

BEFORE THE COUNCIL OF THE
METROPOLITAN SERVICE DISTRICT

FOR THE PURPOSE OF AUTHORIZING THE)
EXECUTIVE OFFICE TO EXECUTE A)
CONTRACT WITH CTR FOR THE PURCHASE)
OF COMPUTER HARDWARE, SOFTWARE AND)
SERVICES AND A CONTRACT WITH FIRST)
PORTLAND LEASING FOR THE FINANCING)
OF SAID PURCHASE AND COMPLETING THE)
STRAP COMPUTER PROJECT)

RESOLUTION NO. 91-1509

Introduced by Rena Cusma,
Executive Officer

WHEREAS, The Council approved funding for computer hardware,
software and services for an inter-departmental network; and

WHEREAS, Metro departments find it advantageous and efficient to
have the capability to electronically transfer information and
documents between work groups; and

WHEREAS, Cost savings resulting from shared equipment and software
licenses can be achieved by inter-departmental coordination; and

WHEREAS, A Request for Proposals for an inter-departmental
computer network was approved for release by the Council Finance
Committee; and

WHEREAS, The proposals received were reviewed and evaluated by the
Information Systems Division and the STRAP network users group; and

WHEREAS, A budget amendment restructuring the financing
arrangements was adopted by Council; and

WHEREAS, Metro Code Section 2.04.033 requires these contracts to
be approved by Council; now, therefore,

BE IT RESOLVED,

That the Council of the Metropolitan Service District authorizes
the Executive Officer to execute contracts with CTR and First Portland
Leasing for the purchase and financing of Phase II and completing the

Resolution No. 91-1509
Page 2

STRAP inter-departmental computer network.

ADOPTED by the Council of the Metropolitan Service District this
26th day of September, 1991.



Tanya Collier, Presiding Officer

kr:dpuser:strapres
September 9, 1991

August 29, 1991

S.TR.A.P. Network Recommendation

Recommendation -

The S.TR.A.P. committee recommends the purchase of networking hardware, software, and cabling as proposed by CTR Business Systems. The major reasons for making this recommendation are; 1) network expandability, 2) network management capabilities, 3) redundancy, and 4) maintainability of network operations.

Functionality -

The proposed network is designed to meet several primary objectives those being:

- 1) Provide the ability for various work groups to access and run RLIS applications in ARC/INFO.
- 2) Replace old, failing technology, ie. the Solid Waste 3COM network.
- 3) Provide integration of all work group networks through an internet.
- 4) Allow sharing of limited resources such as printers, plotters, optical disks, modems, and tape backup systems.
- 5) Provide ability to expand the system to accommodate needs of additional departments.

History of STRAP The S.TR.A.P (Solid Waste, Transportation, Public Affairs, Planning and Development and Council) group was formed early in 1991 as a response to the common need for access to the RLIS data bases and ARC/INFO applications and/or integrating work groups of personal computers. A cooperative effort to meet these needs was recognized as a means of assuring a consistent computing environment enabling sharing of data and device access within and between the member departments.

Request for Proposals A joint RFP was issued in May, 1991 for computers running the UNIX operating system required to support ARC/INFO and components needed to network the new and existing systems. The two elements were combined in a single RFP to give vendors a full picture of the system being created, however, they were given the opportunity to propose on either part.

Evaluation of Responses Two responses (addressing both computers and networking) were received:

Hewlett-Packard: proposed using their new 700 series computers to support ARC/INFO and act as personal computer file servers (by running Novell Netware 9000). A single backbone network was proposed to support the internet between departments; and

CTR Business Systems/SUN: proposed SUN SPARC computers to support ARC/INFO applications and a COMPAQ System Pro as personal computer file server. A bridged, dual backbone network separately linking the UNIX and personal computer systems was proposed to provide inter-departmental networking.

Per the structure of the RFP, an initial decision was made to divide the evaluation and selection into two phases: selection of ARC/INFO computers and selection of network components.

Phase I: Compute Servers The machines proposed by CTR/SUN, although well considered, will not be commercially available until late 1991. A tenet of the STRAP evaluation team, stated in the RFP, is that any system proposed must be available for bench mark tests. Because SUN could not meet this requirement, the compute server portion of the proposal was rejected as non-responsive.

The HP proposal was accepted based on:

1. Demonstrated success of similar HP equipment currently supporting RLIS ARC/INFO applications at METRO; and
2. Computing power offered by the HP 700 series that is considerably greater than that of competing, similarly priced machines.

Phase II: Network Components

The CTR Business Systems proposal for a dual backbone network using a Compaq SystemPro as a network server was accepted for Phase II based on the following:

Novell - The Hewlett-Packard proposal would have Novell running as a sub-process to UNIX; in other words Novell is being emulated. This is inefficient when compared to the CTR proposal which runs Novell as the operating system (native) on a compute server. "Native" Novell has a larger install-base, or market share, of applications software that ensures continued vendor support and third party development efforts.

System Performance - Hewlett-Packard claimed that their servers are so fast that they give performance equivalent to that of the 486/33mhz processor used in the Compaq SystemPro. However, the SystemPro enhances processor performance by use of the Intelligent Disk Array (IDA). IDA accomplishes this by disk striping. An added value of the SystemPro is disk duplexing which keeps two copies of user files, providing continuous service in the event of a disk failure. A failure of one set of disks will not disrupt service, both disk controllers would have to fail simultaneously before the DOS side of the network would be off line. The maintenance agreement with CTR is set up so that CTR maintains a pool of spare parts. Should a disk failure occur it can be corrected quickly, usually within 4 hours.

