

800-TP-007-001

EDC Release B Installation Plan (First Procurement) for the ECS Project

**Technical Paper- Not intended for formal review or Government
approval**

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Abstract

This installation plan describes the activities and schedules associated with the installation of ECS Release B first procurement hardware and software. The plan is published to document the agreement between the EDC DAAC, and ECS, specifying to the EDC personnel and the ECS installation team the requirements, coordination, and preparation needed to ensure the equipment and software installation is accomplished on schedule and with the least possible disruption to ongoing DAAC site operations. The plan contains a description of the activities, schedule, planned LAN configuration, hardware configurations, and planned equipment layouts.

Keywords: Configuration, Equipment, Floor Plan, EDC LAN, Planning, Procedures.

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1. Introduction

1.1 Purpose

This plan describes the activities and schedules associated with the installation of ECS Release B first procurement hardware and software. The plan is published to document the agreement between the EDC DAAC and ECS, specifying to the EDC DAAC personnel and the ECS installation team the requirements, coordination, and preparation needed to ensure the equipment and software installation is accomplished on schedule and with the least possible disruption to ongoing DAAC site operations. The plan contains a description of the activities, installation schedule, planned LAN configuration, hardware configurations, and planned equipment layouts. This plan also reflects consideration of major impacts to EDC in later Release B procurements through Release D as to planning the placement of equipment in the EDC DAAC.

1.2 Scope

This plan applies the information obtained from a site survey conducted in February 1996. The plan describes the activities for the installation of the Release B first procurement hardware only. It does not address the total Release B requirements that were presented in the Release B EDC Facilities Plan for the ECS Project, dated May 1994. That document provided the requirements for space, power, air conditioning and the necessary working environments for equipment and people for the entire Release B hardware that was known at that particular time. Separate Installation Plans will be written at later dates to cover the installation of equipment for later Release B procurements.

1.3 References

423-41-01	ECS Statement of Work, February 16, 1993
193-003-C04-001	ECS Government Furnished Property, September 1993
193-501-PA1-001	Performance Assurance Implementation Plan for the ECS Project
194-302-DV2-001	ECS Facilities Plan for the ECS Project
194-602-OP1-001	Property Management Plan for the ECS Project, July 1994
302-CD-005-001	Release B Facility Plan, May 1996
305-CD-03-002	Release B First Procurement EDC DAAC Design Specification for the ECS Project
402-CD-003-001	Release B System & Segment Integration & Test Plan
409-CD-002-001	ECS Overall Acceptance Test Plan
440-TP-007-001	Production Platform Families for the ECS Project, May 1995

604-CD-001-004	Operations Concept for the ECS Project
604-CD-002-003	ECS Operations Concept for the ECS Project: Part 2B-ECS Release B, March 1996
605-CD-001-001	Release B SDPS/CSMS Operations Scenarios
607-CD-001-002	ECS Maintenance and Operations Position Descriptions
608-CD-001-002	Operation Plan for Release B
800-WP-001-001	Facilities Plan for IR-1 and Release B first procurement for the ECS Project, March 1995

1.4 Organization

This paper is organized as follows:

Section 1 provides the purpose, scope, references, organization, and review /approval.

Section 2 provides the schedule and preparation required for the installation.

Section 3 describes the installation activities along with site unique information such as the DAAC Location, Equipment Configurations, Equipment Specifications, Installation Support Requirements, Floor Plans, and LAN Connectivity.

1.5 Review and Approval

This Technical Paper is an informal document approved at the Office Manager level. It serves the function of interface control and documents the agreement between ECS and the EDC DAAC. It requires formal DAAC review and approval. Questions regarding information contained within this paper should be addressed to Timothy E. Wells, ECS Facilities and Hardware Planner, (301) 883-4021, twells@eos.hitc.com.

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Lyn R. Oleson /s/ 11/21/96

Lyn Oleson, DAAC Manager's Approval Signature and Date.

Thomas W Jaeger /s/ 12/11/96

Tom Jaeger, ECS ILS Manager's Approval Signature and Date.

2. Installation Schedule

2.1 Release B First Procurement Installation Schedule

Release B first procurement installation activities will be accomplished at the EDC site according to the schedule shown in Table 2.1-1 below. Similar schedules will be prepared for each of the other three Release B procurements and the Release C and D procurements.

Table 2.1-1. Release B First Procurement Installation Schedule

DESCRIPTION	DUR	START	END
Conduct Site Survey	3d	01/29/96	01/31/96
Create Installation Plan	10d	09/05/96	10/15/96
Send To EDC for Review	1d	10/28/96	10/28/96
EDC Review	5d	10/29/96	11/04/96
Send To ECS (Upper Marlboro, MD)	1d	11/04/96	11/04/96
Finalize Installation Plan	4d	11/05/96	11/11/96
Deliver Installation Plan	5d	11/11/96	11/18/96
EDC To Prepare Site	110d	09/23/96	02/19/97
Early Installation of STK Powderhorn *	5d	11/18/96	11/22/96
Installation of Release B LAN	9d	02/03/97**	02/14/97
Install Release B first procurement EDC DAAC Equipment	14d	02/14/97**	03/28/97
Configure COTS Software	33d	03/21/97**	04/24/97
Integration and Testing	30d	04/25/97**	05/25/97
Acceptance Testing	31d	05/25/97**	06/26/97
* See Appendix A for more information			

** Dates are tentative and subject to Release B replanning in progress at the time of this publication.

2.2 Installation Hours

This installation will be performed during the DAAC's normal working hours. Although this is not expected, if installation activities must extend beyond normal work hours, the team leader will coordinate with the ECS DAAC SE liaison for after-hours access to the facility.

The team leader will keep the ECS DAAC SE liaison informed of work to be performed and report progress at the end of each day. ECS DAAC SE liaisons should keep the DAAC manager informed, as appropriate. If the team leader expects the installation to fall behind schedule, he will inform the ECS DAAC SE liaison and the ECS ILS Manager.

2.3 Host Facility Preparation

Host facility requirements for the Release B first procurement installation were addressed with the DAAC Managers during site surveys conducted in February 1996. Considering the surveys and prior detailed installation planning, host facilities are requested to provide the following in support of the Release B first procurement installation:

- Computer floor and office space for the Release B first procurement equipment and personnel;
- UPS, conditioned power, heating, and air conditioning;
- Storage for technical documentation, master copies of COTS SW, and consumables;
- Materials handling equipment;
- Physical security (reference Facilities Plan for Ir1 and Release B first procurement White Paper, section 2.5.1, page 2-5).

2.4 Host Facility Material Moving Equipment Support

The following materiel moving equipment will be required to support the installation of equipment:

- Tile pullers;
- Pallet jack;
- Hand cart;
- Large waste dumpster to dispose of packing materials (Also needed for early install of STK Powderhorn on 11/18/96).

3. Installation Activities

3.1 Installation Team Composition

The Release B First Procurement installation team will consist of the following personnel:

- Team Leader -- Bob Byrnes
- Communications Engineer -- Gary Lampkin
- Installation Engineers – Chris Carson
- Software Engineers – Craig Johnson or Ron Parham
- Silicon Graphics Installation Personnel (quantity and names to be determined)
- EMASS Installation Personnel (quantity and names to be determined)
- StorageTek Installation Personnel (quantity and names to be determined)

There are currently no requirements envisioned for members of the EDC DAAC staff to assist in the installation of hardware with the exception of the EDC DAAC SE liaison and the facility's network engineer. Their responsibilities are noted in other paragraphs in this document.

3.2 Installation Team Responsibilities

Following are ECS installation team member functions:

- Team Leader - Manages and coordinate's installation activities and resources to ensure successful completion of the installation on schedule. The team leader will keep the DAAC management informed (through the ECS DAAC SE liaison) of the installation progress.
- Communications Engineer--Installs the LAN cables and provides connectivity of the Release B first procurement equipment. This includes labeling, installing, and testing the cables and coordinating connection to the LAN. The communication engineer works with the network administrator to ensure device names are in the domain name server and that all the IP addresses are active. At the completion of the installation he will verify connectivity to the EDF and coordinate activation of the DCE cells.
- Installation Engineers -- Responsible for the installation of computers, peripherals, system configuration, and unit and integration testing. They will install the devices in the locations specified in the floor plan developed by the ECS team and approved by the DAAC Manager.
- Software Engineers – Responsible for the installation of operating systems for the computers that are being installed.

- ECS SE DAAC Liaison -- Will coordinate all activities between the DAAC Manager and the Installation Team Leader.
- Vendor Engineers -- Silicon Graphics technicians will install the SGI equipment and software under supervision of the ECS installation team leader. Names of vendor installation personnel will be furnished to the ECS DAAC SE liaison prior to the installation date. ECS DAAC SE liaisons should coordinate with local security personnel for team access to the site and/or facility.
- Vendor Engineers -- EMASS technicians will install the EMASS equipment and software under supervision of the ECS installation team leader. Names of vendor installation personnel will be furnished to the ECS DAAC SE liaison prior to the installation date. ECS DAAC SE liaisons should coordinate with local security personnel for team access to the site and/or facility.
- Vendor Engineers – StorageTek technicians will install the StorageTek equipment and software under supervision of the ECS installation team leader. This installation will take place in November 1996 due to the early purchase of the StorageTek Powderhorn Automated Cartridge System. Names of vendor installation personnel will be furnished to the ECS DAAC SE liaison prior to the installation date. ECS DAAC SE liaisons should coordinate with local security personnel for team access to the site and/or facility.

3.3 HW/SW Installation

The installation team will arrive at the DAAC facility at 8:30 AM on the scheduled installation date. Their initial activity will consist of an inbrief to and coordination of schedule with the ECS DAAC SE liaison.

3.3.1 LAN

Local network cables, both fiber optic and Ethernet, will be the first cables to be installed. ECS will install cables in Rooms 1500, 1501, 1502, 1503, and B06. The installation of cables outside these areas will be the responsibility of the EDC DAAC. The facility's Campus Infrastructure network engineer should be available to brief the team on any specifics for the installation of cable within the EDC DAAC, i.e., location of communication closets, patch panels, cable troughs and any cabling restrictions within the EDC DAAC. It is estimated that a total of approximately three hours of time will be required of the EDC facility's network engineer. The installation of EBNET will be coordinated with the EDC DAAC through ESDIS and the EBNET contractor. Once EBNET is installed, it will enable the EDC DAAC to communicate with all of the other DAAC's that are part of ECS project.

