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JAPAN INTERNATIONAL COOPERATION AGENCY(JICA)
THE PORTS CORPORATION OF AQABA
THE HASHEMITE KINGDOM OF JORDAN

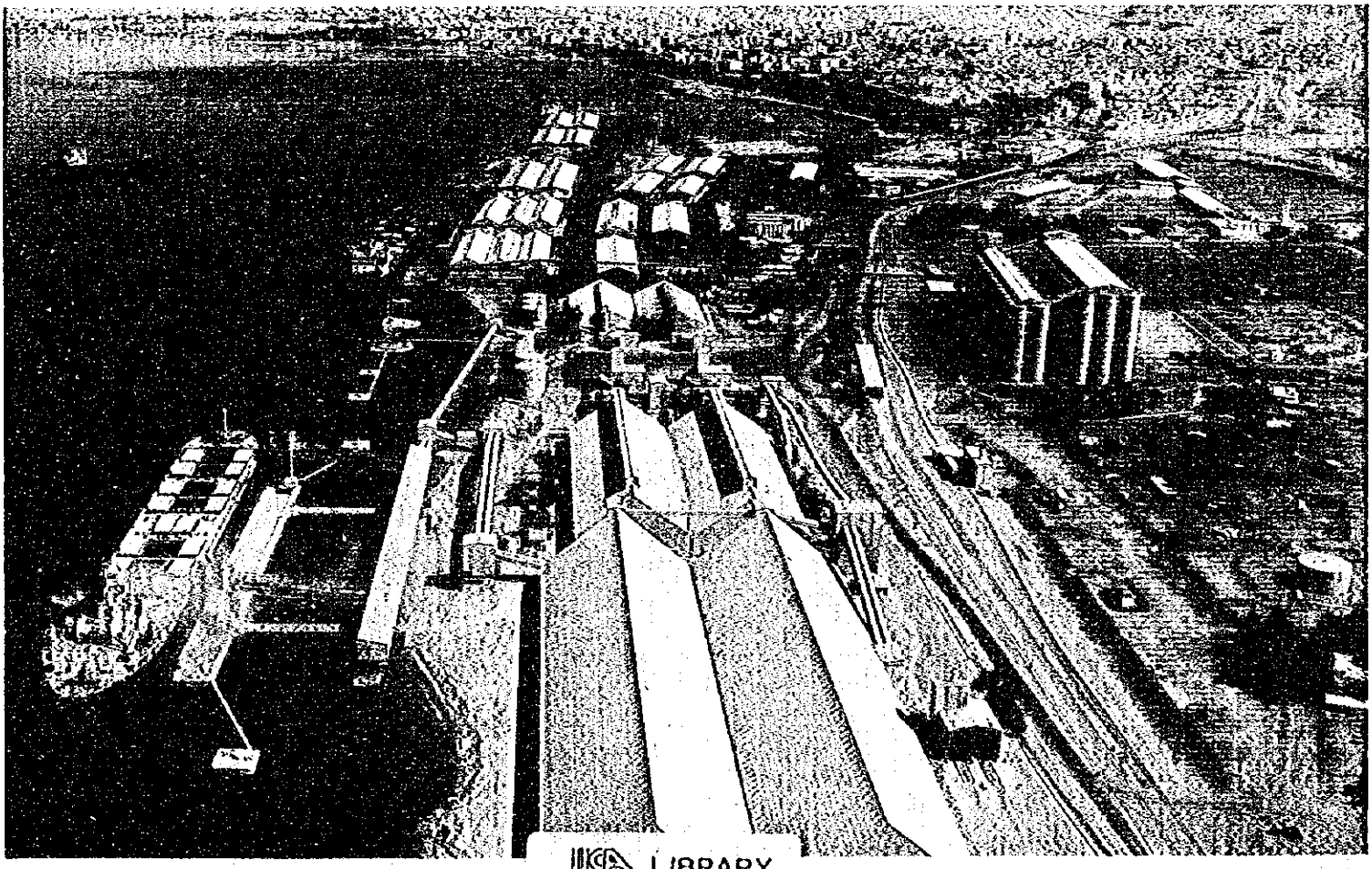
NO. 52

FINAL REPORT

THE STUDY ON THE IMPROVEMENT PLAN OF THE PORT OF AQABA IN THE HASHEMITE KINGDOM OF JORDAN

VOLUME (3) APPENDIXES

FEBRUARY 1996



THE OVERSEAS COASTAL AREA DEVELOPMENT INSTITUTE OF JAPAN(OCDI)
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PACIFIC CONSULTANTS INTERNATIONAL(PCI)

THE STUDY ON THE IMPROVEMENT PLAN OF THE PORT OF AQABA IN THE HASHEMITE KINGDOM OF JORDAN VOLUME (3) APPENDIXES

FINAL REPORT

THE STUDY ON THE IMPROVEMENT PLAN OF THE PORT OF AQABA IN THE HASHEMITE KINGDOM OF JORDAN

VOLUME (3) APPENDIXES

FEBRUARY 1996

CURRENCY EXCHANGE RATE

1 US Dollar = 0.69 Jordan Dinar = 90 Japanese Yen

(As of March, 1995)

APPENDIXES

Table of Contens

4.8 Information System

Appendix 4.8.1-(1)

(1) MARINE DEPT.

SHIP MOVEMENT CONTROL SYSTEM

Procedure	Concerned Party	Port CORPORATION	Computer	Remarks
1.Registration of vessel PC obtains the list of arrival /departure vessel of next month from shipping agent, and inputs the data into computer. Ship's paticular Date and time Arriv./dept. draft Master's name	(Shipping company/ Shpping agent) The list of vesesl arri/dept. Ship's particulars	Receipt of vessel schedule. (Arriv/Dept.) Registration of vessel schedule	COMPUTER	
2. Change of vessel shedule When vessel shedule is changed. all data is revised.	(Shipping company/ Shiping agent) Information of change of vessel schedule	Input of change list of vessel schedule		

Appendix 4.8.1-(2)

(1) MARINE DEPT.

SHIP MOVEMENT CONTROL PLAN

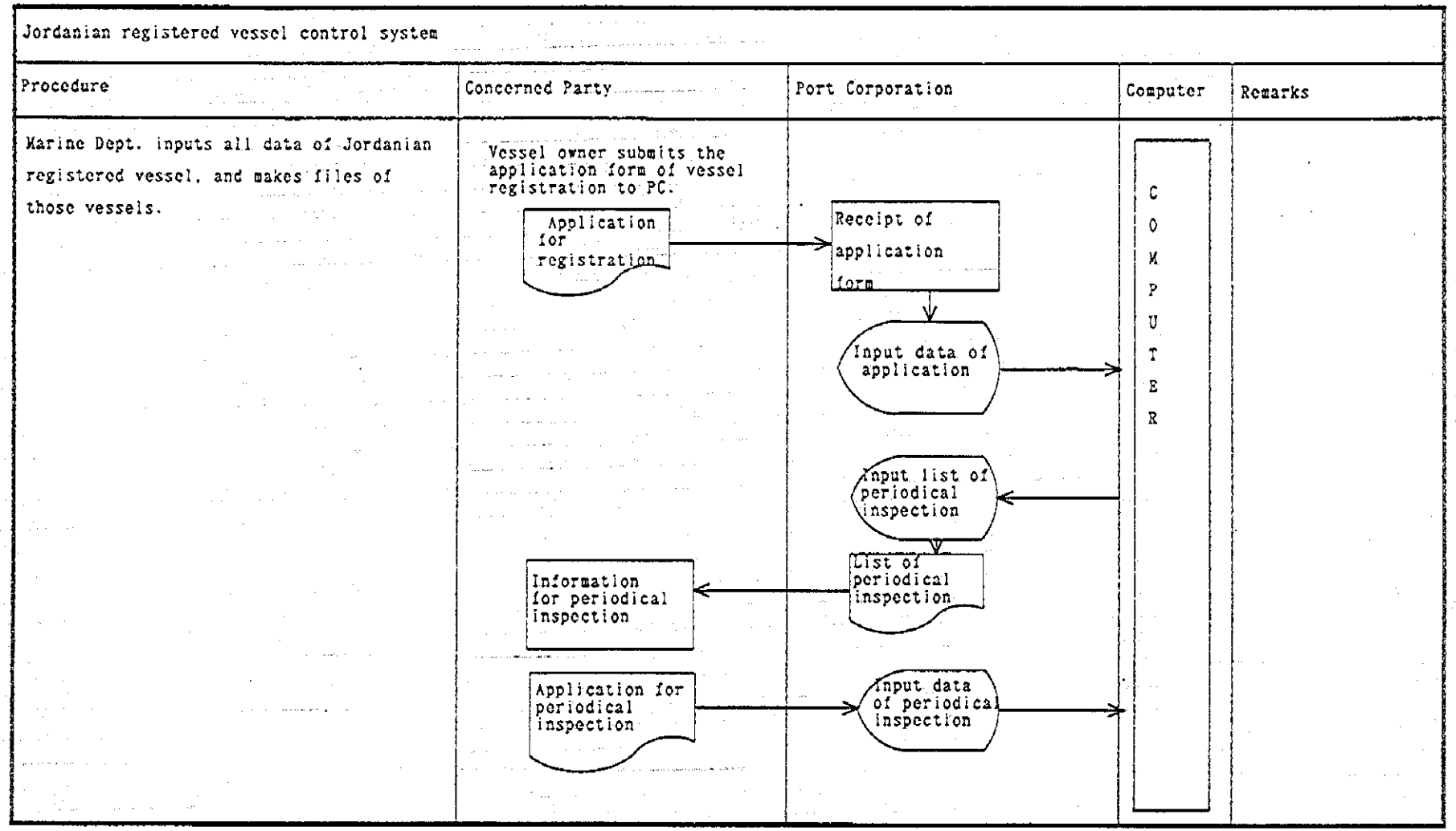
Procedure	Concerned Party	Port Corporation	Computer	Remarks
3. Marine Dept. arrange pilot and tug boat. and line's man according to the list of vessel arrival/depture.		Input vessel schedulearriv./ dept. The list of vessel schedule Input available pilots. tugboats The list of pilots, tugboats The list of vessel schedule pilot. tugboats	COMPUTER	

(1) MARINE DEPT.

PSC CONTROL SYSTEM

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Marine Dept. checks the file of vessel schedule. They inspect apparatus of safety equipment of vessels for Port State Control, and file all data of the inspection including the results.		Input the list of vessel schedule The list of vessel schedule Pick up vessel for PSC input data, results of PSC The results of inspection	COMPUTER	

(1) MARINE DEPT.



(2) OPERATION DEPT.

Berth decision control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Registration of berthing location for scheduled vessels. After receiving of application and notice of calling vessel from shipping agent, Operation Dept. confirms vessel name, vessel particulars, date, time, and berth number.		Confirm the data of vessel name, particular, berth number Input final confirmed data Output of vessel list List of scheduled vessel List of berthing vessel	COMPUTER	After vessel berthing, Operation Dept. confirm and input actual data. For berth decision, check of current berthing condition.

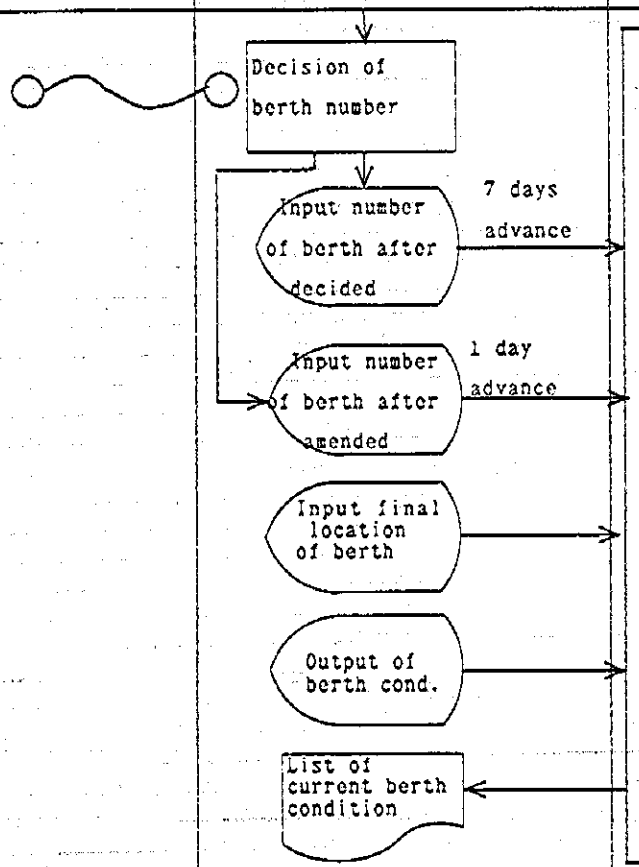
Appendix 4.8.4-2

Berth decision control system

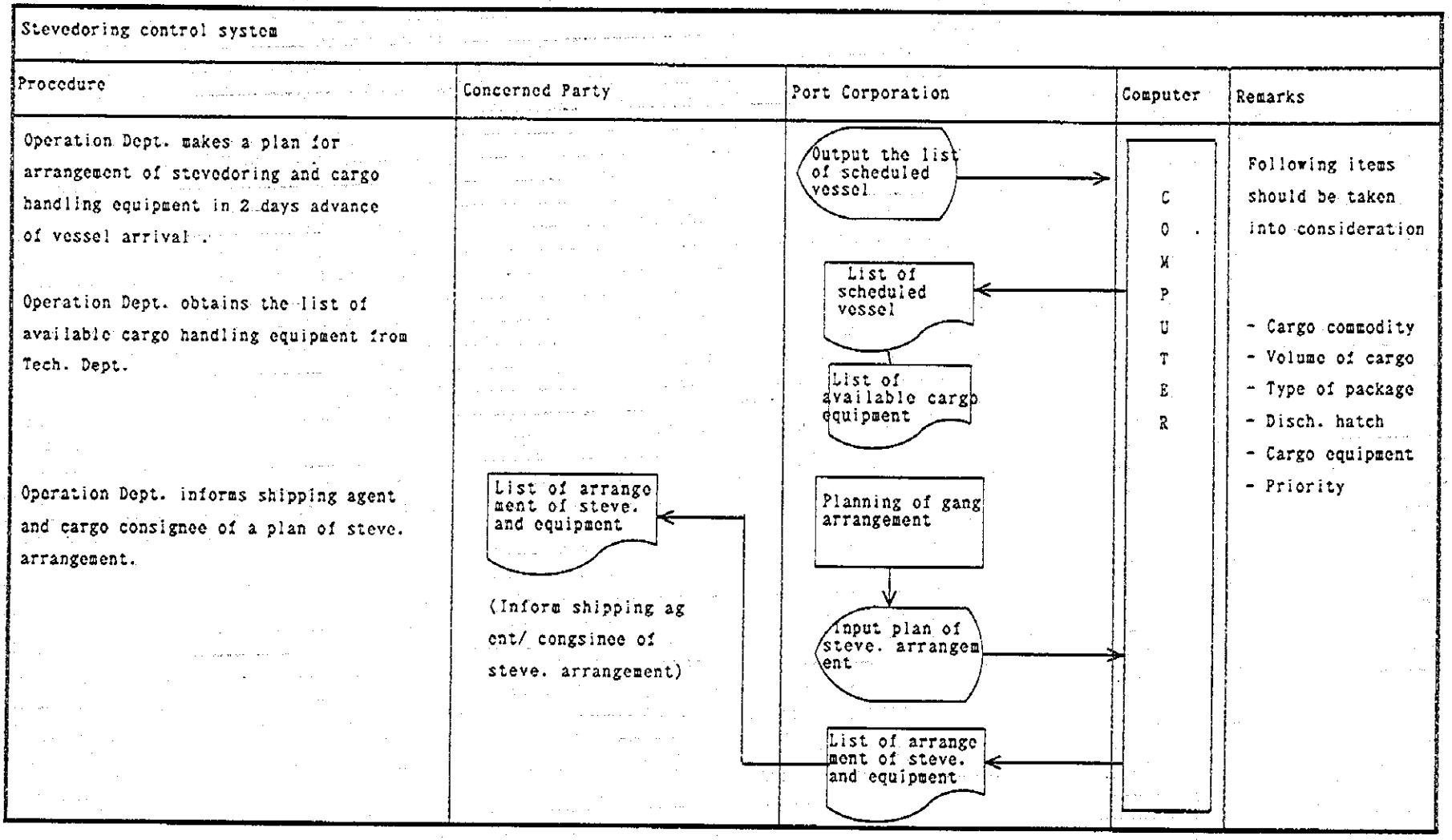
Procedure	Concerned Party	Port Corporation	Computer	Remarks
PC obtains and amends the information of vessel schedule periodically from shipping agent. Input updated data about ship's schedule, and amend former data. After input all data, output the list of scheduled vessel and berthing vessel. Refering to the list of scheduled vessel, PC makes a plan of berthing schedule.	Confirming of vessel schedule Amended updated vessel schedule (Shipping company/ Shipping agent)	Confirming of final vessel schedule Re-register and confirm vessel schedule Output scheduled vesel List of scheduled vessel List of berthing vessel Plan and decision of berth	COMPUTER	Following items should be taking into consideration. cargo commodity cargo volume length draft disch. hatch priority

Appendix 4.8.4-3

Berth decision control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
PC makes a berthing plan of vessels which are listed and scheduled to call port 7 days advance. After fixing berthing location number. Operation Dept. inputs the exact location number. A ship's agent is informed of the location number of berth.	After deciding the berth number, inform shipping agent.			

Appendix 4.8.5-1



Appendix 4.8.5-2

Stevedoring control plan

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Operation Dept. records and input the folowing data: Number of stevedoring Number and kind of cargo equipment Working day and time Special equipment	Shipping agent/Consignee obtains the list of record of working time, and equipment from PC.	Record working time of steve. and equipment Record of steve and equipment Input record of working time, equip. Output record of working time, equip. List of record of working time, equipment	COMPUTER	Finance Dept. uses these cargo work data for preparing port due claim payment.

Appendix 4.8.6-1

Warehouse and shed control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Operation Dept. checks available shed and open spaces. Operation Dept. plans and decides storage spaces for each cargo. For planning, following items should be taken into consideration: Cargo commodity Cargo volume Type of package Distance between berth and space	Information of cargo details (manifest etc) Cargo manifest	Receipt of information of cargo details Cargo manifest Input all data of cargo detail Output current shed condition List of current shed condition	COMPUTER	

Appendix 4.8.6-2

Warehouse and shed control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Operation Dept. outputs cargo manifest which are sorted alphabetically by the name of consignee. Operation Dept. plans storage spaces based on the current shed condition and cargo manifest. Input the data of storage space.		Output sorted cargo manifest acco'ding to consignee Sorted cargo manifest according to consignee Planning of storage space List and plan of storage space Input list and plan of storage space	COMPUTER	

Appendix 4.8.6-3

Warehouse and shed control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
After making a plan. Operation Dept. informs consignee of the plan of storege.	consignee	Output list and plan of storage space	COMPUTER	Required data Vessel name Cargo commodity Cargo volume Type of package Consignee Storage location Time of carry in Time of carry out
	List and plan of storage space	List and plan of storage space		
Operation Dept. records actual data of storage cargo. and input these data into computer.		Record the actual cargo storage data		
		List and record of actual cargo storage data		
		Input the record of cargo storage		

Appendix 4.8.6-4

Warehouse and shed control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Operation Dept. outputs the data of actual storage cargo, and delivers the list to consignee.	Consignee receives the data of actual storage data The data of actual storage data	Output the actual cargo storage data The data of actual storage data	COMPUTER	Finance Dept. gets these actual data for preparing port due claim payment.

(3) Finance Dept.

Port charge collecting system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Finance Dept. prepares the bill of port charge based on the data from Marine Dept. Wharfage Tonnage Quarantine charge Tugboat charge Pilotage Line man's charge	PC submits the bill of port charge to shipping agent.	Output calculation of port charge Output of output of port charge Bill of port charge Collecting of port charge Input the data of collecting port charge Issue of receipt of port charge	COMPUTER	Program soft ware of calculation of port charge Bill of port charge is prepared by computer. After confirmation and input of port charge, the receipt is issued by computer to shipping agent.
Finance Dept. submits the bill to shipping agent, and collect these charge.	Bill of port charge Payment of port charge			
After confirming the collecting of port charge, PC issues the receipt to shipping agent.	Receipt of port charge			

Appendix 4.8.8

Stevedoring charge collecting system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Finance Dept. prepares the bill of stevedoring charge based on the data from Operation Dept. Equipment charge Handling equipment Stevedoring charge Number of worker Working time Stevedoring extra charge	PC issues the bill of steve. charge to shipping agent	Calculation of stevedoring charge	COMPUTER	Program software of calculation of steve. charge
		Output of stevedoring charge		
	Bill of stevedoring charge	Bill of stevedoring charge		Bill of steve. charge is prepared by computer.
Finance Dept. issues the bill to shipping agent, and collects these charge.	Payment of stevedoring charge	Colecting of stevedoring charge		
		Input the data of collecting steve. charge		After confirmation and input of steve. charge, the receipt is issued by computer to shipping agent.
After confirming the collecting of port charge, PC issues the receipt to shipping agent.	Receipt of steve. charge	Issue of receipt of steve. charge		

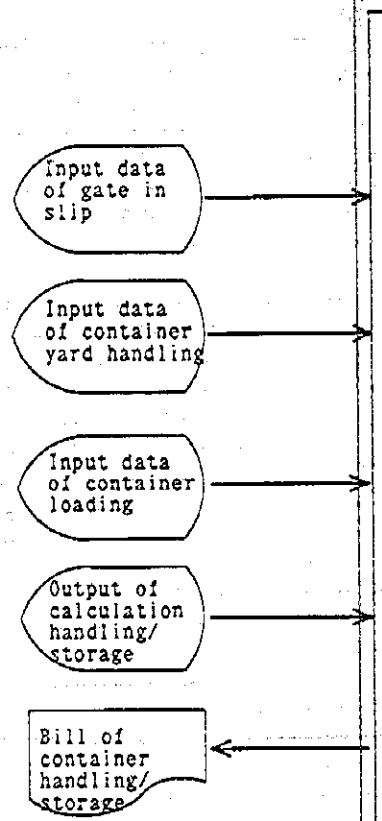
Appendix 4.8.9

Storage charge collecting system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Finance Dept. prepares the bill of storage charge based on the data from Marine Dept. Quay charge Lighterage Storage Portage	PC issues the bill of storage charge to custums clearing company.	Calculation of storage charge Output of storage charge Bill of storage charge	COMPUTER	Calculation program of storage charge Bill of storage charge is prepared by computer.
Finance Dept. issues the bill to custums clearing company, and collects these charge.	Bill of storage charge Payment of storage charge	Collecting of storage charge		
After confirming the collecting of storage charge, PC issues the receipt to custums clearing company.	Receipt of storage charge	Input the data of collecting storage charge Issue of receipt of storage charge		After confirmation and input of storage charge, the receipt is issues by computer to custums clearing company.

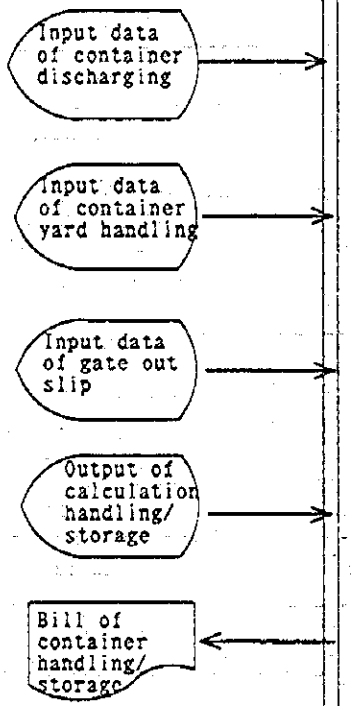
Appendix 4.8.10-1

Container charge collecting system

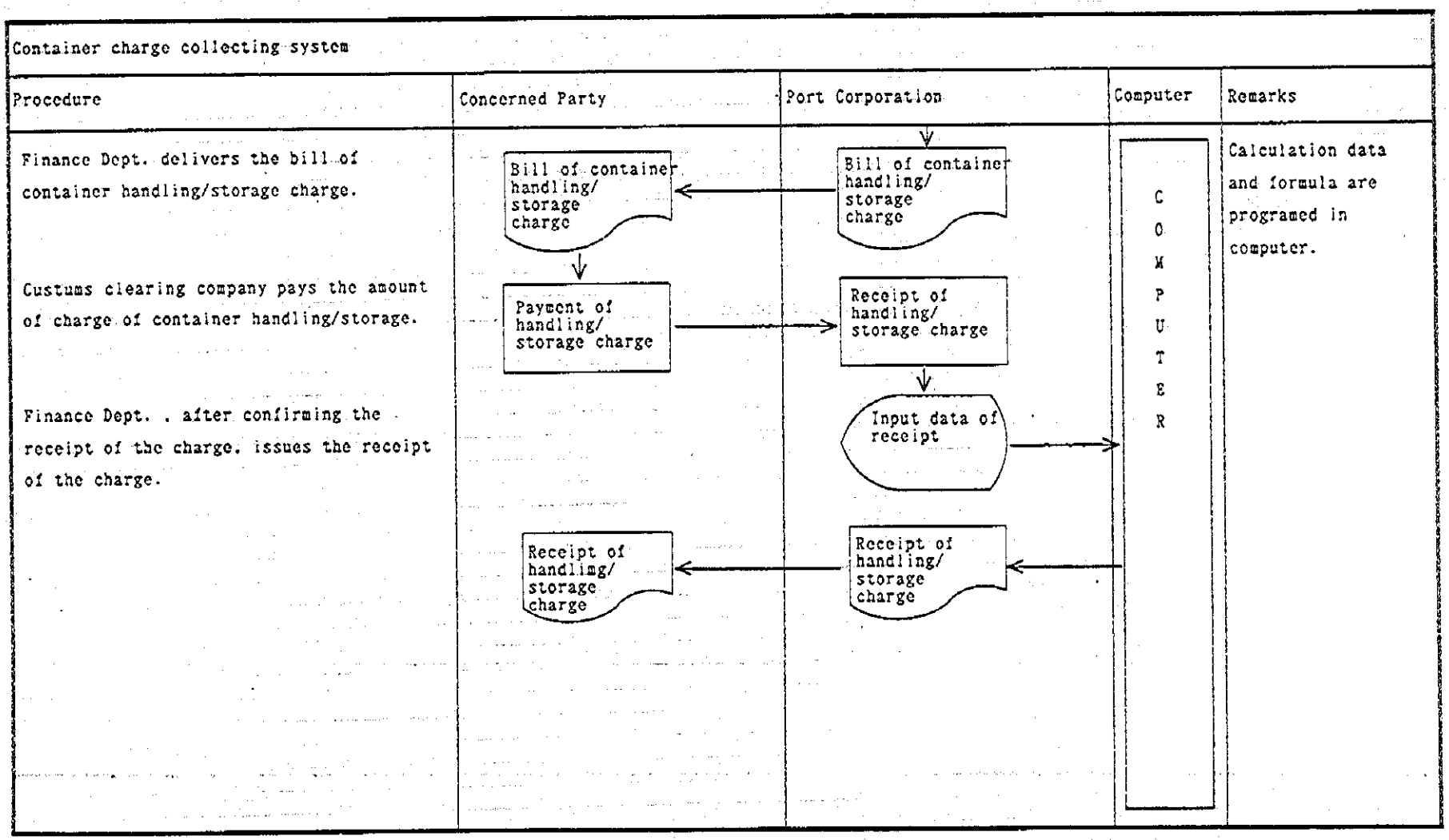
Procedure	Concerned Party	Port Corporation	Computer	Remarks
Finance Dept. prepares the bill of container handling/storage charge. The data of container is input by Operation Dept. when containers are handled. The tariff of container handling/storage are programed. and Finance Dept. orderes to calculate the handling charge. The bill of container handling/storage are prepared and printed by computer.			COMPUTER	Following data are input by Operation Dept.: - Gate in slip -Container yard handling -Container oading Finance Dept. order the task of calcula tion of container handling/storage. Bill is prepared by computer.

