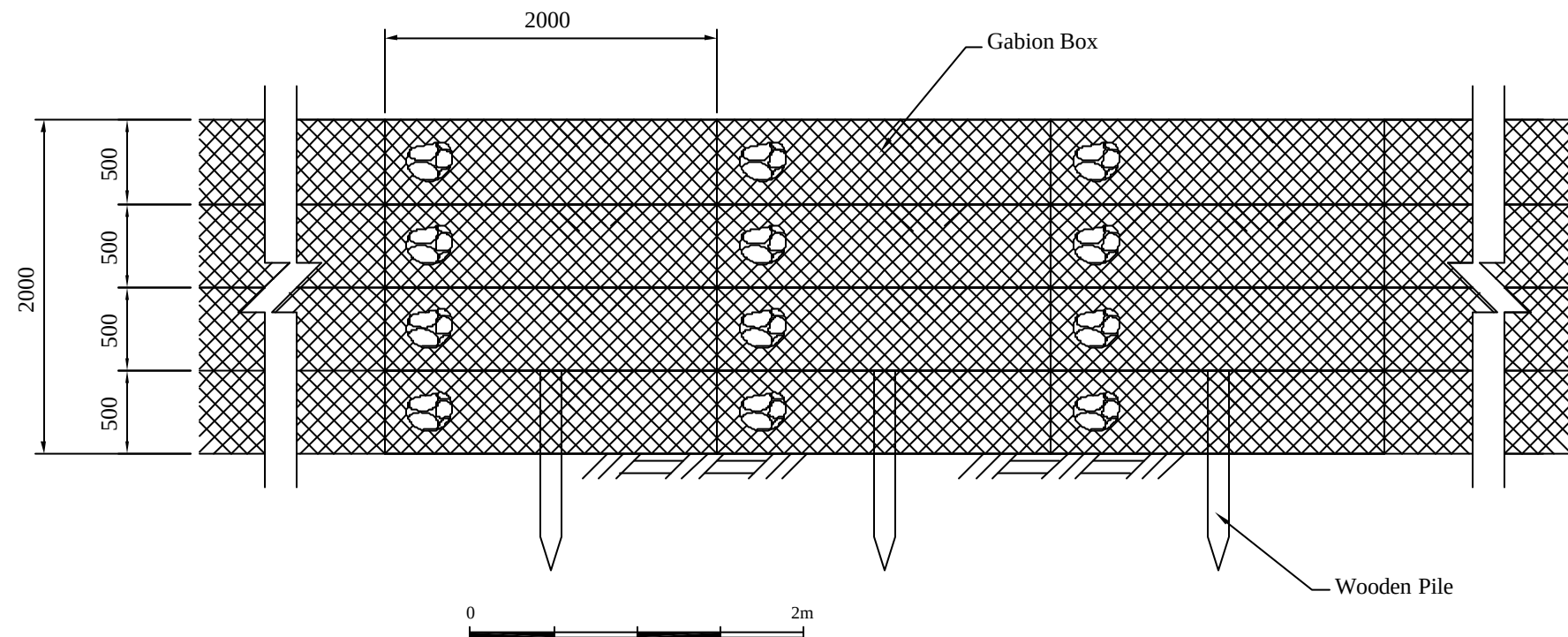


Note:
See Watershed Conservation Plan Map Sheet No. E/3 for the location.
Foundation is assumed to be sand and gravel.

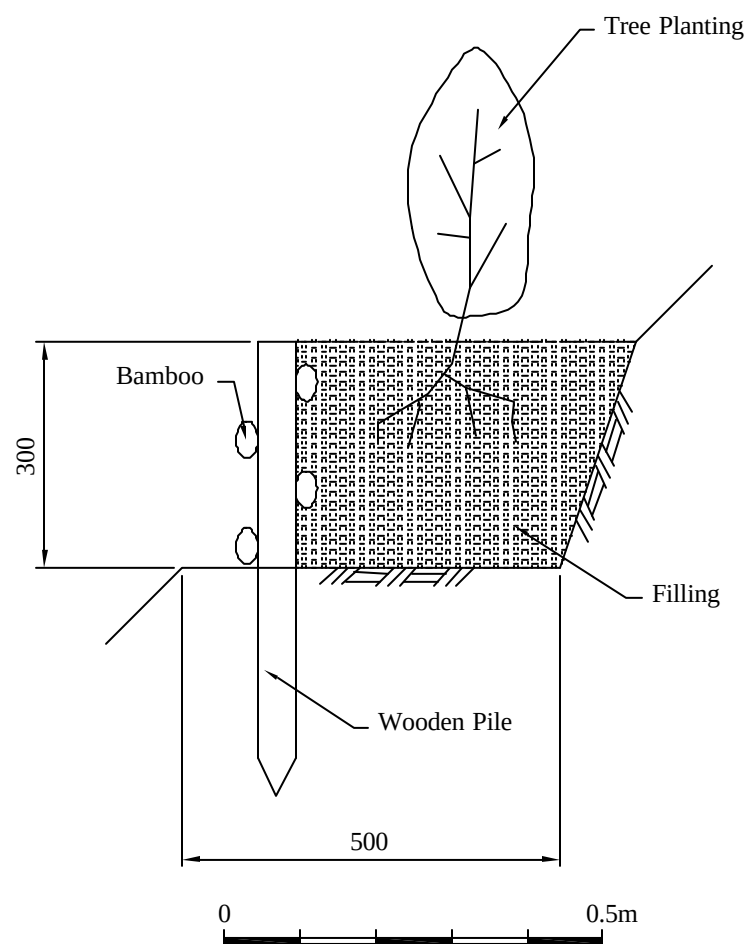
Japan International Cooperation Agency (JICA)	THE STUDY ON CRITICAL LAND AND PROTECTION FOREST REHABILITATION AT TONDANO WATERSHED	CHECK DAM AT TOUNIPUS	DATE MARCH 2000
	THE REPUBLIC OF INDONESIA		DRAWING NO. EC-4