3.3.2 Installation of SGI Processors, StorageTek Powderhorn and EMASS AML Systems

The SGI equipment and the EMASS Automated Media Library will be installed by factory trained technicians. The StorageTek Powderhorn Automated Cartridge System will be installed by StorageTek factory trained technicians in November 1996 due to the early purchase of the

StorageTek Powderhorn Automated Cartridge System. See Appendix A for further details regarding the early installation of the STK Powderhorn. The vendor's activity at the site will be coordinated and supervised by the ECS installation team leader.

3.3.3 Unit and Integration Testing

Equipment and operating system software will be installed, configured, and tested by the ECS installation team for proper operation and integration with the network and associated peripherals. This preliminary testing is to ensure that the hardware is networked properly and that the hardware is operable. Later testing by ECS Integration and Test personnel will be conducted under the guidelines of 402-CD-003-001 Release B Systems and Segment Integration and Test Plan and 409-CD-002-001 ECS Overall Acceptance Test Plan.

3.3.4 Network Test to Upper Marlboro, MD. (EDF)

When the installation is finished, connectivity through the EBNET Router to the EDF in Upper Marlboro, MD will be verified by the ECS ILS installation team.

3.3.5 Equipment Identification

Each piece of hardware that is installed in the EDC DAAC will have a NASA\ECS Project bar-coded equipment sticker attached to it in a visually noticeable location. ECS accounts for all hardware with the assistance of EDC DAAC personnel. See 194-602-OP1-001 paragraph 3.5.4 for further details.

3.4 Equipment Location Address

The address where the equipment will be installed is :

MUNDT FEDERAL BUILDING

SIOUX FALLS SD 57198

3.5 Cleanup

The installation team will remove waste material from the installation site daily. All shipping containers and packing materials will be disposed of in the dumpster at the loading dock. The DAAC should provide means for its disposal.

3.6 Team Departure

The installation team will depart the site once unit and integration tests of the installed hardware has been finished and it has been verified that the equipment is operational, and properly configured. The ECS DAAC SE liaison will then be asked to sign for the installed equipment, operating system software and documentation.

3.7 EDC Equipment Configurations

Figure 3.7-1 identifies the Release B first procurement hardware to be installed at the EDC DAAC. The drawing summarizes the hardware and software configuration for each subsystem.

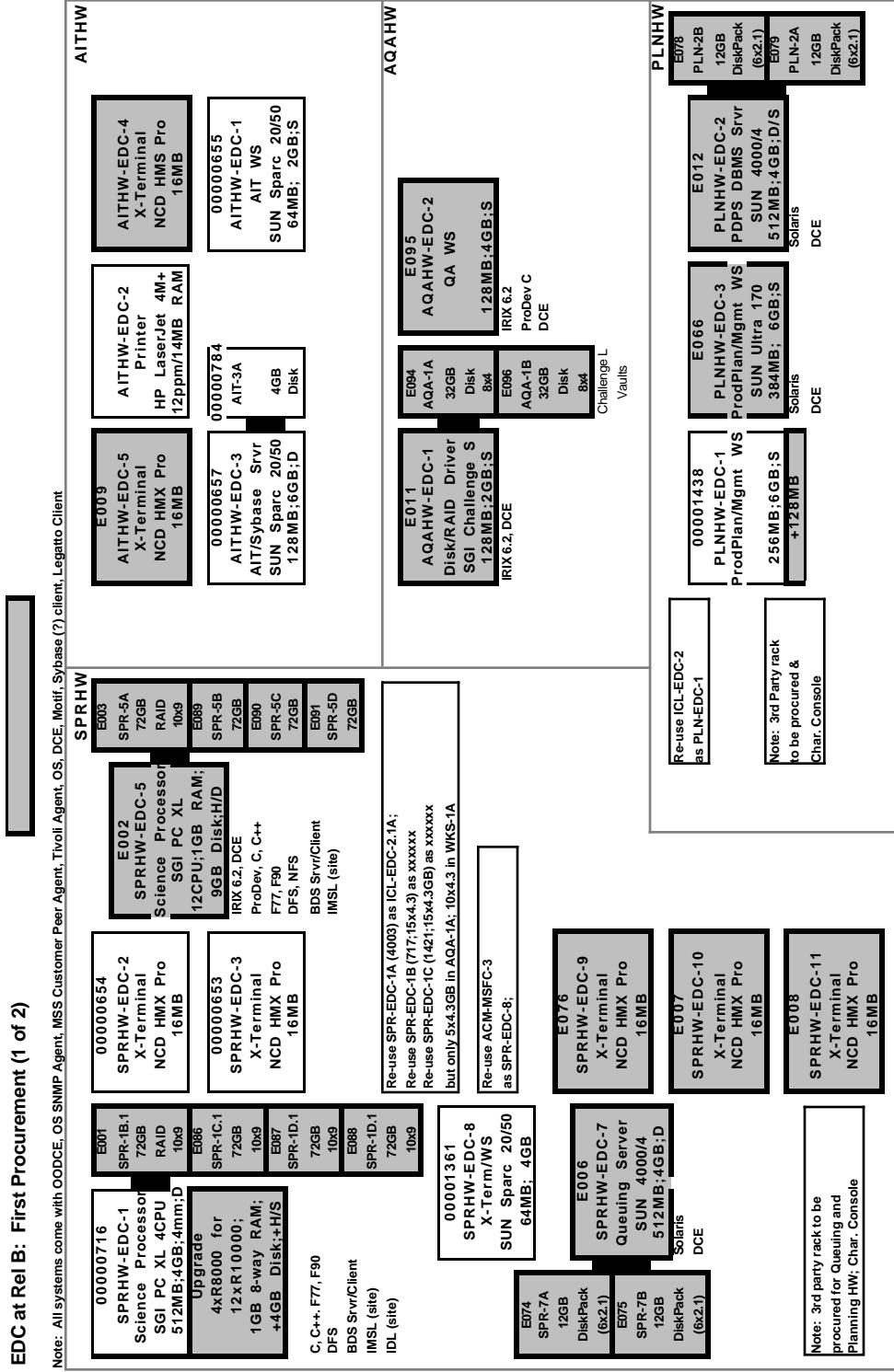


Figure 3.7-1. EDC Release B First Procurement Configuration (1 of 4)

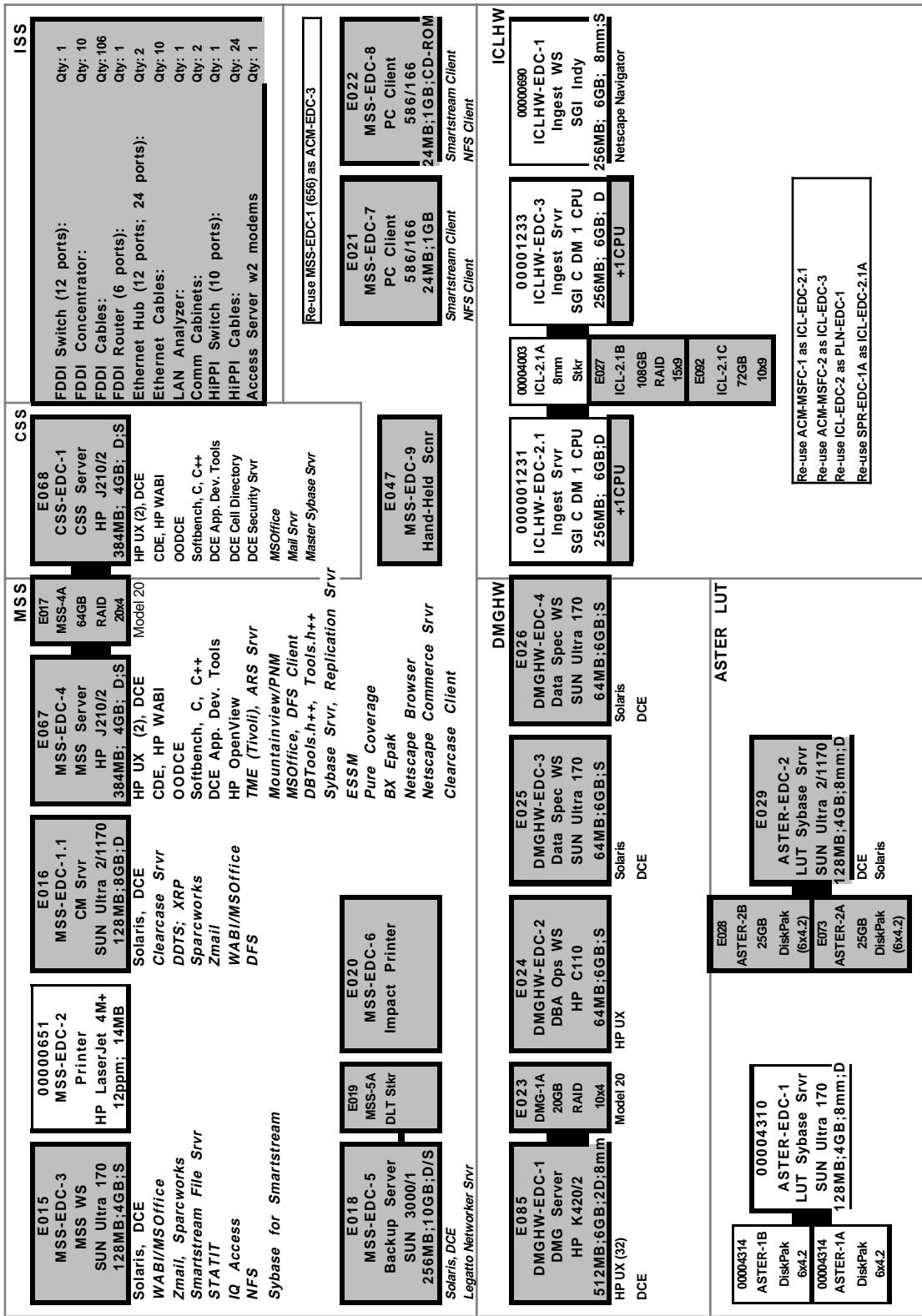


Figure 3.7-1. EDC Release B First Procurement Configuration (2 of 4)

