

APPENDICES

APPENDIX I

JOB DESCRIPTION AND QUALIFICATIONS OF THE POST AT FHS

(Source : Duty Statement Form - Public Service Commission dated 08/03/93)

1. Post : Chief Hydrographer (Grade : TG01)

Duties of the Post : Responsible for National Hydrographic Policy.

Providing technical advice to the Government of Fiji on Hydrographic matters, formulation and execution of the National Nautical Charting programme.

Departmental and inter-departmental liaison on hydrographic matters, exchange and dissemination of hydrographic data both nationally and internationally.

Professional efficiency and standards of the Fiji Hydrographic Service.

Typical Tasks Performed : Daily correspondence with overseas Hydrographic Offices and International Hydrographic Bureau (IHB).

Assisting in queries from the general public and private sector.

Checking of final submissions of survey reports and drawings.

Advising Senior Hydrographer on surveying operations.

Drawing up survey programmes and costing these General office administration.

Qualifications of the Post : An officer of high calibre.

Qualifications required appointment as Senior Hydrographer and at least 3 years service in that grade or equivalent.

Consistently good reports and ability to manage staff and resources.

Must have demonstrated intellectual capacity, drive, determination and flair in existing grade.

2. Post : Senior Hydrographer (Grade : TG02)

Duties of the Post : To conduct and carry out hydrographic surveys from start to completion stage according to the standards of the International Hydrographic Organization (IHO), using General Instructions for Hydrographic Surveyors (GHS RP135) as guideline.

The person will be required to efficiently plan and programme the surveying tasks well in advance utilizing personnel and equipment efficiently to accomplish the survey tasks as dictated by the Chief Hydrographer in the time specified.

The person will be responsible for utilising all the equipment available achieve the above and for training personnel to the necessary standards in order to obtain the necessary competence in field work that is required to carry out surveying.

In addition to the above, the officer is to be capable of carrying out the duties of the

Surveying ship Master when called upon for such a task, utilizing the qualification of Grade 3 Master.

On occasion the officer will be required to attend meetings and conferences and will be required to present papers relating to his work.

Typical Tasks Performed : Organizing and overseeing work of field survey teams including checking and approving data gathered on a daily basis. Ensuring the safety of personnel and equipment by daily checks to the sounding boat, engines, fuel and safety appliances.

Briefing field teams on their return from field work on quality of data and their performance. Discussing field surveying problems and making suggestions to Chief Hydrographer on how to rectify the same.

Offering advice on the general day to day operation of the hydrographic section and ideas on improving the production on level.

Qualifications of the Post : Technical Officer Class I with at least 3 years service in that grade or equivalent.

Consistently good reports and ability to manage staff directly under him.

Qualified to Category A Surveyor under IHO rules and Master Grade 3.

Ability to progress beyond Senior Hydrographer. The officer must be capable of demonstrating a high standard of field work and understanding of all aspects of Hydrographic surveying.

3. Post : Hydrographer (Grade : TG03)

Duties of the Post : Carry out the duties as officer in charge of boat sounding team, ensuring that the boat operation is carried out efficiently and data collected to the specifications laid down in GHS NP135.

The officer will be required to assist junior officers in gaining the necessary levels of competence required for their respective grades and for advancement.

The person is required to carry out all tasks required for setting up survey geodetic stations ashore and for calibration of all equipment used in the survey.

He is required to be able to manipulate surveying calculations using manual methods and also computer assisted methods. On completion of day's field work he is to put all the data onto the working drawing correcting any data that is not up to standard and produce the same data to the Senior Hydrographer for checking.

On occasions the officer will be required to undertake small uncomplicated hydrographic surveys on his own from start to finish stage.

Typical Tasks Performed : Daily briefing and supervision of boat crew.

Putting down all collected data on drawing sheets and checking discrepancies.

Assisting in computations using computer programmes.

Ensuring all equipment used during his days work are properly secured and maintained.

Reporting to the senior hydrographer on the day work.

Carrying out any other duties detailed to him by the senior surveyor eg. checking field data, taking on the responsibility of tidal officer or geodetic officer, and teaching junior officers on the use of field observation instruments, etc.