Appendix 4.8.10-2

Container charge collecting system

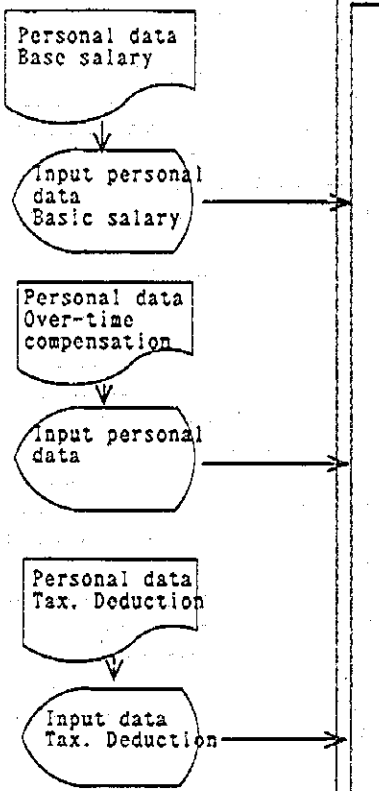
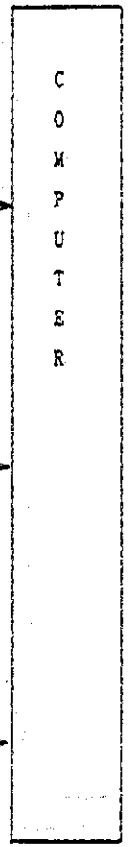
Procedure	Concerned Party	Port Corporation	Computer	Remarks
Finance Dept. prepares the bill of container handling/storage charge. The data of container is input by Operation Dept. when containers are handled. The tariff of container handling/storage are programed. and Finance Dept. orders to calculate the handling charge. The bill of container handling/storage are prepared and printed by computer.			COMPUTER	Following data are input by Operation Dept: - Container disch. -Container yard handling -Gate-out slip Finance Dept. order the task of calculation of container handling/ storage. Bill is prepared by computer.

Appendix 4.8.10-3



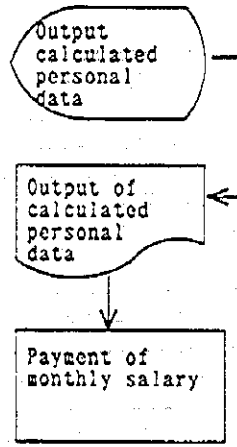
Appendix 4.8.11-1

Payroll and wege adustment system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Finance Dept. obtains the data for calculation from Administrative Dept. and Audit & Control Dept. Input personal data of basic salary Input personal data of over time compensation. others Input income tax. welfare pension. other deduction				

Appendix 4.8.11-2

Payroll and wage adustment syste

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Finance Dept. outputs calculation data of monthly salary which are included over-time compensation. and deducted income tax and other deductions.				

Appendix 4.8.12-1

Accounting system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Finance Dept. inputs the following items for Accounting system: Operation revenue Ship service Handling service Passenger service Phosphate loading service Industrial berth service Non-operation revenue Interest Currency adjusting Others		Journalizing of operation revenue ↓ Journal of operation revenue ↓ Input data of operation revenue journalizing of non-operating revenue ↓ Journal of non-operating revenue ↓ Input data of non-operating revenue	COMPUTER	

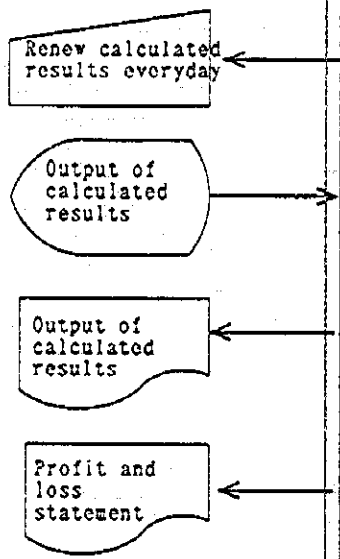
Appendix 4.8.12-2

Accounting system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Operating expence Personnel (salaries, wages, allowances, others) Maintenance Training Industrial berth operation Articles of consumption Administration Others Depreciation Non-operating expence Interest on loans Previous years expences Others		Journalizing of operating expence ↓ Journal of operating expence ↓ Input the data of operating expence →	COMPUTER	
		Journalizing of non-operating expence ↓ Journal of non-operating expence ↓ Input the data of non-operating expence →		

Appendix 4.8.12-3

Accounting system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Net operating income Non-operating income Net income before contribution Net income after contribution Calculated data is renewed everyday.			C O M P U T E R	

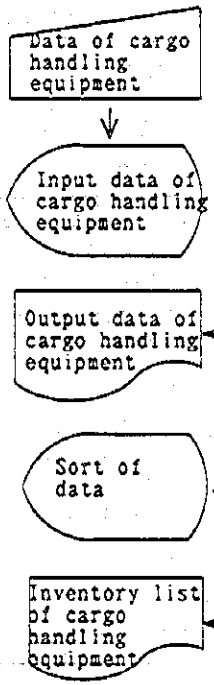
Appendix 4.8.12-4

Accounting system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Balance sheet Assets Current assets Cash & deposit Other current assets Fixed assets Net depreciate assets Other assets Liabilities and capital Liabilities Current liabilities Short-term loans Other current liabilities Fixed liabilities Long-term loans Other credits Capital Capital Net income Retained earnings		Data of assets Input data of assets Data of liabilities capital Input data of liabilities and capital Output of balance sheet Output of balance sheet	COMPUTER	

(4) TECHNICAL DEPT.

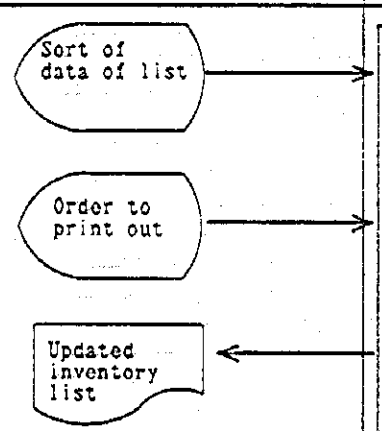
Equipment inventory control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Techinical Dept. makes a file of inventory control of cargo handling equipment. Technical Dept. inputs all the data of cargo handling equipment. Name of equipment Name of manufacturer Manufactured date Type of model Type of power Dimension Type of fuel, lubricating oil After data file is input the file will be sorted by equipment-wise.			COMPUTER	Number of equipment: 300

Equipment inventory control system

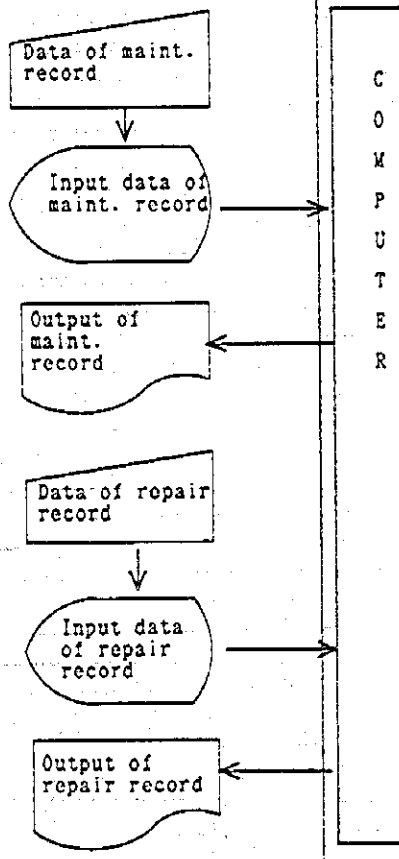
Procedure	Concerned Party	Port Corporation	Computer	Remarks
Updating and replacement of inventory data Purchase of new equipment Write-off of equipment Input new data of purchased equipment Deletion data of write-off equipment		Data of purchased new equipment ↓ Input data of purchased new equipment Output of update inventory list Data of written-off equipment ↓ Deletion data of abandoned equipment	COMPUTER	

Appendix 4.8.13-3

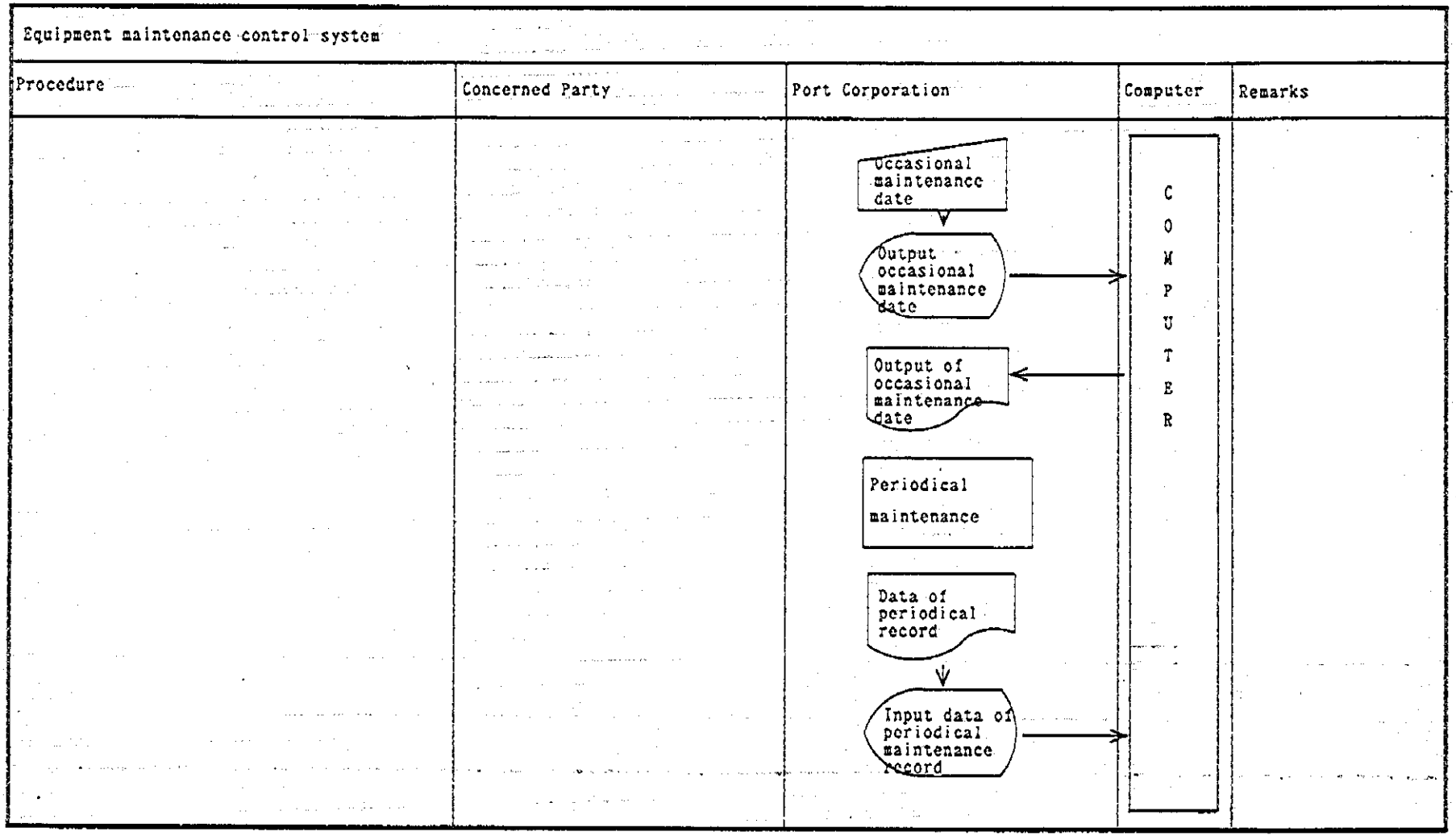
Equipment inventory control system				
Procedure	Concerned Party	Port Corporation	Computer	Remarks
Update data of inventory control every day				

Appendix 4.8.14-1

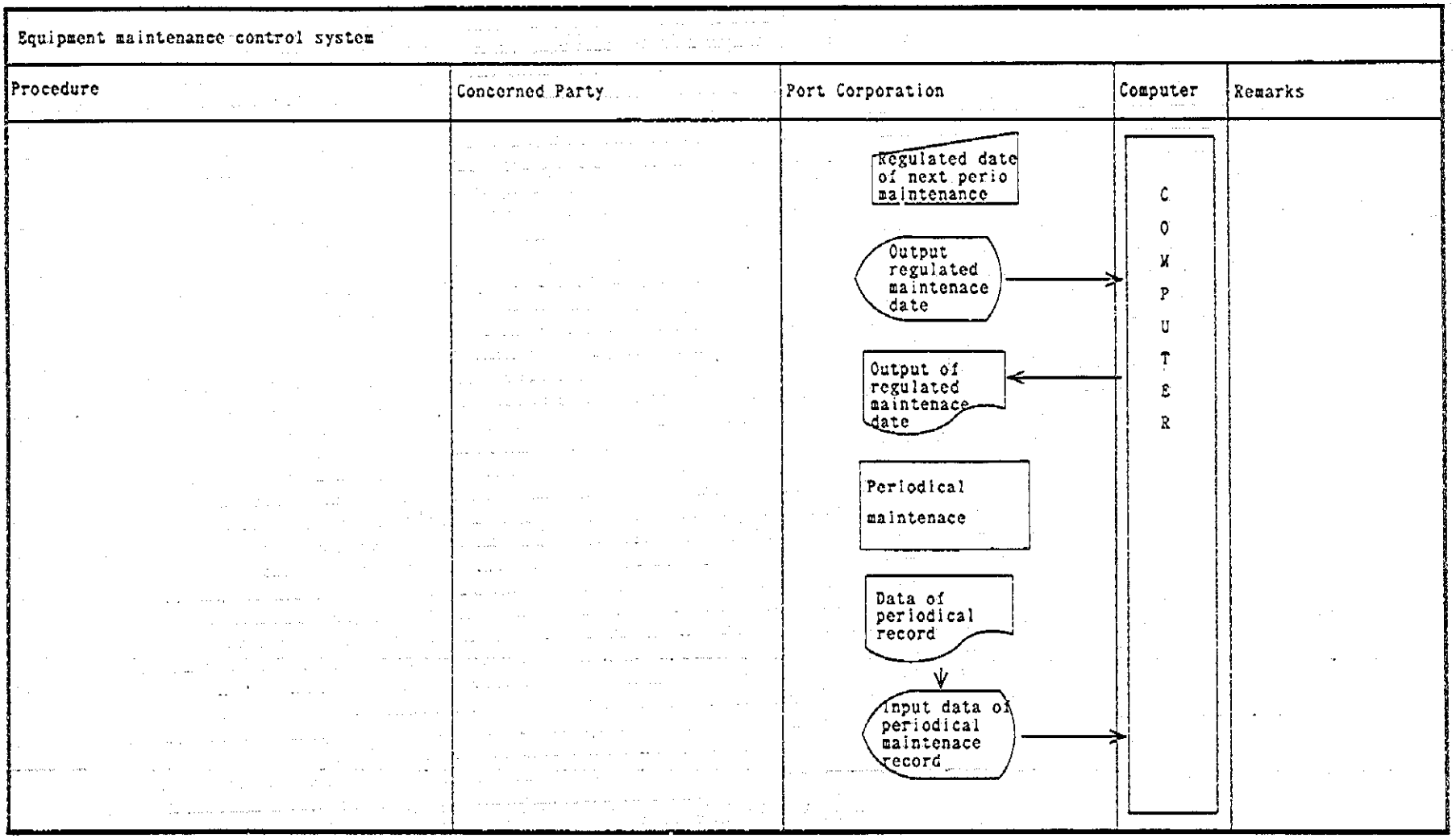
Equipment maintenance control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Technical Dept. makes a maintenance list of cargo handling equipment. In addition to the data of inventory control, inputing the following data: History of past maintenance and repair records Date of maintenance Details of maintenance Replaced spare parts Due date of next periodical maintenance Records of working hour				

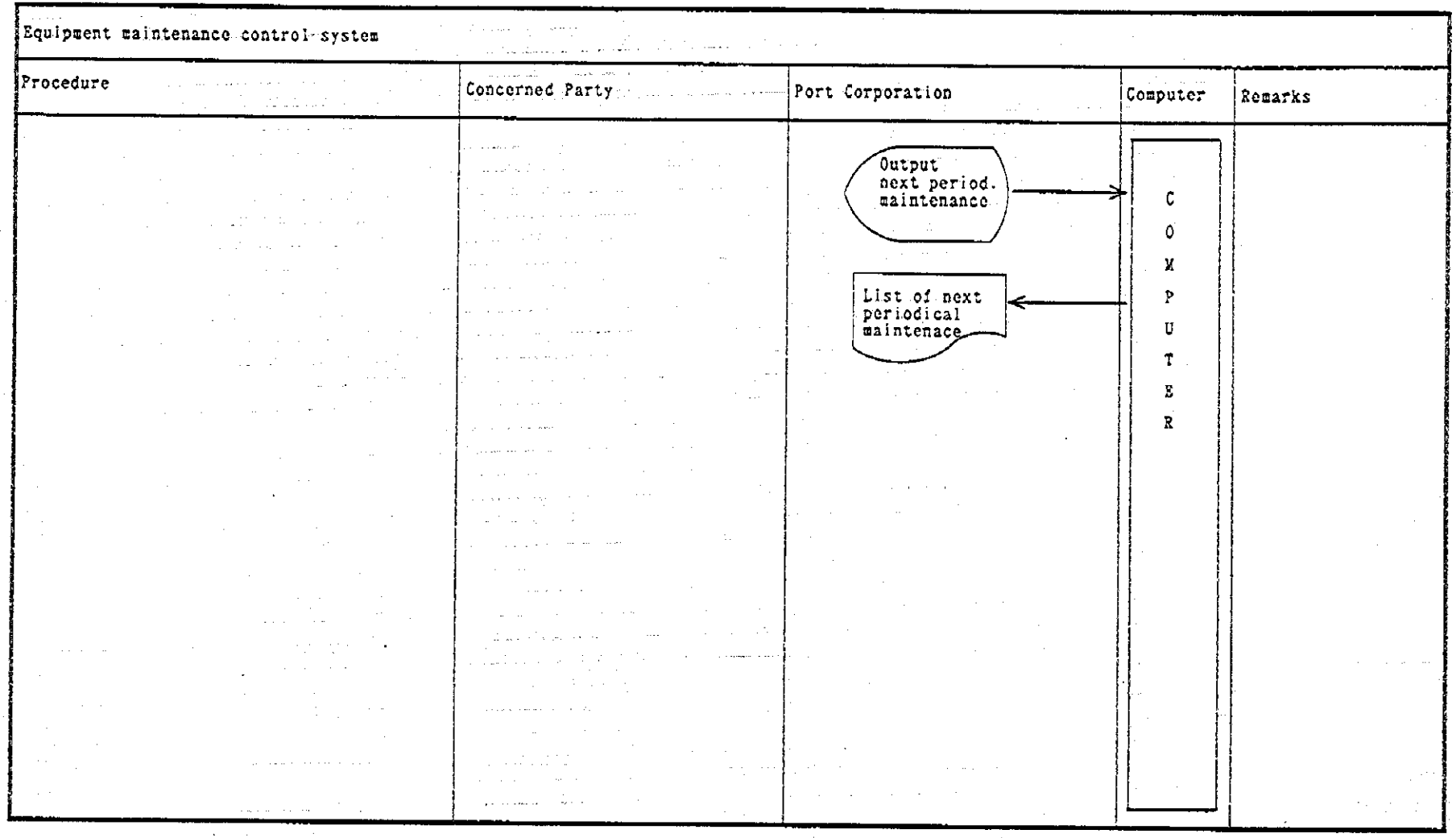
Appendix 4.8.14-2



Appendix 4.8.14-3

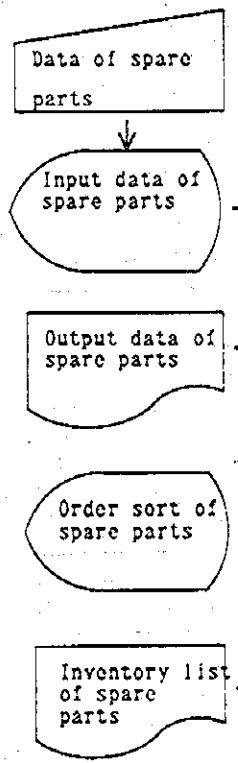


Appendix 4.8.14-4



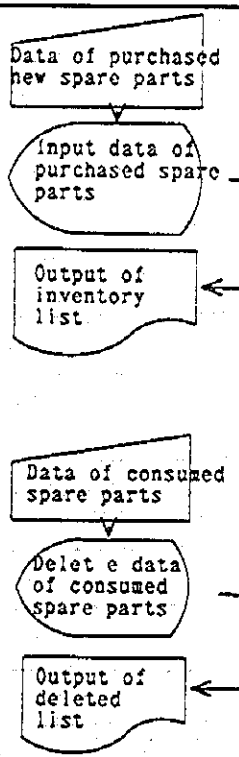
(5) SUPLIES & PURCHASES DEPT.

Spare parts inventory control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Supplies & Purchases Dept. makes a file of spare parts inventory control. Supplies & Purchases Dept. input the all data of spare parts: Name of spare parts Type of model Size/dimension Date of receiving Date of consumption Number of spare parts After all data is input, the file will be sorted by spare parts-wise.			COMPUTER	Number of spare parts: 48,000

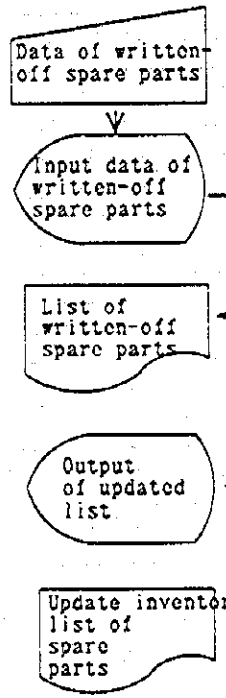
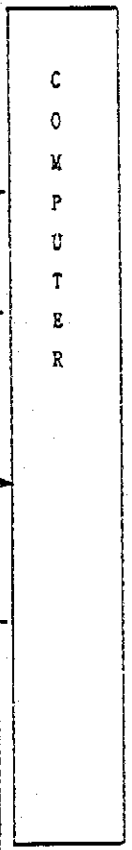
Appendix 4.8.15-2

Spare parts inventory control sytem

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Updating and replacement of inventory data Purchase of added spare parts Consumption of spare parts Write-off of equipment Input new data of purchased and added spare parts Input new data of consumed spare parts Input new data of written-off spare parts			C O M P U T E R	

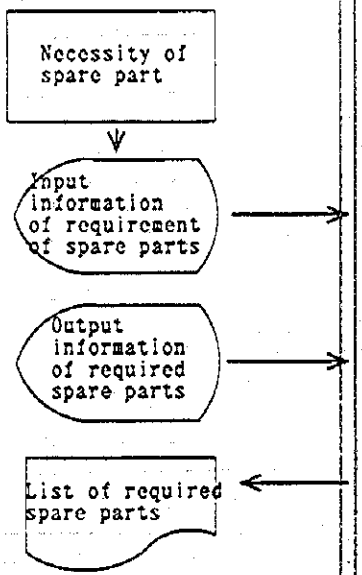
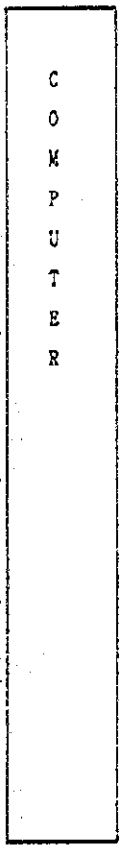
Appendix 4.8.15-3

Spare parts inventory control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
All data is updated everyday.				

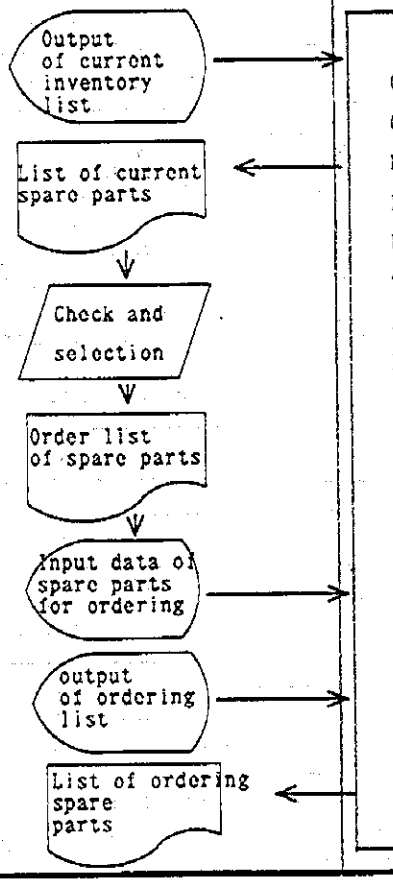
Appendix 4.8.16-1

Spare parts order/receiving control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Each Dept. orders requisitions of spare parts, and inputs the data into computer. Supplies & Purchases Dept. outputs these requisitions from computer				

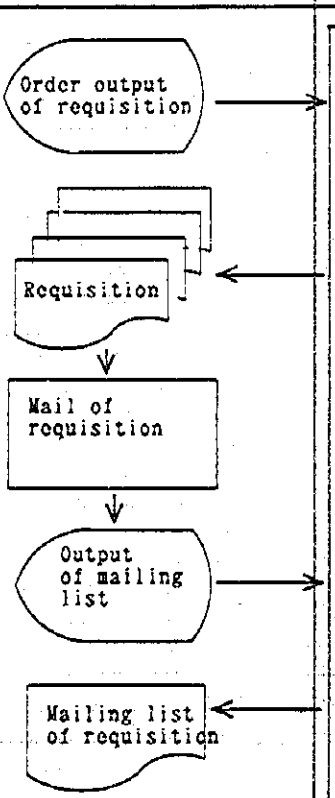
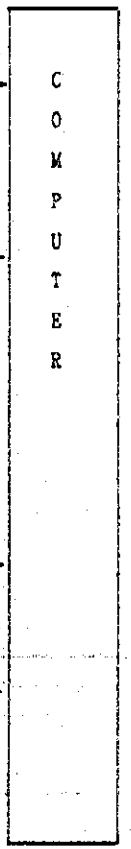
Appendix 4.8.16-2

Spare parts order/receiving control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Supplies & Purchases Dept. checks inventory list and confirms the current articles in stock. Number of goods in stock Number of goods in order Price Supplies & Purchases Dept. prints out the list of articles in a purchase order.			C O M P U T E R	

Appendix 4.8.16-3

Spare parts order/receiving control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Supplies & Purchases Dept. outputs requisitions of spare parts. After mailing these requisitions of spare parts, they make a mailing list of requisition.				