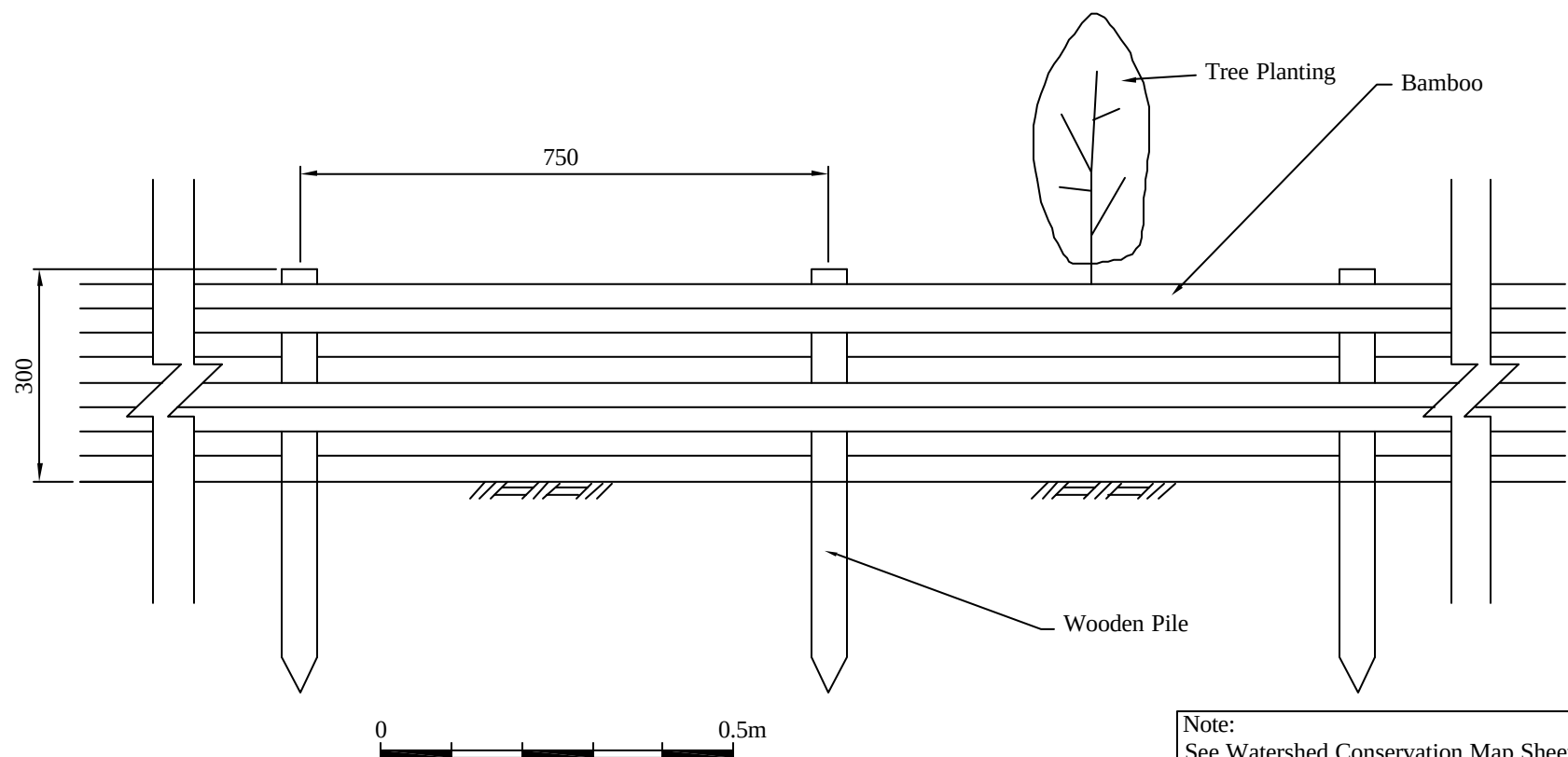
Gabion Box Slope Protection Works for Upslope of the Hillside



Gabion Box Slope Protection Works for Upslope of the Hillside



Bamboo Terrace for Lowerslope of the Hillside



Bamboo Terrace for Lowerslope of the Hillside

Note:
See Watershed Conservation Map Sheet No. A6
(Drawing No. CP-2) for the location.
Unit: mm

Japan International
Cooperation Agency
(JICA)