EDC at Rel B: First Procurement (2 of 2)

Note: All systems come with OODCE, OS SNMP Agent, MSS Customer Peer Agent, Tivoli Agent, OS, DCE, Motif, Sybase (?) client, Legatto Client

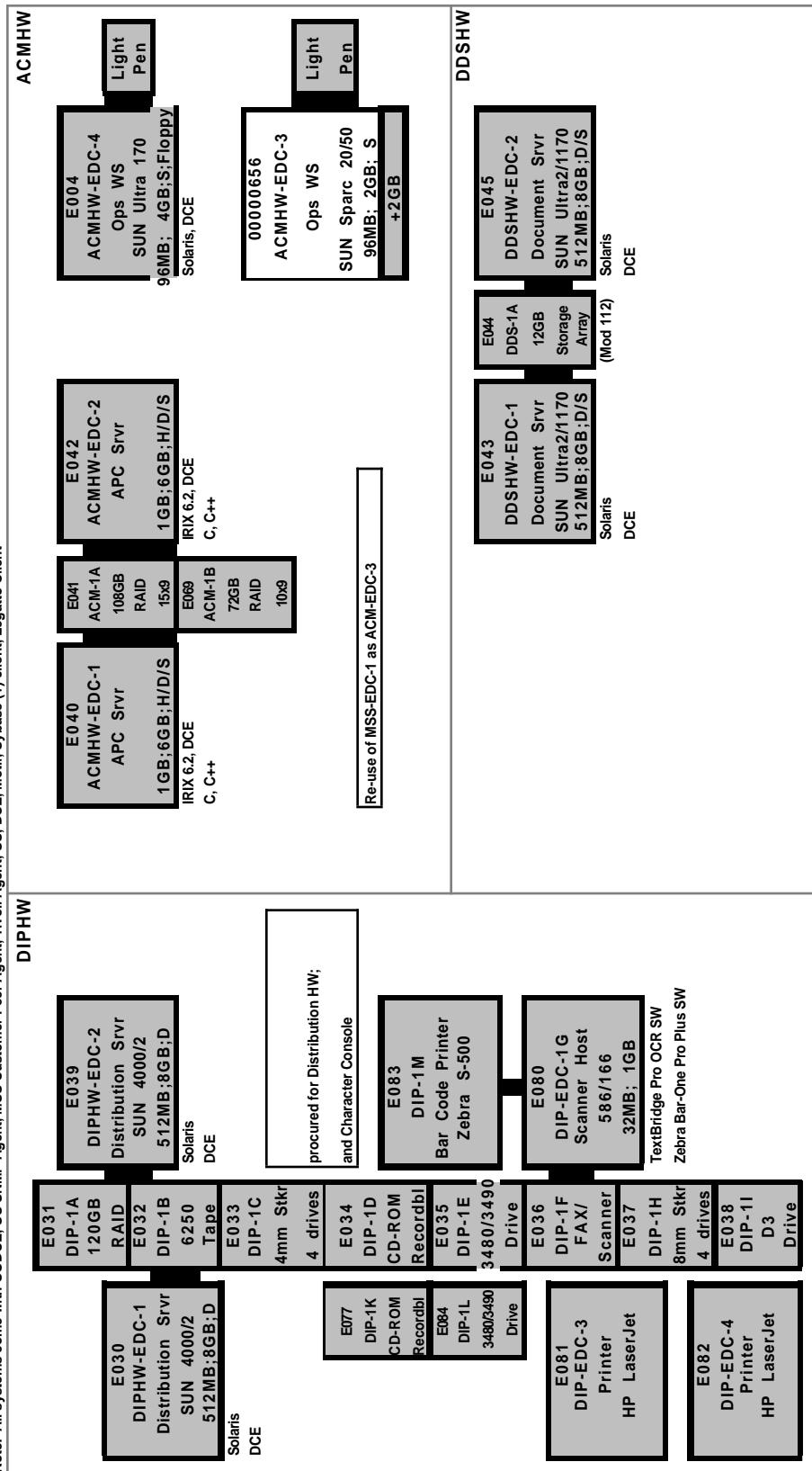


Figure 3.7-1. EDC Release B First Procurement Configuration (3 of 4)

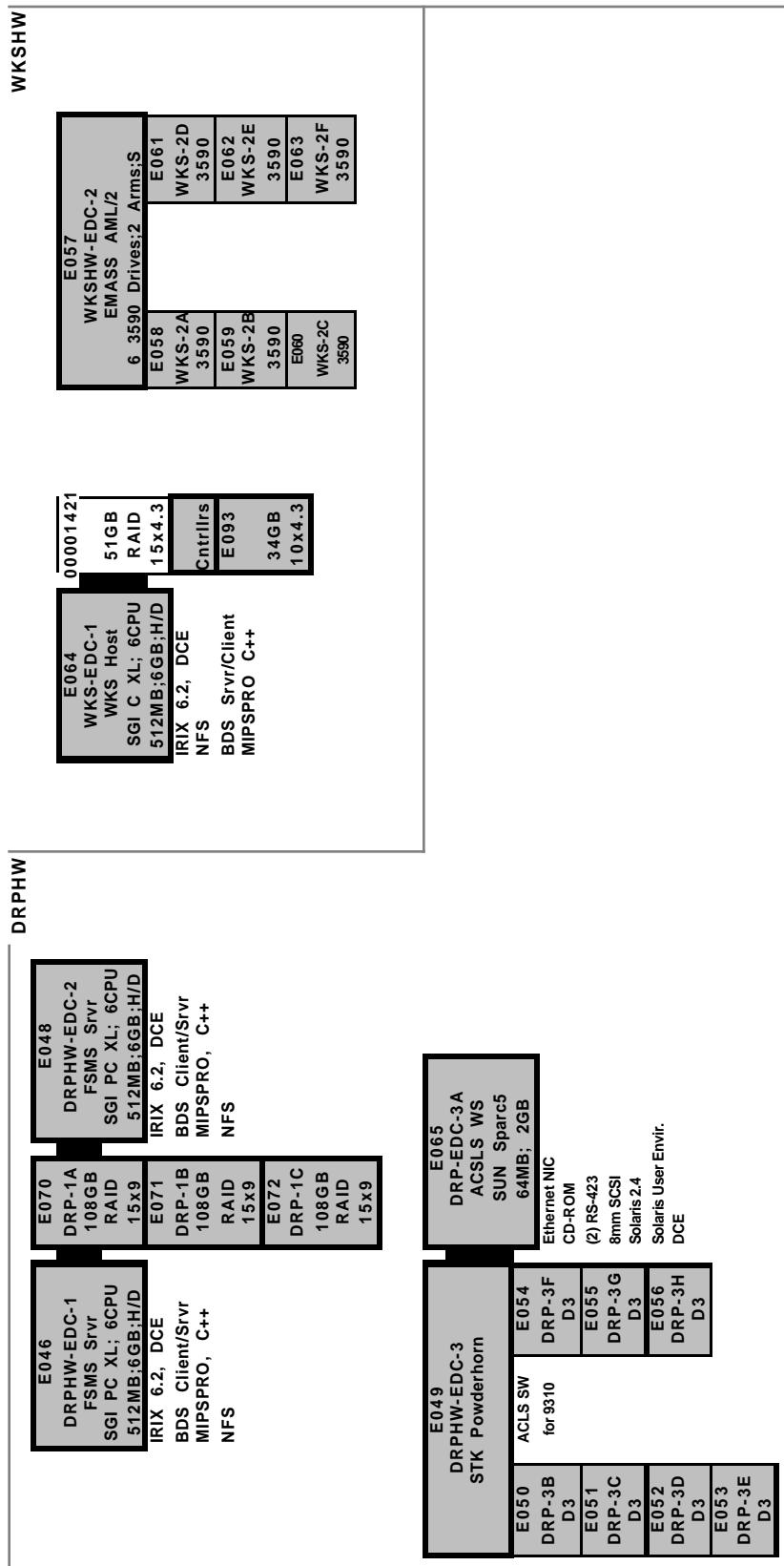


Figure 3.7-1. EDC Release B First Procurement Configuration (4 of 4)

3.8 Installation Support Requirements

Table 3.8-1 identifies the support required from the host site to accomplish the EDC Release B first procurement installation.

Table 3.8-1. EDC Installation Support Requirements (1 of 2)

Room B06			
Qty	Description	Code	Date Req'd
19	4" side cutouts in floor tiles	#	February 19,1997
17	NEMA 5-20R Quad. Receptacles	1	February 19,1997
2	NEMA L6-30R Receptacles	3	February 19,1997
1	HUBBELL 320R6W Receptacles	5	February 19,1997
13	Computer Table 60" x 30"	NA	February 19,1997
1	Distribution Bin	NA	February 19,1997
5	Bookcase 3'W x 72"H 18"D (for technical documentation)	NA	February 19,1997
18	3' wide x 2' deep x 6' high Shelving	NA	February 19,1997
6	Chairs	NA	February 19,1997
Room 1500			
Qty	Description	Code	Date Req'd
37	4" side cutouts in floor tiles	#	February 19,1997
4	4x8" side cutouts in floor tiles	\$	February 19,1997
4	12" center cutout in floor tiles	@	February 19,1997
51	NEMA 5-20R Quad. Receptacles	1	February 19,1997
11	NEMA L6-30R Receptacles	3	February 19,1997
1	NEMA L21-20R Receptacles	4	February 19,1997
4	Hubble 32RGW	5	February 19,1997
13	Computer Table 60" x 30"	NA	February 19,1997
10	Chairs	NA	February 19,1997

Table 3.8 -1. EDC Installation Support Requirements (2 of 2)

Room 1501			
Qty	Description	Code	Date Req'd
3	4" side cutouts in floor tiles	#	February 19,1997
1	NEMA 5-20R Quad. Receptacles	1	February 19,1997
2	Computer Table 60" x 30"	NA	February 19,1997
1	Corner Cubicle	NA	February 19,1997
2	Workbenches	NA	February 19,1997
2	Bookcase 3'W x 6'H 10"D (for technical documentation)	NA	February 19,1997
3	Chairs	NA	February 19,1997
2	Workbench Stools	NA	February 19,1997
3	Storage Cabinet (5 shelf) (for consumables & SW)	NA	February 19,1997
NOTE:	Vendors will supply their own storage cabinets - STK - 4, SGI - 3 (Are indicated on floor plan)		February 19,1997
Room 1502			
Qty	Description	Code	Date Req'd
1	4" side cutouts in floor tiles	#	February 19,1997
1	Network Nodes	N	February 19,1997
3	NEMA 5-20R Quad. Receptacles	1	February 19,1997
1	Computer Table 60" x 30"	NA	February 19,1997
1	Chair	NA	February 19,1997
Room 1511, 1512, 1513			
Qty	Description	Code	Date Req'd
3	4" side cutouts in floor tiles	#	February 19,1997
3	Network Nodes	N	February 19,1997
3	NEMA 5-20R Quad. Receptacles	1	February 19,1997
5	Computer Table 60" x 30"	NA	February 19,1997
1	Bookcase 3'W x 6'H 10"D (for technical documentation)	NA	February 19,1997
11	Chairs	NA	February 19,1997
1	Conference Table	NA	February 19,1997

3.9 Electrical Requirements, BTU Requirements, Dimensions, Weight and Power Requirements for Release B First Procurement Equipment

Table 3.9-1 lists the EDC DAAC electrical, BTU, dimensions, weight and power requirements for Release B first procurement equipment.