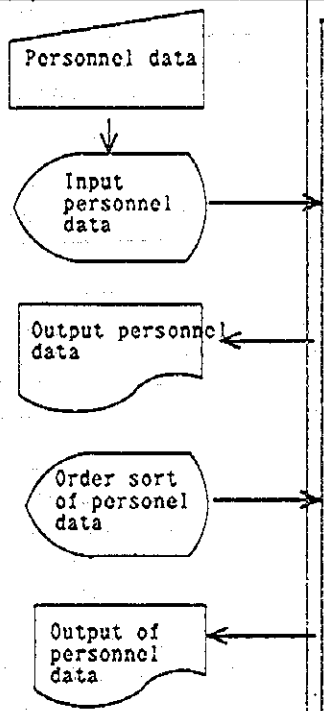
Appendix 4.8.16-4

Spare parts ordering/receiving control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
After receiving ordered spare parts from supplier, Supplies & Purchases Dept. collates the data with orderd item. If the data of collation is correct, the data of ordering of spare parts is deleted. The data of receiving spare parts is transmitted to spare parts inventory control system.	Ordered each Dept. Delivery of received spare parts	Receiving spare parts Confirmation Input data of received spare parts Delete data of ordered spare parts Order output of update inventory Update inventory list	COMPUTER	

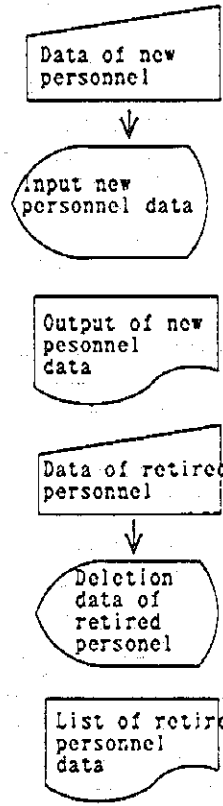
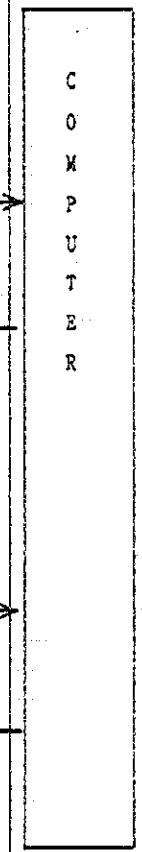
(6) ADMINISTRATIVE DEPT.

Personnel data control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Administrative Dept. makes a file of personnel data. Input the data of personnel: Name Address Date of birth Person to contact in case of accident Details of license/certificates Details of documents Record of services After all personnel data is input, the file will be sorted by personnel code.			COMPUTER	Number of personnel data: 5000 person Name of person Date of birth Rank Address Working experience Skill/Ability License Rewards/Penalties

Appendix 4.8.17-2

Personnel control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Updating of personnel data New employee Retired employee Input data of new employee Deletion data of retired employee				

Appendix 4.8.18-1

(7) SPECIALIZED BERTH DEPT.

Cargo receiving system

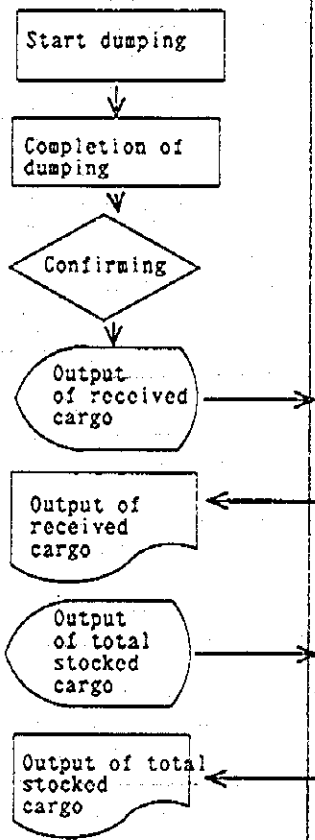
Procedure	Concerned Party	Port Corporation	Computer	Remarks
Phosphate in bulk is transported to storage shed from Phosphate mines by rail and truck. Input cargo data Kind Weight Date Time Rail/Truck Confirming available storage space	Transportation by rail Transportation by truck	Receiving cargo Rail yard hopper Truck yard hopper ↓ Data of receiving cargo ↓ Input data of receiving cargo Confirming of storage space (Storage shed)	COMPUTER	Grade of cargo Volume of received cargo Inventory of stocked cargo Cargo transfer system

Appendix 4.8.18-2

Cargo receiving system				
Procedure	Concerned Party	Port Corporation	Computer	Remarks
Start of stacker, feed conveyor, tripper of storage shed, and transfer belt conveyors based on designed electric circuit sequences.		Start of stacker → Start of feed conveyor → Start of tripper → Start of transfer conveyer → Confirming of operation	COMPUTER	
	Confirmation of transfer conveyor sequence			
Start of vibrator and operate hopper.		Start of vibrator → Operate of hopper		
Dumping out Phosphate to hopper.		Dumping out to hopper		

Appendix 4.8.18-3

Cargo receiving system

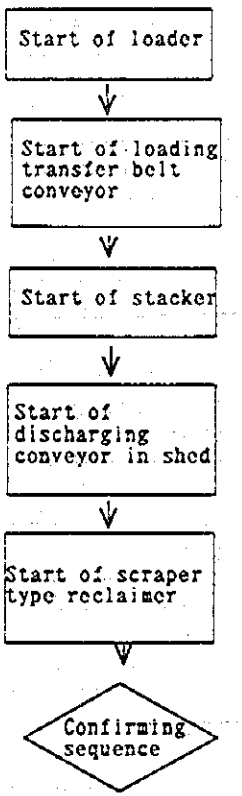
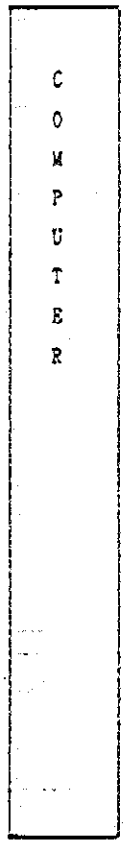
Procedure	Concerned Party	Port Corporation	Computer	Remarks
Confirming start of dumping operation and completion. Amendment of initial cargo data to actual data, and output of received cargo data. Adding received cargo quantity to previous stocked one. Output of total stocked cargo quantity in shed.			COMPUTER	

Cargo loading system (Phosphate)

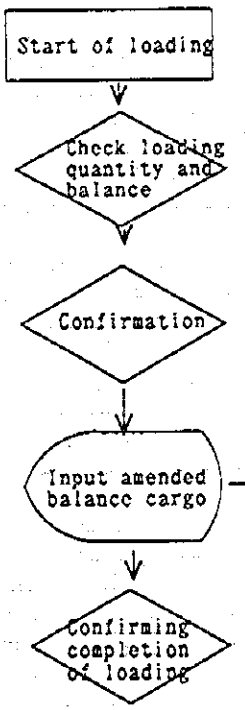
Procedure	Concerned Party	Port Corporation	Computer	Remarks
Phosphate in bulk is loaded to vessel by belt conveyor and choke feeder from storage shed. Average 250 vessels call to load Phosphate in bulk per year. (In 1994) Receiving loading order of cargo from shipper side. Input data of loading cargo Confirmation of cargo volume, and grade between loading order and stocked quantity. Planning of loading sequence and plan.	Loading order from shipper Vessel information size, hold.	Loading order kind, volume ↓ Confirming ↓ Input data of cargo loading Input data of loading vessel ↓ Confirmation cargo quantity vessel size ↓ Cargo loading plan	COMPUTER	

Appendix 4.8.19-2

Cargo loading system (Phosphate)

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Start of scraper type reclaimer, discharging conveyor in shed, stacker, discharge transfer belt conveyors, loader, which are started based on designed electric circuit sequence.				

Cargo loading system (Phosphate)

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Confirming start of cargo loading. Checking loaded quantity and balance cargo. Input amended weight of balance cargo. (Amended cargo weight to go) Finish cargo loading, confirming completion of loading. Calculation of: Loaded cargo quantity scale, and draft. Deletion loaded quantity from previous stocked quantity Up-to-date stocked cargo quantity			COMPUTER	

Appendix 4.8.19-4

Cargo loading system (Phosphate)

Procedure	Concerned Party	Port Corporation	Computer	Remarks
		Output of loaded cargo →	COMPUTER	
		← Output of loaded cargo		
		Output of total stocked cargo →		
		← Output of total stocked cargo		

Appendix 4.8.20

Cargo loading system (Fertilizer)				
Procedure	Concerned Party	Port Corporation	Computer	Remarks
Phosphate in bulk is loaded to vessel by belt conveyor and gravity spout from storage shed. Receiving order of cargo loading from shipper side. Input data of loading cargo. Confirming cargo volume, and grade between loading order and stocked quantity. Planning of loading sequence and plan.		Same procedure as "cargo loading system (phosphate)"	C O M P U T E R	

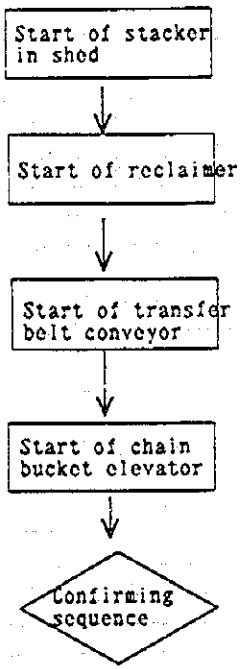
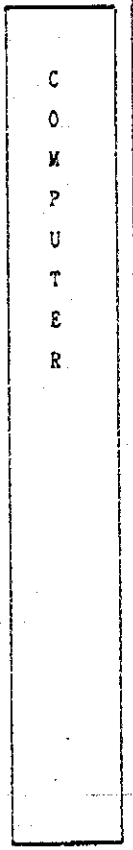
Appendix 4.8.21-1

Cargo discharging system (Sulpur)

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Sulfur in bulk is discharged from vessel by chain bucket elevator and belt conveyor to storage shed. Receiving discharging order of cargo from consignee side. Input data of discharging cargo. Confirmation of cargo volume. and grade between discharging order and required quantity. Planning of discharging sequence and plan.	Discharging order from consignee Vessel information size. hold	Discharging order of kind. volume ↓ Confirmation ↓ Input data of cargo discaharging Input data of discharging vessel ↓ Confirmation cargo quantity Vessel size ↓ Cargo discharging plan	C O M P U T E R	

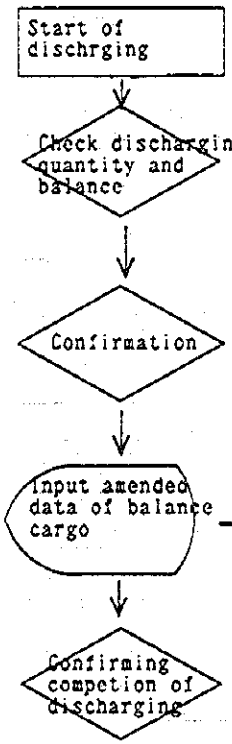
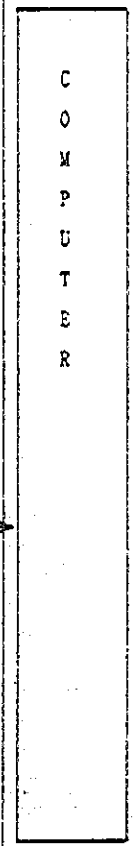
Appendix 4.8.21-2

CCargo discharging system (Sulfur)

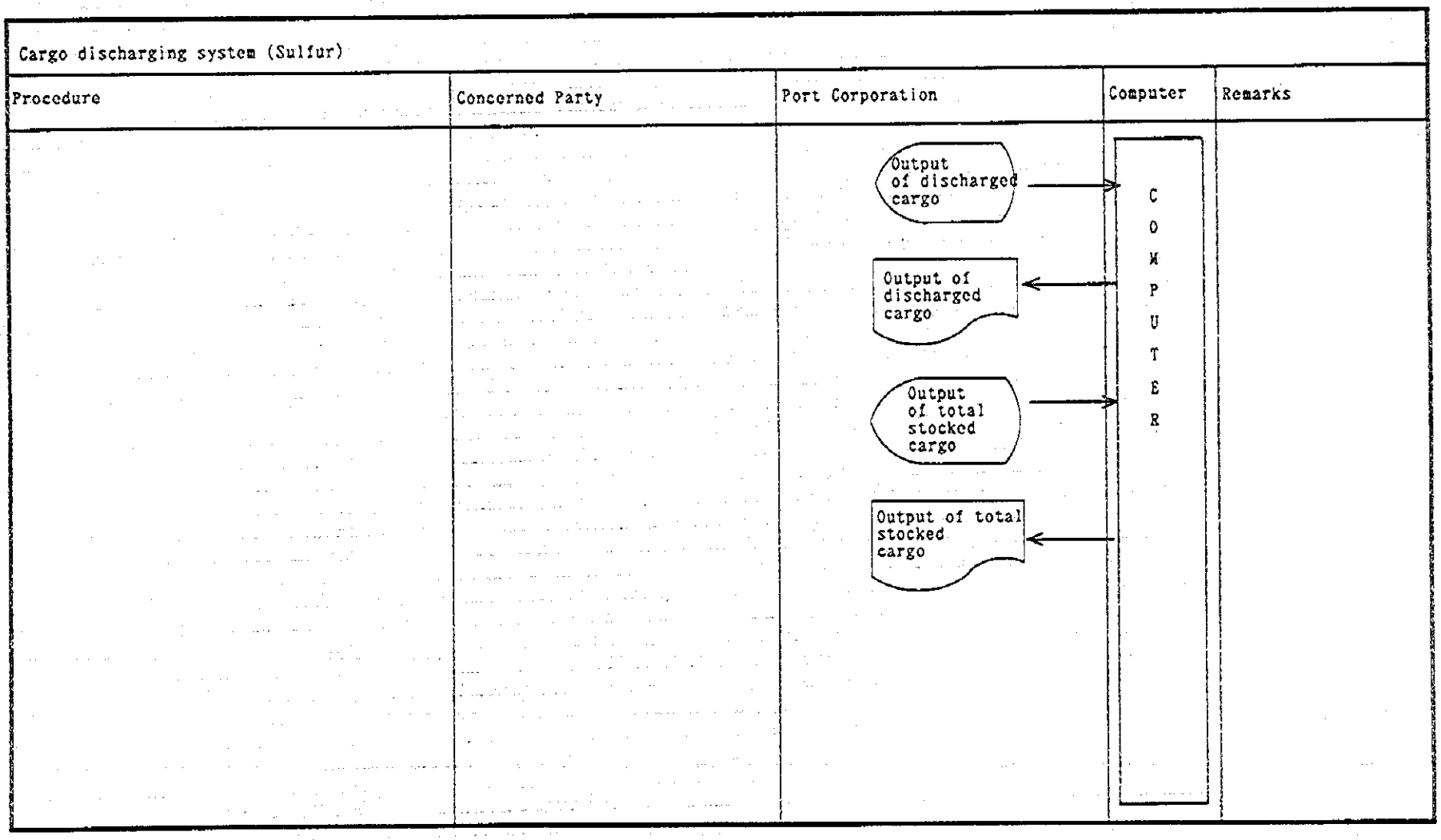
Procedure	Concerned Party	Port Corporation	Computer	Remarks
Start of stacker in shed, reclaimer, transfer belt conveyor, chain bucket elevator, which are started based on designed electric circuit sequence.				

Appendix 4.8.21-3

Cargo discharging system (Sulfur)

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Confirming start of cargo discharging. Checking of discharging quantity and balance cargo. Input amended weight of balance cargo. (Amended cargo weight to go) Finish cargo discharging, confirmation of completion of discharging. Calculation of: Discharged cargo quantity scale. and draft. Add discharged quantity to previous stocked quantity. Update stocked cargo quantity.				

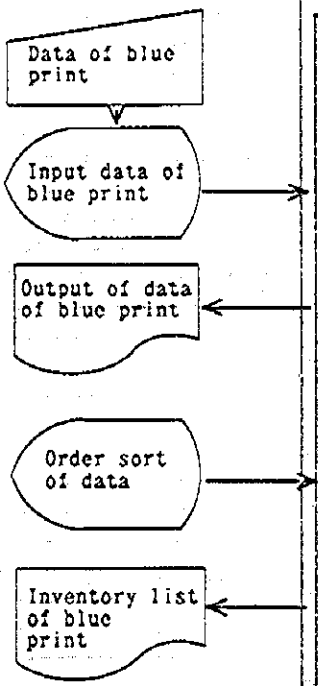
Appendix 4.8.21-4



Appendix 4.8.22-1

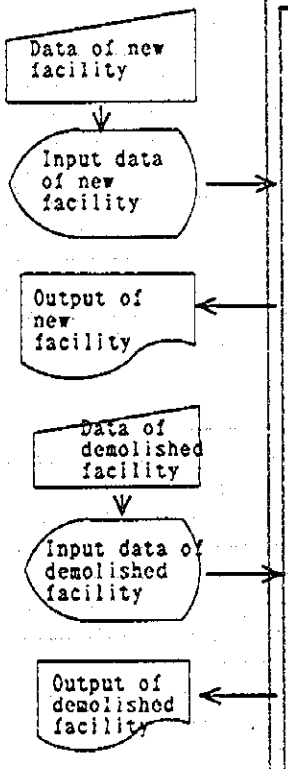
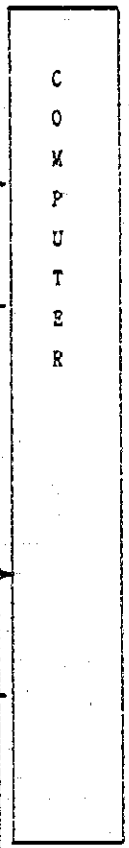
(8) PROJECT DEPT.

Blue print file system

Procoduro	Concerned Party	Port Corporation	Computer	Remarks
Project Dept. files all blue prints of building, berth, and other facilities. Items for systemized index system are: Code number Name f print Date of completion Name of constructor				

Appendix 4.8.22-2

Blue print file system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Updating and replacement of inventory data Data of new facility Data of replaced facility Input new data of facility Delete data of demolished facility				

Appendix 4.8.22-3

Blue print file system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Up-to-date data of blue print file system		Order sorting data of inventory list →	COMPUTER	
		Order printing out updated inventory →		
		← Updated inventory		

Appendix 4.8.23

Construction contract file system				
Procedure	Concerned Party	Port Corporation	Computer	Remarks
Project Dept. makes a file of all construction constructor data. Items for systemized index system are: Code number Name of construction contract Date of completion Name of constructor		Same procedure as blue print file syste	C O M P U T E R	

Appendix 4.8.24-1

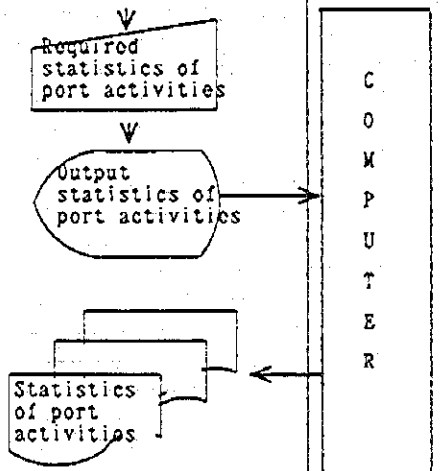
(9) TRAINING & DEVELOPMENT DEPT.

Statistics file system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Training & Development Dept. prepares and files statistics of port activities. Items for statistics for port activities are: Name of vessel Arrival date Vessel size Dead weight Port of registry Cargo volume Commodity Cargo style Local/transit cargo Origine/destination of cargo Name of berth Berth occupancy rate Name of shed Utilized data of shed Container cargo (TEU base) FCL/LC/ Commodity Kind of container	Marine Dept. inputs data of vessel. Operation Dept. inputs data of berth and cargo.	Data of vessel → Input data of vessel Data of berth, Data of cargo → Input data of berth/cargo	COMPUTER	

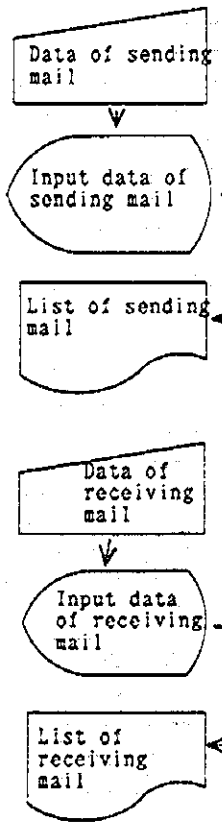
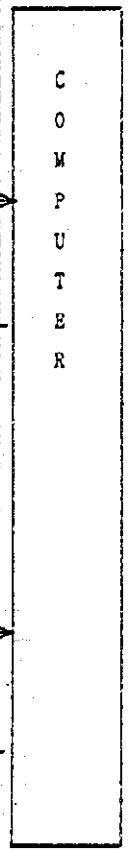
Appendix 4.8.24-2

Statistics file system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
				

(10) OFFICE OF DIRECTOR GENERAL

Mail sending/receiving control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Office of Director General controls and files the list of mail which are sent and received. Items for index mail list are : Code number Date of mailing/receiving Name and address (Sender/receiver) Kind of mail (Ordinary/registered)				

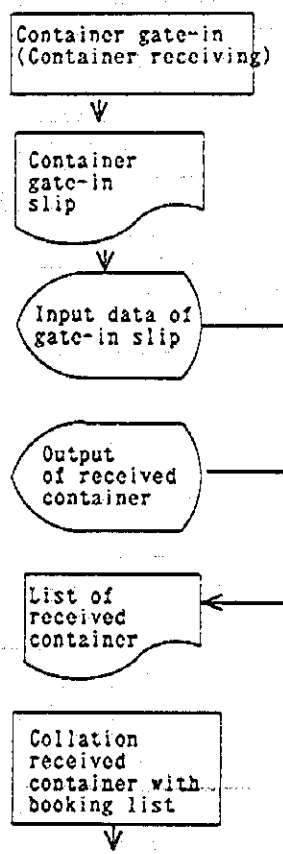
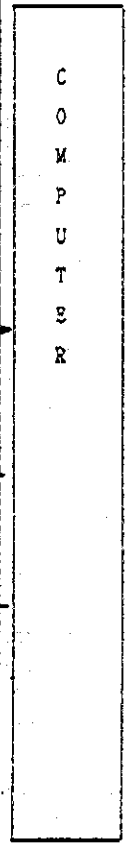
Circular letter/document file control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Office of Director General controls and files the circular letter/document list. Items for index circular letter/document are: Code number Kind of circular letter/document Date of issue Notified party		Request of circular letter Planning of circular letter Printing of circular letter Input data of circular letter Order sorting of data Order printing circular letter List of circular letter	COMPUTER	

Appendix 4.8.27-1

(11) CONTAINER TERMINAL

Gate control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Operation Dept. gathers and captures the information of containers at gate-in/out operation. Items for gate control are: (Gate-in/out slip) Container number Place of delivery Date and time Carrier Status Purpose of gate-in/out Scheduled line. vessel. Voy. No. Port of destination Scheduled place of return Inspection at the time of receipt/delivery				

Appendix 4.8.27-2

Gate control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Shipping agent delivers container booking list to container terminal. Container terminal collates received container list with container booking list.	Container booking list Shipping agent prepares container booking list and delivers it to container terminal.	Container booking list Input data of container booking list Collation booking list received list Order print out final received list Received final container list	COMPUTER	

Appendix 4.8.27-3

Gate control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Container terminal collates discharged container list with container cargo manifest. Container terminal makes delivery container list, and collates with gate-out slip.	Discharge container list Shipping agent delivers discharge container list to container terminal.	Discharge container list Input data of discharge container list Container gate-out (container delivery) Container gate-out slip Input data of gate-out slip	COMPUTER	

Appendix 4.8.27-4

Gate control system

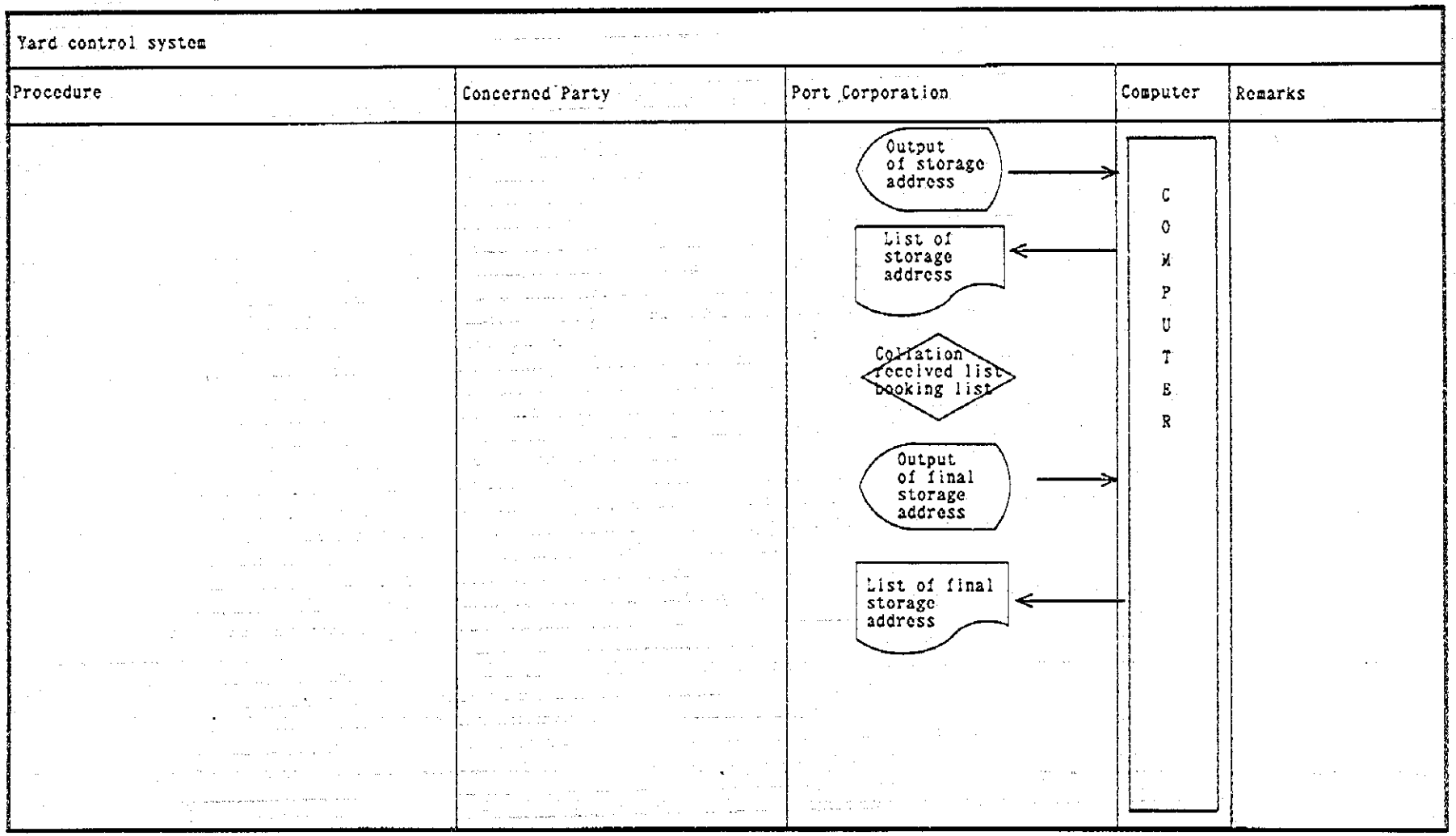
Procedure	Concerned Party	Port Corporation	Computer	Remarks
		Output of delivered container →	COMPUTER	
		← List of delivered container		
		Collation cargo manifest delivered list		
		Order print out final delivered list →		
		← Delivered final container list		

Appendix 4.8.28-1

Yard control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Inventory control of in-yard containers to vessels. Collation of received containers with booking list. Received container: Full or Empty FCL/LCL Dry/Reefer container Shipping line/shipping agent Name of vessel/voyage	Container booking list Shipping agent prepares booking list, and delivers it to container terminal Storage address is allocated by yard planner.	Container booking list Input data of container booking list Container gate-in Allocation of storage address Input data of storage address	COMPUTER	

Appendix 4.8.28-2

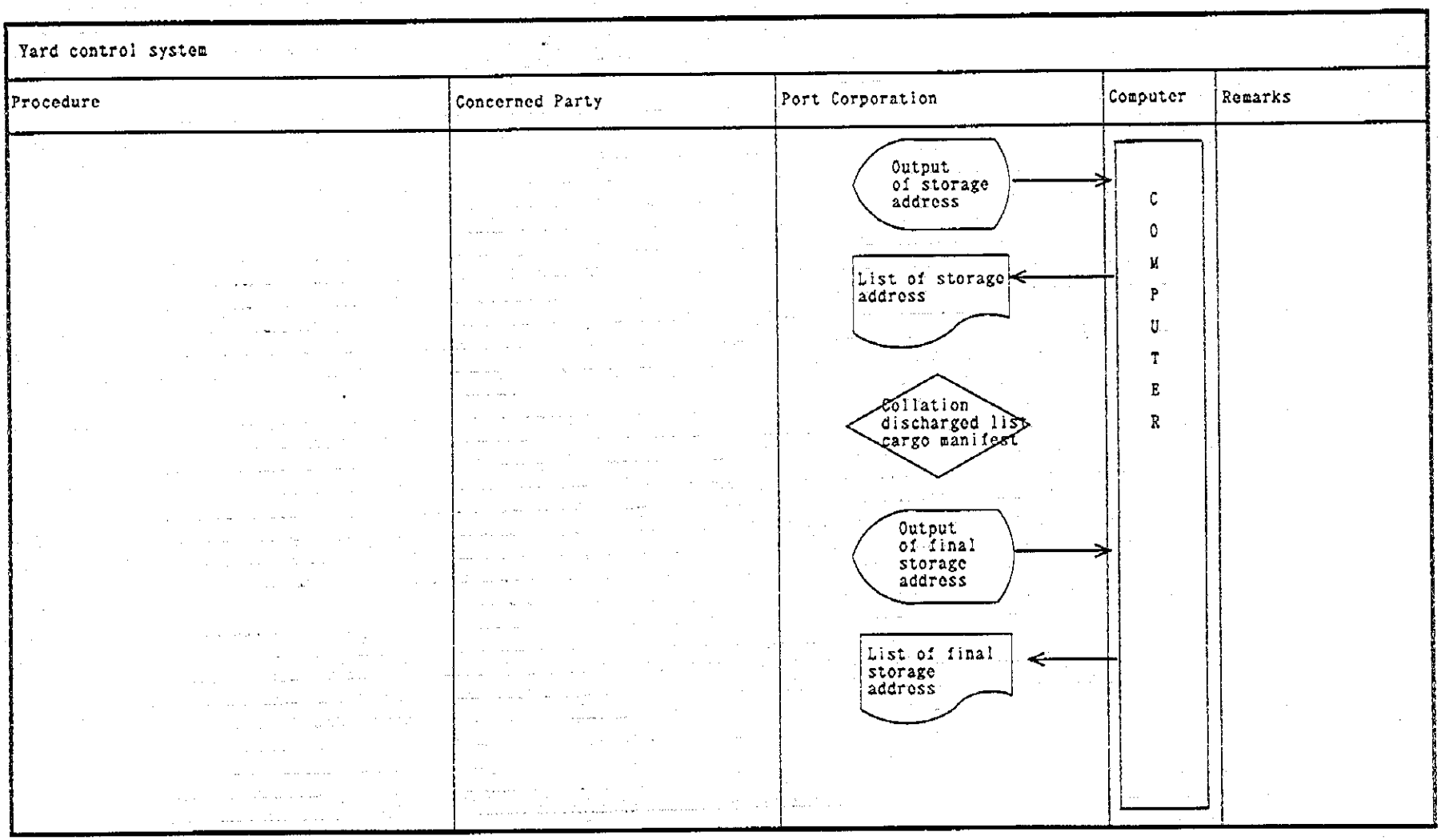


Appendix 4.8.28-3

Yard control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Inventory control of in-yard containers from vessels. Collation of delivery containers with container cargo manifest. Delivery container: Full or Empty FCL/LCL Dry/Reefer container Name of vessel/voyage Custums clearing company Consignee	Container cargo manifest →	Container cargo manifest ↓ Input data of container cargo manifest → Container cargo discharging Container storage allocation ↓ Input data of storage address →	COMPUTER	
	Container storage address is allocated by yard planner.			