THE STUDY ON CRITICAL LAND AND
PROTECTION FOREST REHABILITATION
AT TONDANO WATERSHED

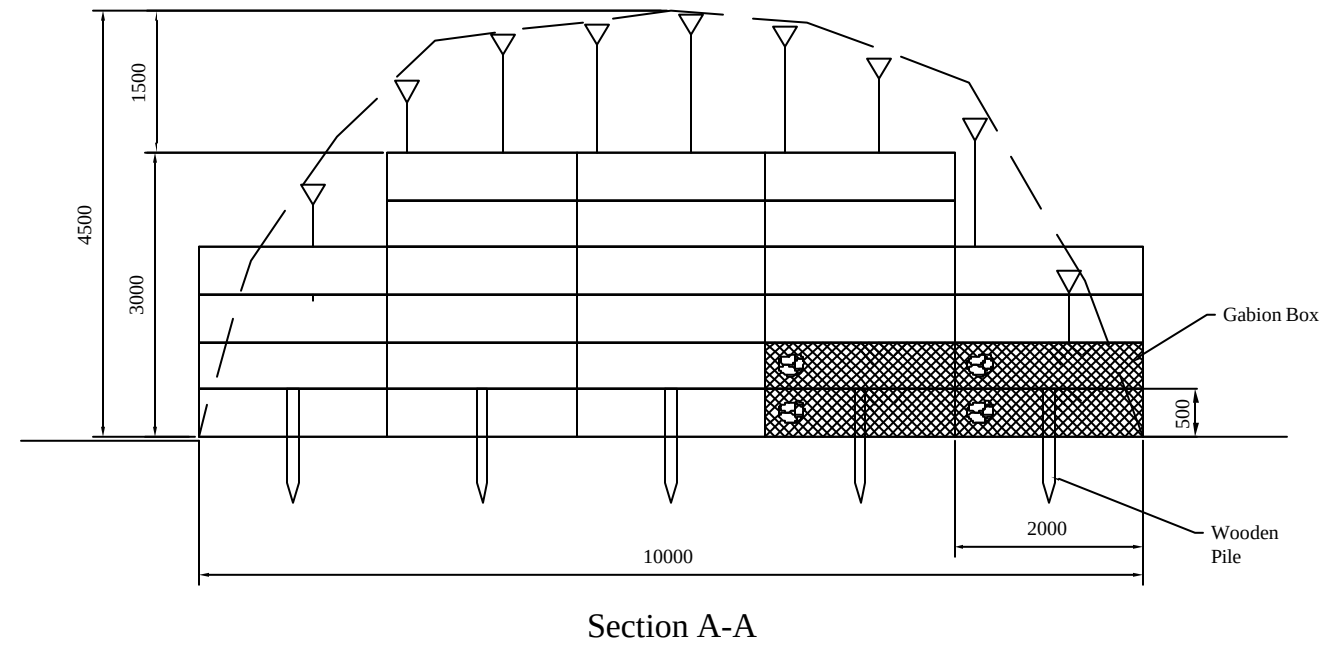
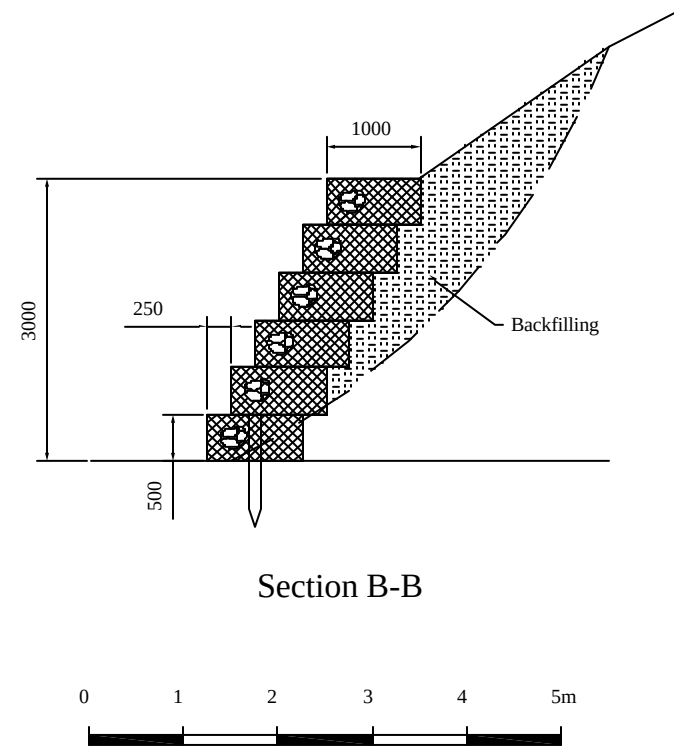
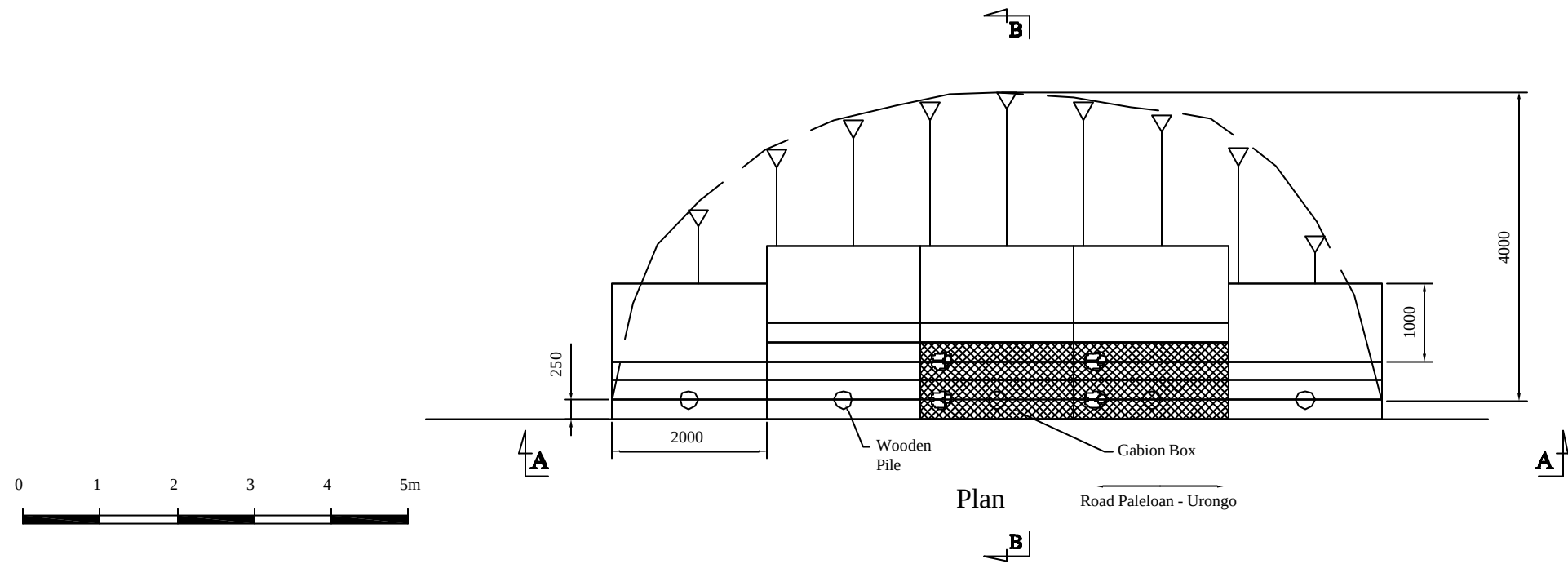
THE REPUBLIC OF INDONESIA