Table 3.9-1. EDC Release B.1 Electrical, BTU, Dimensions, Weight and Power Requirements

ID CODE	MODEL	ITEM DESCRIPTION	VENDOR	Type Receptacle	BTUs/HR	Depth (In)	Width (In)	Height (In)	Weight (lbs)	Mfrg KVA	AC Volts	Ck Brk Rating	Phases
3	E01	3490 Tbl Top Tp Drv	IBM	NEMA 5-20R	1331.07	32	9	11	57	0.39	120	20	1
4	B 1A	3590 Tape Drive	IBM	NEMA 5-20R	1023.9	30	9	11	63	0.3	120	20	1
5	Spectra 4000/20	4mm Tp Dr	EOCS	NEMA 5-20R	1877.15	22	10	22	56	0.55	120	20	1
6	X680A	6250 Tape Drive	Sun	NEMA 5-20R	10239	27	19	10	60	3	120	20	1
7	EXB-210TW/8505S	Tape Stackter (8mm)	EXABYTE	NEMA 5-20R	682.6	22	10	22	78.5	0.2	120	20	1
9	AML/2-Tall	EMASS Archive Tape Library	EMASS	NEMA L21-20R	5733.84	156	156	92.7	8686	1.68	208	20	3
12	Powderhorn	STK Library Storage/Control Unit	STK	HUBBELL 320R6W	14,240	132	156	93	14354	3.3	208	20	1
14	WOCDROM	CD-ROM Encoder/Writer	JVC	NEMA 5-20R	1023.9	12	9	17	40	0.3	120	20	1
17	Digital Linear Tape Stackter	Digital Linear Tape Stackter	BoxHill	NEMA 5-20R	6826	32	23	44	380	2	120	20	1
20	4GB Dr	External 4GB disk drive	Sun	NEMA 5-20R	682.6	10	11	6	17	0.2	120	20	1
26	ESP16	HIPPI Switch	Essential	NEMA 5-20R	1023.9	20	18	14	65	0.3	120	20	1
29	Laserjet Printer	Laser Printer 12ppm	HP	NEMA 5-20R	3754.3	16	17	12	37	1.1	208	20	1
32	4490XT	Line Printer	Genicom	NEMA 5-20R	4436.9	25	29	48	320	1.3	120	20	1
33	COMM RACK	Comm Rack 24" w/30" d/72" h	BRANCH	NEMA 5-20R	0	30	24	72	100	0	120	20	1
35	HP 9000 MOD 10	RAID w/1-40GB (W/2.1DR)	HP	NEMA 5-20R	3071.7	30	11	25	156	0.9	120	20	1
36	HP 9000 MOD 20	RAID w/41-80 GB (W/4.3DR)	HP	NEMA 5-20R	3071.7	30	11	25	156	0.9	120	20	1
37	HP 9000 MOD	RAID w/81-160GB (W/4.3DR)	HP	NEMA 5-20R	6143.4	30	11	50	312	1.8	120	20	1
39	Challenge RAID (4.3DR)	RAID w/41-80GB	SGI	NEMA 5-20R	3071.7	30	14	25	176	0.9	120	20	1
42	SPARCSTOR 100	RAID w/1-60GB (4.3DR) x 3	Sun	NEMA 5-20R	2764.53	16	8	27	45	0.81	120	20	1
43	SPARCSTOR 214	RAID Expansion Rack	Sun	NEMA L6-30R	17065	39	30	56	867	5	208	30	1
50	PC XL 1-8 CPUs	Science Processor w/1-8 CPUs	SGI	NEMA L6-30R	14573.51	48	33	63	400	4.27	208	30	1
51	PC XL >8CPUs	Science Processor w/>8 CPUs	SGI	NEMA L6-30R	16006.97	48	33	63	400	4.69	208	30	1
57	SUN SPARC 20/712	SUN SPARC 20/712	Sun	NEMA 5-20R	3071.7	20	19	22	107.3	0.9	120	20	1
58	HP 9000 J Series	HP 9000 J Series	HP	NEMA 5-20R	3686.04	20	11	18	92	1.08	120	20	1
59	HP 9000 K Series	HP 9000 K Series	HP	NEMA 5-20R	3754.3	24.1	17.3	25.24	150	1.1	120	20	1
61	Challenge DM	SGI Challenge DM	SGI	NEMA 5-20R	7508.6	32	21	26	160	2.2	120	20	1
65	SUN SPARC 20/50	SUN SPARC 20/50	Sun	NEMA 5-20R	3071.7	20	19	22	107.3	0.9	120	20	1
70	ULTRA 140 OR 170	ULTRA 140 OR 170	Sun	NEMA 5-20R	3071.7	20	19	22	107.3	0.9	120	20	1
72	C-100	C-100	HP	NEMA 5-20R	3071.7	20.5	11	21.46	47	0.9	120	20	1
74	SGI Indy	SGI Indy	SGI	NEMA 5-20R	2047.8	19.7	18.5	21.5	97.4	0.6	120	20	1
77	HMX20	X-Terminal	NCD	NEMA 5-20R	682.6	20	19	22	80.9	0.2	120	20	1
81	DISK29 SUN	4.2 and 8.4 GB MULTI-DISK	SUN	NEMA 5-20R	682.6	10	11	5.7	17	0.2	120	20	1
84	DISK6 SUN	8.4 MULTI-DISK PACK	SUN	NEMA 5-20R	682.6	10	11	5.7	17	0.2	120	20	1
111	SPARCSTOR MOD 112	RAID ARRAY	SUN	NEMA 5-20R	9215.1	21	20	9	106	2.7	120	20	1
113	AML/J	EMASS Archive Tape Library	EMASS	NEMA 5-20R	2389.1	113	55	78	944	0.7	120	20	1
114	SUN ULTRA 2	SUN ULTRA 2	SUN	NEMA 5-20R	1365.2	18	18	25	116	0.4	120	20	1
115	SUN 3000	SUN 3000	Sun	NEMA 5-20R	3071.7	26	17	24	160	0.9	120	20	1
116	SUN 4000	SUN 4000	Sun	NEMA 5-20R	3071.7	22	20	14	150	0.9	120	20	1
119	SUN SPARC 5	SUN SPARC 5	Sun	NEMA 5-20R	1365.2	17	17	24	107	0.4	120	20	1
121	PC 586/166	PC 586/166	TBD	?	?	?	?	?	?	?	?	?	?
126	SGI RAID	SGI RAID CABINET	SGI	NEMA L6-30R	3413	30	23	71	900	1	208	30	1
129	Challange S	Challange S	SGI	NEMA 5-20R	3413	16	14	25	16	1	120	20	1
130	Indigo Impact	Indigo Impact	SGI	NEMA 5-20R	4436.9	19	19	24	40	1.3	120	20	1
131	Stripe S-500	Barcode Printer	Zebra	NEMA 5-20R	4095.6	17	9	13	18	1.2	120	20	1
132	HP ScanJet 4si	Scanner	HP	NEMA 5-20R	3754.3	16	12	12	34	1.1	120	20	1
133	D-3 Drive Cabinet	D-3 Drive Cabinet	Redwood	HUBBELL 320R6W	2866.92	22	16	64	300	0.84	208	30	1
135	LMU	LMU	STK	HUBBELL 320R6W	6314.05	24	29	37	215	1.85	208	30	1
136	MARS UNIT	MARS UNIT	STK	NEMA 5-20R	1638.24	13	16	9	23	0.48	120	20	1
137	Cisco 2500	Cisco 2500 Access Server	CISCO	NEMA 5-20R	1365.2	11	18	2	10	0.4	120	20	1

3.10 Equipment ID Location Table

Table 3.10-1 associates the equipment ID code with the naming convention of the hardware with the type of hardware.