Appendix 4.8.28-4



Appendix 4.8.29-1

Ship's discharging/loading system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Making of a work sequence list of discharging and loading cargo to and from vessel Container booking list Container receiving list Container cargo manifest Container bay plan Container schematic plan	Container booking list Container cargo manifest Container bay plan Container schematic plan	Container receiving list Input data Information cargo handling equipment Available stev. Input data of available stevedoring	COMPUTER	

Appendix 4.8.29-2

Ship's discharging/loading system

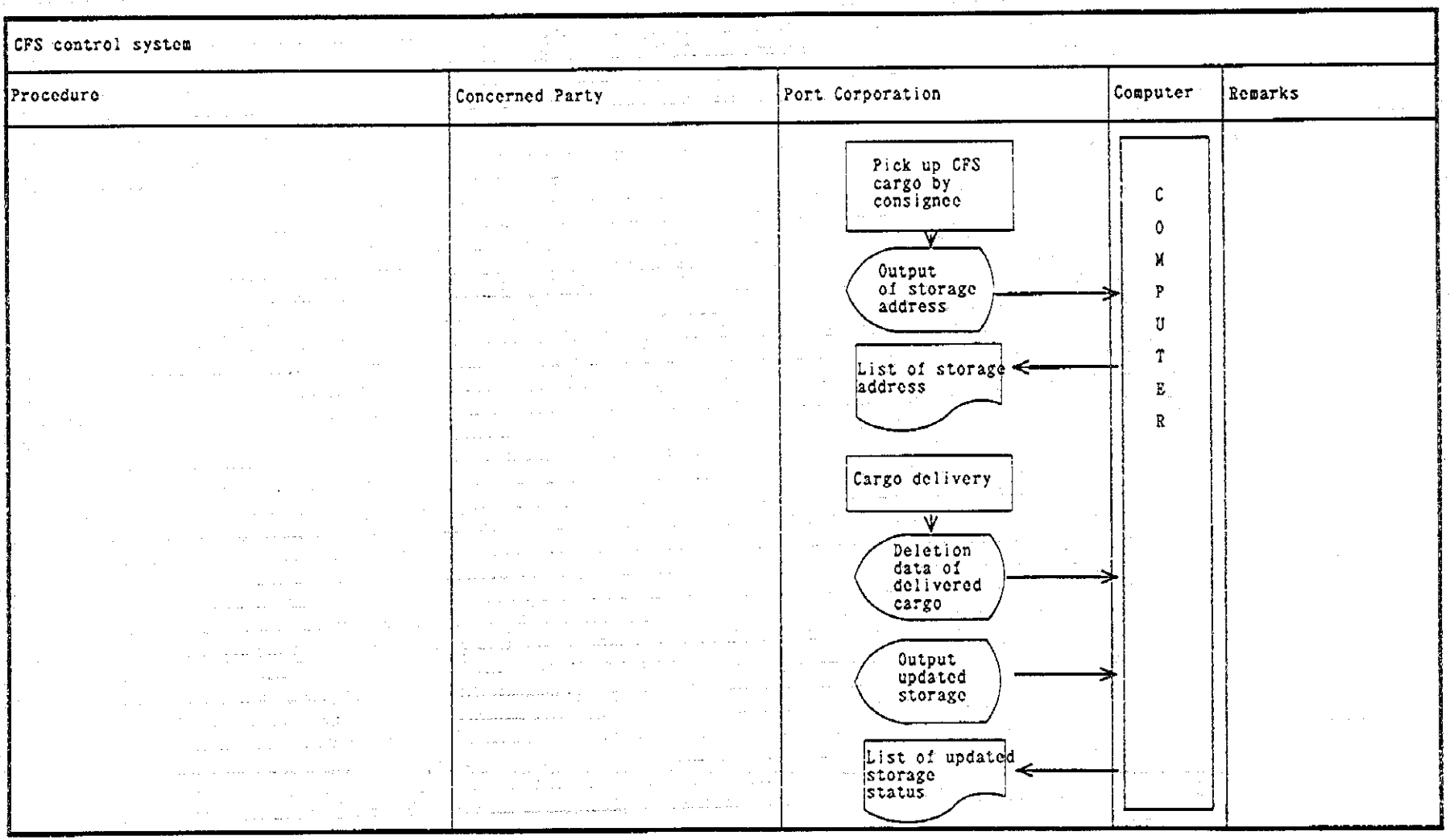
Procedure	Concerned Party	Port Corporation	Computer	Remarks
Making final loading bay plan, schematic plan. Vessel stability calculation		Order output of working sequence Cargo work sequence Output of bay plan, schematic plan output of vessel atability Output of shipping cocuments Bay plan Schematic plan Vessel stability Shipping documents	COMPUTER	

Appendix 4.8.30-1

CFS control system

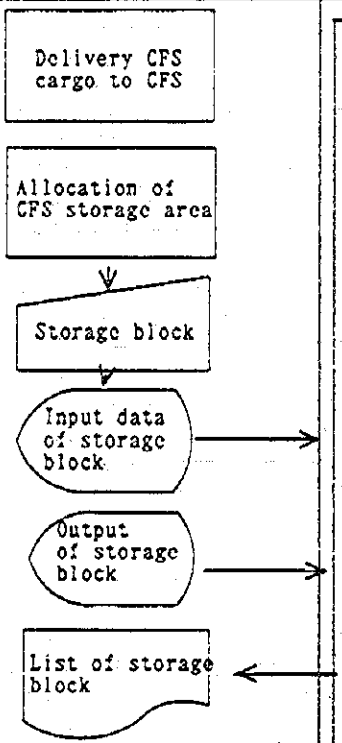
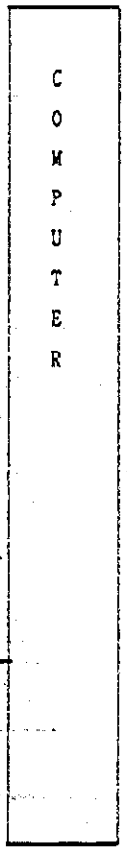
Procedure	Concerned Party	Port Corporation	Computer	Remarks
Making of receiving sequence list of containers to CFS. CFS container list CFS container receiving list CFS cargo manifest Determination or checking of CFS storage address. Block address Commodity Cargo volume Number of package Shipper/Consignee Shiping agent Custums clearing company Unstuffed container number Vessel name	CFS container list CFS cargo manifest Storage block is allocated by CFS office, and the data is input into computer.	CFS container CFS cargo manifest Input CFS cargo data Allocation of CFS storage area Storage block Input data of storage block Output of storage block List of storage block	COMPUTER	

Appendix 4.8.30-2

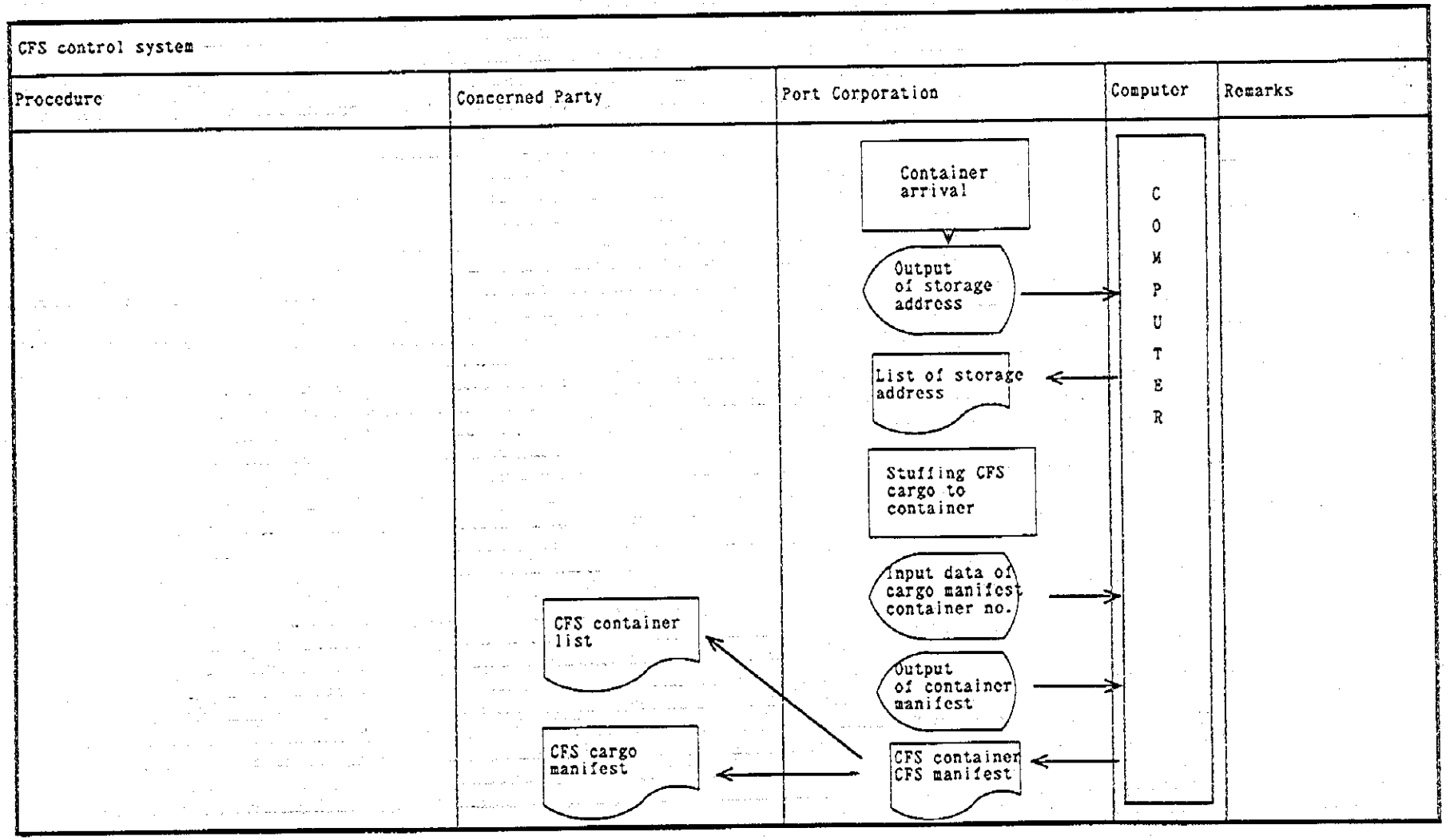


Appendix 4.8.30-3

CFS control system

Procedure	Concerned Party	Port Corporation	Computer	Remarks
Making of delivery sequence list of CFS cargo from CFS. CFS cargo manifest CFS container delivery list Determination or checking of CFS storage address. Block address Commodity Cargo volume Number of package Shipper/Consignee Shipping agent Custums clearing company Stuffing container number Vessel name/voyage No.	Storage block is allocated by CFS office, and the data is input into computer.			

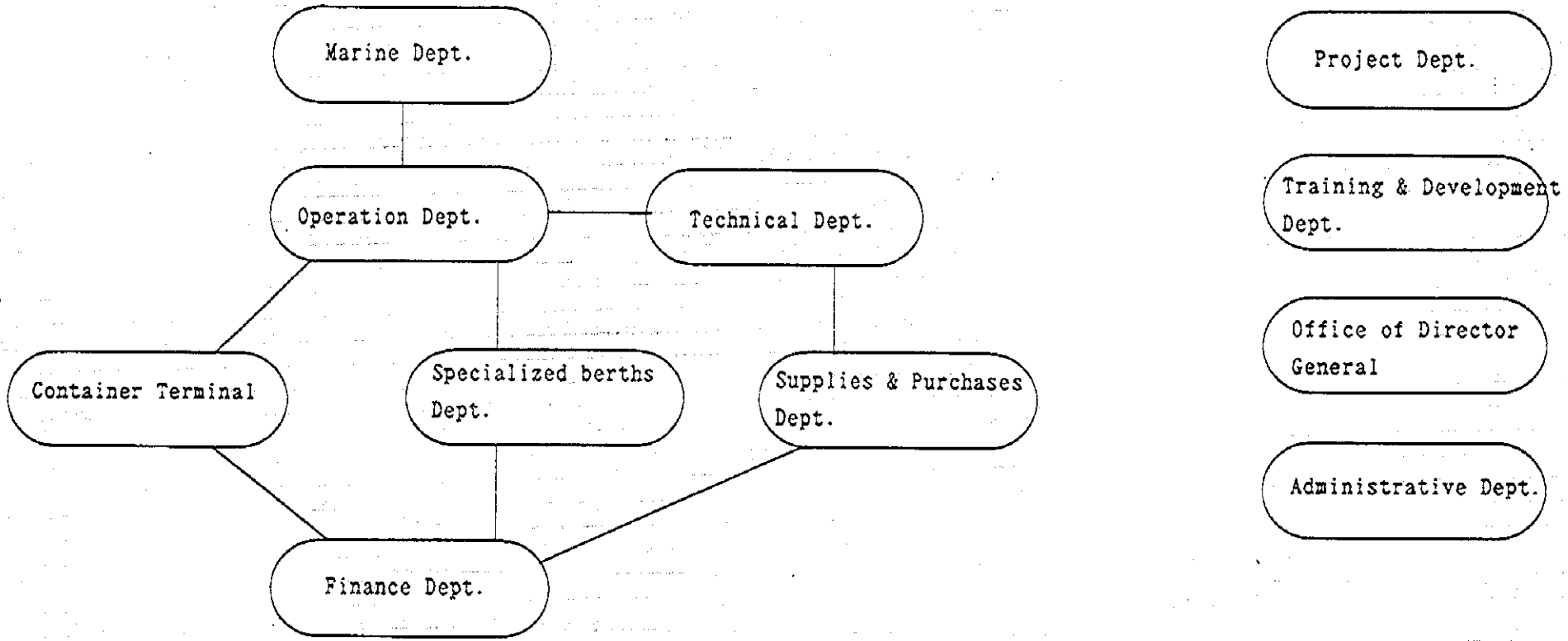
Appendix 4.8.30-4



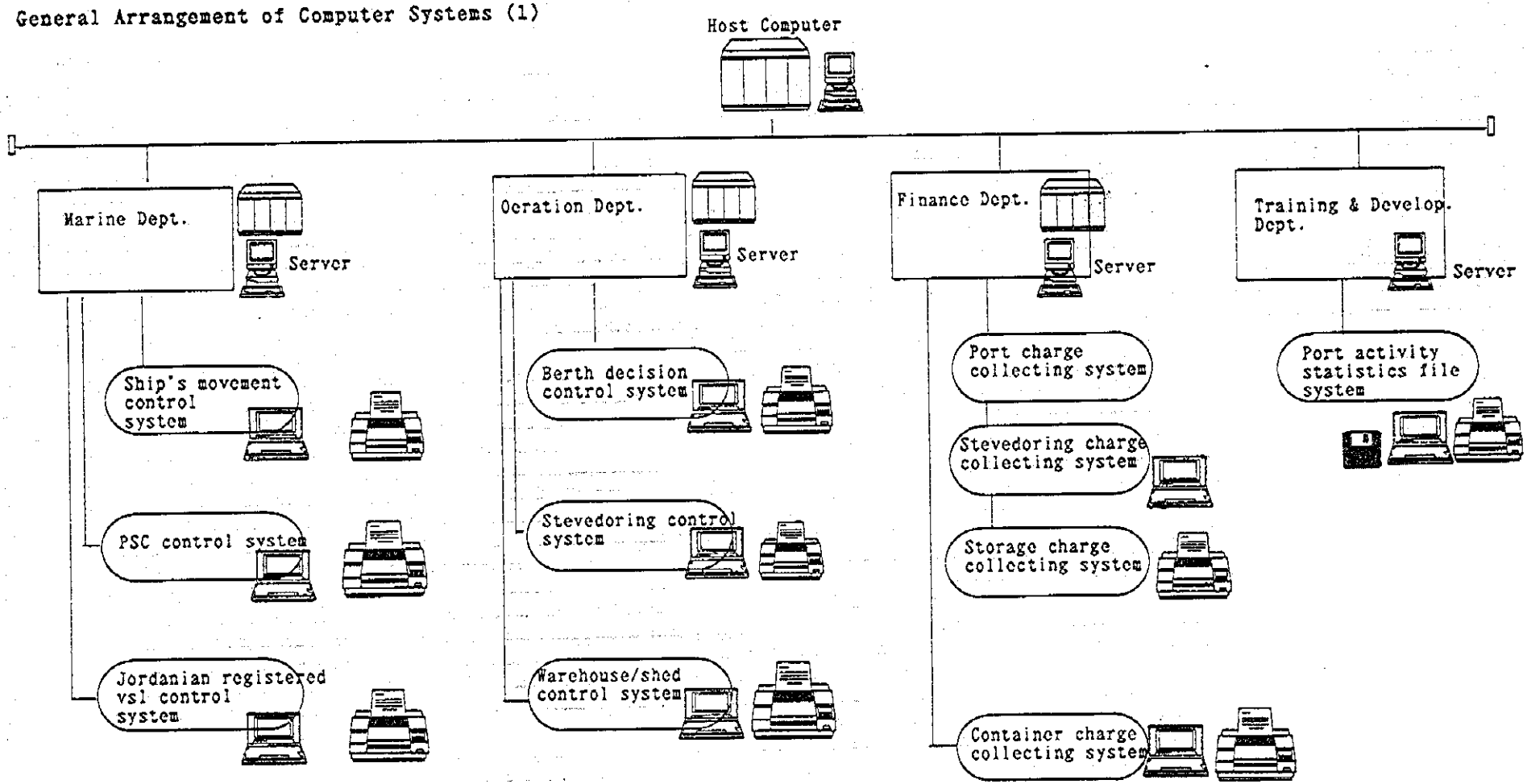
Appendix 4.8.31-1

Computer System

(Related Connection of Each Dept. for Computer System)

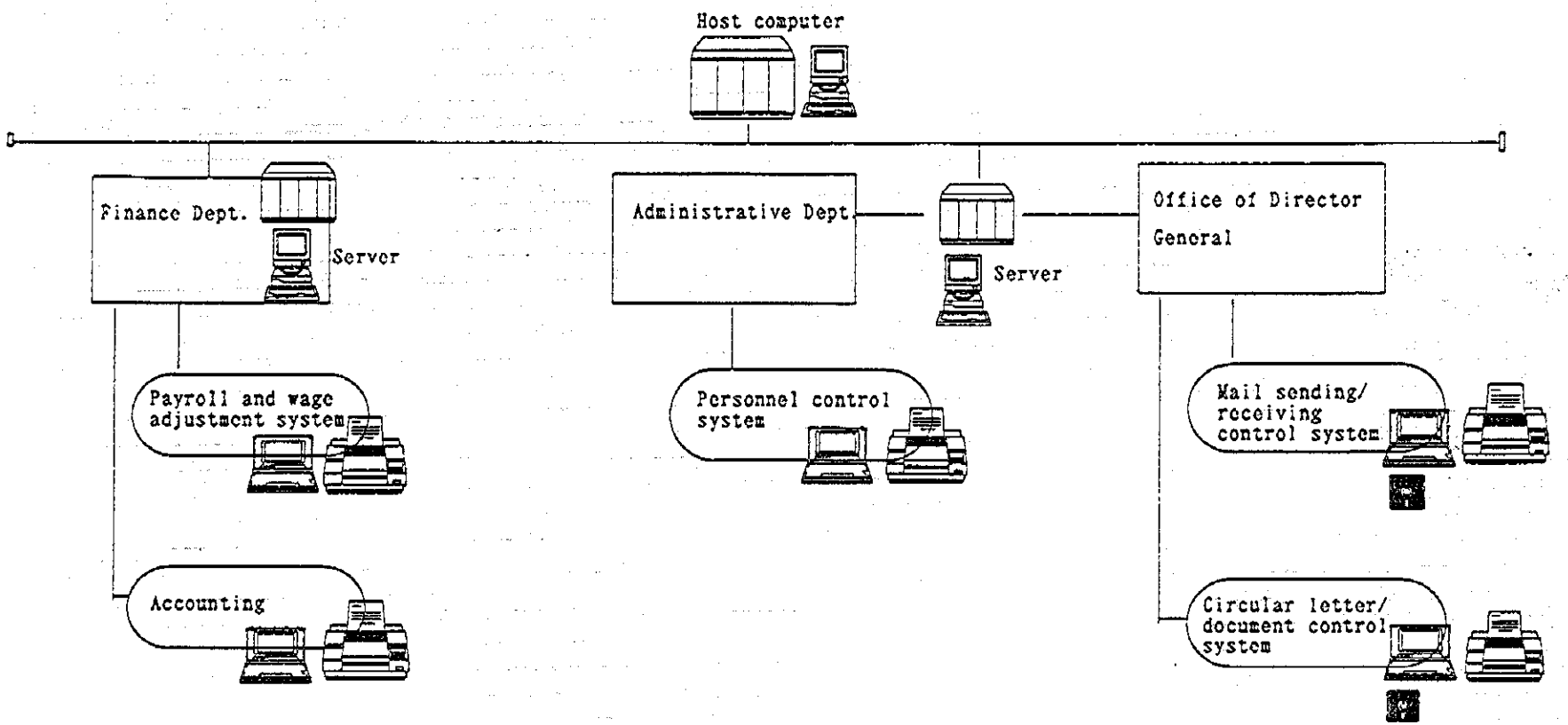


General Arrangement of Computer Systems (1)



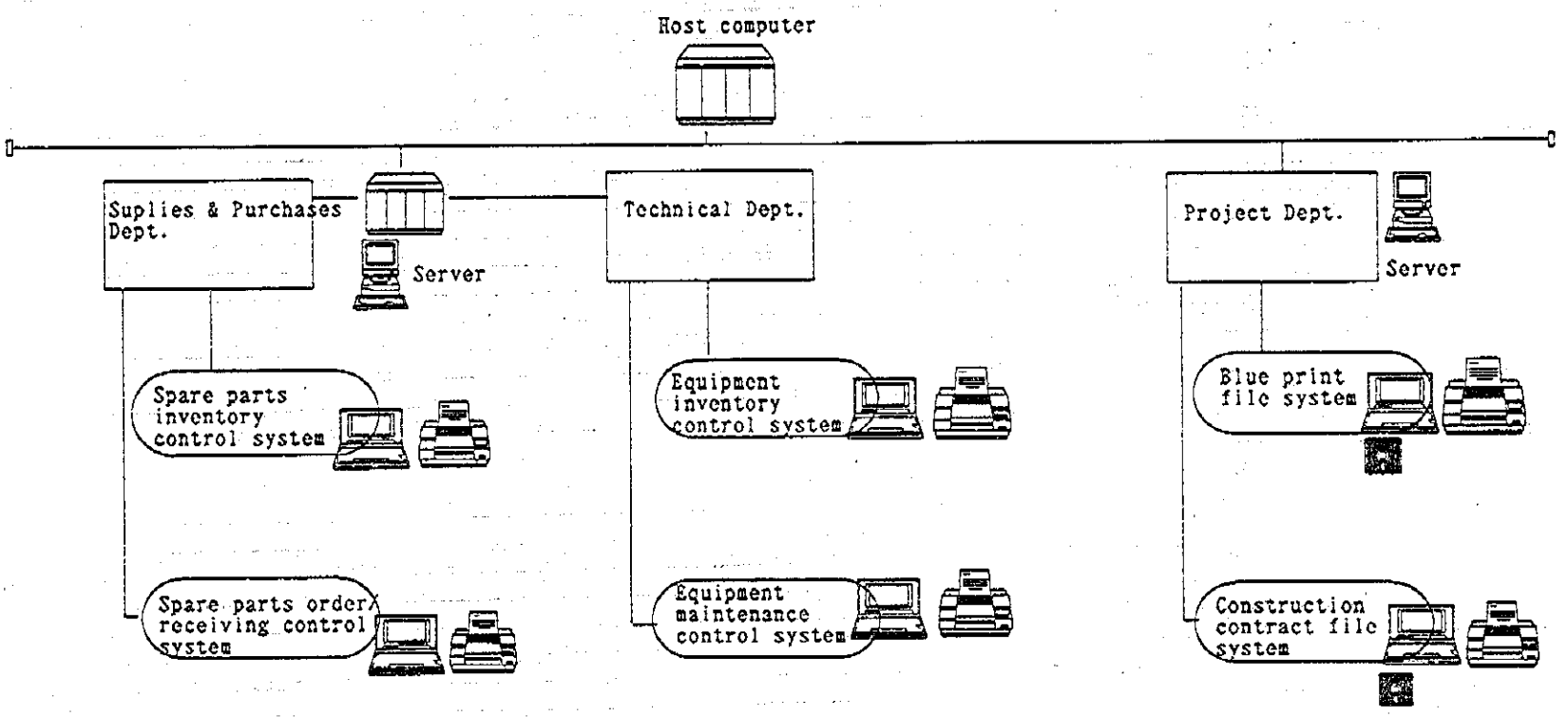
Appendix 4.8.31-3

General Arrangement of Computer System (2)