Qualifications of the Post : Qualifications required for appointment as Technical Officer Class II with at least 3 years service in that grade or equivalent and qualified as a Category B Surveyor under IHO rules and Mate Grade 3.

Consistently good reports and assessed potential to progress beyond Hydrographer.

4. Post : Technical Officer Class I (Hydrography) (Grade : TG04)

Duties of the Post : To assist the Hydrographer in boat sounding and field observations for geodetic control.

The officer is required to record field data, establish and level tide poles, draw up plans and describe survey geodetic control stations accurately. On return from field observations the officer will extract data and record the observations on the appropriate manner ready for checking by the Hydrographer.

Typical Tasks Performed : Recording theodolite observations, carrying out levelling between tide pole and benchmarks, correcting echo sounder graphs for tides, recording observations whilst boat sounding, describing geodetic stations ashore and representing these accurately on station description forms, performing the duties of boat coxswain (steering the boat along lines of sounding).

Ensuring the sounding boat is fuelled and all equipment ready at the start of the day's work.

Ensuring the safety of surveying equipment in the boat whilst sounding.

Carrying out observations ashore using theodolites, levels and electronic distant measuring equipment. Drawing fair sheets of completed surveys in accordance with GHS NP 135.

Qualifications of the Post : Qualifications required for appointment as Technical Officer Class II with at least 3 years service in that grade or equivalent and qualified as a Category B Surveyor under IHO rules and Deck Rating, Grade I.

Consistently good reports and assessed potential and ability to progress beyond Technical Officer Class I.

5. Post : Technical Officer Class II (Hydrography) (Grade : TG05)

Duties of the Post : To record data correctly in the field, erect tide poles, set up field observing equipment, inking in of soundings on completion of day's work, reduction

of tides on soundings, compilation of station descriptions, steer lines of soundings in sounding boat and onboard ship, carry out levelling from tide pole to benchmarks, observe simple traverses for geodetic control. Drawing fairsheets and fair tracings.

Typical Tasks Performed : Carrying out the task of survey boat coxswain.

Observing angles using a theodolite.

Levelling for sounding datum.

Describing geodetic control stations.

Inking soundings on to collector accurately.

Qualifications of the Post : Qualifications for appointment as Senior Technical Assistant Hydrography and at least 3 years service in that grade or equivalent with Leading Hydrography Assistant (LHA), Royal Australian Navy (RAN) or equivalent and Deck Rating Grade 2.

Consistently good reports and assessed potential and recommended for promotion to that grade.

6. Post : Senior Technical Assistant (Hydrography) (Grade : TG06)

Duties of the Post : To correctly record data obtained from echo-sounders, trisponders, theodolites and levels. To be able to erect tide poles, set up survey marks ashore and correct up electrical survey equipment used in field surveying. The person is to carry out the work of tide watcher, echo-sounder operator, reduce tides on echo sounding rolls and draw up tide graphs. To assist the boat coxswain when lowering and hoisting boats and when bringing the boat alongside the survey ship and wharves. Cleaning survey equipment and surveying boats. Charging batteries for field use.

Typical Tasks Performed : Reducing echo sounder charts.

Drawing up tidal graphs.

General cleaning and storage of survey equipment.

Carry out reconnaissance of geodetic survey stations.

Carry out maintenance on survey motor launches.

Carry out the duties of tide watchman.

Qualifications of the Post : Qualified as Hydrography Assistant (HA), RAN or equivalent and Deck Rating Grade 2 with at least 3 years service as Technical Assistant, Hydrography or equivalent; consistently good reports and recommended for promotion to the grade.

7. Post : Technical Assistant (Hydrography) Grade : TG07

Duties of the Post : To assist in field work such as clearing of surveying marks ashore, establishing tide stations, driving small motor boats, recording data on appropriate

forms, keeping watch on equipment that is gathering data, drawing simple diagrams such as graphs and station descriptions.

Typical Tasks Performed : Assist in logging sounding boats.

Assist in setting-up stations ashore.

Reading tide poles.

Drawing small motor boats.

Assist in setting up field stations.

Taking a general interest in survey work and learning by on the job training.

Qualifications of the Post : New Zealand School Certificate (English, Maths plus 1 other subject) or Fiji School Leaving Certificate of Completion (Minimum of 30 marks each in English and Maths plus 1 other subject).