Network Performance - Hewlett-Packard proposed a single backbone network supporting both ARC/INFO and DOS traffic. A single coaxial line does not provide any network redundancy; in the event of a failure the entire network is down. In this type of environment, network traffic can quickly become unmanageable. CTR's dual backbone network separates ARC/INFO and DOS onto separate networks connected by a managed bridge. This allows network redundancy so that if one side fails the other is still operational. Traffic control is obviously more manageable because of the isolation. This network environment will also make future expansion much easier.

Network Management - Hewlett-Packard manages the network with a combination of hardware and software. Bridges and concentrators (hubs) would be used to segment, or isolate, each department. Network management software is used to monitor traffic and maintain network operations. CTR's dual backbone network uses concentrators and a bridge to achieve the segmentation of departments. These items are essentially identical in electrical performance to the Hewlett-Packard hardware. However, they are more easily managed and maintained in that these items are modular; if a part fails it can be replaced simply by pulling it out of the chassis and putting in a new part. The Simple Network Management Protocol software (SNMP) is able to provide the network administrator with greater detail about the network components for problem analysis and maintenance.

Cost - The Hewlett-Packard network proposal cost \$211,000. The CTR proposal is \$220,000. The \$9,000 cost difference is justified by the advantages of network redundancy, expansion capabilities, manageability, and vendor support and application software available to the CTR Compaq SystemPro network.

STRAP Evaluation: Hewlett-Packard Network Costs

Items in Italics were added to complete the HP proposal

	Qty	Unit Price	Total Cost
General			
Server	0	\$0	\$0
Concentrators			
Cabling	0	0.00	0.00
Installation	1	29,823.00	29,823.00
Network OS	1	28,000.00	28,000.00
Network Mgmt	1	22,577.00	22,577.00
Maintenance	12	1,384.00	16,608.00
Backup System	1	5,990.00	5,990.00
Dial-Out Service	1	4,081.00	4,081.00
DEC			
Server	0		
Bridges	2	3,374.25	6,748.50
Concentrators	2	1,724.25	3,448.50
Client Cards	2	206.25	412.50
Misc Hardware	2	74.25	148.50
	9	119.25	1,073.25
Network OS (server)	0	0.00	0.00
Network OS (Client)	0	0.00	0.00
Solid Waste			
Server	1	21,793.40	21,793.40
Bridges	1	3,374.25	3,374.25
Concentrators	0	0.00	0.00
Client Cards	0	0.00	0.00
Misc Hardware	1	5,345.00	5,345.00
Network OS (server)	0	0.00	0.00
Network OS (Client)	0	0.00	0.00

Planning and Development

Server	1	6,792.50	6,792.50
Bridges	1	3,374.25	3,374.25
Concentrators	3	1,724.25	5,172.75
Client Cards	20	206.25	4,125.00
Misc Hardware	3	74.25	222.75
	1	119.25	119.25
Network OS (server)	0	0.00	0.00
Network OS (Client)	0	0.00	0.00

Council

Server	1	10,653.80	10,653.80
Bridges	1	3,374.25	3,374.25
Concentrators	1	1,724.25	1,724.25
Client Cards	8	206.25	1,650.00
Misc Hardware	1	74.25	74.25
	1	119.25	119.25
Network OS (server)	0	0.00	0.00
Network OS (Client)	0	0.00	0.00

Public Affairs

Server	0		
Bridges	1	3,374.25	3,374.25
Concentrators	1	1,724.25	1,724.25
Client Cards	12	570.00	6,840.00
Misc Hardware	1	74.25	74.25
	6	119.25	715.50
	1	5,345.00	5,345.00
Network OS (server)	0	0.00	0.00
Network OS (Client)	1	5,744.00	5,744.00

Total

\$210,642.45

STRAP NETWORK COST SHEET

Quan	Item Description	Unit cost	Extended Cost	Subtotals
General Network Components				
	Cabling (AATronics, Inc.)	\$13,858.00	\$13,858.00	\$13,858.00
	Network Maintenance			
1	3 year on-site maintenance for Fileserver	\$15,000.00	\$15,000.00	
1	3 year on-site maintenance for Dial-Out Server	\$1,200.00	\$1,200.00	
	3 year on-site maintenance for Concentrators			
1	3 year on-site maintenance for Tape Drive	\$1,500.00	\$1,500.00	
2	3 year on-site maintenance for HP LaserJet IIIsi	\$2,400.00	\$4,800.00	
	Network Maintenance subtotal:			\$22,500.00
	Equipment Configuration			
2	Configuration of Novell Fileservers	\$2,000.00	\$4,000.00	
1	Configuration of Communication Servers	\$1,500.00	\$1,500.00	
1	Configuration of Tape Backup sub-system	\$350.00	\$350.00	
1	Configuration of Bridges	\$1,000.00	\$1,000.00	
	Equipment Configuration subtotal:			\$6,850.00
	Internet Connectivity/Management Components (ISD)			
1	Synoptics 2810 concentrator (12 port)	\$2,161.00	\$2,161.00	
3	Transceivers (AUI to ThinNet)	\$200.00	\$600.00	
1	ACC ACS 2100 SNMP Managed Bridge	\$3,250.00	\$3,250.00	
1	BNC T-Connector and Transceiver Tap	\$200.00	\$200.00	
1	Synoptics Management for UNIX/NetWare (software)*	\$5,995.00	\$5,995.00	
	Internet subtotal:			\$12,206.00

*(software controls diagnostics, mgmt for entire network and assumes a control console is available.)