Table 3.10-1. Equipment ID Location Table (1 of 3)

ID CODE	EQUIPMENT NAME	EQUIPMENT TYPE	LOCATION
126	SPR-1B.1 - 1E .1	SGI RAID 72GB x 4	1500
51	SPR-5	SGI PC XL	1500
126	SPR-5A - 5D	SGI RAID 72GB x 4	1500
116	SPR-7	SUN 4000	1500
42	SPR-7A	SUN RAID DISK PACK	1500
42	SPR-7B	SUN RAID DISK PACK	1500
65	SPR-8	SUN SPARC 20/50	TBD
77	SPR-9	X-TERM	TBD
77	SPR-10	X-TERM	TBD
77	SPR-11	X-TERM	TBD
65	AIT-1	SUN SPARC 20/50	1511
65	AIT-3	SUN SPARC 20/50	1500
20	AIT-3A	EXTERNAL 4GB DRIVE	1511
77	AIT-4	X-TERM	1511
77	AIT-5	X-TERM	1511
129	AQA-1	SGI CHALLANGE S	1500
126	AQA.1A	SGI RAID 32GB	1500
126	AQA.1B	SGI RAID 32GB	1500
130	AQA-2	SGI INDIGO IMPACT	1511
57	PLN-1	SUN SPARC 20/712	TBD
116	PLN-2	SUN 4000	1500
42	PLN-2A	SUN RAID DISK PACK	1500
42	PLN-2B	SUN RAID DISK PACK	1500

Table 3.10-1. Equipment ID Location Table (2 of 3)

ID CODE	EQUIPMENT NAME	EQUIPMENT TYPE	LOCATION
70	PLN-3	SUN ULTRA 170	1502
114	MSS-1.1	SUN ULTRA 2/1170	1500
70	MSS-3	SUN ULTRA 170	1500
58	MSS-4	HP J 210	1502
36	MSS-4A	HP RAID 64GB	1500
115	MSS-5	SUN 3000	1500
17	MSS-5A	DLT STACKER	1500
32	MSS-6	IMPACT PRINTER	1500
121	MSS-7	PC 586/166	TBD
121	MSS-8	PC 586/166	TBD
	MSS-9	HAND HELD SCANNER	TBD
58	CSS-1	HP J 210	1502
59	DMG-1	HP K 420	1500
39	DMG-1A	HP RAID 20GB	1500
72	DMG-2	HP C 110	TBD
70	DMG-3	SUN ULTRA 170	TBD
70	DMG-4	SUN ULTRA 170	TBD
114	ASTER-2	SUN ULTRA 2/1170	1500
81	ASTER-2A	SUN DISK PACK 25GB	1500
81	ASTER-2B	SUN DISK PACK 25GB	1500
126	ICL-2.1B - 2.1C	SGI RAID 108GB/72BG	B06
61	ICL-2.1	SGI CHALLENGE DM	B06
7	ICL-2.1A	8MM STACKER	B06
61	ICL-3	SGI CHALLENGE DM	B06
116	DIP-1	SUN 4000	B06
43	DIP-1A	SUN RAID 120GB	B06
6	DIP-1B	6250 TAPE DRIVE	B06
5	DIP-1C	4MM STACKER	B06
14	DIP-1D	CD-ROM	B06
3	DIP-1E	3480/3490 TAPE DRIVE	B06
132	DIP-1F	FAX/SCANNER	B06
121	DIP-1G	PC 586/166	B06
7	DIP-1H	8MM STACKER	B06

Table 3.10-1. Equipment ID Location Table (3 of 3)

ID CODE	EQUIPMENT NAME	EQUIPMENT TYPE	LOCATION
133	DIP-1I	D3 TAPE DRIVE	B06
14	DIP-1K	CD ROM	B06
3	DIP-1L	3480/3490 TAPE DRIVE	B06
131	DIP-1M	BAR CODE PRINTER	B06
116	DIP-2	SUN 4000	B06
29	DIP-3	HP LASER PRINTER	B06
29	DIP-4	HP LASER PRINTER	B06
51	ACM-1	SGI PC XL	1500
126	ACM-1A - 1B	SGI RAID 108GB/ 72GB	1500
51	ACM-2	SGI PC XL	1500
65	ACM-3	SUN SPARC 20/50	TBD
70	ACM-4	SUN ULTRA 170	B06
114	DDS-1	SUN ULTRA 2/1170	1500
111	DDS-1A	SUN RAID ARRAY 12GB	1500
114	DDS-2	SUN ULTRA 2/1170	1500
50	DRP-1	SGI PC XL	1500
126	DRP-1A - 1C	SGI RAID 108GB x 3	1500
50	DRP-2	SGI PC XL	1500
12	DRP-3	STK POWDERHORN	1500
135	DRP-3'	LMU	1500
136	DRP - 3"	MARS UNIT	1500
119	DRP-3A	SUN SPARC 5	1500
133	DRP-3B - 3E	D3 DRIVES x 4	1500
133	DRP-3F - 3H	D3 DRIVES x 3	1500
51	WKS-1	SGI PC XL	1500
126	WKS-1B	SGI RAID 34GB	1500
9	WKS-2	EMASS AML/2	1500
4	WKS-2A - 2C	3590 DRIVES X 3	1500
4	WKS-2D - 2F	3590 DRIVES X 3	1500
33	ISS	COMMUNICATION RACKS x 4	1500

3.11 Floor Plans for EDC

Figures 3.11-1 through 3.11-3 depict the planned placement of Release B first procurement equipment in the EDC facility and identify the locations at which floor tile cutouts and power receptacles must be placed.

KEY: #,n,(2) 1 = One 4" side cutout floor tile, one network connection (either FDDI or Ethernet), and two (2) NEMA 20 Amp Quad receptacles.