8. Post : Technical Officer I (Cartography) (Grade : NS03)

Duties of the Post : Responsible to the Chief Hydrographer for the control, supervision and administration of the Nautical Charting section; chart scheming and specifications; programming and updating of nautical charts; arrange training programme for cartographic staff; co-ordinate with cartographic organizations locally and overseas for nautical charting and carry out such other duties delegated by management.

Typical Tasks Performed :

- (a) Carrying out research into source material and writing specifications for the compilation of New Charts/New Editions by junior staff.
- (b) Carrying out first edit of compilations to ensure source data has been correctly used, accuracy standards achieved and specifications followed.
- (c) Checking reproduction material before preparation of negatives to ensure compilations have been correctly interpreted and accuracy standards maintained.
- (d) Monitoring progress of each job and supervise chart printing.
- (e) Providing day to day guidance to junior staff in compilation and reproduction processes.
- (f) Acting as First Reporting Officer for all cartographic staff.

Qualifications of the Post : Qualifications required for appointment as Technical Officer Class II and at least 3 years service in that grade or equivalent.

Consistently good reports and demonstrated ability to control and manage staff and resources.

9. Post : Technical Officer II (Cartography) (Grade : NS05)

Duties of the Post : Responsible to the Technical Officer I (Cartography) for the compilation of nautical charts, updating of chart stocks, chart sales, publication of

Notices to Mariners, chart cataloguing and archiving.

Typical Tasks Performed :

- (a) Compilation of New Charts/New Editions.
- (b) Co-ordinating production and publication of Notices to Mariners.
- (c) Supervising the hand correction of chart stocks.
- (d) Providing chart sales service and maintaining records of Sales figures.
- (e) Maintenance of Fiji Chart Catalogue and FHS Archives.

Qualifications of the Post : A pass in the New Zealand Certificate of Survey Draughting and 12 months relevant post qualification experience.

Consistently good reports and demonstrated ability to contribute to the management of a section.

10. Post : Senior Technical Assistant (Cartography) (Grade : NS06)

Duties of the Post : Responsible to the Technical Officer II (Cartography) for the preparation of nautical charts reproduction materials and Notices to Mariners.

Typical Tasks Performed :

- (a) Carrying out reproduction work such as compilation scribing, patching-on of information onto positive of scribe and spotting of negatives prior to colour proofing.
- (b) Assist in the production of Notices to Mariners.

Qualifications of the Post : A pass in Stages 1 and 2 of the New Zealand Certificate of Survey Draughting and at least 3 years service at Technical Assistant or equivalent.

Consistently good reports and assessed potential. Ability to instruct staff.

11. Post : Technical Assistant (Cartography) (Grade : NS07)

Duties of the Post : Responsible to the Technical Officer II (Cartography) for the correction of navigational charts and archiving.

Typical Tasks Performed :

- (a) Under the supervision of Technical Officer II (Cartography), hand correcting of chart stocks.
- (b) Assist in the maintenance of FHS Archives.
- (c) On the job training in Nautical Cartography and the Study for the New Zealand Certificate in Survey Draughting.

Qualifications of the Post : New Zealand School Certificate (English + Maths plus 1 other subject) or Fiji School Leaving Certificate (30 marks in English and Maths and 1 other subject).

12. Post : Technical Officer Higher Grade (Electronics) (Grade : RE04)

Duties of the Post : To take overall charge of all electronic surveying equipment instruments and tools.

The person is required to maintain all effective planned maintenance scheme for all the above ensuring a high state of serviceability of the equipment, batteries and accessories both at sea and ashore.

It is this person's responsibility to have defective equipment repaired in the minimum amount of time and be available at all times during field surveying.

Typical Tasks Performed : Maintenance of electronic equipment.

Maintaining a supply of serviceable spares.

Training junior officers in the field.

Installation of equipment in boats, on survey ship and ashore.

Qualifications of the Post : Qualifications required for appointment as Technical Officer at least 3 years service in that grade or equivalent. Consistently good reports.

To have the necessary practical experience working on digital microwave distance measuring instruments, depth sounders, marine electronics and personal computers.

13. Post : Technical Officer (Electronics) (Grade : RE06)

Duties of the Post : To carry out basic electronic maintenance on surveying equipment.