Spares

2	3Com Ethernet II 10Base-T adapters	\$295.00	\$590.00
1	3COM Etherport adapters for Macintosh	\$395.00	\$395.00
1	Transceiver (AUI to ThinNet)	\$200.00	\$200.00

Spares subtotal:

\$1,185.00

General Network Components subtotal:

\$56,599.00

Server Components

Server Hardware

1	Compaq SystemPro Model 480/240	\$16,675.00	\$16,675.00
4	Additional Duplexed Drive Array(s), 4 x 1.02Gb	\$7,900.00	\$31,600.00
1	32 bit IDA Controller for Duplexing	\$2,490.00	\$2,490.00
1	24Mb memory upgrade	\$2,740.00	\$2,740.00
1	13" monochrome monitor	\$169.00	\$169.00
1	Serial adapter for Print Services	\$150.00	\$150.00
1	Compaq DOS 3.31	\$85.00	\$85.00
1	Novell NE3200 32 bit Ethernet Adapter	\$975.00	\$975.00

Hardware subtotal:

\$54,884.00

Server Software

1	Novell Netware 3.11, 100 user version	\$4,995.00	\$4,995.00
1	Novell NFS NLM	\$3,995.00	\$3,995.00
1	Novell Name Service NLM	\$1,475.00	\$1,475.00

Software subtotal:

\$10,465.00

Server subtotal:

\$65,349.00

Miscellaneous Network Software

1	Novell LAN Workplace for DOS, 10 user	\$1,850.00	\$1,850.00
2	Novell LAN Workplace for Macintosh	\$185.00	\$370.00

Miscellaneous subtotal:**\$2,220.00****UPS Power Backup**

1	Remington PowerBacker 1200*		
1	UPS monitor I/F and cable	\$90.00	\$90.00

* Solid Waste UPS unit is compatible and will be used

\$90.00**Backup System**

1	Emerald external 2.2Gb VAST	\$5,500.00	\$5,500.00
10	2.2Gb Tape Cartridge	\$49.00	\$490.00

Backup System subtotal:**\$5,990.00****Dial-Out Service**

1	CTR 386/25 LANStation, 2Mb RAM, 40Mb HD	\$2,395.00	\$2,395.00
1	WNIM+ adapters (8 ports)	\$618.00	\$618.00
1	Novell NACS software (asynchronous Dial Service)	\$1,068.00	\$1,068.00

Modem Server subtotal:**\$4,081.00****Public Affairs**

12	Dayna 10Base-T NIC for Macintosh	\$359.00	\$4,308.00
1	Novell Macintosh Service NLM, 20-user	\$695.00	\$695.00
2	Novell LAN WorkPlace for Macintosh	\$185.00	\$370.00
2	Install LAN WorkPlace on Macintoshes	\$125.00	\$250.00
1	HP LaserJet IIIsi, Postscript, Ethernet adapter	\$5,345.00	\$5,345.00
1	AT&T StarLAN 12 port concentrator*		
1	Transceiver (AUI to ThinNet)	\$200.00	\$200.00

Public Affairs subtotal:**\$11,168.00**

*(reuse existing concentrator in Transportation)

Council

8	3COM Ethernet II 10Base-T adapters	\$295.00	\$2,360.00
8	Install Client Netware, 2 network apps.	\$170.00	\$1,360.00
1	AT&T StarLAN 12 port concentrator*		
1	Tranceiver (AUI to ThinNet)	\$200.00	\$200.00

Council subtotal:

\$3,920.00

*(reuse existing concentrator in Transportation)

Planning & Development

28	3COM Ethernet II 10Base-T adapters	\$295.00	\$8,260.00
3	Install LAN WorkPlace, Client Netware, 3 network apps	\$250.00	\$750.00
25	Install Client Netware, 3 network apps	\$220.00	\$5,500.00
1	Install PC Tools Deluxe, WP Office, WP5.1 on server	\$250.00	\$250.00
1	Synoptics 2310 concentrator (36 port)	\$6,395.00	\$6,395.00
1	Transceiver (AUI to ThinNet)	\$200.00	\$200.00

Planning & Development subtotal:

\$21,355.00

Solid Waste

1	HP LaserJet IIIsi, Postscript, Ethernet adapter	\$5,345.00	\$5,345.00
7	Install LAN WorkPlace, Client Netware, 2 network apps	\$200.00	\$1,400.00
31	Install Client Netware, 2 network apps	\$170.00	\$5,270.00
1	Synoptics 3030 concentrator chassis (4-slot version)	\$1,395.00	\$1,395.00
1	Synoptics 3301 6-port BNC module*	\$1,595.00	\$1,595.00
1	Net Management module (hardware)	\$5,032.00	\$5,032.00
1	Transceiver (AUI to ThinNet)	\$200.00	\$200.00
1	AT&T StarLAN 12 port concentrator**		

Solid Waste subtotal:

\$20,237.00

*(all existing thin-net connections in Solid Waste attach here)