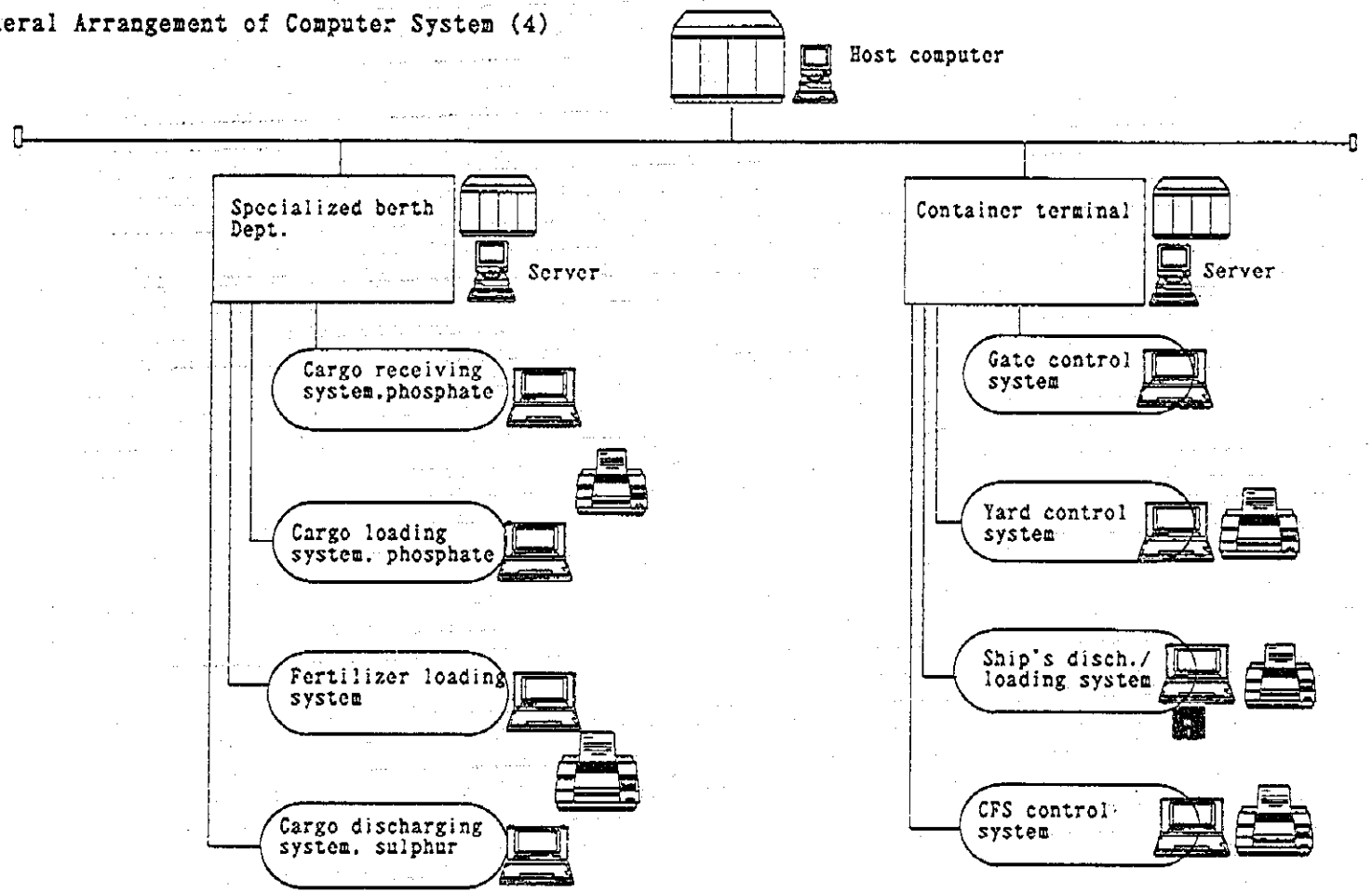


Appendix 4.8.31-4

General Arrangement of Computer System (3)

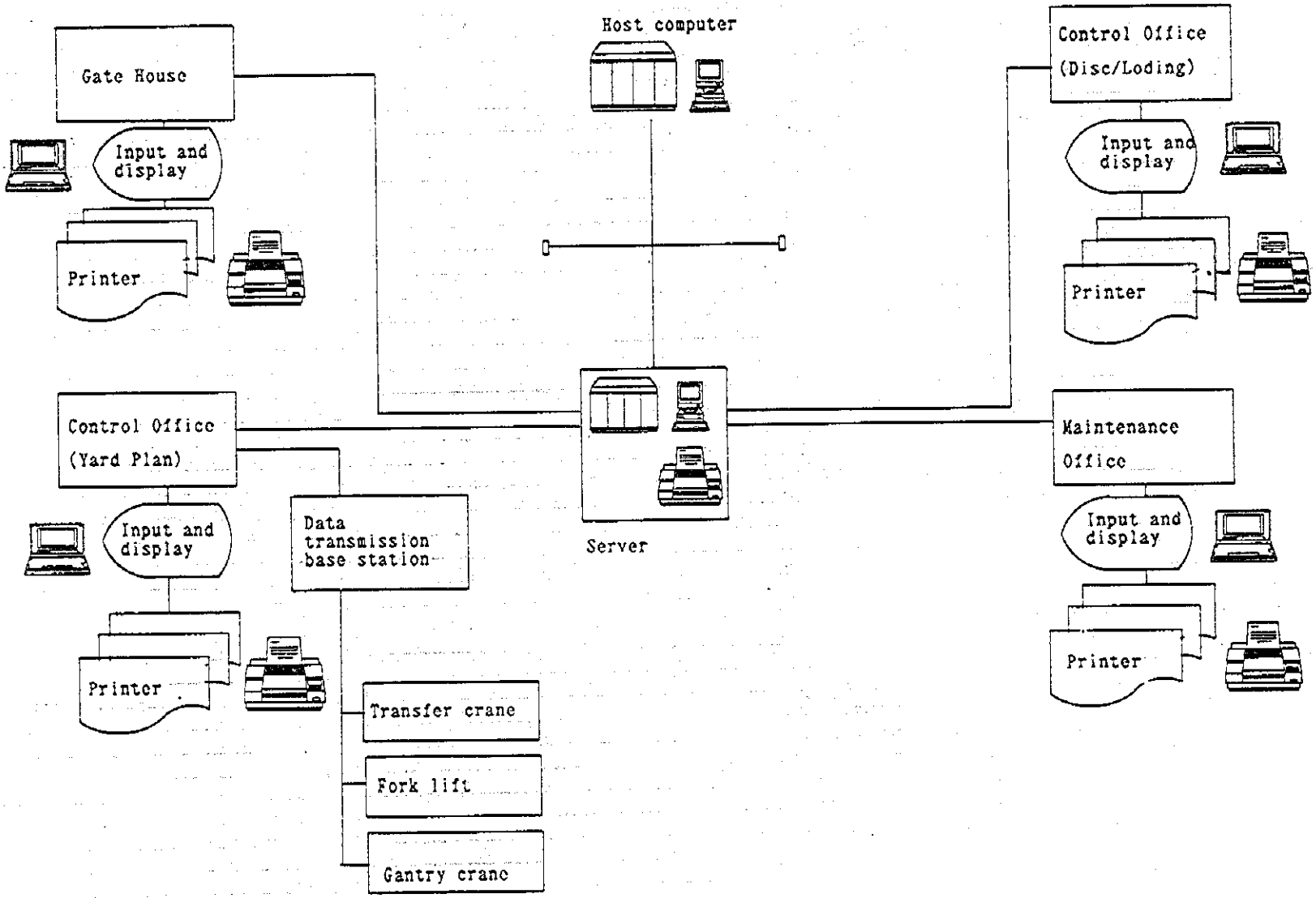


General Arrangement of Computer System (4)

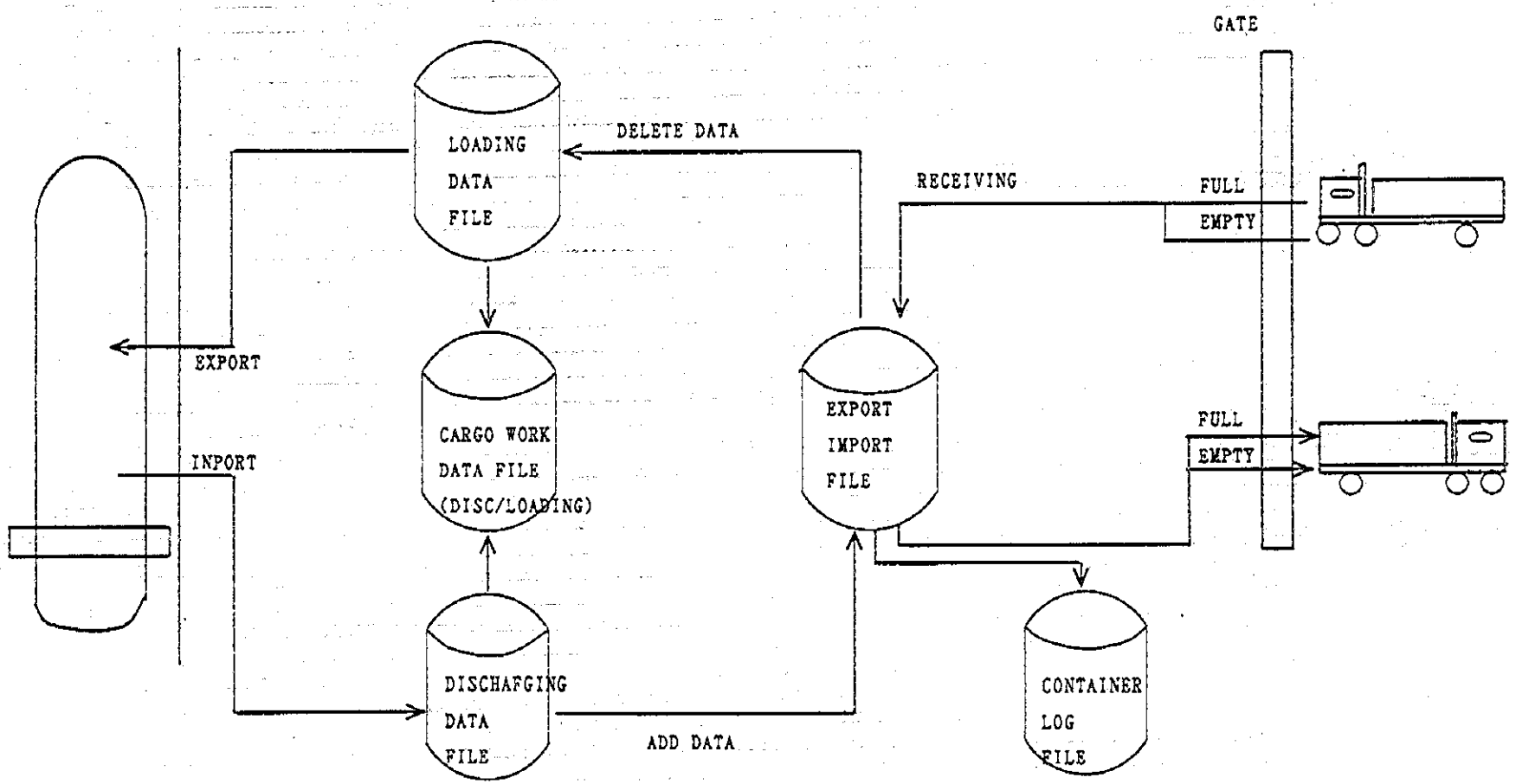


Appendix 4.8.31-6

Container Terminal (Computer System)

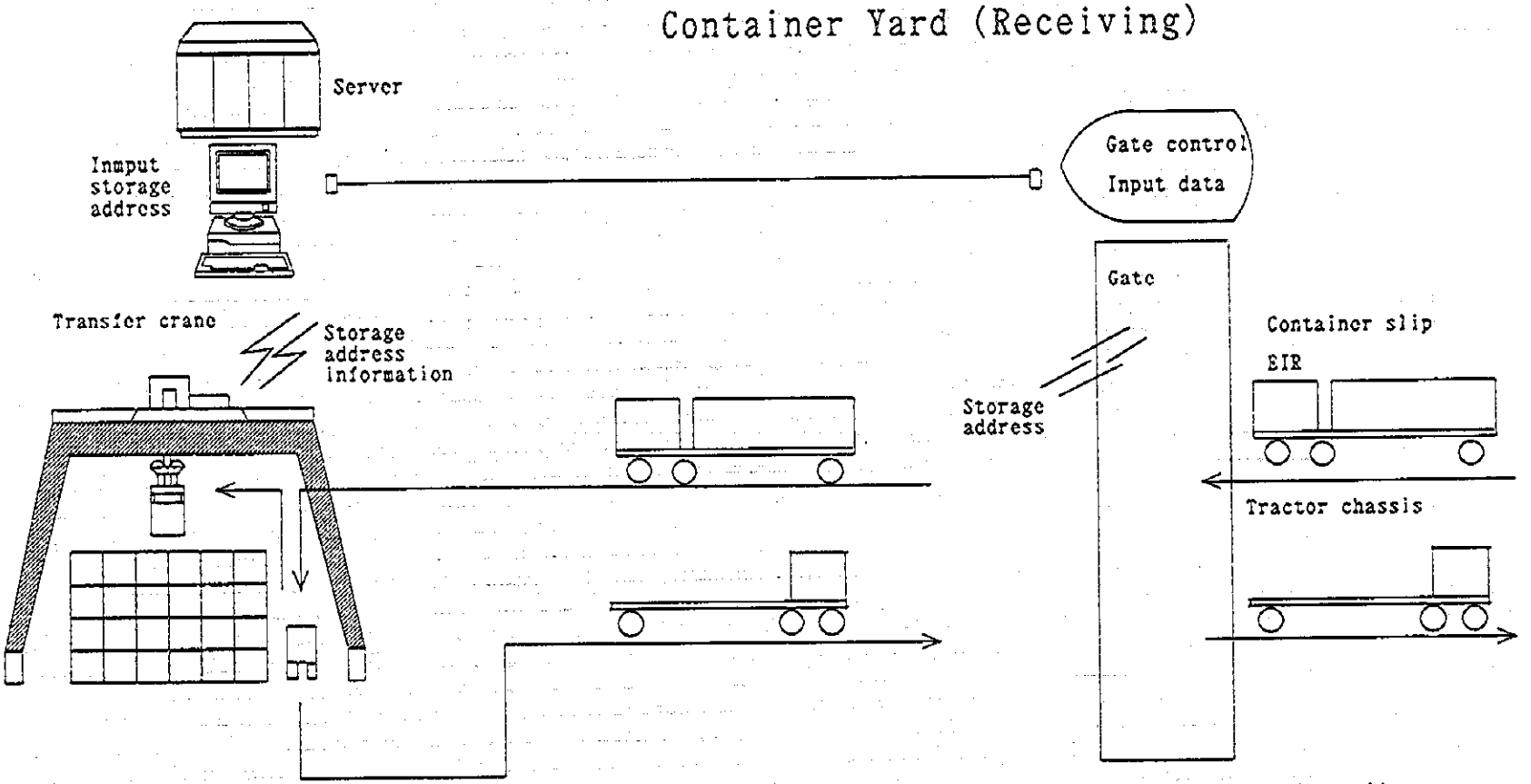


Container Terminal (Computer System)



Appendix 4.8.31-8

Container Yard (Receiving)

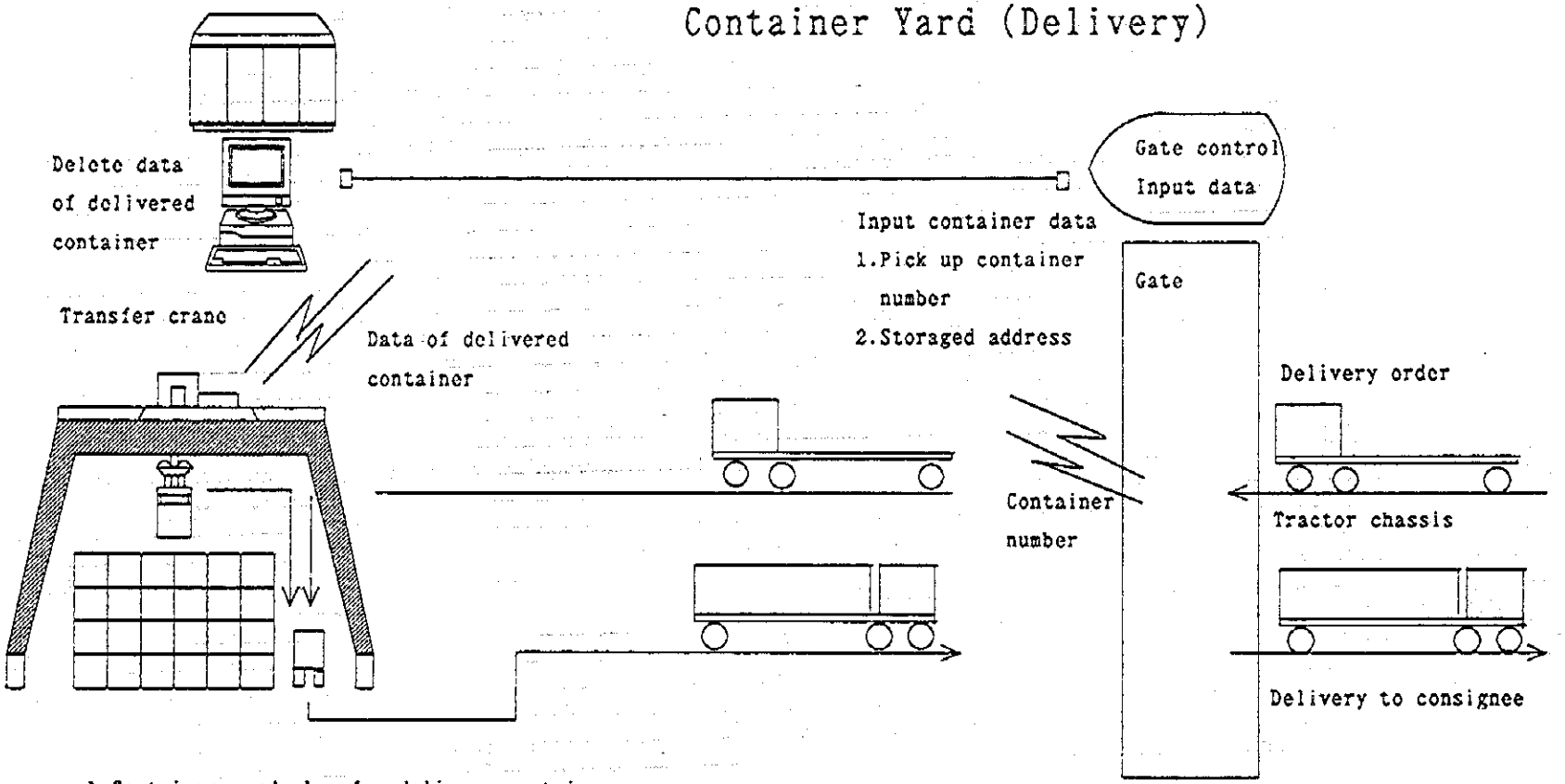


1. Container yard storage plan for receiving container
2. Dermination of storage address and input address data
3. Amendment of storage address of shifted container

1. Input data of container slip
   Container number
   Shipper
   Vessel name/voyage No.
2. Check EIR
3. Determination of storage address

Appendix 4.8.31-9

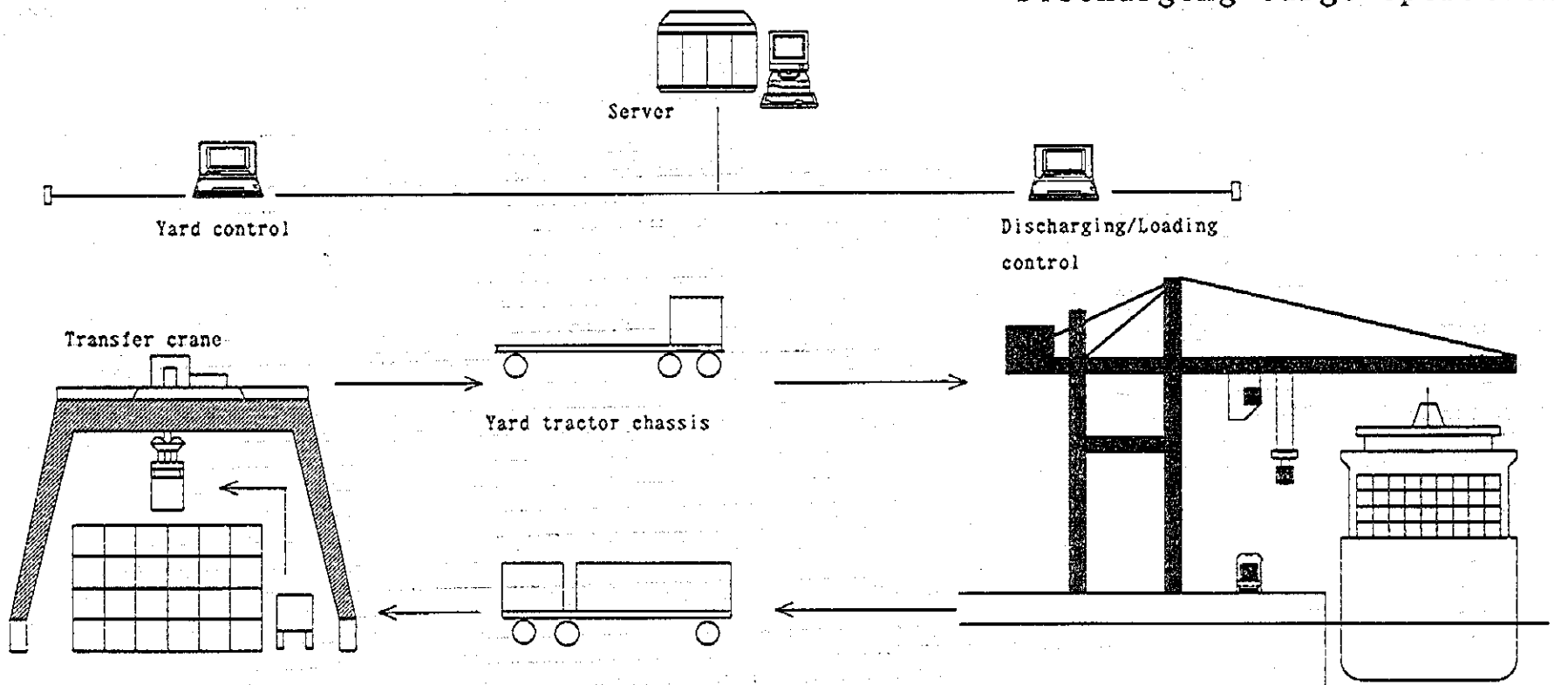
Container Yard (Delivery)



1. Container yard plan for delivery container
2. Work instruction for related container
3. Dermination of related work
4. Pick up the container and delivery to truck chassis
5. Amendment of storage address of shifted container

1. Input data of delivery container
2. Check storaged address of container
3. Provide truck driver the storage address
4. Provide transfer crane driver the storage address
5. Delete data of delivered container

Discharging Cargo Operation



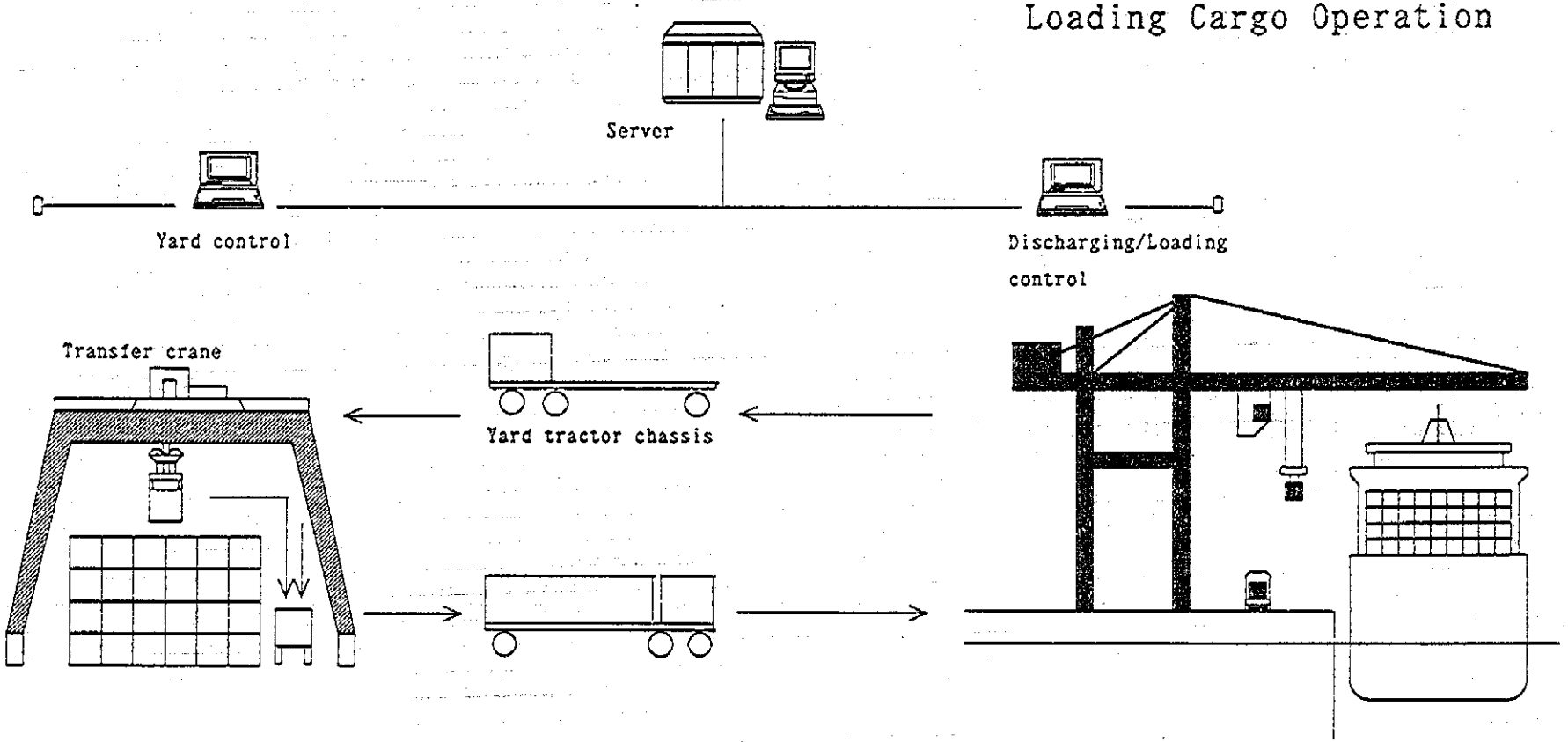
1. Input data of discharged container
   Container number.
   Name of vessel/voy. no.
2. Determination of storage address
3. Input data of storage container