SLOPE PROTECTION WORKS FOR HILLSIDE
AT MT. MAIMBERG

DATE MARCH 2001

DRAWING NO.

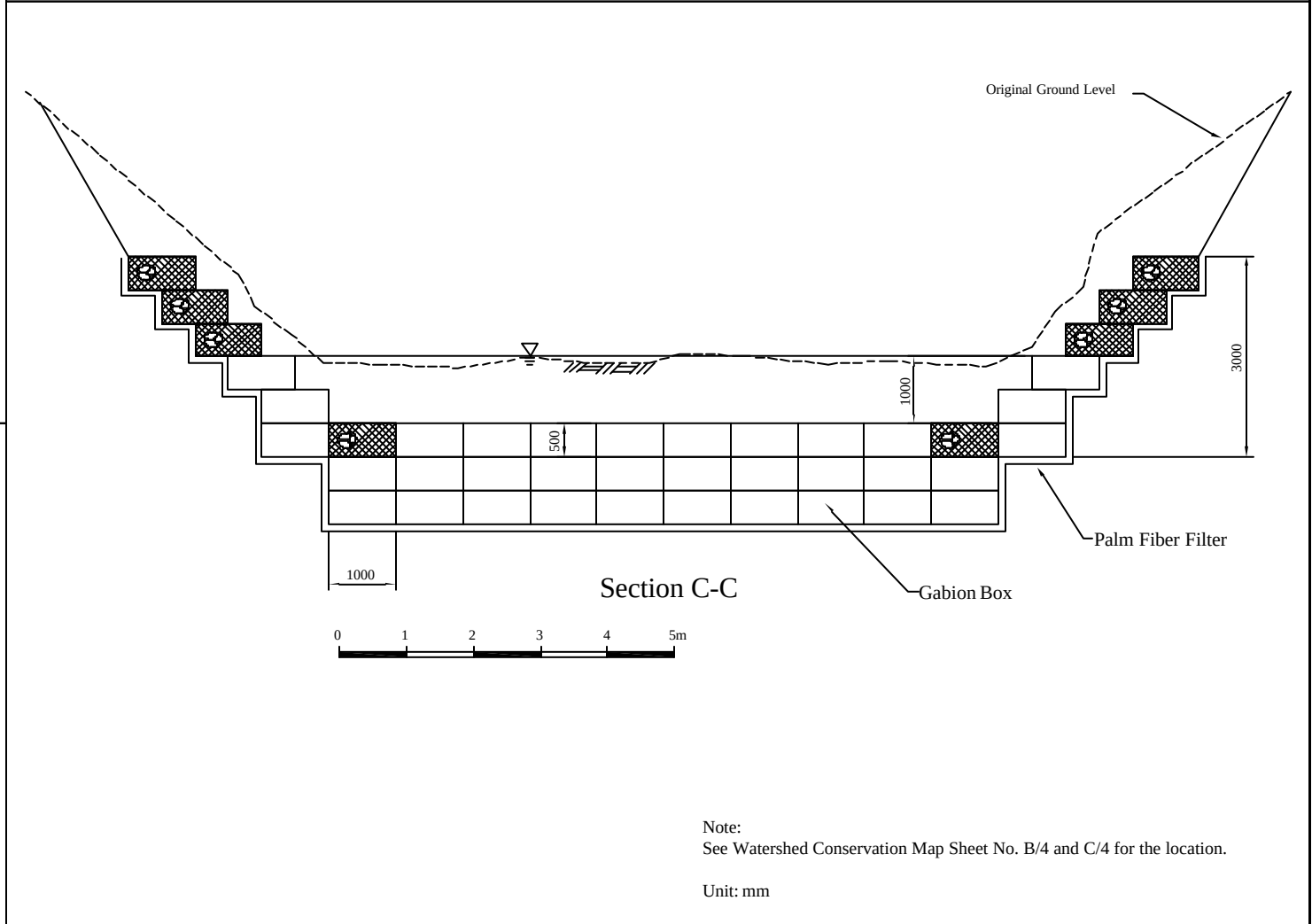
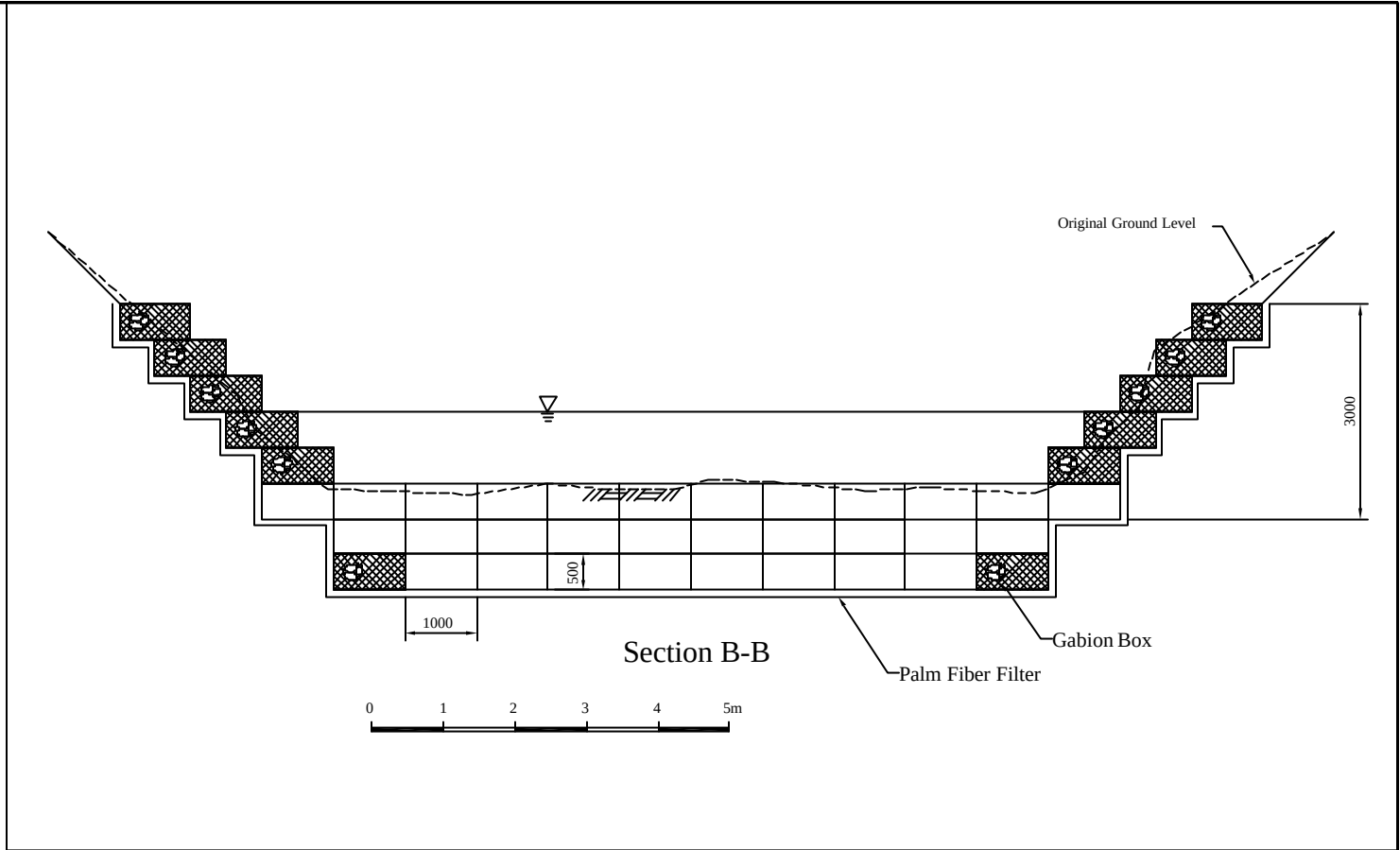