** (reuse existing concentrators in Transportation)

Transportation/Data Resources Center

1	Synoptics 2310 concentrator (36 port)	\$6,395.00	\$6,395.00
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1	3COM 3C588 15 slot chassis	\$989.00	\$989.00
1	3COM 3C588 15 slot chassis*	\$989.00	
4	1 port Thin-net modules**	\$219.00	
3	Transceiver (AUI to ThinNet)	\$200.00	\$600.00
1	ACC ACS 2100 SNMP Managed Bridge	\$3,250.00	\$3,250.00
1	BNC T-Connector and Transceiver tap	\$200.00	\$200.00
1	Synoptics 3030 concentrator chasis	\$1,395.00	\$1,395.00
1	Net Management module (hardware)	\$5,032.00	\$5,032.00
2	Synoptics 3308 12 port 10Base-T module	\$3,099.00	\$6,198.00

Transportation/Data Resources Center subtotal:

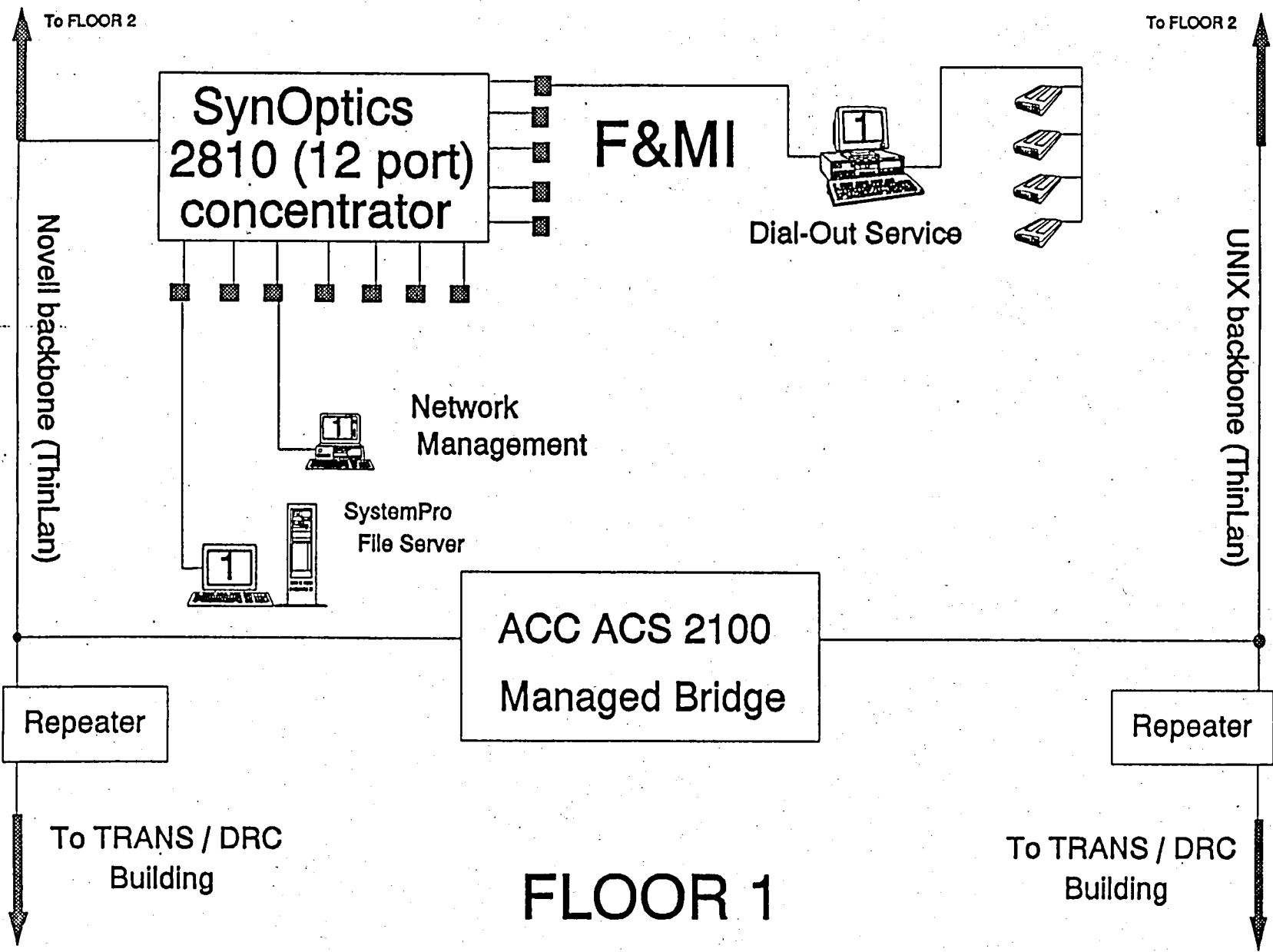
\$24,059.00

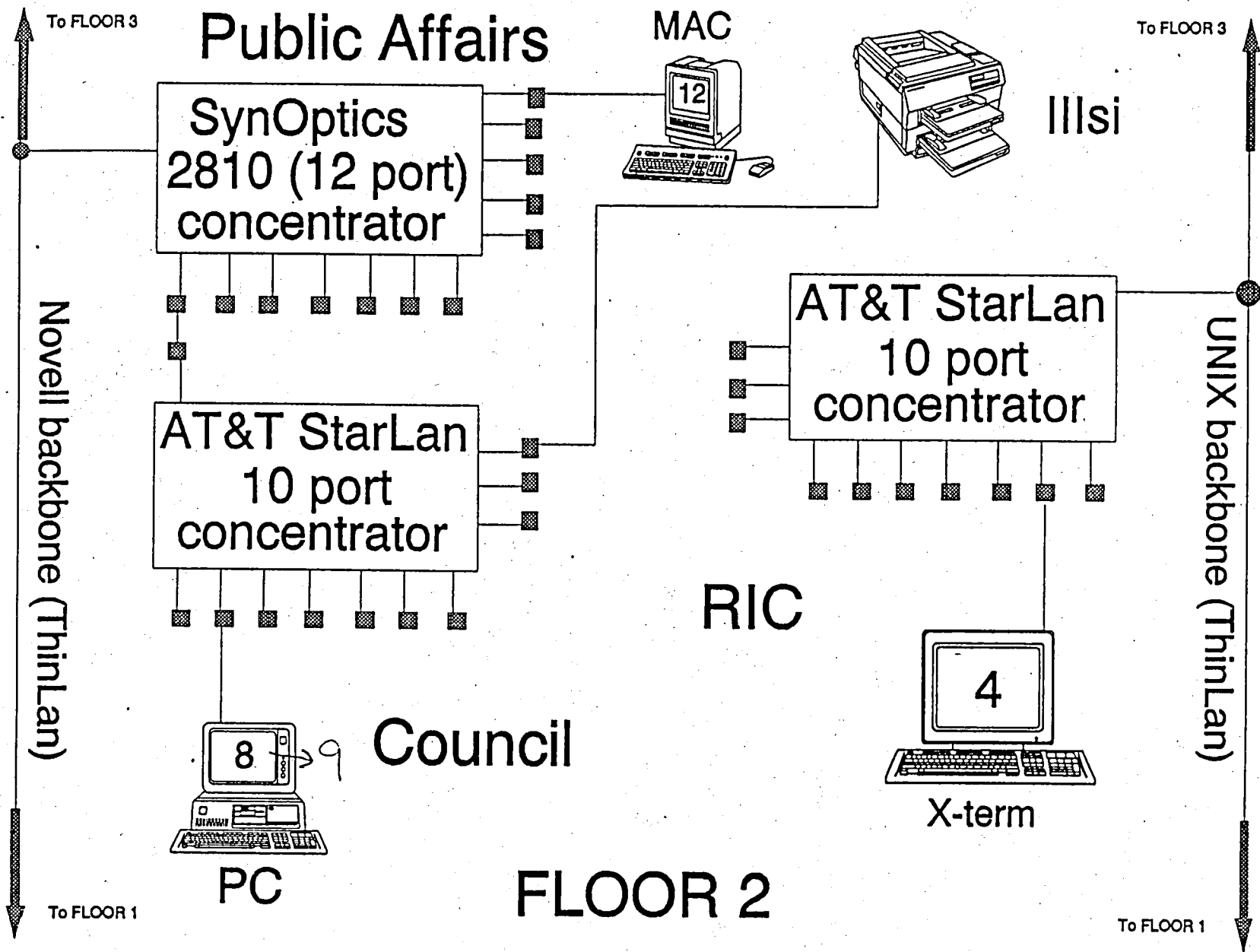
*(reuse existing chassis in Solid Waste)

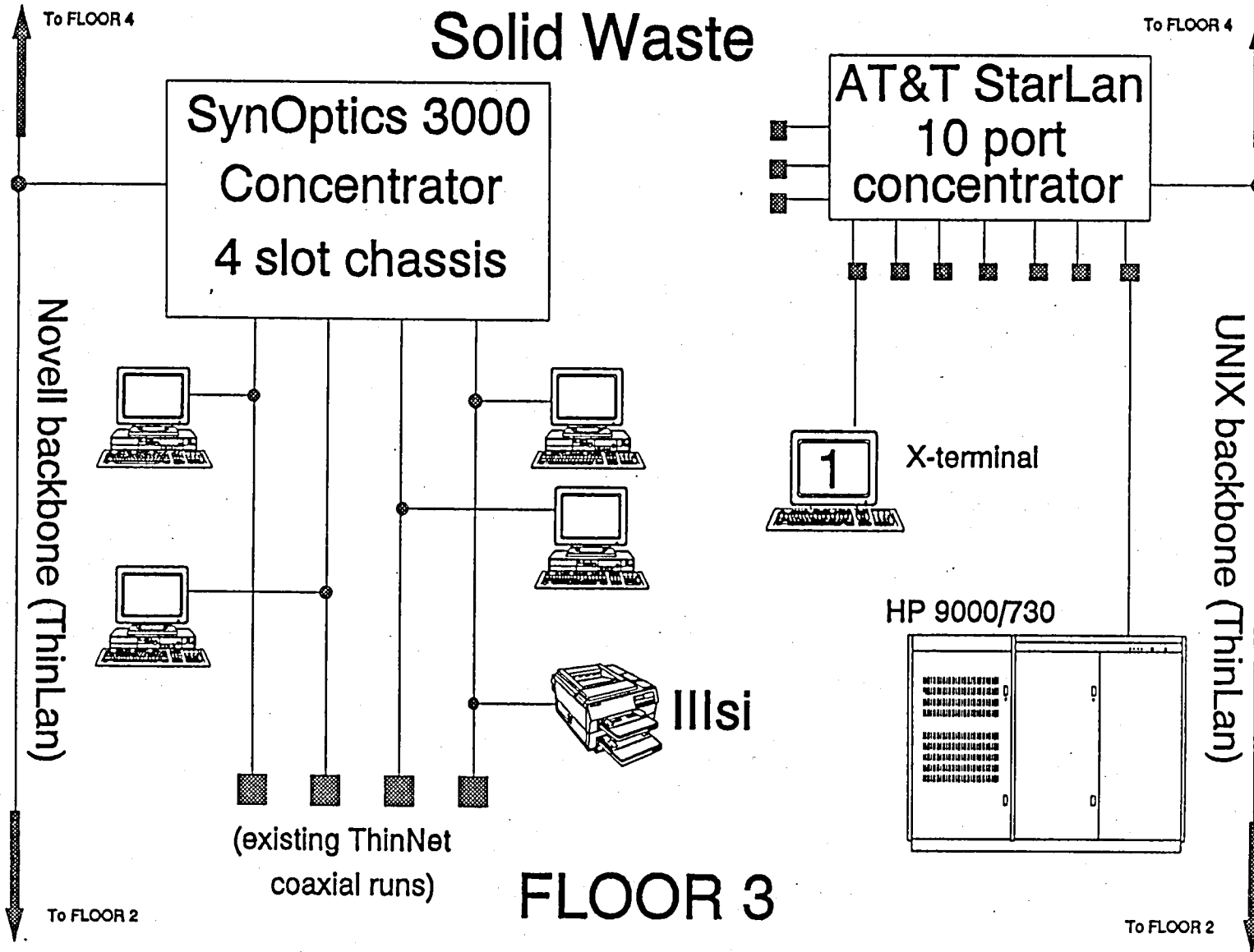
** (reuse existing modules in Solid Waste)