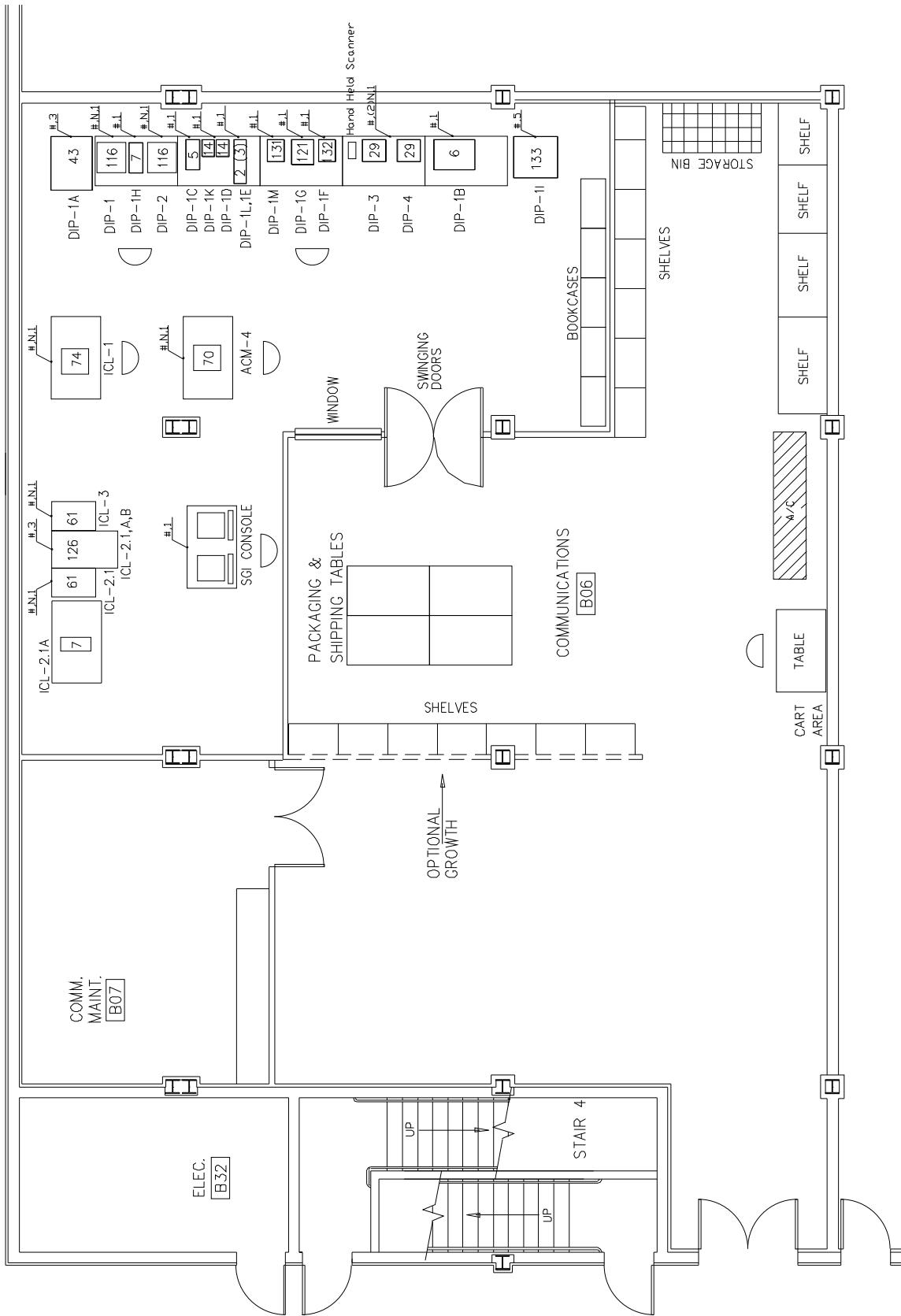


Figure 3.11-1. EDC Release B First Procurement Floor Plan -- Ground Floor

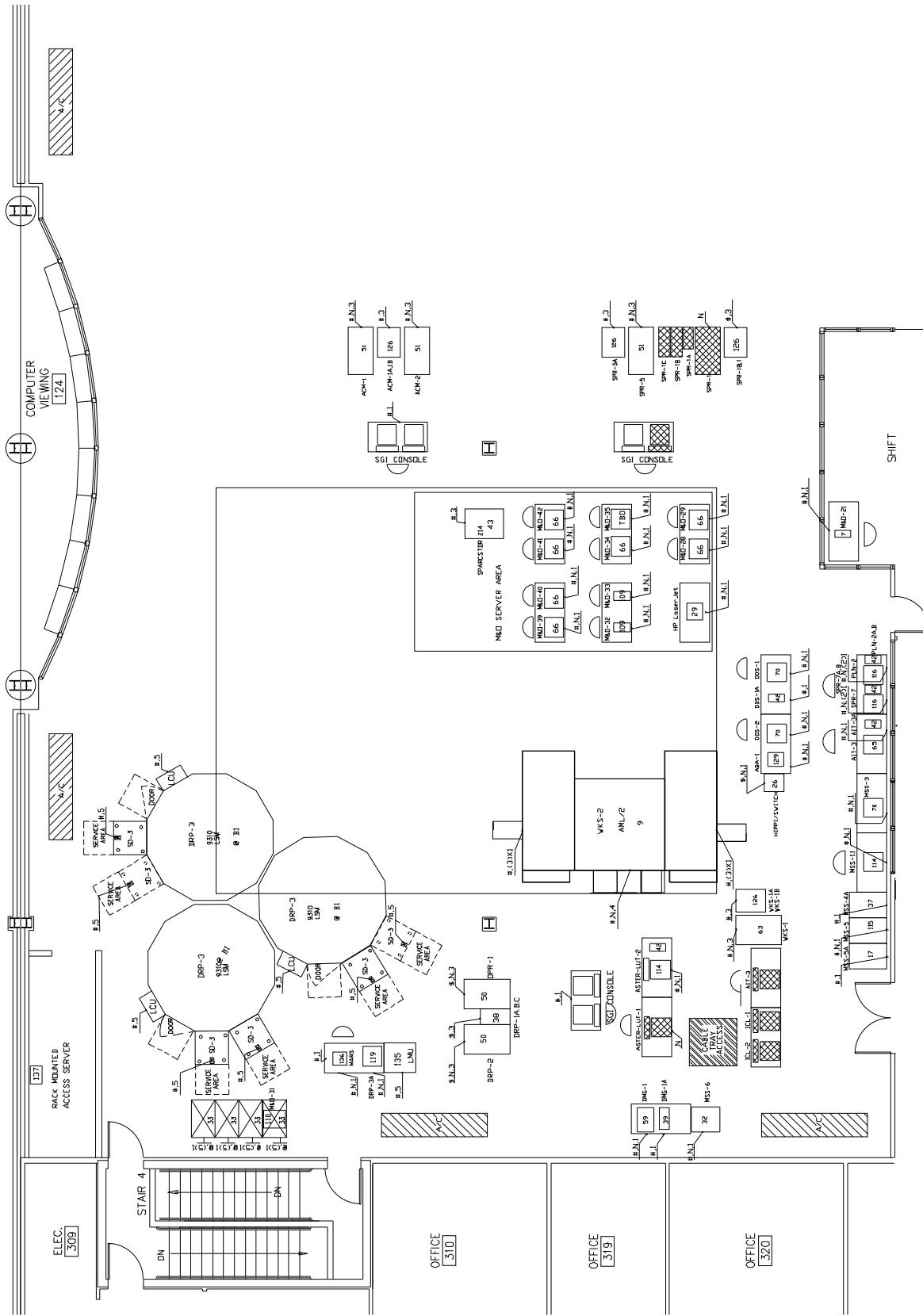


Figure 3.11-2. EDC Release B First Procurement Floor Plan -- Room 1500

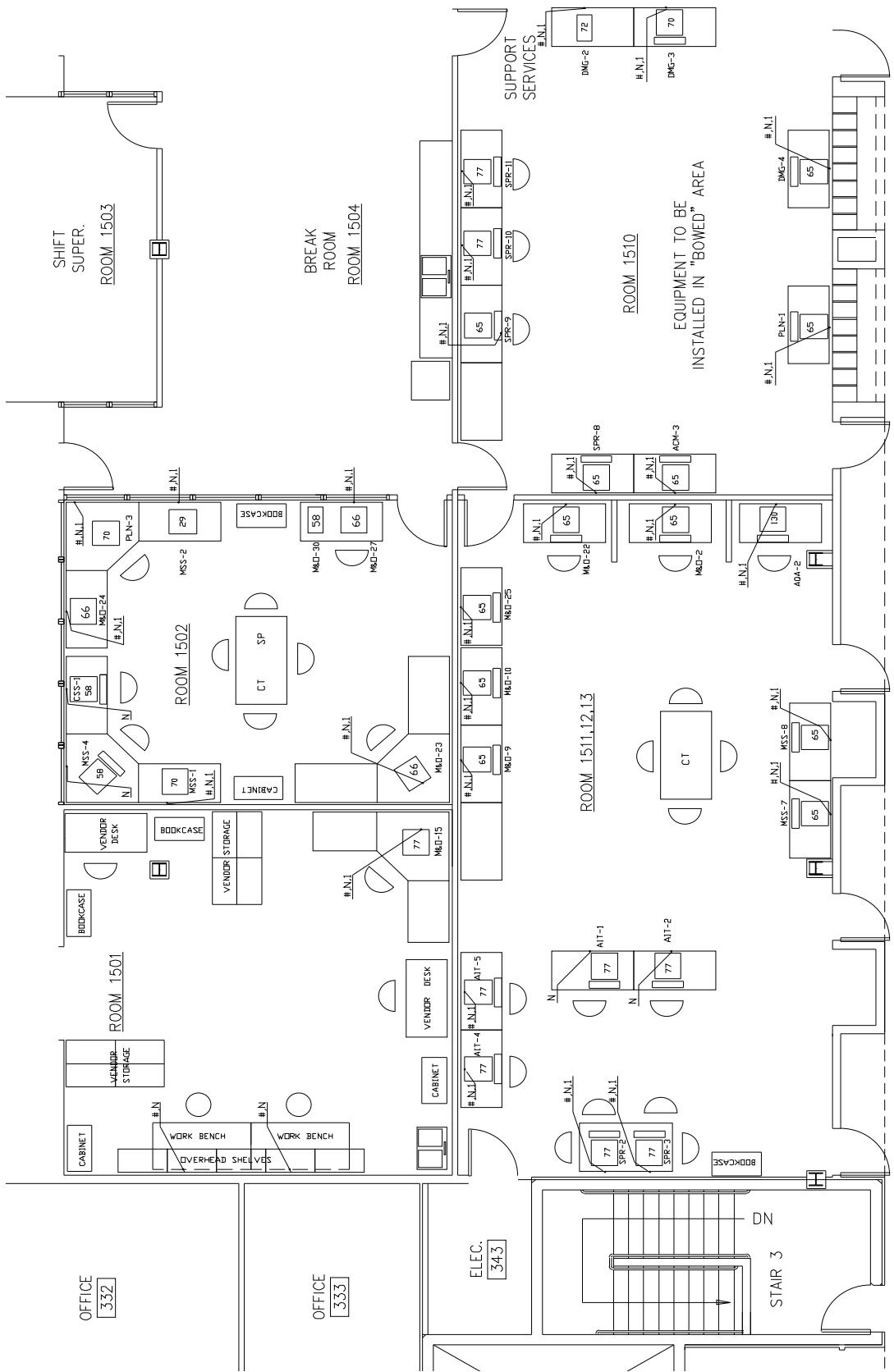


Figure 3.11-3. EDC Release B First Procurement Floor Plan --Room 1500 Offices

3.12 Power

The electrical power loads for ECS equipment at EDC are listed in Table 3.3-1, “EDC Equipment Power Requirements.” Power required is 208/120 volts. This power should be conditioned to protect the equipment from surges and spikes. Specific details (i.e. volts, phases, amps, receptacles) of the power requirements for each equipment item are furnished in Table 3.9-1.

Table 3.12-1. EDC Equipment Power Requirements (KVA)

	Through Release B First Procurement
Ground Floor	22.4
1500	85.7
1501	.2
1502	8
1503	.5
1511	3.5
TOTAL	120.3

3.13 Uninterruptible Power Supply (UPS) Systems

EDC plans to provide UPS systems to support ECS equipment. This will allow for controlled shutdown and the backup of critical data. UPS systems will accomplish the following:

- Condition power to negate surges, spikes, and other power fluctuations that may adversely affect computer hardware operation and data quality.
- Provide power during outages of short duration to allow time for controlled shutdown and switch over to auxiliary backup power, if available.
- Enable systems to remain operational during electrical storms or when commercial power is unstable

3.14 LAN Connectivity

Figure 3.14-1 identifies the planned Release B first procurement connectivity with the EDC DAAC network.