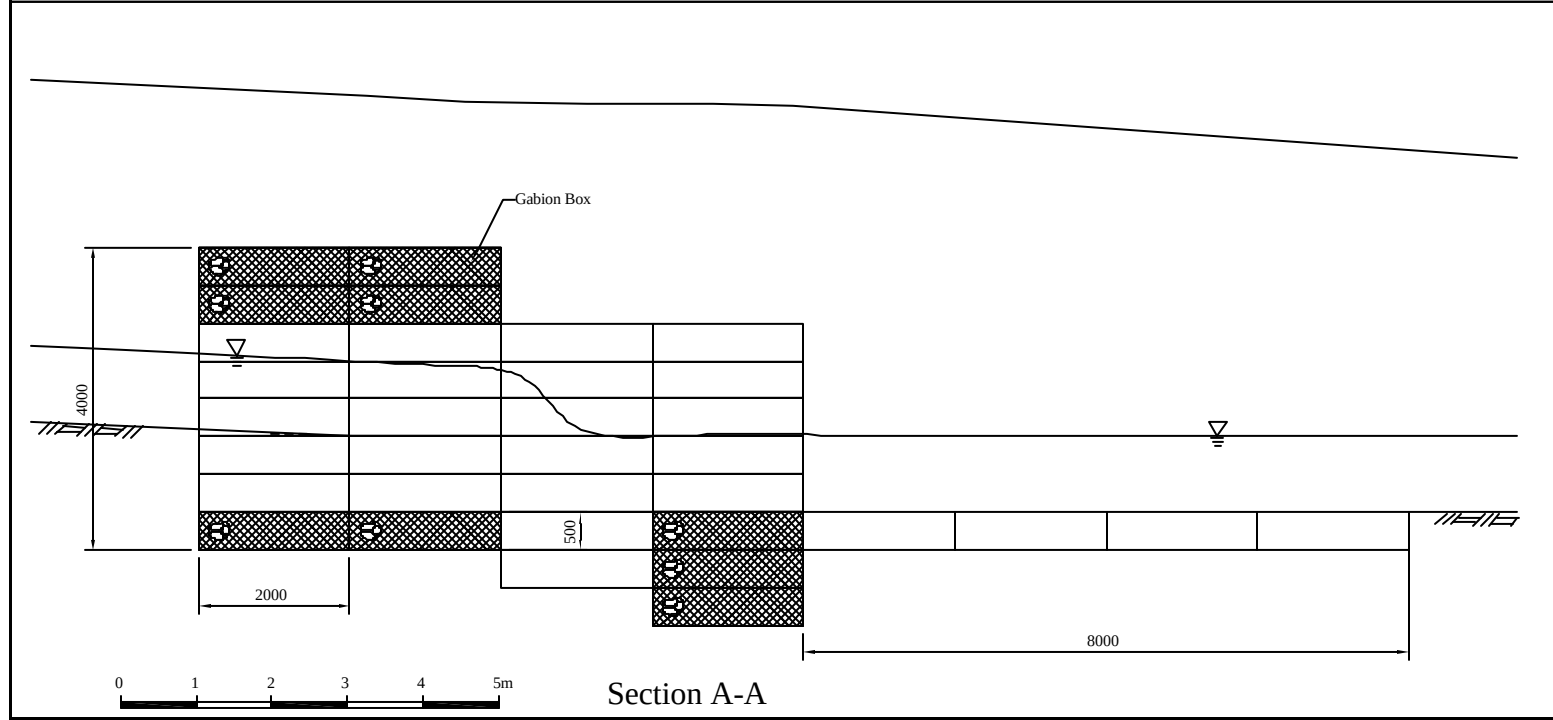
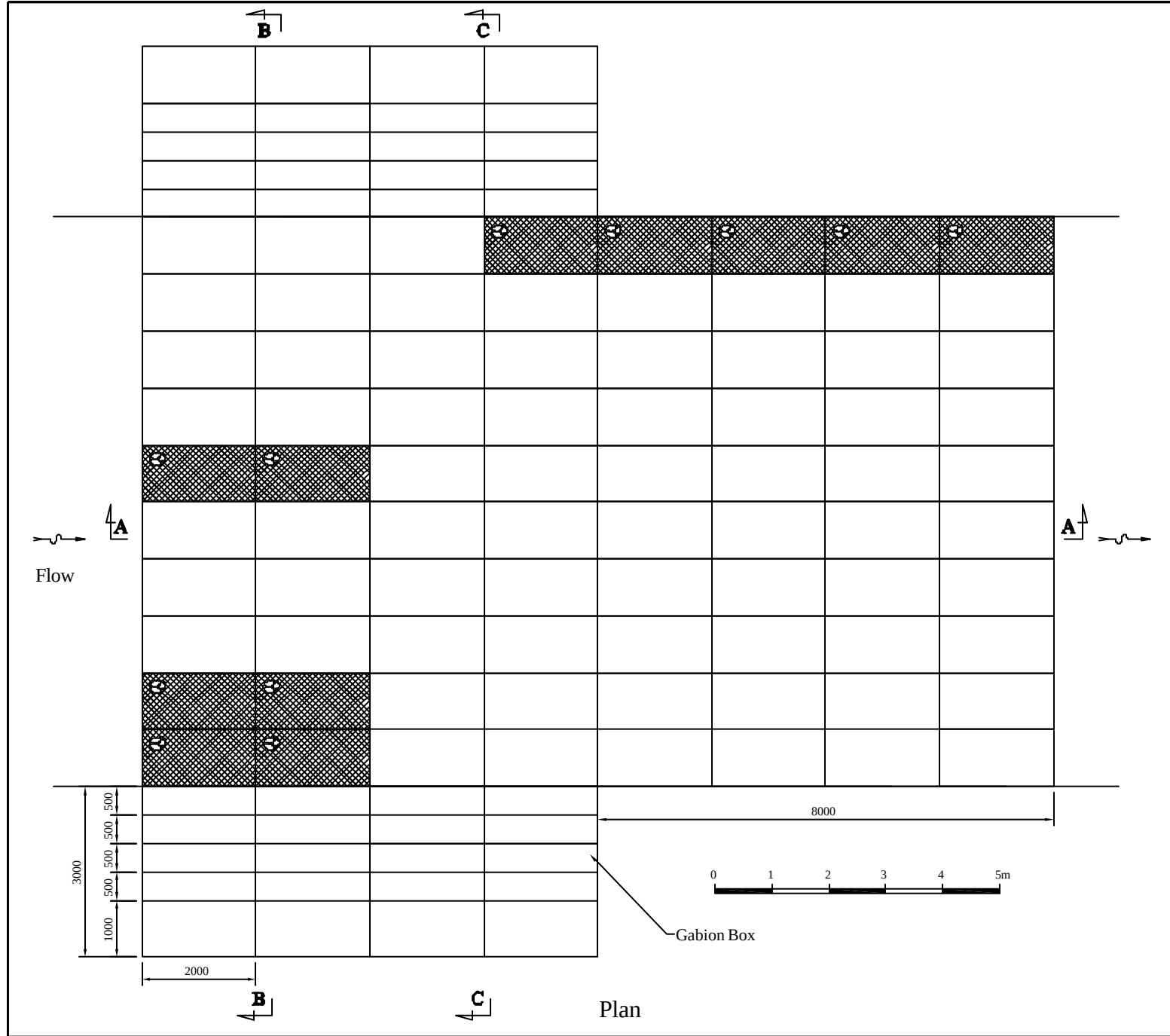
EC-5



