

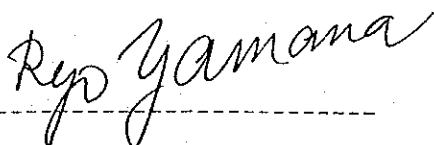
MINUTES OF DISCUSSIONS
BASIC DESIGN STUDY ON
THE PROJECT FOR PROVIDING EQUIPMENT FOR
GHANA HIGHWAY AUTHORITY WORKSHOPS IN
THE REPUBLIC OF GHANA

In response to the request from the Government of the Republic of Ghana, the Government of Japan decided to conduct a basic design study on the Project for Providing Equipment for Ghana Highway Authority Workshops (hereinafter referred to as the "Project"), and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Ghana a study team, which is headed by Mr. Ryo Yamana, Manager, Machinery Division, First Maintenance Department, Second Operation Bureau, Honshu-Shikoku Bridge Authority, and is scheduled to stay in the country from October 16 to November 5, 1991.

The team held discussions and conducted a field survey. Both parties have confirmed the main items described on attached sheets. The team will proceed to further works and prepare the Basic Design Study report.

Accra, October 25, 1991

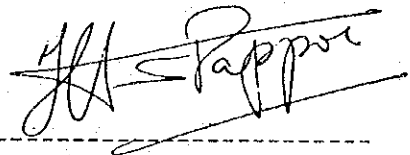


Mr. Ryo Yamana

Leader

Basic Design Study Team

JICA



Mr. H.D. Pappoe

Acting Chief Executive

Ghana Highway Authority

ATTACHMENT

1. OBJECTIVE

The objective of the Project is to strengthen the workshops by providing necessary equipment for repairing road construction and maintenance machinery.

2. PROJECT SITES

(1) Accra Central Mechanical Workshop

(2) Kumasi Zonal Workshop

(3) Tamale Zonal Workshop

(Location map is attached as Annex-1)

3. RESPONSIBLE ORGANIZATION, EXECUTING ORGANIZATION

(1) Responsible organization: Ministry of Roads and Highways

(2) Executing organization : Ghana Highway Authority (GHA)

4. ITEMS REQUESTED BY THE GOVERNMENT OF GHANA


After discussions with the Basic Design Study Team, the list of major items requested by the Ghanaian side is shown in Annex-2.

However, the final components of the Project will be decided after further studies.

5. JAPAN'S GRANT AID SYSTEM

(1) The Government of Ghana has understood Japan's Grant Aid system explained by the team.

(2) The Government of Ghana will take necessary measures, described in Annex -3 for smooth implementation of the Project, on condition that the Grant Aid Assistance by the Government of Japan is extended to the Project.