Provide storage address to tractor driver

Provide cargo work sequence to gantry crane operator

Appendix 4.8.31-11

Loading Cargo Operation

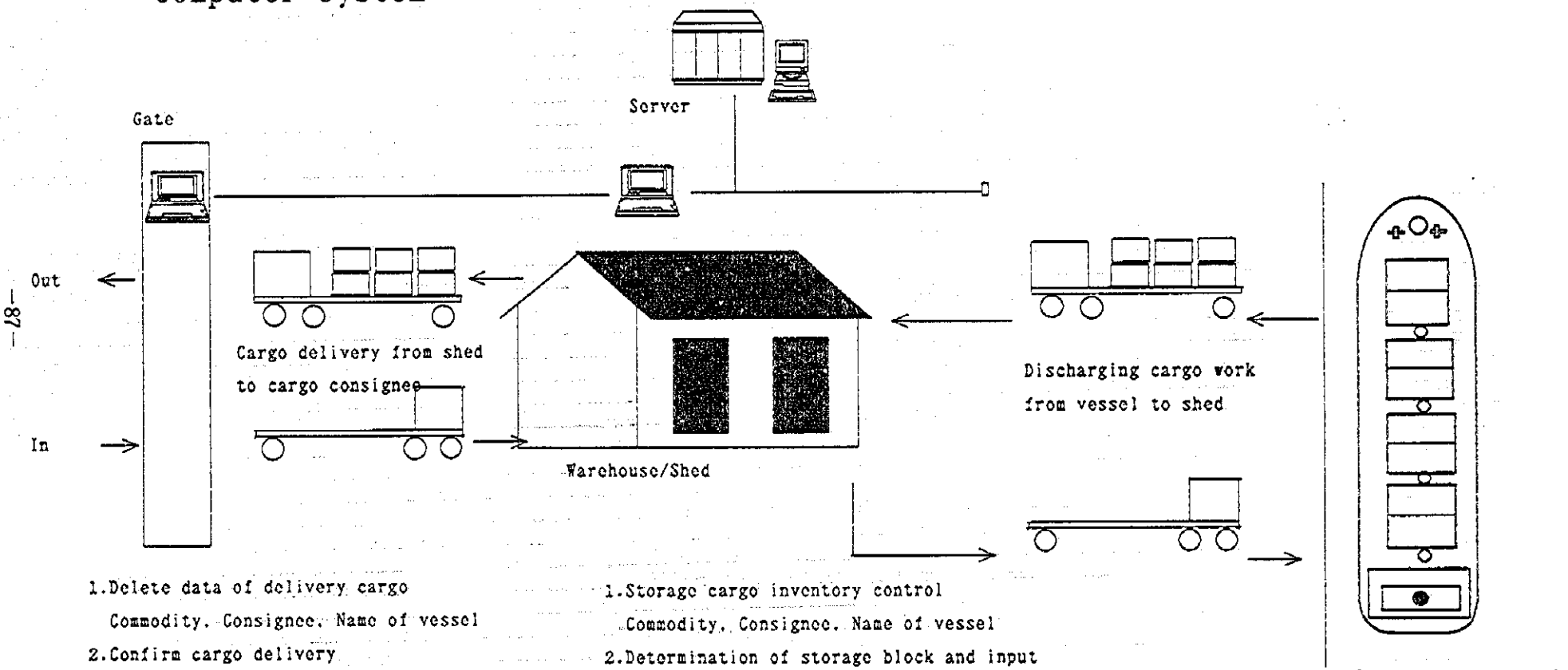


1.Determination of storage address of discharged container
2.Provide truck and transfer crane driver the address of container
3.Input data of stored container

Provide stored address of loading container

Provide cargo work sequence for loading to gantry crane operator

Main Port (General Cargo) Computer System

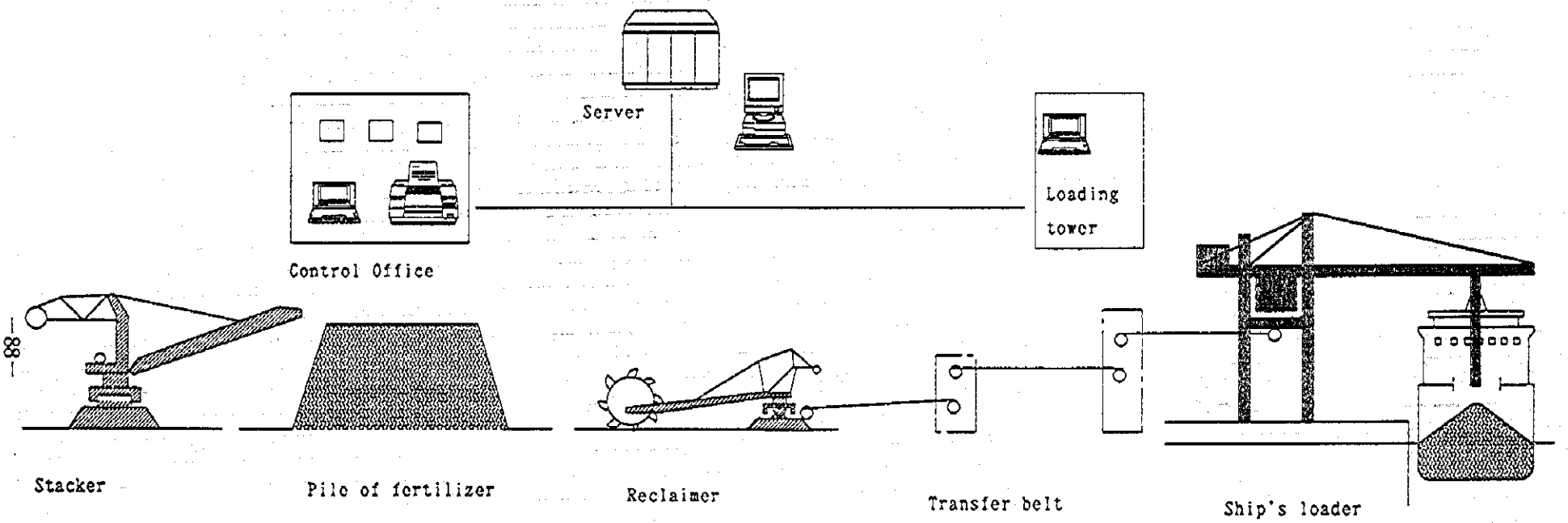


1.Delete data of delivery cargo
Commodity, Consignee, Name of vessel
2.Confirm cargo delivery

1.Storage cargo inventory control
Commodity, Consignee, Name of vessel
2.Determination of storage block and input storage data.
3.Add inventory data when cargo is stored, and delete inventory data when cargo is delivered.

Appendix 4.8.31-13

Industrial Port (Export of Fertilizer)

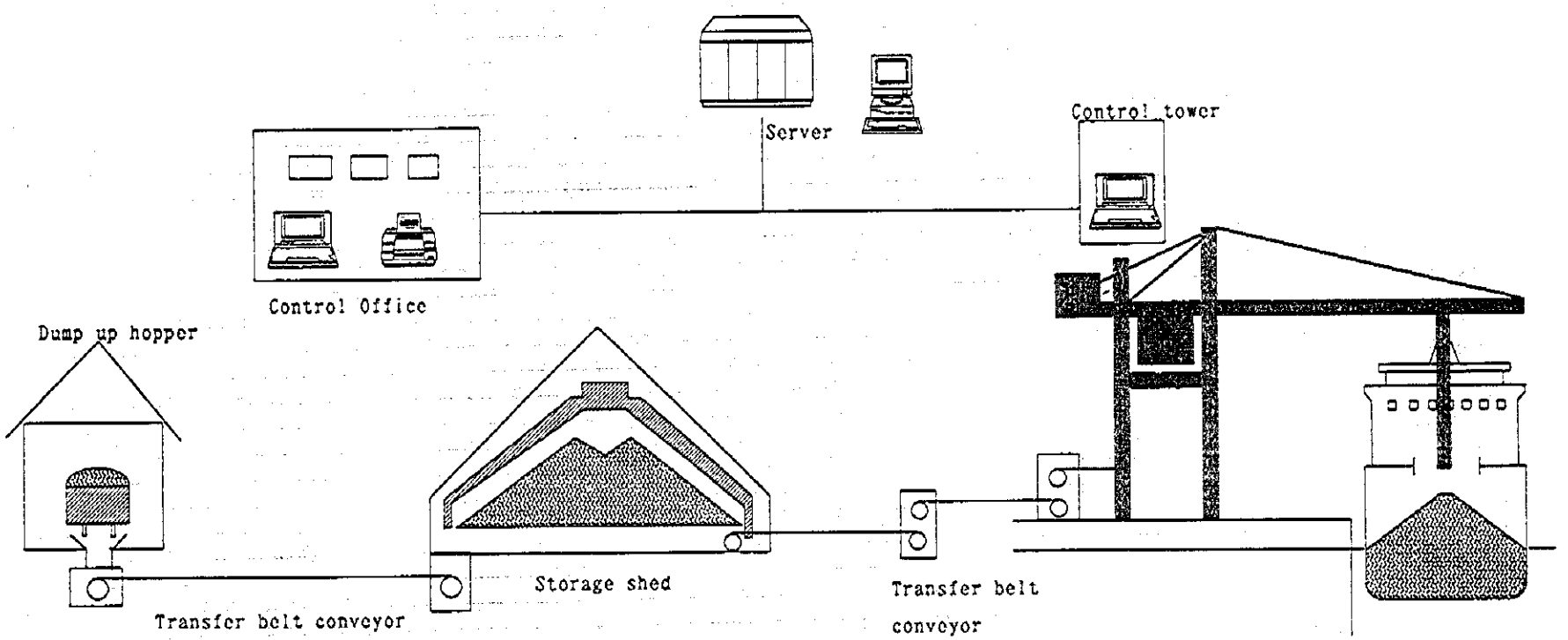


1. Receipt of loading order of cargo from shipper.
2. Input data of loading cargo, and confirm cargo volume.
3. Planning of loading sequence.
4. Add quantity of received cargo.
5. Delete quantity of loaded cargo.

1. Start ship's loader, Transfer belt conveyor, Reclaimer according to designed electric circuit sequence.

1. Check loading quantity and weight of balance cargo to load.
2. Calculate loaded cargo.

Main Port (Export of Phosphate)



1. Input data of cargo
   Grade, Weight, Date,
   Rail/Truck
2. Confirmation of available
   storage space

1. Start stacker, feed conveyor, Tripper
   according to electric circuit.
2. Add quantity of received cargo.
3. Delete quantity of loaded cargo.

1. Check loading quantity and balanced cargo.
2. Calculated loaded cargo.

5.2 Site Investigation for the Port Development

Appendix 5.2.1 Bathymetric Map of Main Port (S=1:5,000)

THE PORTS CORPORATION OF AQABA
THE HASHEMITE KINGDOM OF JORDAN

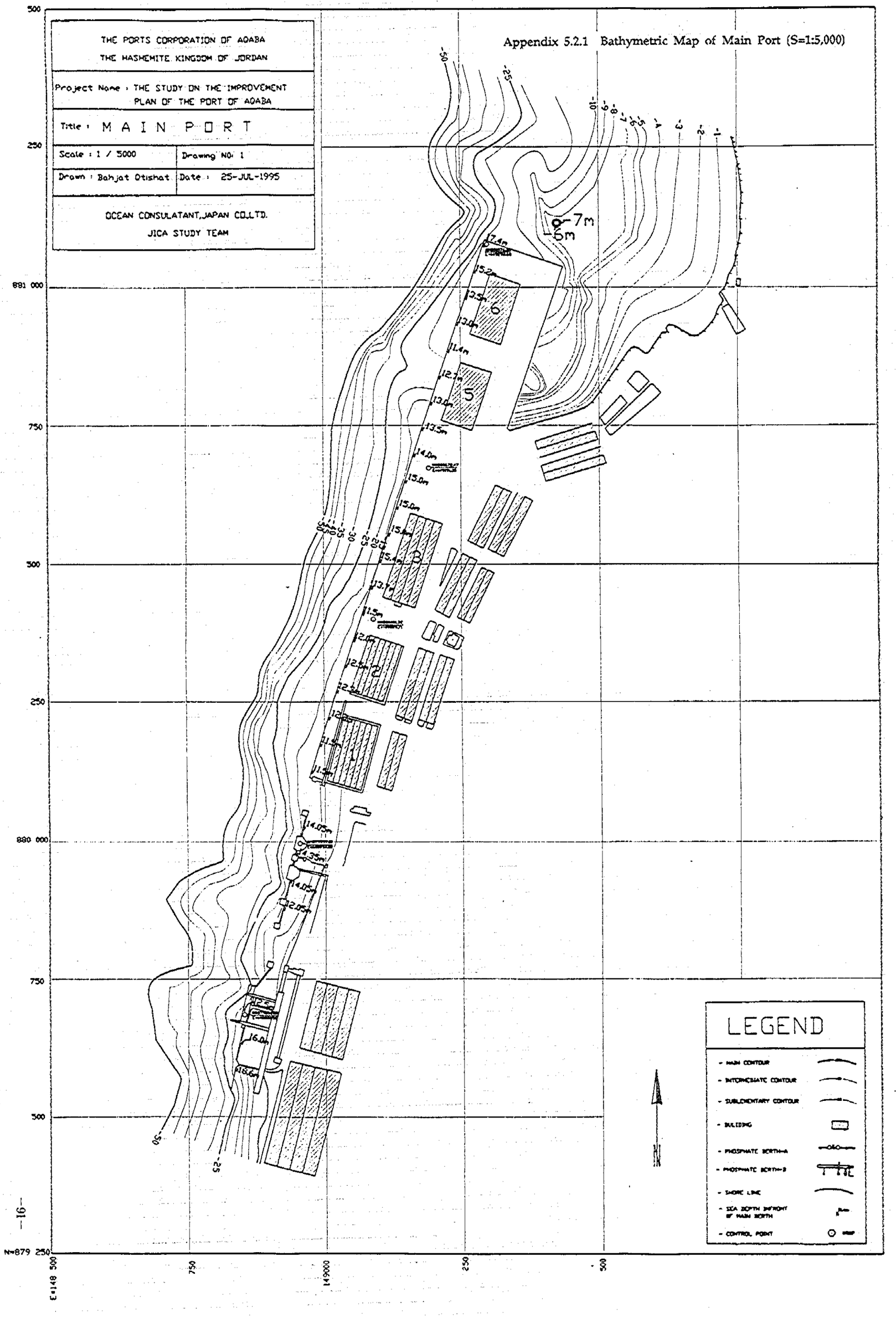
Project Name : THE STUDY ON THE IMPROVEMENT PLAN OF THE PORT OF AQABA

Title : MAIN PORT

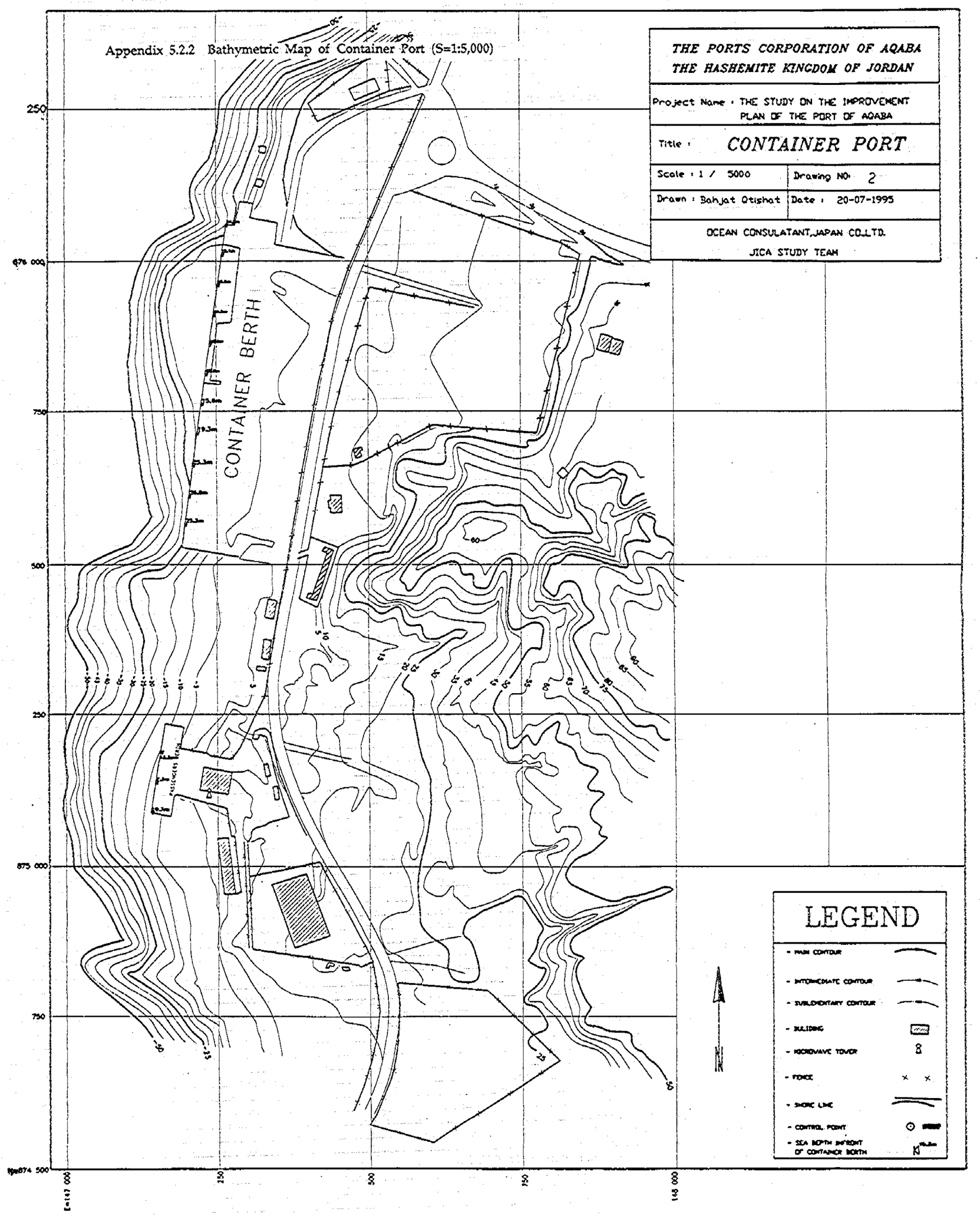
Scale : 1 / 5000 | Drawing NO: 1

Drawn : Bahjat Otishat | Date : 25-JUL-1995

OCEAN CONSULATANT, JAPAN CO.,LTD.
JICA STUDY TEAM



Appendix 5.2.2 Bathymetric Map of Container Port (S=1:5,000)



Appendix 5.2.3 Bathymetric Map of Industrial Port(S=1:5,000)

THE PORTS CORPORATION OF AQABA THE HASHEMITE KINGDOM OF JORDAN	
Project Name : THE STUDY ON THE IMPROVEMENT PLAN OF THE PORT OF AQABA	
Title : INDUSTRIAL PORT	
Scale : 1 / 5000	Drawing No: 3
Drawn : Bahjat Qtishat	Date : 25-JUL-1995
OCEAN CONSULATANT,JAPAN CO.,LTD. JICA STUDY TEAM	

866 000
750
500
250
865 000
750
250
990000
864 000
750
N=863 500
E=145 000
250
500
750
146 000
250

9.29
10.98
11.09
8.78
7.81
8.70
6.46

N=864637.17
E=145853.25

FERTILIZERS BERTH

N=864187.08
E=146081.86

LEGEND

- MAIN CONTOUR
- INTERMEDIATE CONTOUR
- BUILDING
- CHANEL
- PUMP STATION
- FENCE
- CONTROL POINT

Appendix 5.2.4(1) Record of Current Observation

Date	13-Jul.		Date	13-Jun.	
Site	Main Port		Site	Main Port	
Station	C-1		Station	C-1	
Time	9:00		Time	10:45	
Depth(m)	Velocity(m/s)	Direction(°)	Depth(m)	Velocity(m/s)	Direction(°)
1	0.06	250	1	0.12	175
2	0.05	230	2	0.10	175
3	0.05	250	3	0.12	335
4	0.06	270	4	0.12	185
5	0.04	5	5	0.11	295
6	0.06	310	6	0.15	300
7	0.05	160	7	0.12	155
8	0.06	310	8	0.07	150
9	0.05	280	9	0.09	140
10	0.05	320	10	0.08	225
11	0.05	175	11	0.07	150
12	0.05	325	12	0.10	290
13	0.06	160	13	0.07	145
14	0.06	290	14	0.07	340
15	0.05	95	15	0.10	310
16	0.06	170	16	0.10	325
17	0.06	305	17	0.09	35
18	0.05	215	18	0.07	325
19	0.07	145	19	0.06	300
20	0.05	170	20	0.06	300

Appendix 5.2.4(2) Record of Current Observation

Date	13-Jul.		Date	13-Jul.	
Site	Main Port		Site	Main Port	
Station	C-1		Station	C-1	
Time	12:00		Time	15:30	
Depth(m)	Velocity(m/s)	Direction(°)	Depth(m)	Velocity(m/s)	Direction(°)
1	0.07	160	1	0.08	160
2	0.06	355	2	0.07	165
3	0.08	20	3	0.06	165
4	0.07	45	4	0.08	130
5	0.07	60	5	0.06	125
6	0.06	340	6	0.07	115
7	0.06	5	7	0.06	260
8	0.05	50	8	0.09	350
9	0.05	45	9	0.06	315
10	0.06	25	10	0.06	285
11	0.05	335	11	0.06	205
12	0.07	310	12	0.07	110
13	0.05	320	13	0.06	115
14	0.06	315	14	0.08	300
15	0.05	280	15	0.06	315
16	0.06	315	16	0.07	140
17	0.06	290	17	0.06	165
18	0.06	315	18	0.06	295
19	0.06	325	19	0.06	285
20	0.05	180	20	0.06	285

Appendix 5.2.4(3) Record of Current Observation

Date	13-Jun.		Date	13-Jun.	
Site	Main Port		Site	Main Port	
Station	C-2		Station	C-2	
Time	7:20		Time	9:45	
Depth(m)	Velocity(m/s)	Direction(°)	Depth(m)	Velocity(m/s)	Direction(°)
1	0.09	275	1	0.09	260
2	0.06	245	2	0.09	180
3	0.06	275	3	0.10	60
4	0.05	230	4	0.07	0
5	0.06	235	5	0.08	60
6	0.10	230	6	0.10	15
7	0.06	205	7	0.10	140
8	0.08	205	8	0.09	300
9	0.07	215	9	0.10	315
10	0.09	205	10	0.07	325
11	0.07	200	11	0.06	20
12	0.09	225	12	0.10	10
13	0.07	200	13	0.09	75
14	0.10	230	14	0.10	320
15	0.09	205	15	0.07	0
16	0.08	195	16	0.06	20
17	0.07	195	17	0.08	95
18	0.10	235	18	0.06	0
19	0.10	240	19	0.06	0

Appendix 5.2.4(4) Record of Current Observation

Date	13-Jun.		Date	13-Jun.	
Site	Main Port		Site	Main Port	
Station	C-2		Station	C-2	
Time	13:30		Time	16:00	
Depth(m)	Velocity(m/s)	Direction(°)	Depth(m)	Velocity(m/s)	Direction(°)
1	0.01	240	1	0.02	260
2	0	215	2	0.02	220
3	0.02	195	3	0.04	175
4	0.01	235	4	0.02	210
5	0.02	215	5	0.10	0
6	0.04	85	6	0.10	140
7	0.01	185	7	0.02	145
8	0.01	125	8	0.02	180
9	0.01	120	9	0.04	0
10	0.06	155	10	0.05	140
11	0.01	130	11	0	170
12	0.02	310	12	0.02	135
13	0.01	300	13	0.01	15
14	0	95	14	0	330
15	0	60	15	0	305
16	0	30	16	0	290
17	0	345	17	0	210
18	0.01	60	18	0	115
19	0	95	19	0	150

Appendix 5.2.4(5) Record of Current Observation

Date	13-Jun.		Date	13-Jun.	
Site	Main Port		Site	Main Port	
Station	C-3		Station	C-3	
Time	7:50		Time	11:45	
Depth(m)	Velocity(m/s)	Direction(°)	Depth(m)	Velocity(m/s)	Direction(°)
1	0.10	235	1	0.05	355
2	0.12	210	2	0.03	120
3	0.11	200	3	0.05	25
4	0.10	200	4	0.03	120
5	0.07	190	5	0.02	140
6	0.07	220	6	0.01	75
7	0.06	235	7	0.02	330
8	0.08	220	8	0.03	280
9	0.06	210	9	0.02	260
10	0.05	185	10	0.03	235
11	0.09	210	11	0.01	190
12	0.08	205	12	0	185
13	0.06	225	13	0	155
14	0.06	220	14	0	180
15	0.05	215	15	0	155
16	0.06	235	16	0	200
17	0.05	240	17	0	190
18	0.07	155	18	0	225
19	0.06	265	19	0	205

Appendix 5.2.4(6) Record of Current Observation

Date	13-Jun.		Date	13-Jun.	
Site	Main Port		Site	Main Port	
Station	C-3		Station	C-3	
Time	13:50		Time	16:20	
Depth(m)	Velocity(m/s)	Direction(°)	Depth(m)	Velocity(m/s)	Direction(°)
1	0.01	320	1	0.02	180
2	0.05	335	2	0.04	145
3	0.01	350	3	0.03	160
4	0.01	200	4	0.06	160
5	0	160	5	0.06	150
6	0	150	6	0.10	130
7	0	155	7	0.09	170
8	0	150	8	0.10	150
9	0	180	9	0.09	125
10	0	150	10	0.06	85
11	0	160	11	0.09	140
12	0	125	12	0.10	100
13	0.01	70	13	0.08	110
14	0.02	125	14	0.07	40
15	0	125	15	0.06	60
16	0.01	75	16	0.08	215
17	0	260	17	0.07	245
18	0	260	18	0.06	195
19	0	260	19	0.08	315

Appendix 5.2.4(7) Record of Current Observation

Date	14-Jun.		Date	14-Jun.	
Site	Container Port		Site	Container Port	
Station	C-4		Station	C-4	
Time	9:00		Time	10:00	
Depth(m)	Velocity(m/s)	Direction(°)	Depth(m)	Velocity(m/s)	Direction(°)
1	0	25	1	0.03	330
2	0.01	25	2	0.05	25
3	0.06	5	3	0.07	0
4	0.05	70	4	0.08	340
5	0.07	335	5	0.08	0
6	0.09	10	6	0.01	10
7	0.08	60	7	0.06	55
8	0.06	15	8	0.02	100
9	0.06	70	9	0.07	105
10	0.06	155	10	0.07	170
11	0.05	90	11	0.06	180
12	0.05	85	12	0.02	200

Appendix 5.2.4(8) Record of Current Observation

Date	14-Jun.		Date	14-Jun.	
Site	Container Port		Site	Container Port	
Station	C-4		Station	C-4	
Time	11:00		Time	13:45	
Depth(m)	Velocity(m/s)	Direction(°)	Depth(m)	Velocity(m/s)	Direction(°)
1	0.08	175	1	0.01	255
2	0.04	190	2	0.05	180
3	0.06	180	3	0.05	230
4	0.08	150	4	0.05	250
5	0.08	155	5	0.06	235
6	0.11	165	6	0.09	190
7	0.08	145	7	0.05	255
8	0.06	100	8	0.06	175
9	0.08	95	9	0.09	135
10	0.07	140	10	0.06	145
11	0.06	140	11	0.06	140
12	0.05	115	12	0.05	150