Maintenance of batteries.

Assist the Technical Officer Higher Grade on major maintenance projects and on installation of equipment.

To be available at survey sites at all times and available to rectify minor electronic problems.

Typical Tasks Performed : Servicing batteries. Preventative maintenance on electronic gear. Basic fault finding on electronic components and rectifying these.

Servicing the power source and wiring in the survey motor boat.

Qualifications of the Post : Qualifications for appointment as Technician and at least 3 years service in that grade or equivalent.

First class performance and clear potential to contribute at a higher level.

Or

Successful completion of 3 year or 2 year training course TTC and satisfactory reports.

14. Post : Technician (Electronics) (Grade : RE08)

Duties of the Post : To assist higher level technical officers with maintenance and servicing of electronic equipment.

Changing of batteries and installation of electronic surveying equipment ready for surveying.

Carry out theoretical studies and practical work to qualify for a Trade Certificate.

Typical Tasks Performed : Assisting the higher level technicians on maintenance projects. Keeping electronic workshop tidy and ensuring proper storage of test equipment.

Being available to assist survey teams in transporting survey equipment to wherever needed.

Qualifications of the Post : New Zealand School Certificate (English plus 2 other subjects).

15. Post : Messenger/Cleaner (Grade : ---)

N.A.

16. Post : Secretary (Grade : RT05)

N.A.

LIST OF PRINCIPAL SURVEY EQUIPMENT AND INSTRUMENTS

SURVEY VESSEL

1. RV TOVUTO (cf. figure 1a)

Gross tonnage : 912 tons

Length overall : 51.39m

Width moulded : 11.82m

Depth moulded : 3.00m

Complement : 3 officers, 18 crew

Accommodation : For about 15 persons

Speed : 12 knots (maximum)

Navigational instruments : Autopilot/Gyrocompass, GPS, Radar, Compass,
Radio (HF and VHF)

Crane : 5-ton crane and a crane for loading and unloading a small boat.

Remarks : Transducers of echo-sounders are equipped at the bottom of the hull.

2. SMB BABALE (cf. figure 1b)

Type : Catamaran type aluminum boat

Length : 6.8m

Width : 2.6m

Engine : 40HP outboard engine x 2

SURVEY INSTRUMENT

1. Control point survey

Item	Qty
Trisponder Del Norte 586 DDMU	3
Trisponder (Master)	3
Trisponder (Remote)	6
Tellulometer MRA-7 DMU	2
T16 Wild Theodolite	1
T2 Wild Theodolite	1
Topcon GTS2B Total Station	1
Wild NA2 Automatic Level	1
Wild NK2 Level	1
Barometer	2

2. Sounding

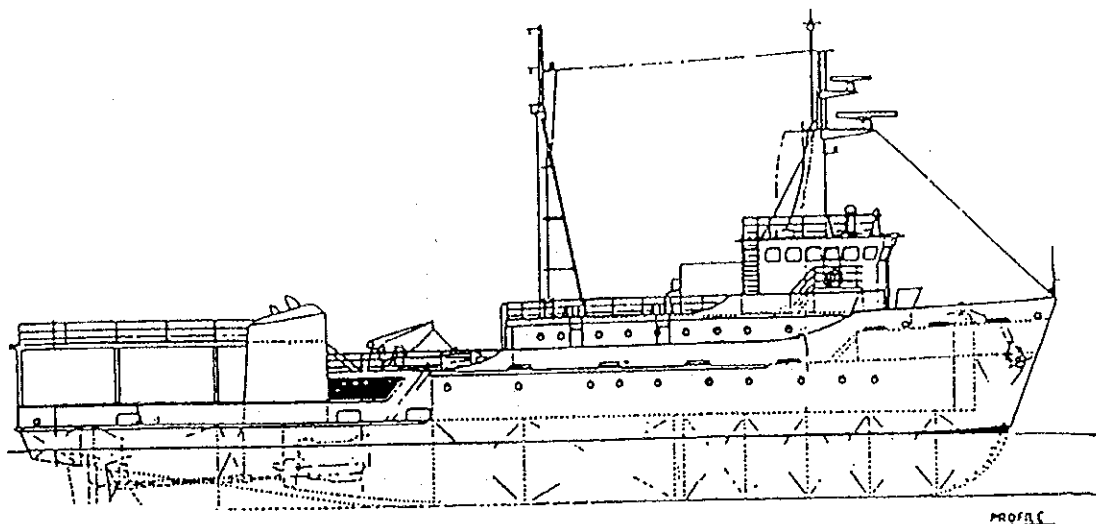
Item	Qty
ODEC Bathy-2000P Echo-sounder	1
Echotrac DF3200 Echo-sounder	3
Raytheon DE719 Echo-sounder	2
Model 260 Side-scan Sonar	1
Sercel DGPS Receiver	2
Digibar 1100	2