Note:
See Watershed Conservation Map Sheet No. D3 Drawing No. CP-13) for the location.

Unit: mm

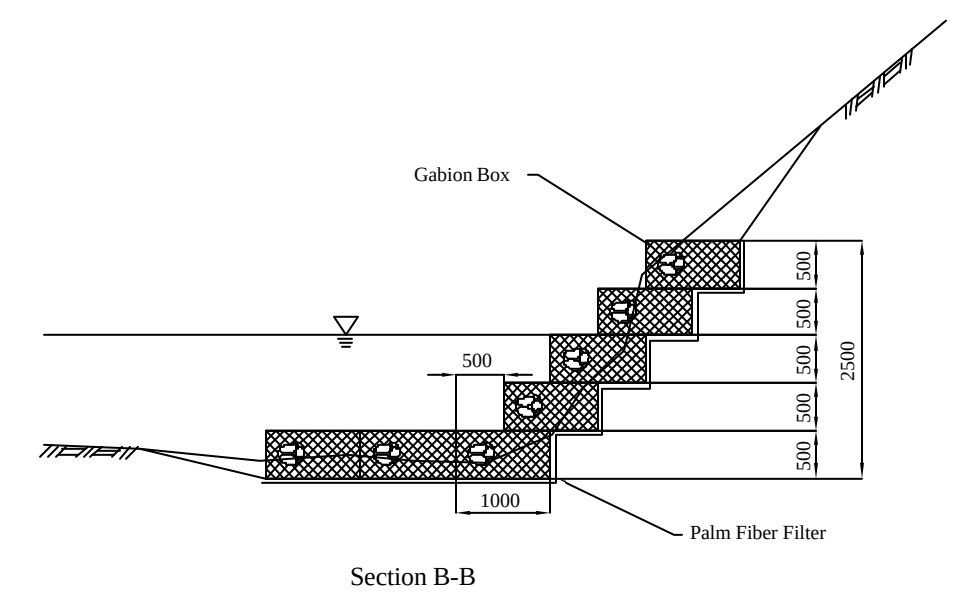
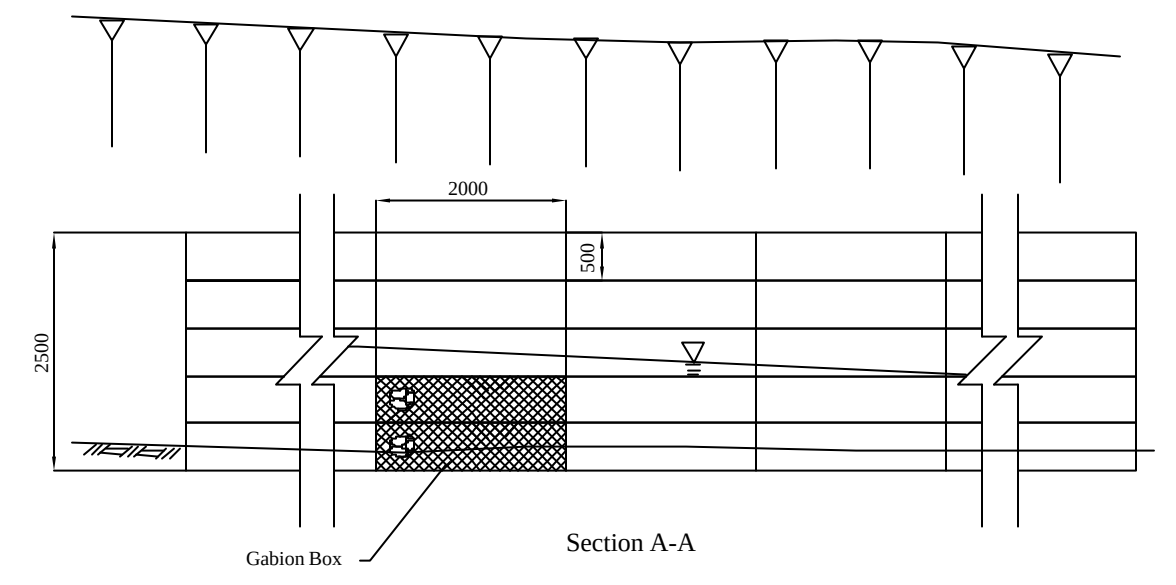
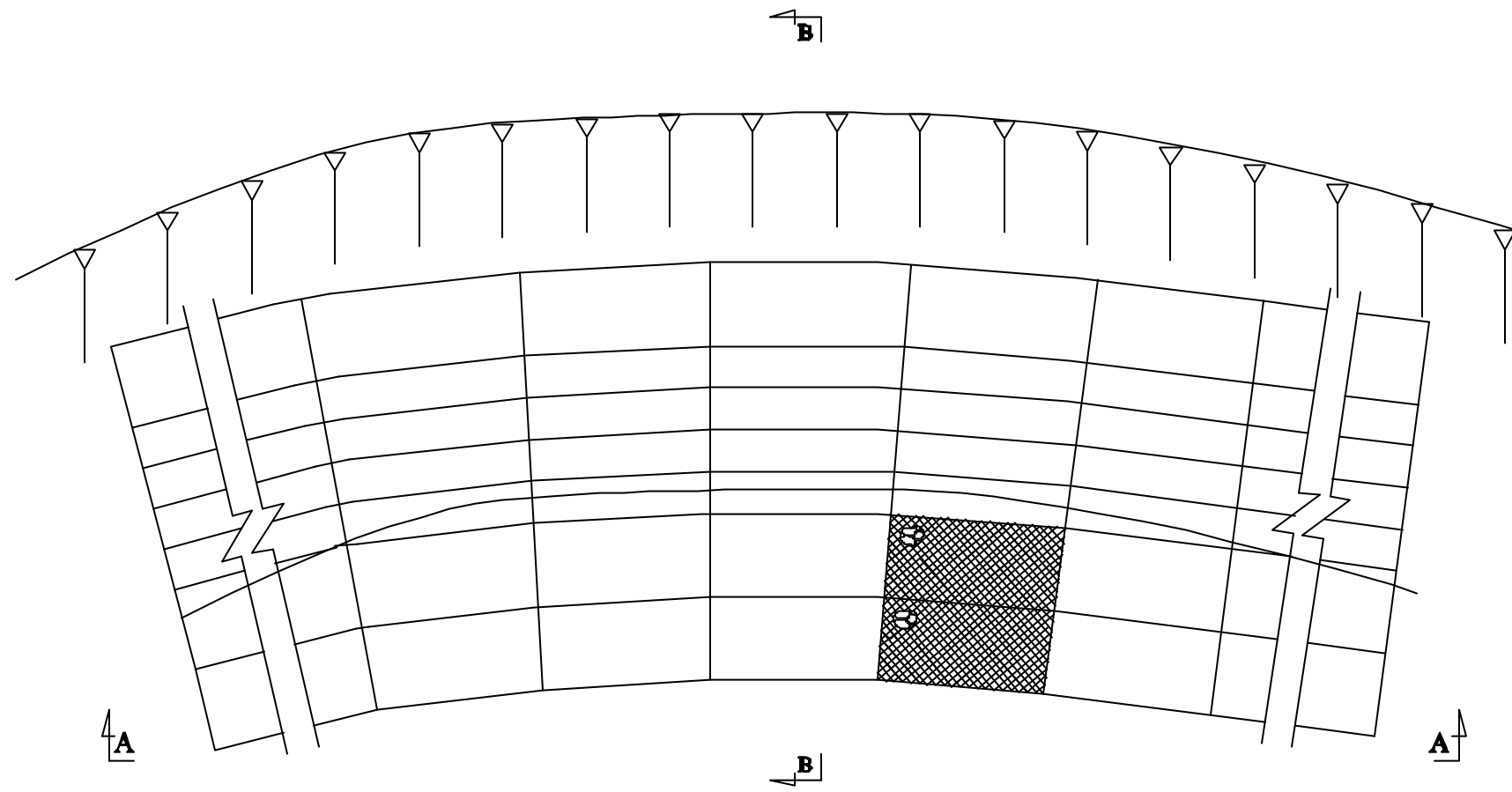
Japan International Cooperation Agency (JICA)	THE STUDY ON CRITICAL LAND AND PROTECTION FOREST REHABILITATION AT TONDANO WATERSHED	SLOPE PROTECTION WORKS FOR ROAD AT PALELOAN	DATE MARCH 2001
	THE REPUBLIC OF INDONESIA		DRAWING NO. EC-6



Note:
See Watershed Conservation Map Sheet No. B/4 and C/4 for the location.

Unit: mm

Japan International Cooperation Agency (JICA)	THE STUDY ON CRITICAL LAND AND PROTECTION FOREST REHABILITATION AT TONDANO WATERSHED	RIVER BED PROTECTION WORKS AT RIVER PANASEN	DATE MARCH 2000
	THE REPUBLIC OF INDONESIA		DRAWING NO. EC-7



Note:
See Watershed Conservation Plan Map Sheet No. B/4 and C/4 for the location.

Unit: mm

<i>Japan International Cooperation Agency (JICA)</i>	THE STUDY ON CRITICAL LAND AND PROTECTION FOREST REHABILITATION AT TONDANO WATERSHED	RIVER BANK PROTECTION WORKS AT RIVER PANASEN	DATE MARCH 2001
	THE REPUBLIC OF INDONESIA		DRAWING NO. EC-8