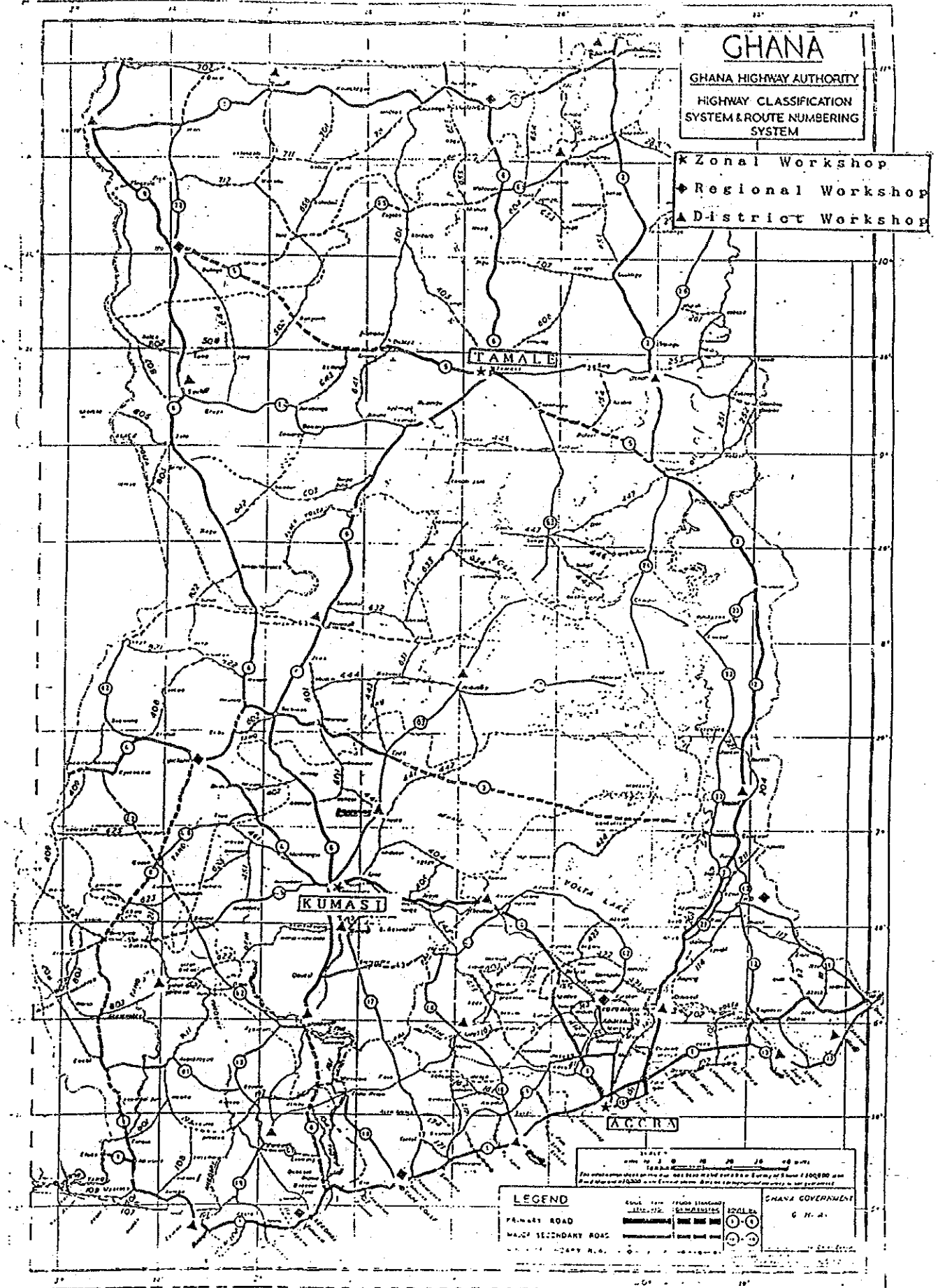
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6. SCHEDULE OF THE STUDY

- (1) The consultants will proceed to further studies in Ghana until November 5, 1991.
- (2) JICA will prepare the draft report in English and dispatch a mission in order to explain its contents around January, 1992.
- (3) Based on the Minutes of Discussions and technical examination of the study results, JICA will complete the final report and will send it to the Government of Ghana by the end of May, 1992.

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ANNEX-1 LOCATION MAP



ANNEX-2 List of Equipment requested by the Government of
Ghana

CHASSIS REPAIR SHOP

1. Gantry Crane 3 ton
2. Hydraulic Press 55 ton
3. Hydraulic Press 100 ton
4. Portable Hydraulic Jack 10 ton
5. Portable Hydraulic Jack 30 ton
6. Electric Bench Grinder
7. Parts Cleaner
8. Gas Welder Set
9. Tractor Support

UNDERCARRIAGE REPAIR SHOP

1. Jib Crane with Manual Chain
2. Lubrication Nozzle
3. Hand Truck 300 kg
4. Floating Seal Tester
5. Arc Welder

ENGINE REPAIR SHOP

1. Engine Stand 3 ton
2. Parts Cleaner
3. Hydraulic Press 15 ton
4. Electric Bench Grinder
5. Piston Heater (Bearing Heater)
6. Cylinder Head Hydraulic Test Stand
7. Cylinder Head Work Bench
8. Cylinder Honing Machine
9. Engine Hanger 3 ton

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11. Valve Refacer
12. Eccentric Valve Seat Grinder

ENGINE DYNAMOMETER ROOM

1. Engine Dynamometer (Portable Type)

FUEL INJECTION PUMP REPAIR ROOM

1. Diesel Fuel Injection Pump Tester
 2. Mobile Test Unit for Cummins PT Pumps
 3. Nozzle Tester
 4. Cummins Master Injector
- * Ghana side should secure necessary space for the installation of provided testers.

ELECTRIC SYSTEM REPAIR SHOP

1. Stator Generator Test Bench
2. Electricians Tool Set (Metric Size)
3. Alternator Scope

BATTERY SERVICE SHOP

1. Silicon Normal Charger
2. Silicon Normal Charger (Initial Boost Starting Engine)
3. Silicon Quick Charger
4. Water Purifier
5. Hand Truck

HYDRAULIC REPAIR SHOP

1. Hydraulic Cylinder Service Stand

2. Electric Grinder
3. Electric Drill

TIRE REPAIR SHOP

1. Air Compressor
2. Hydraulic Tire Removing Tool (10 ton)
3. Hot Patch for Tire Repair Set
4. Cold Patch for Tire Repair Set
5. Wheel Balancer
6. Tire Service Tool Set
7. Tube Vulcanizer Set