Appendix 5.2.4(9) Record of Current Observation

Date	14-Jun.		Date	14-Jun.	
Site	Container Port		Site	Container Port	
Station	C-5		Station	C-5	
Time	9:25		Time	10:30	
Depth(m)	Velocity(m/s)	Direction(°)	Depth(m)	Velocity(m/s)	Direction(°)
1	0.01	105	1	0.01	140
2	0.08	140	2	0.06	130
3	0.07	145	3	0.06	160
4	0.06	135	4	0.07	160
5	0.09	170	5	0.06	180
6	0.07	140	6	0.09	145
7	0.06	140	7	0.06	195
8	0.07	140	8	0.06	10
9	0.07	155	9	0.06	15
10	0.06	145	10	0.07	0
11	0.01	155	11	0.09	5
12	0.09	200	12	0.07	70
13	0.06	15	13	0.05	40
14	0.06	15	14	0.07	90
15	0.05	185	15	0.07	30

Appendix 5.2.4(10) Record of Current Observation

Date	14-Jun.		Date	14-Jun.	
Site	Container Port		Site	Container Port	
Station	C-5		Station	C-5	
Time	13:20		Time	11:15	
Depth(m)	Velocity(m/s)	Direction(°)	Depth(m)	Velocity(m/s)	Direction(°)
1	0.08	175	1	0.03	170
2	0.06	180	2	0.04	125
3	0.05	165	3	0.04	190
4	0	200	4	0.08	155
5	0.01	220	5	0.10	260
6	0.01	220	6	0.08	240
7	0.06	240	7	0.08	75
8	0.06	260	8	0.05	175
9	0.05	245	9	0.05	165
10	0.07	295	10	0.05	275
11	0.08	320	11	0.07	335
12	0.07	25	12	0.06	10
13	0.08	335	13	0.07	345
14	0.05	70	14	0.06	5
15	0.09	130	15	0.06	320

Appendix 5.2.4(11) Record of Current Observation

Date	15-Jun.		Date	15-Jun.	
Site	Industrial Port		Site	Industrial Port	
Station	C-6		Station	C-6	
Time	8:40		Time	11:00	
Depth(m)	Velocity(m/s)	Direction(°)	Depth(m)	Velocity(m/s)	Direction(°)
1	0.05	210	1	0.12	320
2	0.03	180	2	0.05	295
3	0.06	185	3	0.07	315
4	0.08	130	4	0.07	325
5	0.07	170	5	0.06	305
6	0.06	155	6	0.06	280
7	0.06	200	7	0.05	270
8	0.08	160	8	0.06	265
9	0.07	135	9	0.05	285
10	0.07	175	10	0.05	280

Appendix 5.2.4(12) Record of Current Observation

Date	11-Jul.		Date	11-Jul.	
Site	Industnial Port		Site	Industrial Port	
Station	C-6		Station	C-6	
Time	9:30		Time	13:30	
Depth(m)	Velocity(m/s)	Direction(°)	Depth(m)	Velocity(m/s)	Direction(°)
1	0.06	335	1	0.07	258
2	0.06	30	2	0.07	30
3	0.09	20	3	0.06	345
4	0.06	35	4	0.05	330
5	0.06	25	5	0.05	310
6	0.07	5	6	0	345
7	0.06	5	7	0.04	225
8	0.07	340	8	0	240
9	0.08	5	9	0	165
10	0.06	5	10	0	155

Appendix 5.2.5(1) Bore-hole Log Data Sheet

BOREHOLE LOG DATA SHEET

PROJECT : Improvment Plan of The Port of Aqaba.	TYPE & SIZE OF DRILLING Rotary, 4 inch.
BOREHOLE NO. : BH 1	DATE :

DEPTH (M)	LOG	DESCRIPTION	REC. (%)	RQD. (%)	SPT (N) 10 20 30 40 50
		Seabed Level -9.6m			
1					7
2					
3					30
4					34
5					
6					50R
7					
8					50
9					51
10		Whitish, creamish and greyish, fine to coarse loose to very dense Coral Sand with some shells.			48
11					
12					41
13					
14					43
15					47
16					
17					49
18					62R
19					
20					46
21					

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Appendix 5.2.5(2) Bore-hole Log Data Sheet

BOREHOLE LOG DATA SHEET

PROJECT : Improvment Plan of the Port of Aqaba.	TYPE & SIZE OF DRILLING Rotary, 4inch
BOREHOLE NO. : BH 2	DATE :

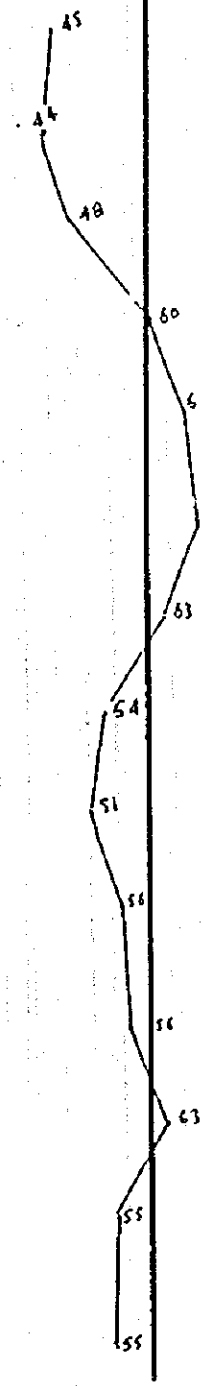
DEPTH (M)	LOG	DESCRIPTION	REC. (%)	RQD. (%)	SPT (N) 10 20 30 40 50
		Seabed Level -9.5m			
1					
2					22
3					21
4					43
5					
6					39
7					
8					41
9		Whitish,creamish and greyish fine branched Coral filled with whitish fine to medium grained Coral Sand and some shells, weak to very weak banches.			46
10					
11					31
12					41
13					
14					45
15					42
16					
17					41
18					31
19					
20					47
21					

Appendix 5.2.5(3) Bore-hole Log Data Sheet

BOREHOLE LOG DATA SHEET

PROJECT : Improvment Plan of The Port of Aqaba	TYPE & SIZE OF DRILLING Rotary, 4inch
BOREHOLE NO. : BH 3	DATE :

DEPTH (M)	LOG	DESCRIPTION	REC. (%)	RQD. (%)	SPT (N) 10 20 30 40 50
1		Seabed Level -9.7m			
2					
3					
4					
5					
6		Whitish,creamish and greyish fine branched Coral filled with fine to medium grained Coral Sand and shells,weak to very weak branches.			
7					
8					
9					
10					
11					
12					
13		Greyish, very dense,fine to medium grained beach sand with some shells.			
14					
15					
16					
17					
18					
19					
20					
21					



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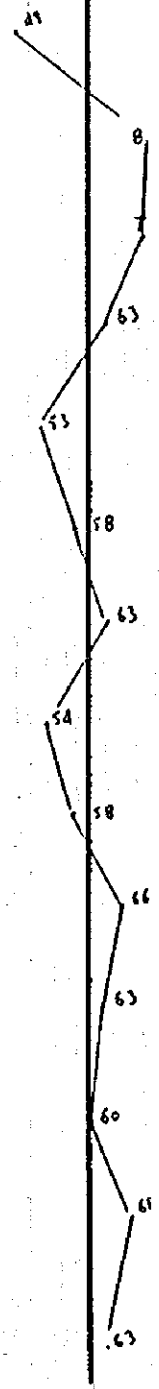
Appendix 5.2.5(4) Bore-hole Log Data Sheet

BOREHOLE LOG DATA SHEET

PROJECT :Improvment Plan of The Port of Aqaba.	TYPE & SIZE OF DRILLING Rotary, 4 inch
BOREHOLE NO. : BH 4	DATE :

DEPTH (M)	LOG	DESCRIPTION	REC. (%)	RQD. (%)	SPT (N) 10 20 30 40 50
		Seabed Level -9.4m			
1		Greyish,dense to very dense beach sand with some fine to medium gravels.			
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12		Pinkish granitic, very dense, fine to coarse sand.			
13					
14					
15					
16					
17					
18					
19					
20					
21					



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Appendix 5.2.5(5) Bore-hole Log Data Sheet

BOREHOLE LOG DATA SHEET

PROJECT :	TYPE & SIZE OF DRILLING Rotary, 4 inch
BOREHOLE NO. : BH 5	DATE :

DEPTH (M)	LOG	DESCRIPTION	REC. (%)	RQD. (%)	SPT (N) 10 20 30 40 50
1 - 6		Fine to coarse, very dense, granitic sand.			41, 52, 63, 61, 69
6 - 7		Fine very dense, silty sand.			
8 - 10		Fine to coarse, very dense, granitic sand.			71, 45, 45, 43, 48, 55, 55
10 - 12		Fine, dense, silty sand.			
13 - 20		Fine to coarse, dense to very dense, granitic sand.			
21 -					

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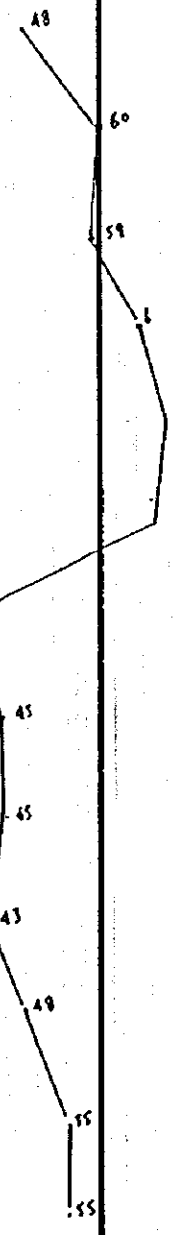
Appendix 5.2.5(6) Bore-hole Log Data Sheet

BOREHOLE LOG DATA SHEET

PROJECT : Improvement Plan of The Port of Aqaba.	TYPE & SIZE OF DRILLING Rotary, 4inch
BOREHOLE NO. : BH 6	DATE :

DEPTH (M)	LOG	DESCRIPTION	REC. (%)	RQD. (%)	SPT (N) 10 20 30 40 50
1					
2					
3					
4					
5					
6					
7					
8					
9					
10		Medium to coarse, dense to very dense granitic sand with some fine gravels.			
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					



Appendix 5.2.6(1) Result of Soil Laboratory Test

Summary of Tests Results.

Borehole No.	Sample Depth(m)	Specific Gravity (gr/cm3)		Grainsize Analysis			
		+ No.4 Sieve	- No.4 Sieve	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
BH 1	0.00 - 1.5	---	2.666	---	91.9	8.1	---
	1.5 - 3.0	---	2.632	---	92.8	7.2	---
	3.0 - 4.0	---	2.650	---	91.7	8.3	---
	4.0 - 5.0	---	2.643	---	94.6	5.4	---
	5.0 - 6.0	---	2.600	---	93.0	7.0	---
	6.0 - 7.0	---	2.625	---	93.4	6.6	---
	7.0 - 8.0	---	2.658	---	96.8	3.2	---
	8.0 - 9.5	---	2.642	---	91.2	8.8	---
	9.5 - 11.0	---	2.668	---	92.1	7.9	---
	11.0 - 12.5	---	2.625	---	93.5	6.5	---
	12.5 - 14.0	---	2.634	---	92.0	8.0	---
	14.0 - 15.5	---	2.651	---	91.6	8.4	---
	15.5 - 17.0	---	2.639	---	92.8	7.2	---
	17.0 - 18.5	---	2.638	---	93.0	7.0	---
	18.5 - 20.0	---	2.628	---	91.8	8.2	---

Appendix 5.2.6(2) Result of Soil Laboratory Test

Summary of Tests Results.

Borehole No.	Sample Depth(m)	Specific Gravity (gr/cm3)		Grainsize Analysis			
		+ No.4 Sieve	- No.4 Sieve	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
BH 2	0.00 - 1.5	2.670	2.644	25.7	73.1	1.2	---
	1.5 - 3.0	2.662	2.646	9.6	87.7	2.7	---
	3.0 - 4.5	2.678	2.637	54.5	42.7	2.8	---
	4.5 - 6.0	2.673	2.652	53.5	44.7	1.8	---
	6.0 - 7.5	2.664	2.631	42.0	55.5	2.5	---
	7.5 - 9.0	2.662	2.648	44.4	54.1	1.5	---
	9.0 - 10.5	2.658	2.631	38.3	60.0	1.7	---
	10.5 - 12.0	2.656	2.643	35.7	61.8	2.5	---
	12.0 - 13.5	2.652	2.640	23.5	74.4	2.1	---
	13.5 - 15.0	2.633	2.601	16.0	81.2	2.8	---
	15.0 - 16.5	2.655	2.648	15.0	83.0	2.0	---
	16.5 - 18.0	2.663	2.639	23.0	74.8	2.2	---
	18.0 - 19.5	2.648	2.625	17.0	78.9	4.1	---
	19.5 - 21.0	2.671	2.633	48.9	49.9	1.2	---

Appendix 5.2.6(3) Result of Soil Laboratory Test

Summary of Tests Results.

Borehole No.	Sample Depth(m)	Specific Gravity (gr/cm3)		Grainsize Analysis			
		+ No.4 Sieve	- No.4 Sieve	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
BH 3	0.00 - 1.5	2.682	2.653	25.2	70.7	4.1	---
	1.5 - 3.0	2.675	2.659	32.8	64.0	3.2	---
	3.0 - 4.5	2.693	2.596	43.6	55.1	1.3	---
	4.5 - 6.0	2.680	2.640	44.9	53.6	1.5	---
	6.0 - 7.5	2.654	2.629	21.5	74.0	4.5	---
	7.5 - 9.0	2.666	2.633	30.5	65.5	4.0	---
	9.0 - 10.5	2.693	2.660	27.4	69.2	3.4	---
	10.5 - 12.0	2.682	2.648	16.6	78.2	5.2	---
	12.0 - 13.5	---	2.646	--	96.6	3.4	---
	13.5 - 15.0	---	2.611	--	96.3	3.7	---
	15.0 - 16.5	---	2.632	--	96.2	3.8	---
	16.5 - 18.0	---	2.615	--	96.5	3.5	---
	18.0 - 19.5	---	2.600	--	97.6	2.4	---
	19.5 - 21.5	---	2.588	--	98.7	1.3	---
	21.5 - 23.0	---	2.622	--	98.5	1.5	---

Appendix 5.2.6(4) Result of Soil Laboratory Test

Summary of Tests Results.

Borehole No.	Sample Depth(m)	Specific Gravity (gr/cm3)		Grainsize Analysis			
		+ No.4 Sieve	- No.4 Sieve	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
BH 4	0.00 - 1.5	---	2.639	5.6	87.1	7.3	---
	1.5 - 3.0	---	2.625	---	96.9	3.1	---
	3.0 - 4.5	---	2.641	---	98.7	1.3	---
	4.5 - 6.0	---	2.614	---	98.5	1.5	---
	6.0 - 7.5	---	2.628	---	98.4	1.6	---
	7.5 - 9.0	---	2.633	---	97.7	2.3	---
	9.0 - 10.0	---	2.641	---	96.6	3.4	---
	10.0 - 11.5	---	2.635	---	97.4	2.6	---
	11.5 - 13.0	---	2.630	---	96.6	3.4	---
	13.0 - 14.5	---	2.620	---	96.7	3.3	---
	14.5 - 16.0	---	2.640	---	93.9	6.1	---
	16.0 - 17.5	---	2.631	---	96.0	4.0	---
	17.5 - 19.0	---	2.636	---	97.5	2.5	---
	19.0 - 20.5	---	2.628	---	96.2	3.8	---
	20.5 - 22.0	---	2.631	---	96.7	3.3	---
	22.0 - 23.5	---	2.638	---	97.5	2.5	---
	23.5 - 24.0	---	2.629	---	96.4	3.6	---

Appendix 5.2.6(5) Result of Soil Laboratory Test

Summary of Tests Results.

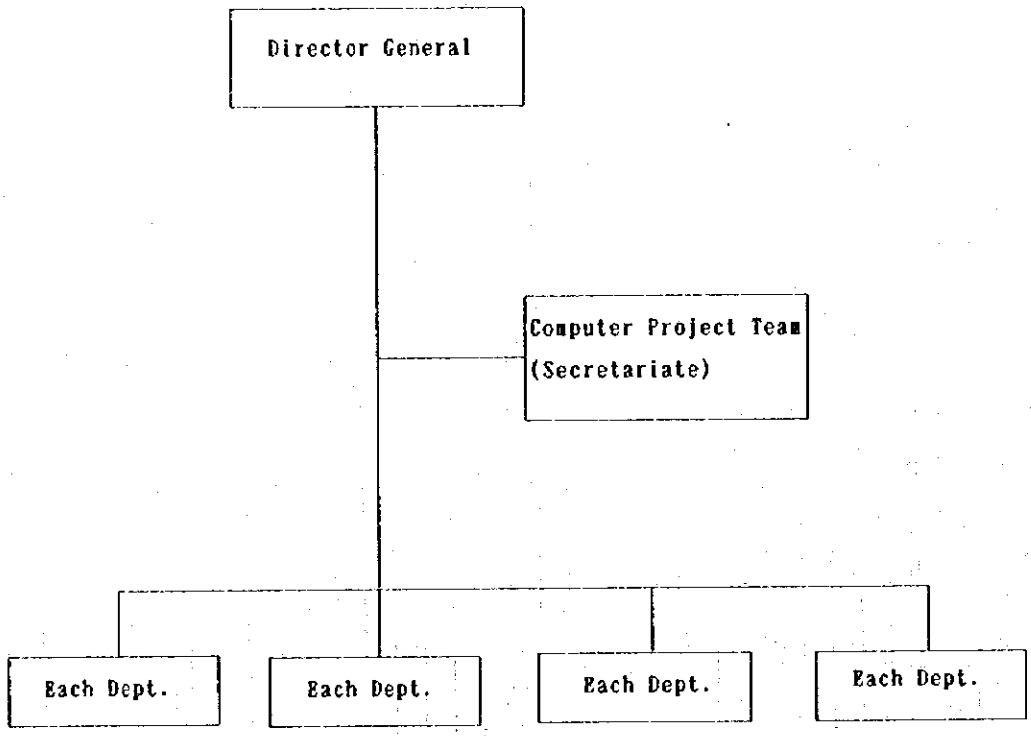
Borehole No.	Sample Depth(m)	Specific Gravity (gr/cm3)		Grainsize Analysis			
		+ No.4 Sieve	- No.4 Sieve	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
BH 5	0.00 - 1.5	--	2.642	2.5	92.1	5.4	--
	1.5 - 3.0	--	2.652	--	97.3	2.7	--
	3.0 - 4.5	--	2.639	--	96.0	4.0	--
	4.5 - 6.0	--	2.628	0.6	96.9	2.5	--
	6.0 - 7.5	--	2.635	1.5	81.1	17.4	17.4
	7.5 - 9.0	--	2.626	1	91.5	7.5	--
	9.0 - 10.5	--	2.640	--	88.7	11.3	--
	10.5 - 12.0	--	2.632	--	85.3	14.7	--
	12.0 - 13.5	--	2.642	--	94.4	5.6	--
	13.5 - 15.0	--	2.631	--	95.0	5.0	--
	15.0 - 16.5	--	2.625	--	95.1	4.9	--
	16.5 - 18.0	--	2.644	--	94.8	5.2	--
	18.0 - 20.0	--	2.630	--	96.1	3.9	--

Appendix 5.2.6(6) Result of Soil Laboratory Test

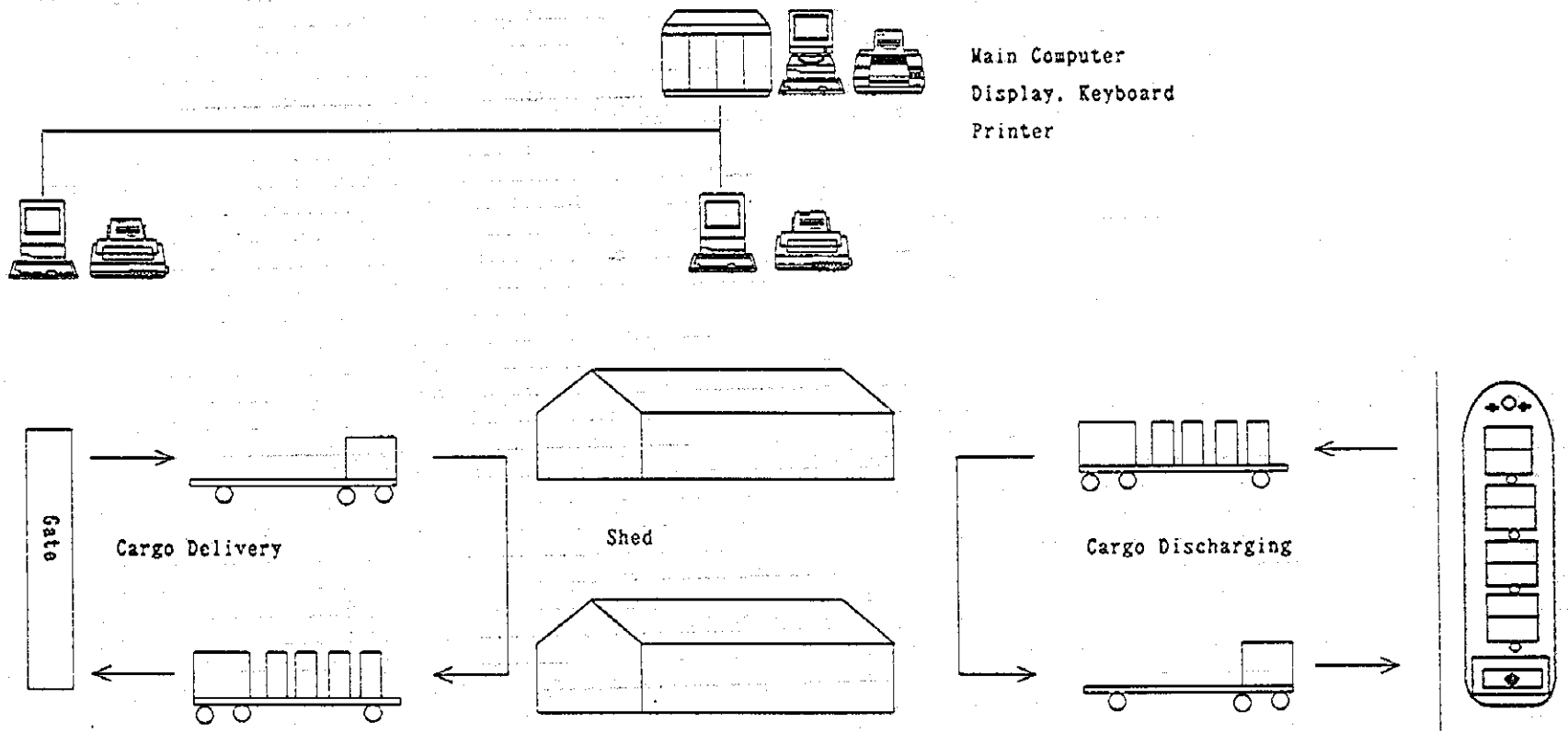
Summary of Tests Results.

Borehole No.	Sample Depth(m)	Specific Gravity (gr/cm3)		Grainsize Analysis			
		+ No.4 Sieve	- No.4 Sieve	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
BH 6	0.00 - 1.5	--	2.633	--	90.2	9.8	--
	1.5 - 3.0	2.665	2.640	19.1	80.4	0.5	--
	3.0 - 4.5	2.662	2.639	19.7	79.9	0.4	--
	4.5 - 6.0	2.675	2.650	27.8	71.1	1.1	--
	6.0 - 7.5	--	2.638	12.0	85.7	2.3	--
	7.5 - 9.0	--	2.625	7.5	86.1	6.4	--
	9.0 - 10.5	--	2.630	7.4	89.1	3.5	--
	10.5 - 12.0	2.669	2.649	21.2	66.6	12.2	--
	12.0 - 13.5	--	2.638	4.2	93.2	2.6	--
	13.5 - 15.0	--	2.625	8.4	88.7	2.9	--
	15.0 - 16.5	2.650	2.636	14.2	84.1	1.7	--
	16.5 - 18.0	--	2.640	4.6	92.2	3.2	--
	18.0 - 19.5	2.644	2.630	15.5	83.0	1.5	--
	19.5 - 20.0	--	2.642	11.3	87.3	1.4	--

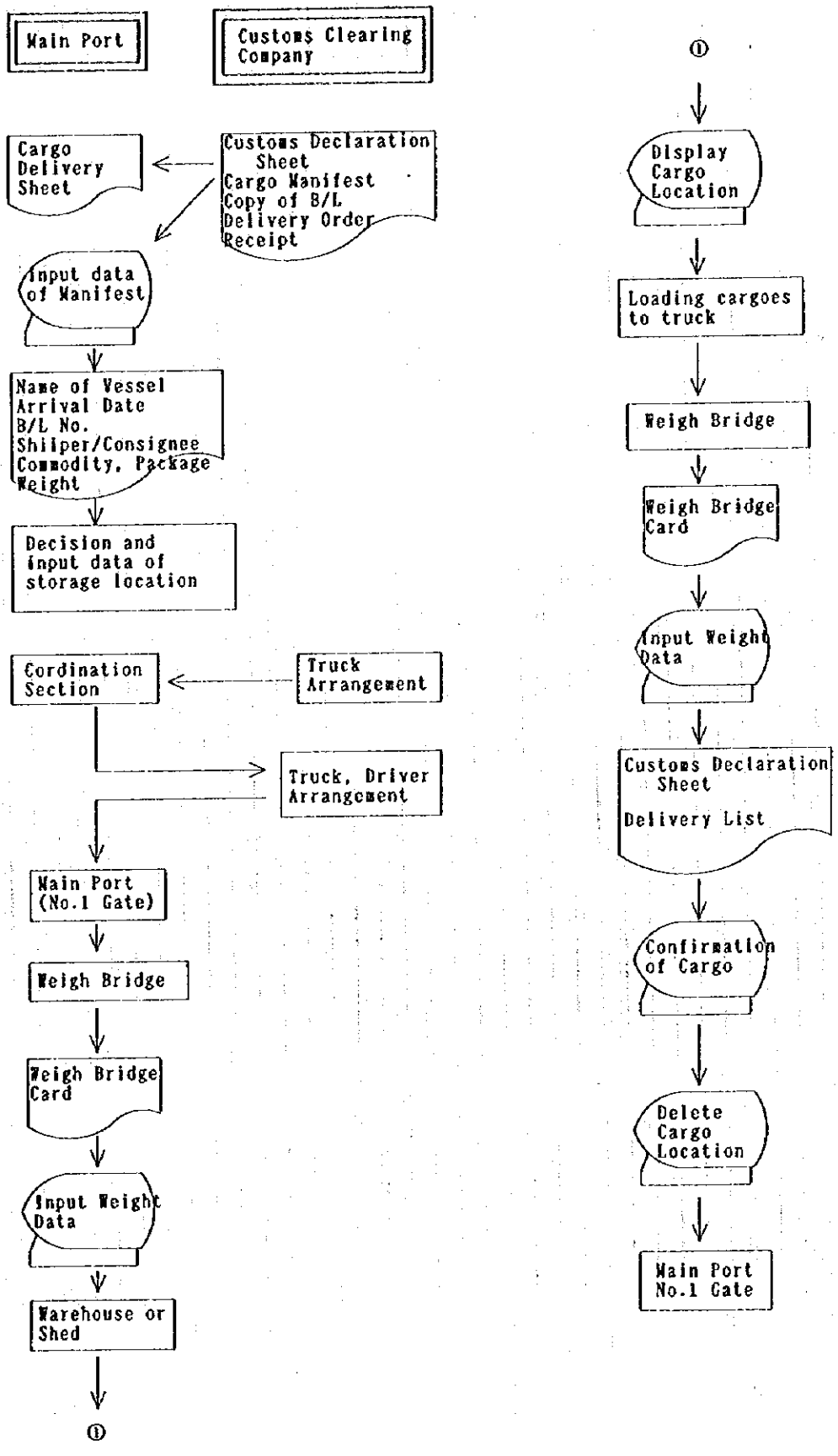
5.6 Information System for the Short-Term Improvement Plan