3. Oceanographic Observation

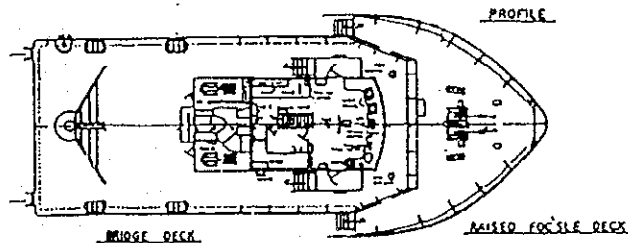
Item	Qty
Yeo-Kal 610 Tide Gauge	3

4. Plotter

Item	Qty
Graphtec FS3000	1



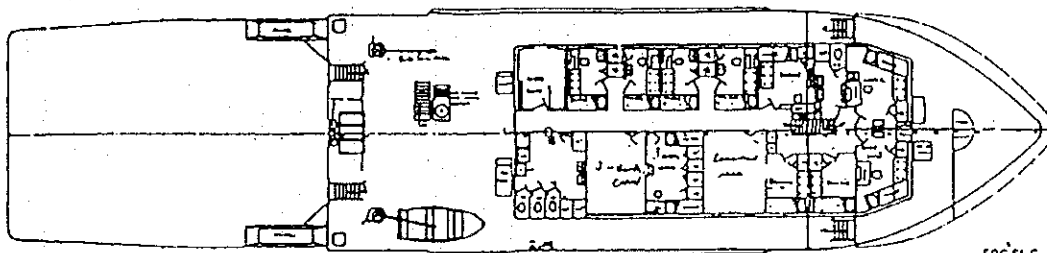
PROFILE



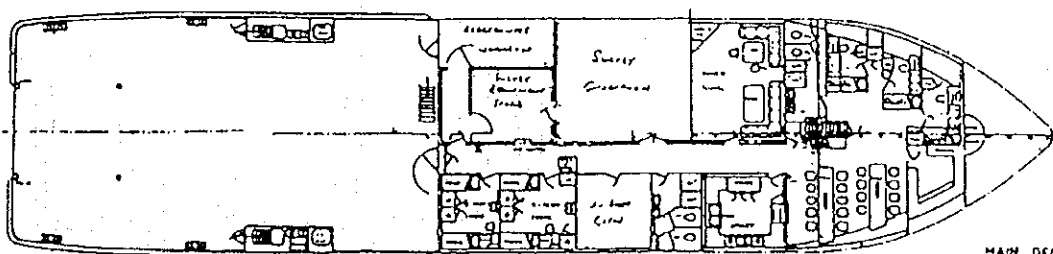
PROFILE

MIDGE DECK

RAISED FOC'SLE DECK



FOC'SLE



MAIN DECK

Figure 1a. Survey Vessel R/V TOVUTO

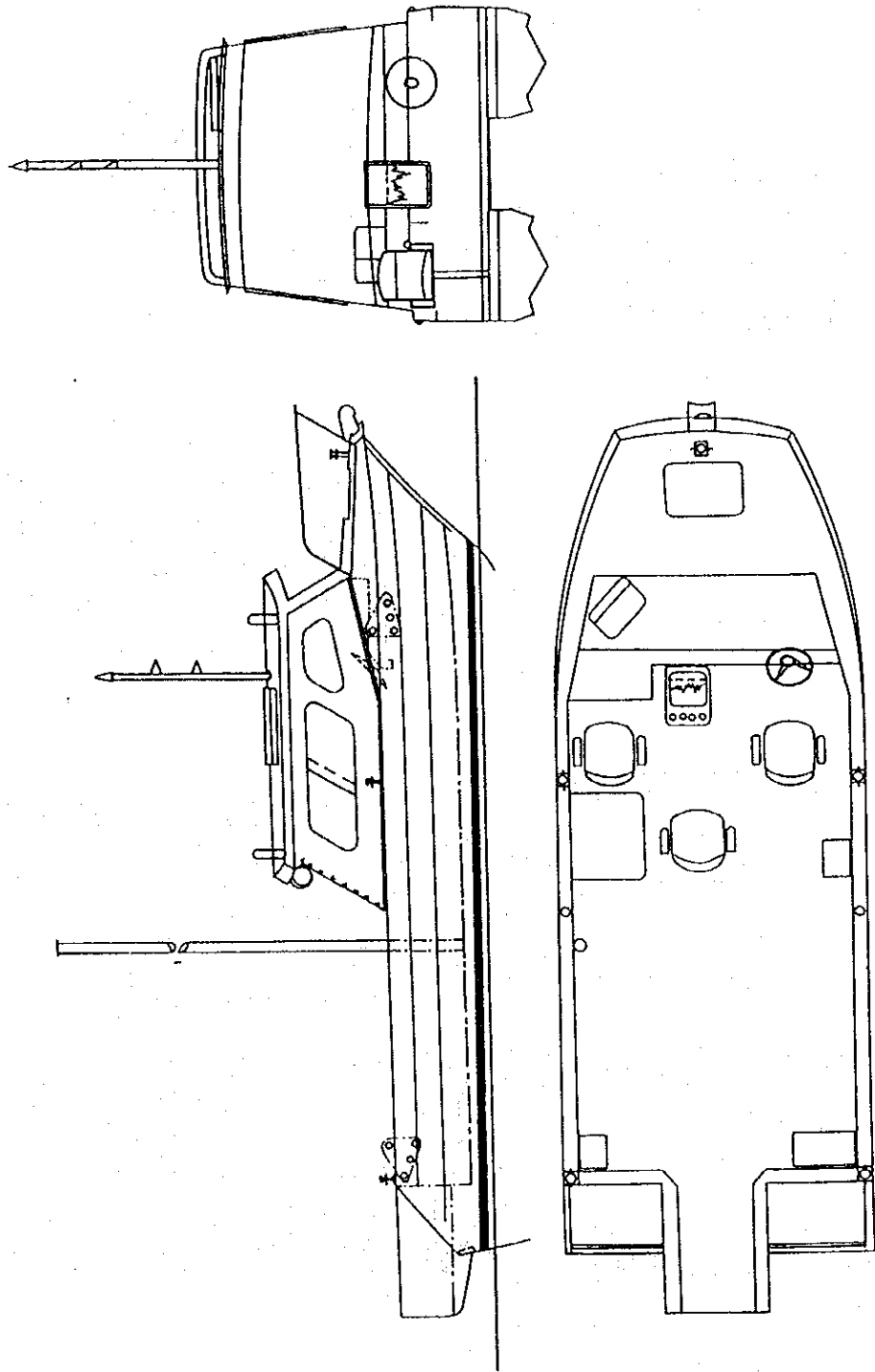


Figure 1b. Survey Motor Boat BABALE

APPENDIX III

LIST OF CARTOGRAPHIC EQUIPMENT AND INSTRUMENTS

No	Item	Qty
1	Light draughting table	6
2	Leroy lettering set	2
3	Proportional divider	2
4	Rotring drop compass	2
5	Magnifying glass	1
6	Rolling parallel rule	5
7	Slide rule	1
8	Brunning pantograph	1
9	Lektro-Sticj waxer	1
10	Wax burnisher	1
11	Neolt trimmer	1
12	Rotring pen cleaning unit	1
13	Navigation divider	1
14	Printing machine (Small)	1
15	Precision cutter	1
16	Registration bar	1
17	Staedtler drawing set	1
18	Draughting brush	4
19	Citizen calculator CX50	1
20	Dyno-Labeling machine	1
21	Electric eraser	1
22	Stabilene scribe set	2
23	Wild portable stereoscope	1
24	Table lamp	2
25	Hope drawing set	2
26	Vertical steel plan cabinets	9
27	Pencil sharpner	1