MACHINE SHOP

1. Precision Engine Lathe
2. Upright Drilling Machine
3. Bench Drill Press
4. Bench Electric Grinder
5. Hack Sawing Machine
6. Hydraulic Press 100 ton
7. Milling Machine (Universal)
8. Cylinder Honing Machine
9. Radial Drilling Machine
10. Turret Lathe
11. Crankshaft Grinder
12. Surface Grinder

WELDING AND FABRICATION SHOP

1. Gas Welder Set
2. Hand Lever Shear
3. High Speed Abrasive Cut-Off
4. Soldering Iron Set
5. Electric Drier
6. Body Frame Repair System

7. Body and Fender Tool Set
8. Door Handle Tool Set

PAINING AND CLEANING BAY

1. Hot Water High Pressure Washer
2. Steam Cleaner
3. Spray Gun, Suction Type
4. Suction Type Container, 1000 cc
5. Airless Spray Unit
6. Infrared Rays Stand
7. Infrared Rays Bulb

COMPRESSOR ROOM

1. Compressor 22 kw with Air Receiver

TOOL ROOM - MEASURING INSTRUMENT

1. Torque Multiplier
2. Torque Wrench
3. Surface Plate
4. Inside Micrometer Caliper Set
5. Outside Micrometer Caliper Set
6. Vernier Caliper
7. Dial Indicator
8. Standard Thickness Gauge
9. Cylinder Gauge (Bore Gauge)
10. Sound Scope
11. Diesel Engine Vacuum Tester
12. Diesel Timing Tachometer
13. Mechanic Tool Set (Metric & Inch Sizes)
14. Other General Tools
15. Special Tools
 - 1) Hand Operated Pump
 - 2) Cylinder 100 ton (Sprocket Removing Tool)

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MINUTES OF DISCUSSION
ON
THE DRAFT FINAL REPORT OF THE BASIC DESIGN STUDY
FOR
THE PROJECT FOR PROVIDING EQUIPMENT
FOR GHANA HIGHWAY AUTHORITY WORKSHOPS
IN
THE REPUBLIC OF GHANA

In response to the request of the Government of the Republic of Ghana, the Government of Japan decided to conduct a Basic Design Study of the Project for Providing Equipment for Ghana Highway Authority Workshops (hereinafter referred to as "the Project"), and entrusted the Japan International Cooperation Agency (hereinafter referred to as "JICA") to carry out the Study. JICA sent Basic Design Study Team headed by Mr. Ryo Yamana, Manager, Machinery Division, First Maintenance Department, Second Operation Bureau, Honshu-Shikoku Bridge Authority, to Ghana from 16th October, 1991 to 5th November, 1991.

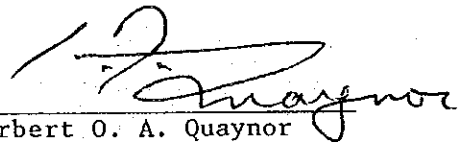
As a result of the Study, JICA prepared a Draft Final Report and dispatched a team headed by Mr. Ryo Yamana to explain and discuss it with GHA officials from 22nd January, 1992 to 29th January, 1992.

Both parties had a series of discussions on the report and agreed to recommend to their respective Governments that the major points of understanding reached between them on 29th January, 1992 attached herewith should be examined towards the realization of the Project.

Accra, 29th January, 1992.

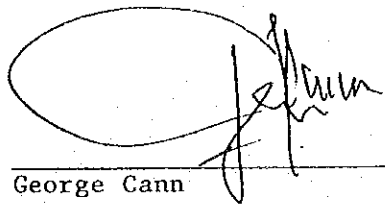


Ryo Yamana
Leader,
Basic Design Study Team
Japan International
Cooperation Agency



Herbert O. A. Quaynor
Chief Executive,
Ghana Highway Authority

Witness:



George Cann
Director,
International Economic
Relation Division,
Ministry of Finance and
Economic Planning
DIRECTOR
INTERNATIONAL ECONOMIC
RELATIONS DIVISION

ATTACHMENT

1. The Government of Ghana agreed in principle to the basic design proposed in the Draft Final Report.
2. The Government of Ghana assured that the following necessary activities for the execution of the Project will be undertaken:
 - Removal of the existing equipment which will be replaced by the Project
 - Repair of the roof of buildings to avoid leakages when it rains and
 - Expansion of the fuel injection pump test room in Kumasi workshop.
3. The Final Report (10 copies in English) will be submitted to the Government of Ghana in March, 1992.

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JICA