Network Total:

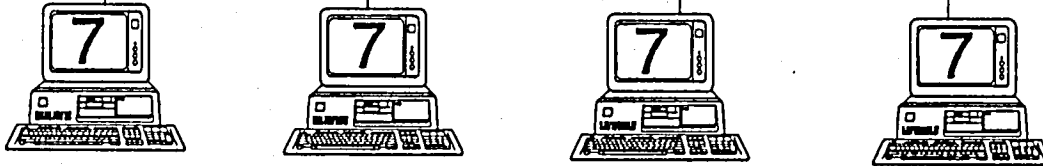
\$215,068.00







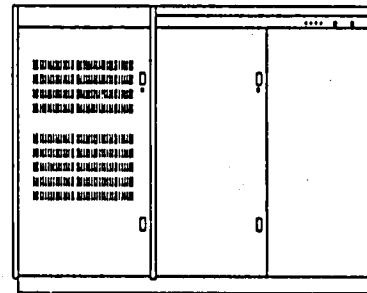
SynOptics 2310 36 port concentrator



Planning & Development

print server(s)?

HP 9000/345



Direct ThinNet connection

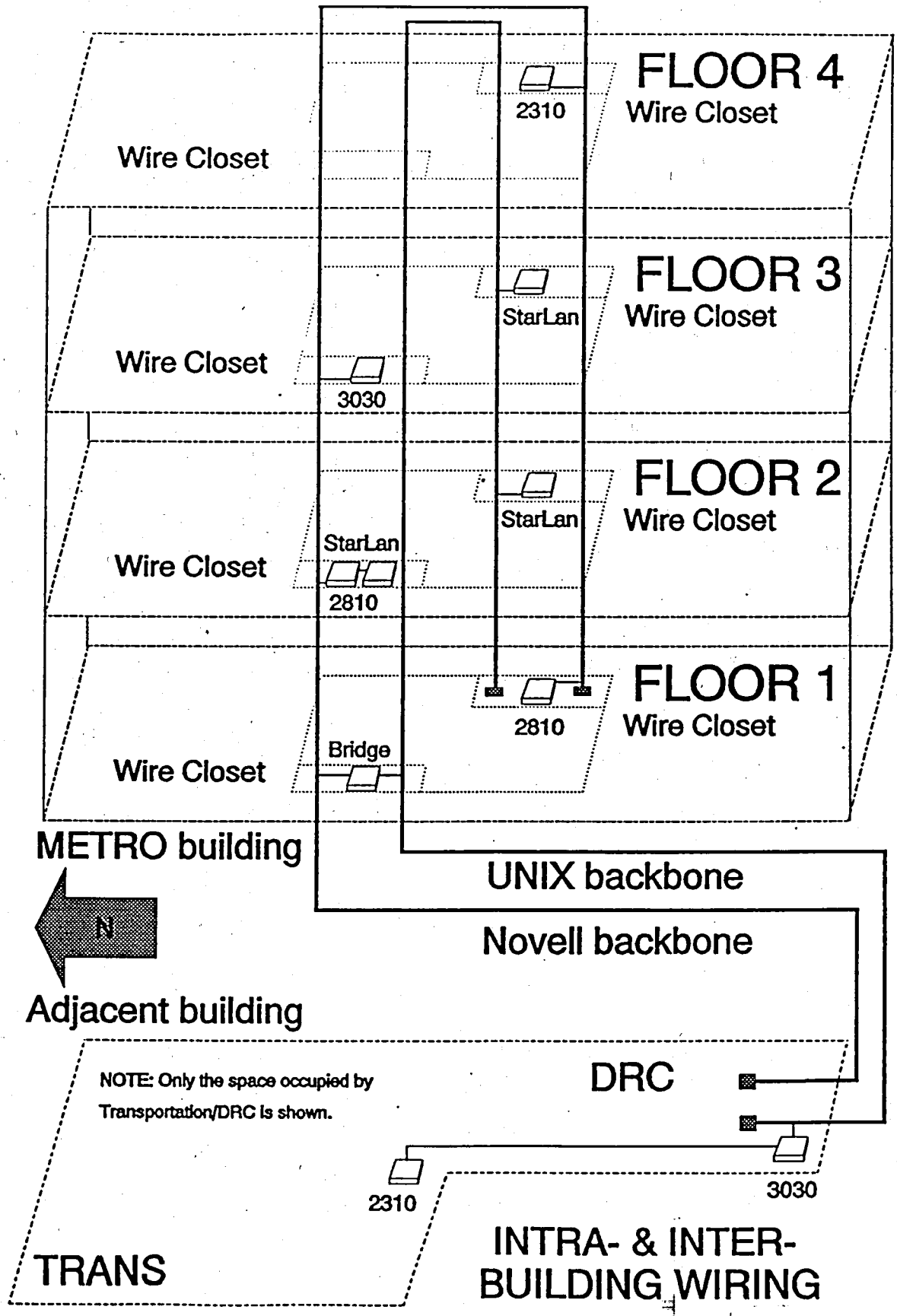
Novell backbone (ThinLan)