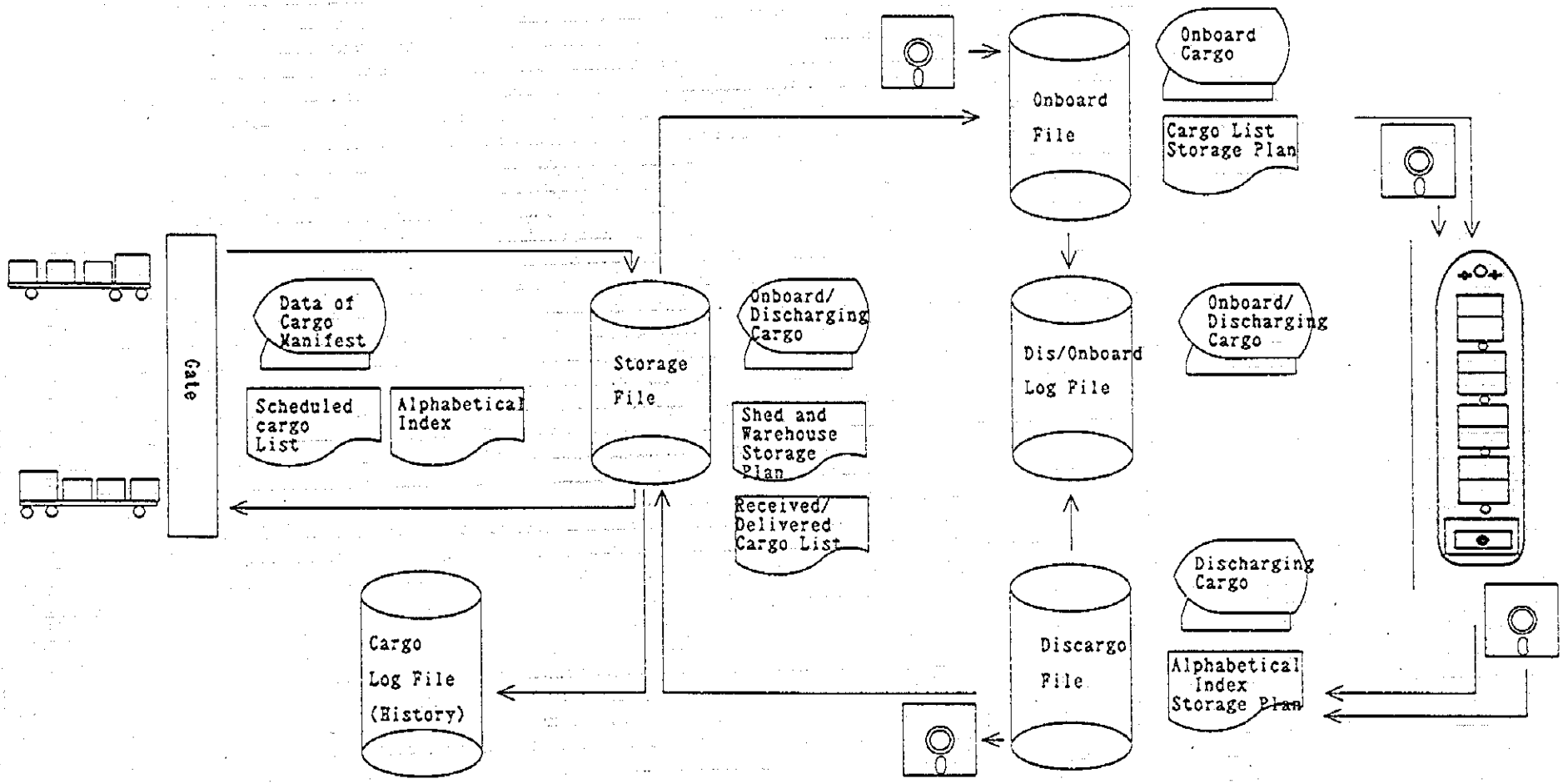
Appendix 5.6.1 Organization Chart of Computer Project Team



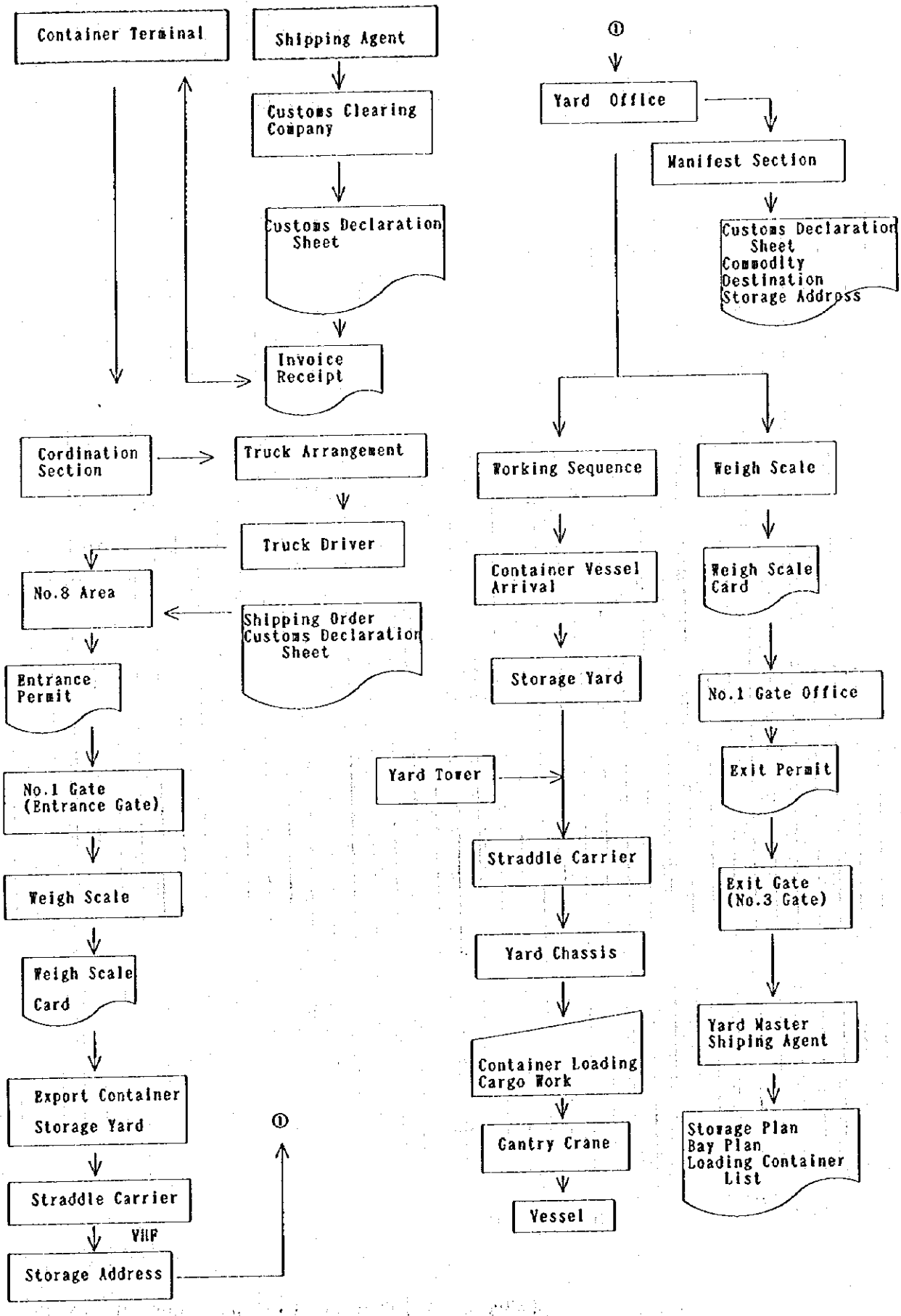
Appendix 5.6.2 Main Port Computer System of Break Bulk Cargo



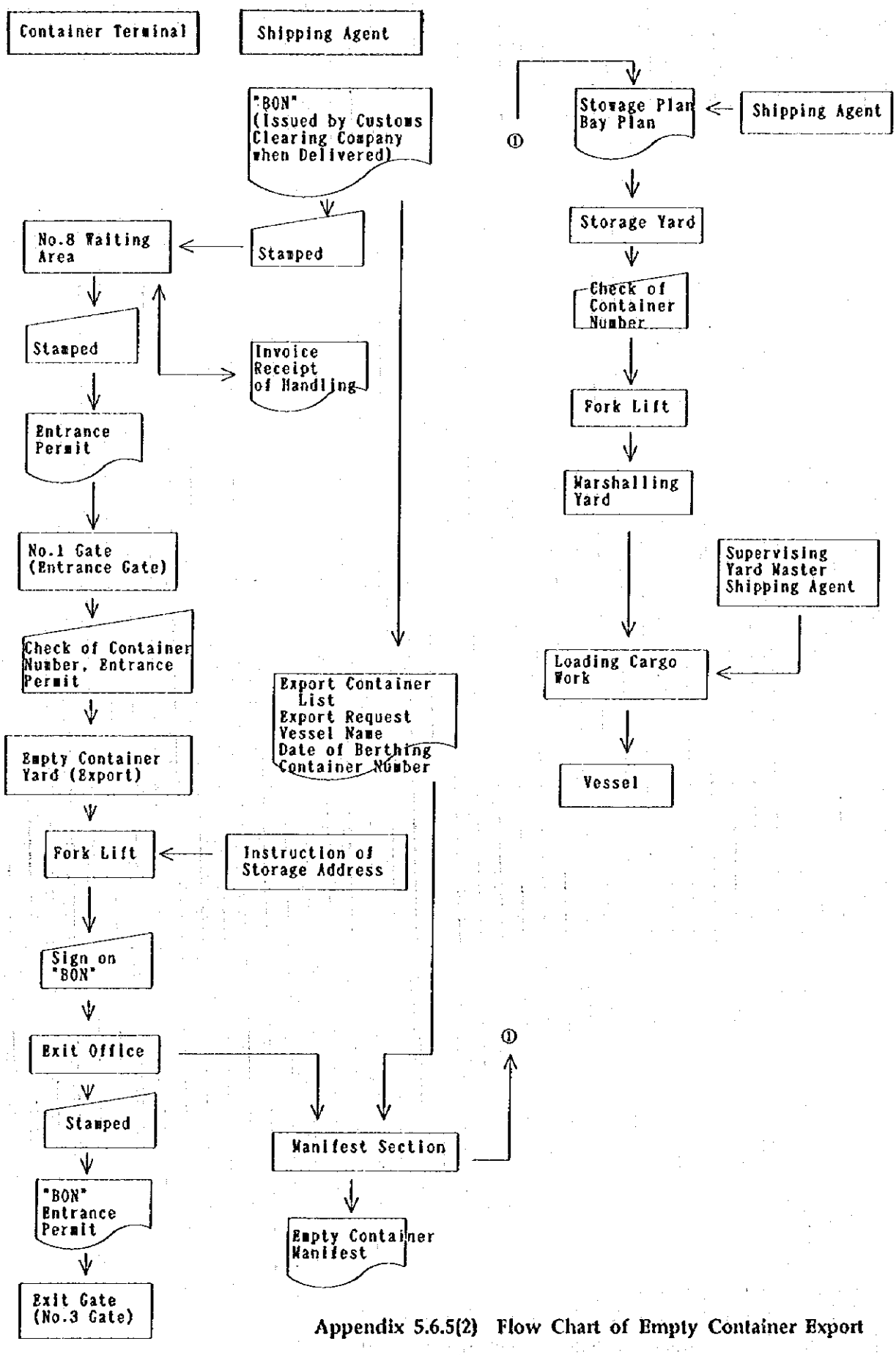
Appendix 5.6.3 Main Port Cargo Data Flow



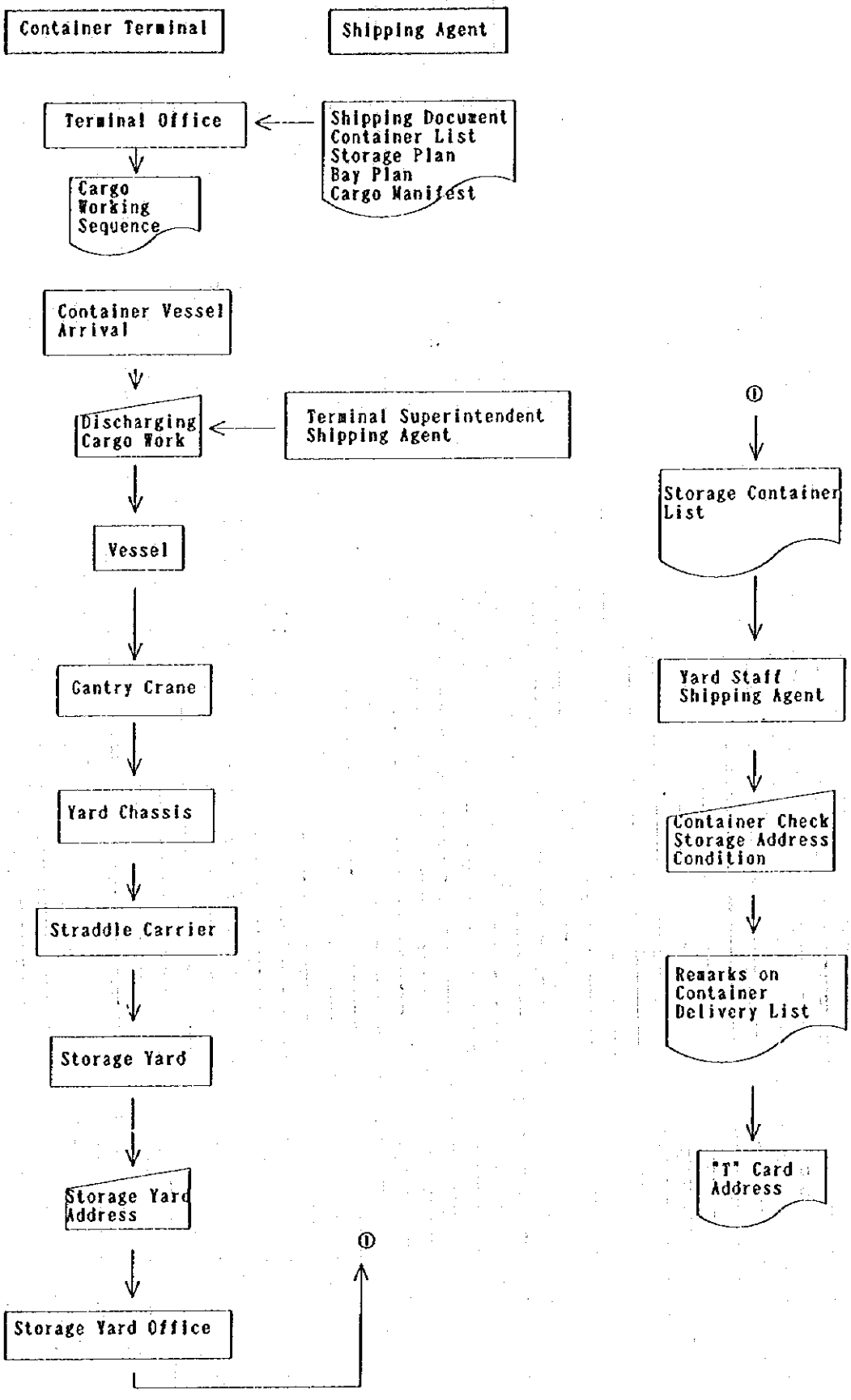
Appendix 5.6.4 Computer File System (Main Port)



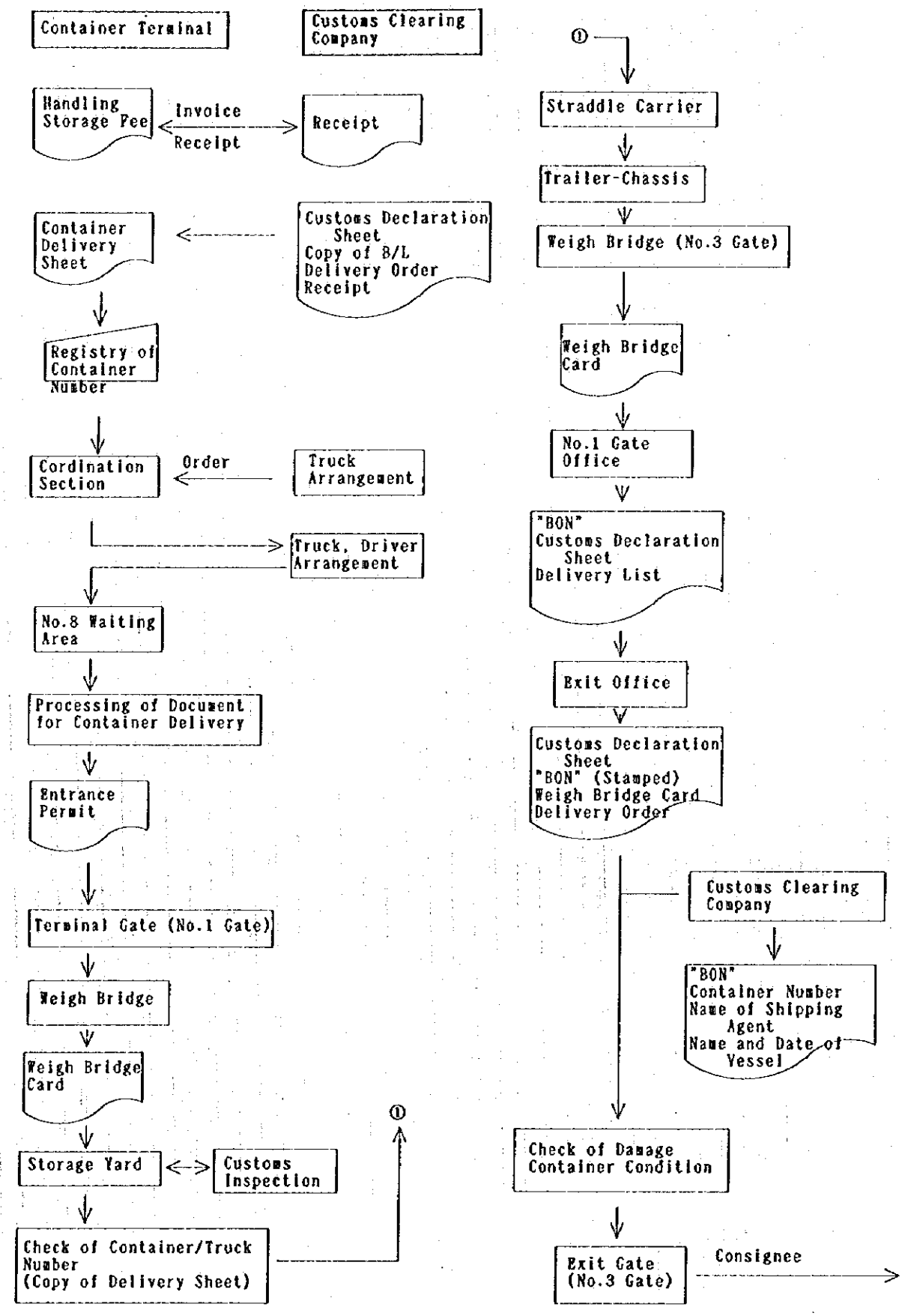
Appendix 5.6.5(1) Flow Chart of Full Container Export



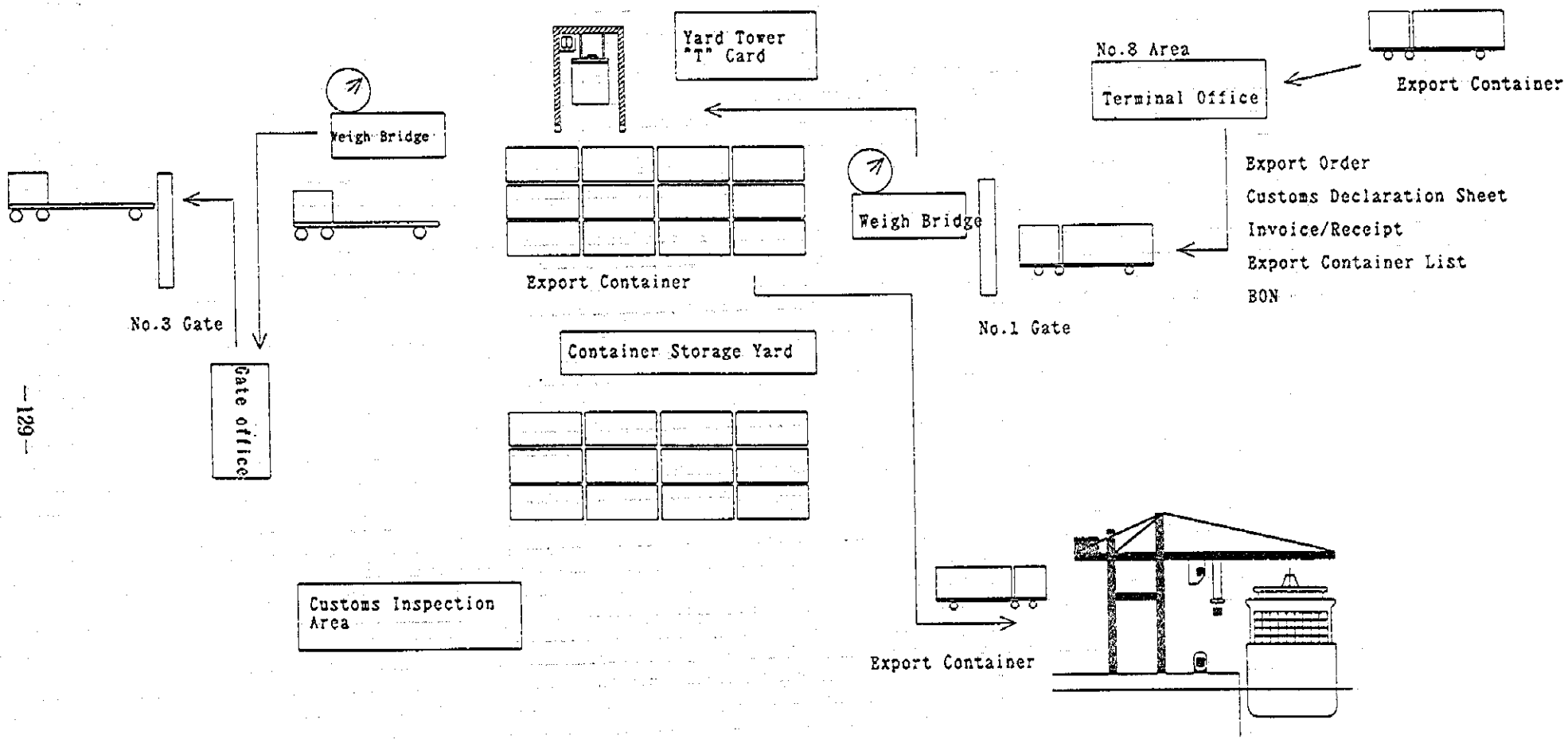
Appendix 5.6.5(2) Flow Chart of Empty Container Export



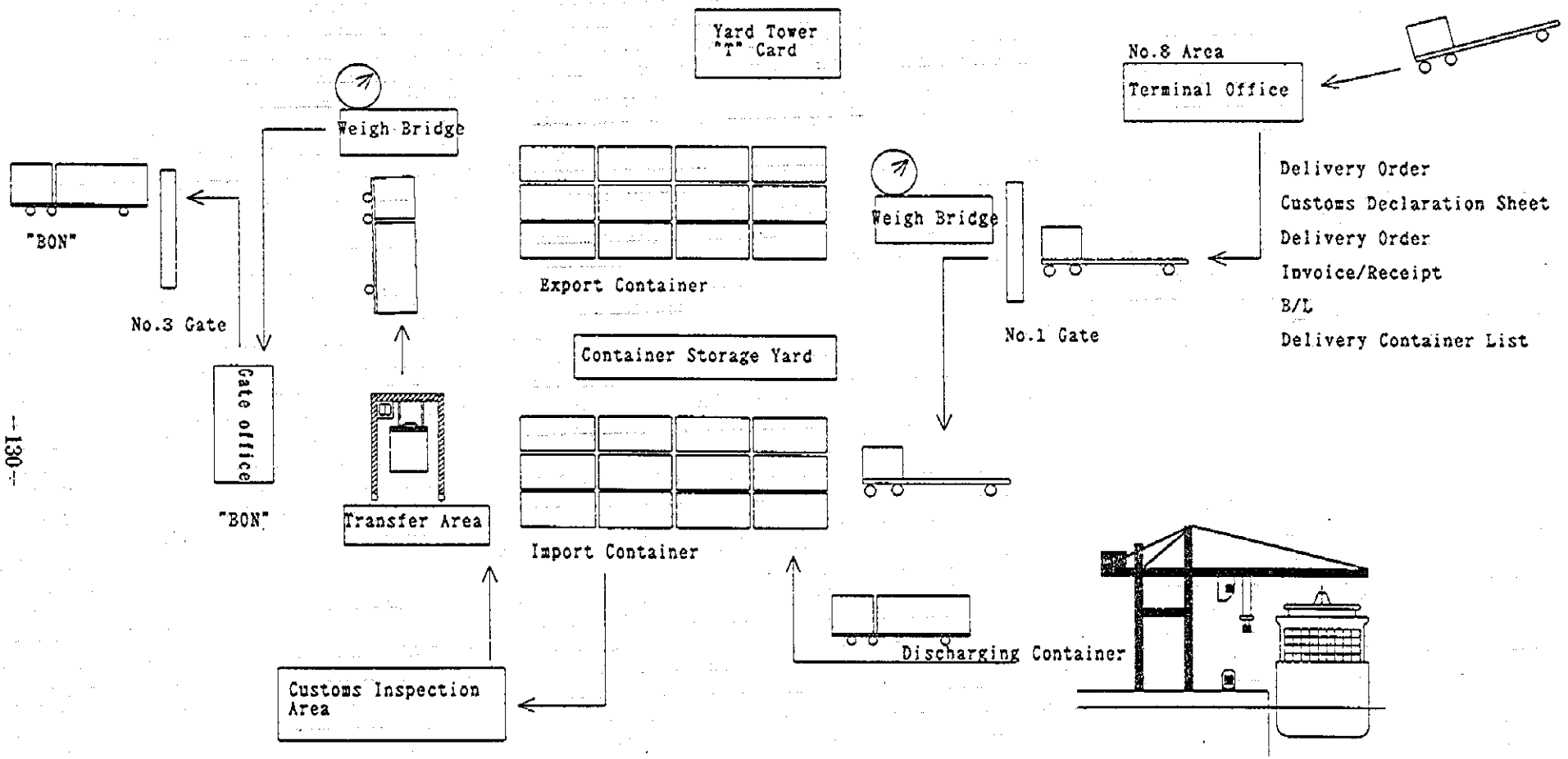
Appendix 5.6.5(3) Flow Chart of Container Discharging



Appendix 5.6.5(4) Flow Chart of Container Delivery



Appendix 5.6.6(1) Current Terminal Operation (Receiving)



Appendix 5.6.6(2) Current Terminal Operation (Delivery)