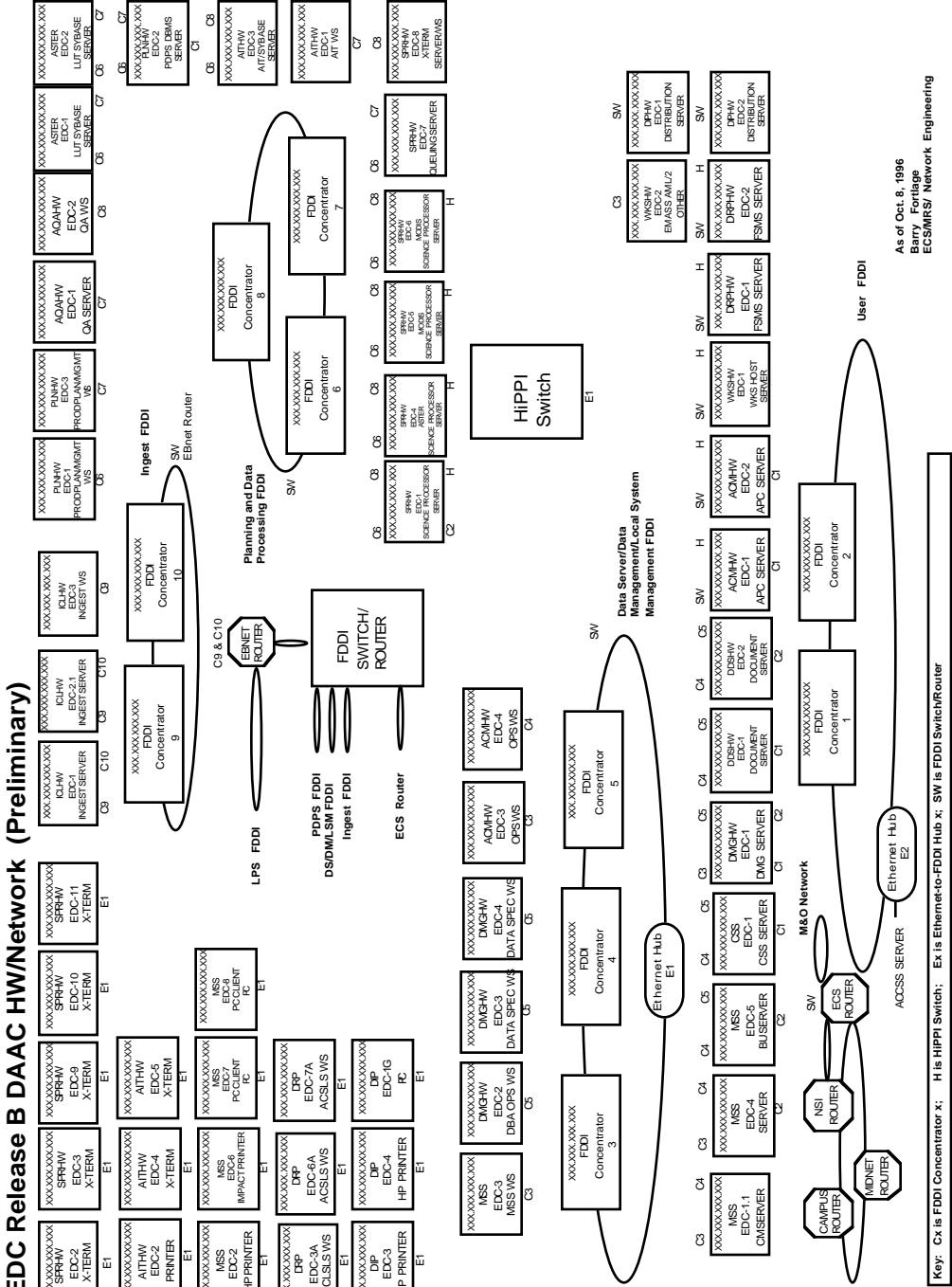


Figure 3.14-1. EDC Release B First Procurement DAAC Network Configuration

3-20

3.15 Heating, Ventilation, and Air Conditioning

Considering the class of processors currently planned for Release B first procurement, chilled water lines will not be required to cool these systems. Conditioned air should be supplied under the floor with the raised computer room floor acting as the plenum. The conditioned air should be at positive pressure. Equipment and console cooling should be supplied directly from this plenum or from louvered vents built into the raised floor panels. Ambient room temperatures in the range of 72 ± 2 degrees Fahrenheit and relative humidity in the range of $50\% \pm 5\%$ non condensing, are required to be maintained within the facility. Equipment cooling requirements for the facility are shown in Table 3.12-1. These requirements are based solely upon equipment and do not include the heating or cooling required for personnel, GFE, and physical space.

Table 3.15-1 EDC Cooling Requirements (KBTU/HR)

	Through Release B First Procurement
Ground Floor	75.3
1500	287.3
1501	.07
1502	35.3
1503	1.9
1511,12,13	11.9
TOTAL	412

3.16 Temporary Space

A total of three additional 64 sq. ft. cubicles (not included in the Office Requirements table) will be required to support the ECS teams during equipment installation, integration, and testing. In addition, a small meeting room should be available to the team throughout their stay to provide both work space and open storage overnight). These cubes should have adequate power (at least one 20 amp duplex outlet and if possible a telephone).

It is anticipated that "Tiger Teams" may be formed if required during the Release B first procurement installation run into critical problems. Such teams may include local DAAC/ECS personnel, off-site vendor, and SEO and EDF personnel. A dedicated conference or meeting room during the initial high activity period and the three additional cubicles identified above should suffice to satisfy these needs.

3.17 Library

A room needs to be designated as a Library area to accommodate ECS technical documentation throughout the life of the ECS Project. Library space for ECS technical documentation should be approximately 315 linear feet of bookshelf space, which would occupy approximately 200 sq. ft.

of floor space. This area should be able to accommodate an Administrative Assistant/Librarian for document control.

3.18 Media Consumable or Packing Material Storage Areas

It is the responsibility of the Government to furnish areas for Media or Packing Material Consumables (i.e. blank 8mm and 4mm tapes, CD ROM Disks, packing material for the media consumables). The ground floor area designated on the floor plans should have storage cabinets to hold a three to five day supply of these items. Based on information contained in 604-CD-002-003, page 5-55 and with the following assumptions below are the numbers.

56 orders per day. Assumption 60% will be tape, 30% will be CD-ROM, 10% D-3 tapes.

This calculates to 34 tapes per day, 17 CD-ROM per day and 6 D-3 tapes per day.

Assumption 70% of tapes will be 8mm and 30% will be 4mm

This calculates to 24 8mm tapes per day and 10 4mm tapes per day

5 day Supplies = 120 8mm tapes

 50 4mm tapes

 85 CD-ROM

 30 D-3 tapes.

A larger storage area within the DAAC should also be furnished to house larger quantities of these materials.

3.19 M & O Hardware Installation

See Appendix B. The M&O hardware installation is planned to occur at the same time as the Release B First Procurement installation.

Abbreviations and Acronyms

ACM	Access Control and Management
ADC	Affiliated Data Center
ADS	Administration Services
AI&T	Algorithm Integration and Test
AQA	Algorithm Quality Assurance
ASF	Alaska SAR Facility
BODs	Beneficial Occupancy Dates
BOM	Bill Of Materials
BTU	British Thermal Unit
CO1	Change Order 1
COTS	Commercial Off The Shelf
CRUs	Computer Room Units
CACU	cooling and air-conditioning units
CoI	co-investigator
CPU	central processing unit
CSMS	Communications and Systems Management Segment
CSS	Communications Subsystem
CY	calendar year
DADS	Data Archive and Distribution System
DAAC	Distributed Active Archive Center
DBMS	Data Base Management System
DCE	Distributed Computing Environment
DCN	Document Change Notice
DID	Data Item Description
DIP	Distribution Processing
DMG	Data Management Group

DNS	Domain Name Service
DRP	Data Repository
ECL	External Communications Links
ECS	EOSDIS Core System
EDC	EROS Data Center
EOC	EOS Operations Center (ECS)
EOS	Earth Observing System
EP	Evaluation Package
ESN	EOSDIS Science Network (ECS)
FDDI	Fiber Distributed Data Interface
FI	Facility Inspection
FIPS	Federal Information Processing Standards
FOS	Flight Operations Segment
EDC	Goddard Space Flight Center
GUI	Graphical User Interface
HWCI	Hardware Configuration Item
I&T	Integration and Testing
IAW	In Accordance With
ICC	Instrument Control Center (ECS)
ICL	Ingest Client
ISS	Internetworking Subsystem
IST	Instrument Support Terminal
JPL	Jet Propulsion Laboratory
L&EI	LAN and Equipment Installation
LAN	Local Area Network
EDC	Langley Research Center
M&O	Maintenance and Operations
MHE	Material Handling Equipment
MSFC	Marshall Space Flight Center

MSS	System Management Subsystem
NOAA	National Oceanic and Atmospheric Administration
NSI	NASA Science Internet
NSIDC	National Snow and Ice Data Center
ORNL	Oak Ridge National Laboratory
PLN	Planning
PSCN	Program Support Communication Network
QA	Quality Assurance
RDBMS	Relational Data Base Management System
RMA	Reliability, Maintainability, and Availability
RRR	Release Readiness Review
SCF	Science Computing Facility
SDPS	Science Data Processing Segment
SEO	Sustaining Engineering Organization
SGI	Silicon Graphics
SOW	Statement of Work
SP	Site Preparation
SPR	Science Processing
SSIT	Science Software Integration and Test
TBD	To Be Determined
TL	Team Leader
TM	Team Members
TRMM	Tropical Rainfall Measuring Mission
UPS	Uninterruptible Power Supply
WKS	Working Storage
WAN	Wide Area Network

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Appendix A

A.1 Early Installation of STK Powderhorn

On November 18, 1996 there will be an early Release B first procurement installation of equipment. The following information is being provided separately from the rest of the installation plan to ease in the preparation of the site. Please review memoranda sent on September 6, 1996 "Power Requirements for and Placement of STK Powderhorn" and on October 3, 1996 "Early Installation of STK Powderhorn Archive" for further information.

Table A.1-1. Equipment ID Location Table

ID CODE	EQUIPMENT NAME	EQUIPMENT TYPE	LOCATION
50	DRP-1	SGI PC XL	1500
126	DRP-1A	SGI RAID 324GB	1500
50	DRP-2	SGI PC XL	1500
119	DRP-3	STK POWDERHORN	1500
126	DRP-3A	SUN SPARC 5	1500
135	LMU	LMU	1500
136	MARS UNIT	MARS UNIT	1500
137	ACCESS SERVER	ACCESS SERVER	1500

A.2 Installation Support Requirements

Table A.2-1 identifies the support required from the host site to accomplish the EDC Release B first procurement installation.

Table A.2-1. EDC Installation Support Requirements

Room 1500			
Qty	Description	Code*	Date Req'd
7	4" side cutouts in floor tiles	#	November 18, 1996
3	4" X 8" side cutouts in floor tiles	\$	November 18, 1996
4	Network Nodes (ECS to provide)	N	February 19, 1996
3*	NEMA 5-20R Quad. Receptacles	1	November 18, 1996
3	NEMA L-6R Receptacles	3	November 18, 1996
4	Hubbell 320R6W Receptacles	5	November 18, 1996
1	Computer Table 60" x 30"	NA	November 18, 1996
1	Chair	NA	November 18, 1996
2	Analog telephone lines for MARS Unit	NA	November 18, 1996
*	Includes outlet for Access Server w/2 modems	NA	November 18, 1996

A.3 Installation of Access Server and Two Modems

On November 18, 1996, there will be the installation of an access server with two (2) modems. Please see memorandum "Installation of Access Server and Two Modems", dated October 15, 1996 for further details.

A.4 Floor Plan for EDC Early STK Powderhorn Installation

Figure A.4-1 depicts the planned placement of the Release B first procurement early installation of the STK Powderhorn. The figure also identifies the locations at which floor tile cutouts and power receptacles must be placed. This layout is similar to the taped outline of equipment left at the EDC DAAC during the September 24-24, 1996 visit.