UNIX backbone (ThinLan)

To FLOOR 3

FLOOR 4

To FLOOR 3



To METRO Bldg 1st floor

Transportation & DRC

To METRO Bldg 1st floor

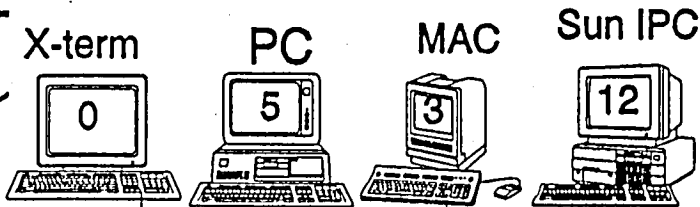
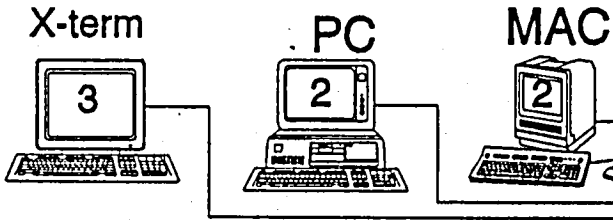
Six
compute
servers:

- HP 9000/750
- HP 9000/750
- HP 9000/730
- HP 9000/380
- HP 9000/380
- HP 9000/340

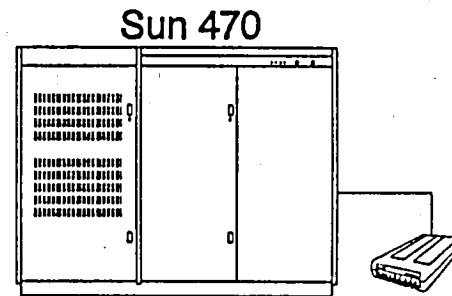
SynOptics 3000
Concentrator
4 slot chassis
two 12 port cards

Novell backbone (ThinLan)

UNIX backbone (ThinLan)



ACC ACS 1200
SNMP Managed
Bridge



SynOptics 2310 36 port concentrator

STAFF REPORT

CONSIDERATION OF RESOLUTION NO. 91-1509 AUTHORIZING THE EXECUTIVE OFFICE TO EXECUTE A CONTRACT WITH CTR FOR THE PURCHASE OF COMPUTER HARDWARE, SOFTWARE AND SERVICES AND A CONTRACT WITH FIRST PORTLAND LEASING FOR THE FINANCING OF SAID PURCHASE AND COMPLETING THE STRAP COMPUTER PROJECT

Date: September 9, 1991

Presented by: Keith Lawton

FACTUAL BACKGROUND AND ANALYSIS

On May 16, 1991, the Council Finance Committee approved Resolution No. 91-1451A, authorizing the issuance of a Request for Proposal for the purchase of UNIX based computers for applications using the Regional Land Information System database and Arc-Info software, and for the network infrastructure needed to link these computers and various departments. The purchase anticipated under this RFP was to be accomplished in two phases. The contract approval for Phase I of this project was waived at the time the RFP was authorized. The purchase of the Phase I UNIX computers and network infrastructure is already in process.

Phase II of the process includes the purchase of hardware and software necessary to network the various DOS based computer departments. This network will serve all personal computers and Macintoshes in the Solid Waste, Public Affairs, Planning and Development and Council departments, and includes bridges to the UNIX network with Transportation and the Recycling Information Center. It allows easy extension to include other Metro departments when they so wish. This action is brought to authorize contracts with CTR and First Portland Leasing for the purchase and financing, respectively, of Phase II of the process.

Following a careful evaluation of the proposals by the Information Systems Division, the STRAP committee recommended the purchase of Phase II equipment from CTR. Documentation outlining the review and evaluation process is attached. The financing arrangements proposed as part of the RFP have been coordinated by the Finance Division.

Since the initial release of the RFP, the Solid Waste Department began experiencing severe equipment problems with their existing network. The current Solid Waste network is incapable of meeting the demands and is partially inoperative. This, along with other factors, demanded a change in the purchase/financing structure of the project.