Printing equipment at the Government Printing Office

Man-Roland Two Colour Perfecting Press

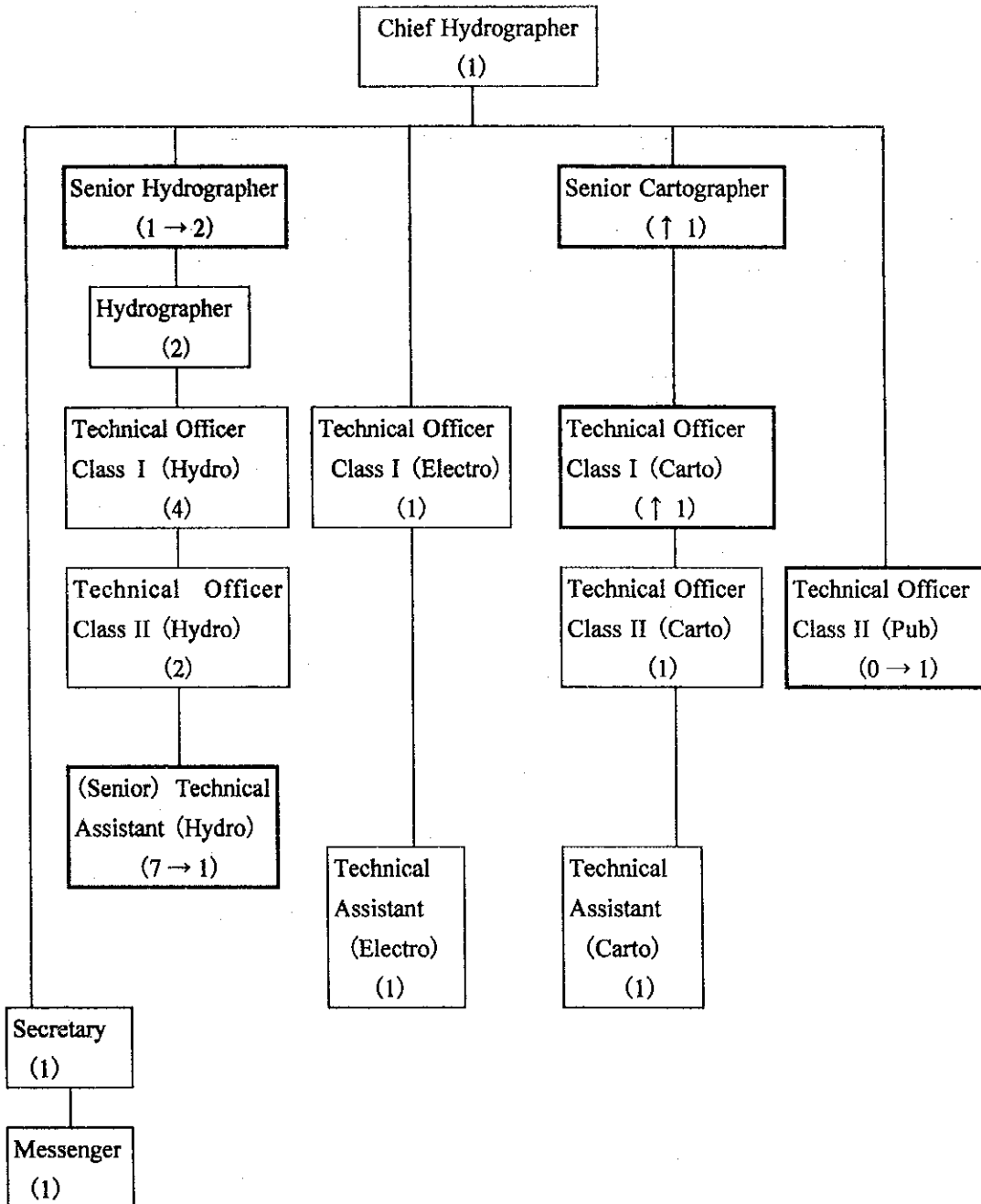
Rekord RZK 3B-E

2/0 - 1/1

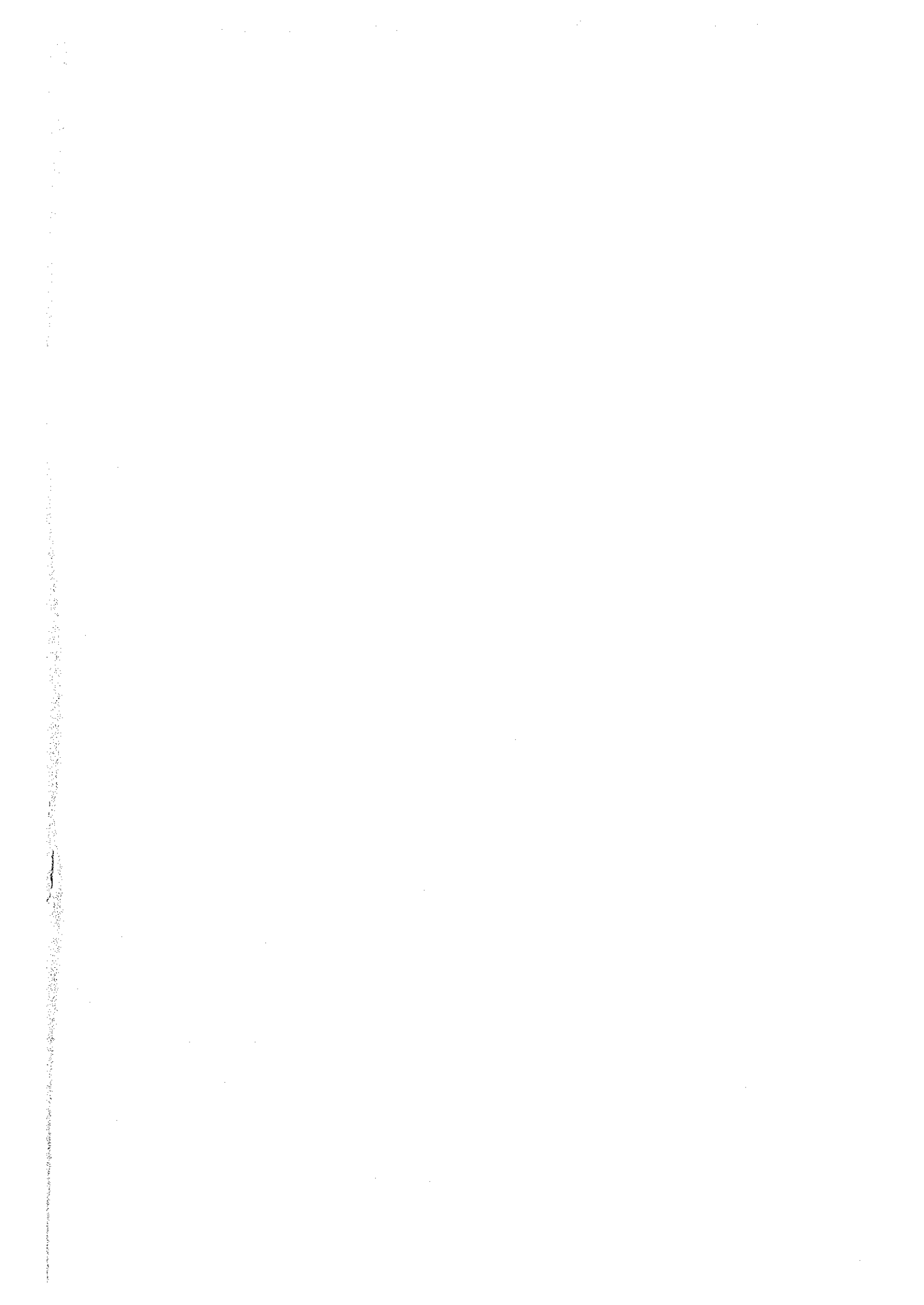
Technical specification

Sheet size maximum	720mm × 1020mm
Sheet size minimum	280mm × 406mm
Printing area maximum	710mm × 1020mm
Printing area maximum-perfecting	700mm × 1020mm
Plate size	785mm × 1030mm
Blanket size	865mm × 1050mm
Sheets per hour maximum	10,000
Power	AC 415V 50Hz 3-phase

RECOMMENDED REORGANISATION OF FHS



Change re-
commended



JICA