On July 18, 1991, Ordinance No. 91-414A was presented to the Finance Committee to move appropriation from capital outlay to capital lease. This budget amendment permitted the purchase and financing of an integrated multi-department network within the amount budgeted for FY 1991-92. As fully explained at the meeting, the effect of this action added a future cost of approximately \$352,154 for the two

succeeding fiscal years for a total financing cost of approximately \$627,198 for both phases over three years. The Finance Committee and Council unanimously approved and adopted the amendment. A summary showing the recently revised total costs for Phases I and II for FY 1991-92 and the estimated costs for the next three fiscal years is attached to this staff report.

This action requests the approval of a contract with CTR for the purchase of hardware, software and maintenance not to exceed \$230,000, and a three year financing contract with First Portland Leasing not to exceed \$324,000. The leasing agreement will include financing for the above mentioned purchase with CTR and the purchase of ARC/INFO software for the Public Affairs and Solid Waste Departments of \$45,154.

EXECUTIVE OFFICER'S RECOMMENDATION

The Executive Officer recommends approval of Resolution No. 91-1509, approving contracts for the purchase and financing of network hardware and software to complete Phase II of the STRAP Network.

TOTAL STRAP PROJECT COSTS Cost Summarized by Phases		FY 1991-92	FY 1992-93	FY 1993-94	FY 1994-95	PROJECT
		Total Costs	Total Costs	Total Costs	Total Costs	Total Costs
TRANSPORTATION						
Phase I						
	Lease of HP Hardware	\$28,119	\$37,492	\$37,492	\$9,373	\$112,476
	Purchase of Hardware	\$4,065	\$0	\$0	\$0	\$4,065
Phase II						
	Lease of CTR Hardware	\$15,210	\$20,280	\$20,280	\$5,070	\$60,840
	Purchase of ARC/INFO Software	\$33,720	\$0	\$0	\$0	\$33,720
	Subtotal Department	\$81,114	\$57,772	\$57,772	\$14,443	\$211,101
PUBLIC AFFAIRS						
Phase I						
	Lease of HP Hardware	\$23,285	\$31,046	\$31,046	\$7,762	\$93,138
	Purchase of Hardware	\$4,065	\$0	\$0	\$0	\$4,065
Phase II						
	Lease of CTR Hardware	\$11,443	\$15,257	\$15,257	\$3,814	\$45,771
	Lease of ARC/INFO Software	\$9,632	\$12,843	\$12,843	\$3,211	\$38,528
	Software Development	\$20,000	\$0	\$0	\$0	\$20,000
	Subtotal Department	\$68,424	\$59,146	\$59,146	\$14,786	\$201,502
SOLID WASTE						
Phase I						
	Lease of HP Hardware	\$10,531	\$14,041	\$14,041	\$3,510	\$42,123
	Purchase of Hardware	\$4,065	\$0	\$0	\$0	\$4,065
Phase II						
	Lease of CTR Hardware	\$14,093	\$18,791	\$18,791	\$4,698	\$56,372
	Lease of ARC/INFO Software	\$3,563	\$4,751	\$4,751	\$1,188	\$14,254
	Subtotal Department	\$32,252	\$37,583	\$37,583	\$9,396	\$116,814
PLANNING & DEVELOPMENT						
Phase II						
	Lease of CTR Hardware	\$14,420	\$19,226	\$19,226	\$4,807	\$57,679
	Subtotal Department	\$14,420	\$19,226	\$19,226	\$4,807	\$57,679
COUNCIL						
Phase II						
	Lease of CTR Hardware	\$9,325	\$12,433	\$12,433	\$3,108	\$37,299
	Subtotal Department	\$9,325	\$12,433	\$12,433	\$3,108	\$37,299
TOTAL ALL DEPARTMENTS						
Phase I						
	Lease of HP Hardware	\$61,934	\$82,579	\$82,579	\$20,645	\$247,737
	Purchase of Hardware	\$12,195	\$0	\$0	\$0	\$12,195
Phase II						
	Lease of CTR Hardware	\$64,490	\$85,987	\$85,987	\$21,497	\$257,962
	Purchase of ARC/INFO Software	\$33,720	\$0	\$0	\$0	\$33,720
	Lease of ARC/INFO Software	\$13,195	\$17,594	\$17,594	\$4,398	\$52,781
	Software Development	\$20,000	\$0	\$0	\$0	\$20,000
	Total All Departments	\$205,535	\$186,160	\$186,160	\$46,540	\$624,395

Items shaded have been previously approved

FY 1991-92 assumes 9 months of lease payments

FY 1994-95 assumes 3 months of lease payments

FINANCE COMMITTEE REPORT

RESOLUTION NO. 91-1509, APPROVING A CONTRACT WITH CTR FOR THE PURCHASE OF COMPUTER HARDWARE, SOFTWARE AND SERVICES AND APPROVING A CONTRACT WITH FIRST PORTLAND LEASING FOR THE FINANCING OF THE COMPUTER PURCHASES

Date: September 25, 1991

Presented By: Councilor Hansen

COMMITTEE RECOMMENDATION: At its September 19, 1991 meeting the Finance Committee voted unanimously to recommend Council approval of Resolution No. 91-1509.

COMMITTEE DISCUSSION / ISSUES: Keith Lawton, Transportation Technical Manager, presented the staff report. He indicated this resolution would authorize the completion of the currently planned STRAP computer network project. The STRAP network project was approved by the Council in the FY 1991-92 budget for the various agency departments. A user committee was formed to outline the acquisition needs and design the RFP which the Council approved in May, 1991. These contracts are a result of that procurement process.