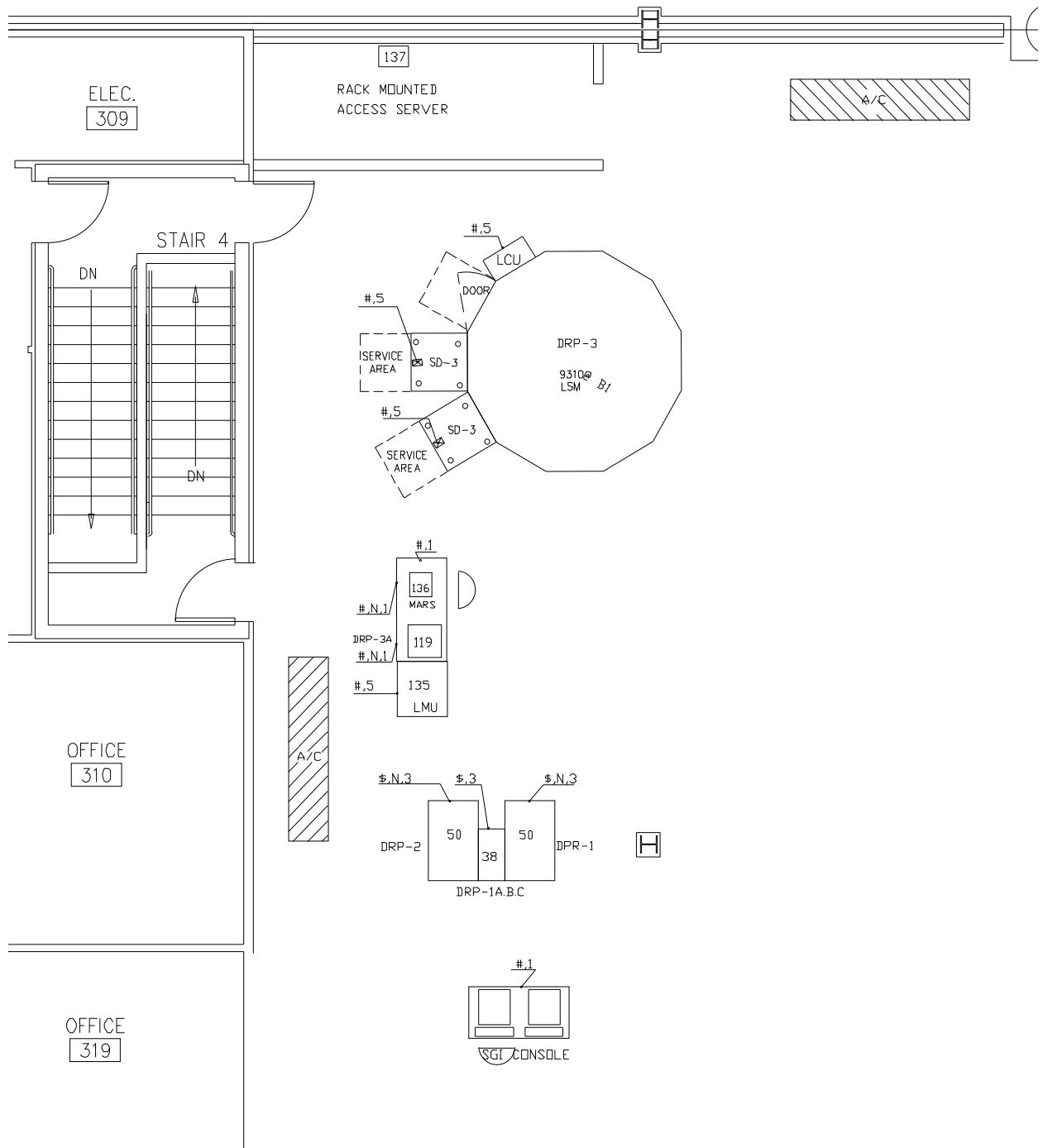


Figure A.4-1. EDC Release B First Procurement Early Installation -- STK Powderhorn

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Appendix B

B.1 EDC M & O Equipment Configurations

Figure B.1-1 identifies the Release B first procurement M & O hardware and software to be installed at the EDC DAAC. The drawing summarizes the hardware and software configuration for each subsystem.

***Figure B.1-1. EDC Release B First Procurement M & O Configuration
(unavailable at time of publication -- will be added in revised plan, 800-TP-007-
002, at a later date.)***

B.2 Equipment ID Location Table

Table B.2-1 associates the equipment ID code with the naming convention of the hardware with the type of hardware.

Table B.2-1. Equipment ID Location Table (1 of 2)

NAME	USER	DEVICE	LOCATION
M&O-EDC-1	Sr DAAC Rep	PC MICRON 100mz	TBD
M&O-EDC-2	Sr DAAC Rep Admin	PC MICRON 100mz	TBD
M&O-EDC-3	Engineer	XTERM	TBD
M&O-EDC-4	Engineer	XTERM	TBD
M&O-EDC-5	Engineer	XTERM	TBD
M&O-EDC-6	Engineer	XTERM	TBD
M&O-EDC-7	SW Maintenance	XTERM	TBD
M&O-EDC-8	SW Maintenance	XTERM	TBD
M&O-EDC-9	Configuration Mgmt	SUN SPARC 20/71	TBD
M&O-EDC-10	System Tester	SUN SPARC 20/71	TBD
M&O-EDC-11	Ops Readiness	XTERM	TBD
M&O-EDC-12	System Administrator	XTERM	TBD
M&O-EDC-13	System Administrator	XTERM	TBD
M&O-EDC-14	Property Manager	XTERM	TBD
M&O-EDC-15	Maint Technician	XTERM	1501
M&O-EDC-21	Ops Supervisor	PC MICRON 100mz	1503
M&O-EDC-22	Production Planner	SUN SPARC 20/71	1502
M&O-EDC-23	Production Monitor/QA	SUN SPARC 20/71	1502
M&O-EDC-24	Production Monitor/QA	SUN SPARC 20/71	1502
M&O-EDC-25	Resource Manager	PC MICRON 100mz	TBD
M&O-EDC-27	Computer Operator	XTERM	1502
M&O-EDC-28	Library Server	SUN SPARC 20/71	1500
M&O-EDC-29	Library Server	SUN SPARC 20/71	1500

Table B.2-1. Equipment ID Location Table (2 of 2)

NAME	USER	DEVICE	LOCATION
M&O-EDC-30	Runner Server	HP J210	1500
M&O-EDC-31	NFS File Server	Network Appliance F330	1500
M&O-EDC-32	PRO Server	ALR QUAD 6	1500
M&O-EDC-33	PRO Server	ALR QUAD 6	1500
M&O-EDC-34	Backup Server	SUN SPARC 20/71	1500
M&O-EDC-35	Backup System	TBD	1500
M&O-EDC-36	Printer	HP LaserJet	1500
M&O-EDC-37	Printer	HP LaserJet	TBD
M&O-EDC-38	Printer	HP LaserJet	TBD
M&O-EDC-39	Xterm Server	SUN SPARC 20/71	1500
M&O-EDC-40	Xterm Server	SUN SPARC 20/71	1500
M&O-EDC-41	Xterm Server	SUN SPARC 20/71	1500
M&O-EDC-42	Xterm Server	SUN SPARC 20/71	1500
M&O-EDC-43	Raid Array	SPARCSTOR MOD-210	1500

B.3 Installation Support Requirements

Table B.3-1 and B.3-2 identifies the support required from the host site to accomplish the EDC Release B first procurement M & O installation including offices/cubes. ECS will install cables in Rooms 1500, 1501, 1502, 1503, 1511, 1512, 1513, and B06. The installation of cables outside these areas will be the responsibility of the EDC DAAC. It is possible that the EDC DAAC may be requested to install cable to office/cubes areas from the ECS communication racks.

Table B.3-1. EDC M & O Installation Support Requirements

Qty	Description	Code*	Date Req'd
13	4" side cutouts in floor tiles	#	February 19, 1996
13	Network Nodes (ECS to provide)	N	February 19, 1996
12	NEMA 5-20R Quad. Receptacles	1	February 19, 1996
1	NEMA L-6R Receptacles	3	February 19, 1996
6	Computer Table 60" x 30"	NA	February 19, 1996
10	Chair	NA	February 19, 1996

Table B.3-2. EDC M & O Office/Cubicle Installation Support Requirements

Type of Office/Cubicle	Quantity *
Large Walled Offices (10 x 15) (Senior Contractor Reps)	2
Library (Administrative Assistant) (15 x 15)	1
Medium Walled Offices (10 x 10) (Technical Leads)	6
Cubicles (Technical/Support Staff)	29
NOTE: Details of where staff members sit and the network connectivity required (FDDI or Ethernet) still TBD upon receipt of "bowed area" office/cubicle layouts to be supplied by EDC DAAC	
* Worst-case numbers. Final count still TBD by M & O change order negotiations.	

B.4 Electrical Requirements, BTU Requirements, Dimensions, Weight and Power Requirements for Release B First Procurement M & O Equipment

Table B.4-1 EDC DAAC electrical, BTU, dimensions, weight and power requirements for Release B first procurement M & O equipment.

Table B.4-1. Electrical, BTU, Dimensions, Weight and Power Requirements for EDC B.1

ID CODE	MODEL	ITEM DESCRIPTION	VENDOR	Type Receptacle	BTUs/ HR	Depth (In)	Width (In)	Height (In)	Weight (lbs)	Mfgr KVA	AC Volts	Ck Brk Rating	Phases
29	Laserjet Printer	Laser Printer 12ppm	HP	NEMA 5-20R	3754.3	16	17	12	37	1.1	208	20	1
43	SPARCSTOR 214	RAID Expansion Rack	Sun	NEMA L6-30R	17065	39	30	56	867	5	208	30	1
58	HP 9000 J Series	HP 9000 J Series	HP	NEMA 5-20R	3686	20	11	18	92	1.08	120	20	1
66	SUN SPARC 20/71	SUN SPARC 20/71	Sun	NEMA 5-20R	3071.7	20	19	22	108	0.9	120	20	1
77	HMX20	X-Terminal	NCD	NEMA 5-20R	682.6	20	19	22	81	0.2	120	20	1
108	PC MICRON 100MHz	PC MICRON 100MHz	Micron	NEMA 5-20R	1877.2	16	7	16	25	0.55	120	20	1
109	200 Model 1-16NT	ALR QUAD 6	ALR	NEMA 5-20R	1092.2	17	9	18	35	0.32	120	20	1
110	NetApp F330	NetApp F330	Network Appliance	NEMA 5-20R	2252.6	22	18	9	123	0.66	120	20	1

B.5 Floor Plan for EDC M & O Servers

Figure B.5-1 depicts the planned placement of Release B first procurement M & O servers in the EDC facility and identifies the locations at which floor tile cutouts and power receptacles must be placed.

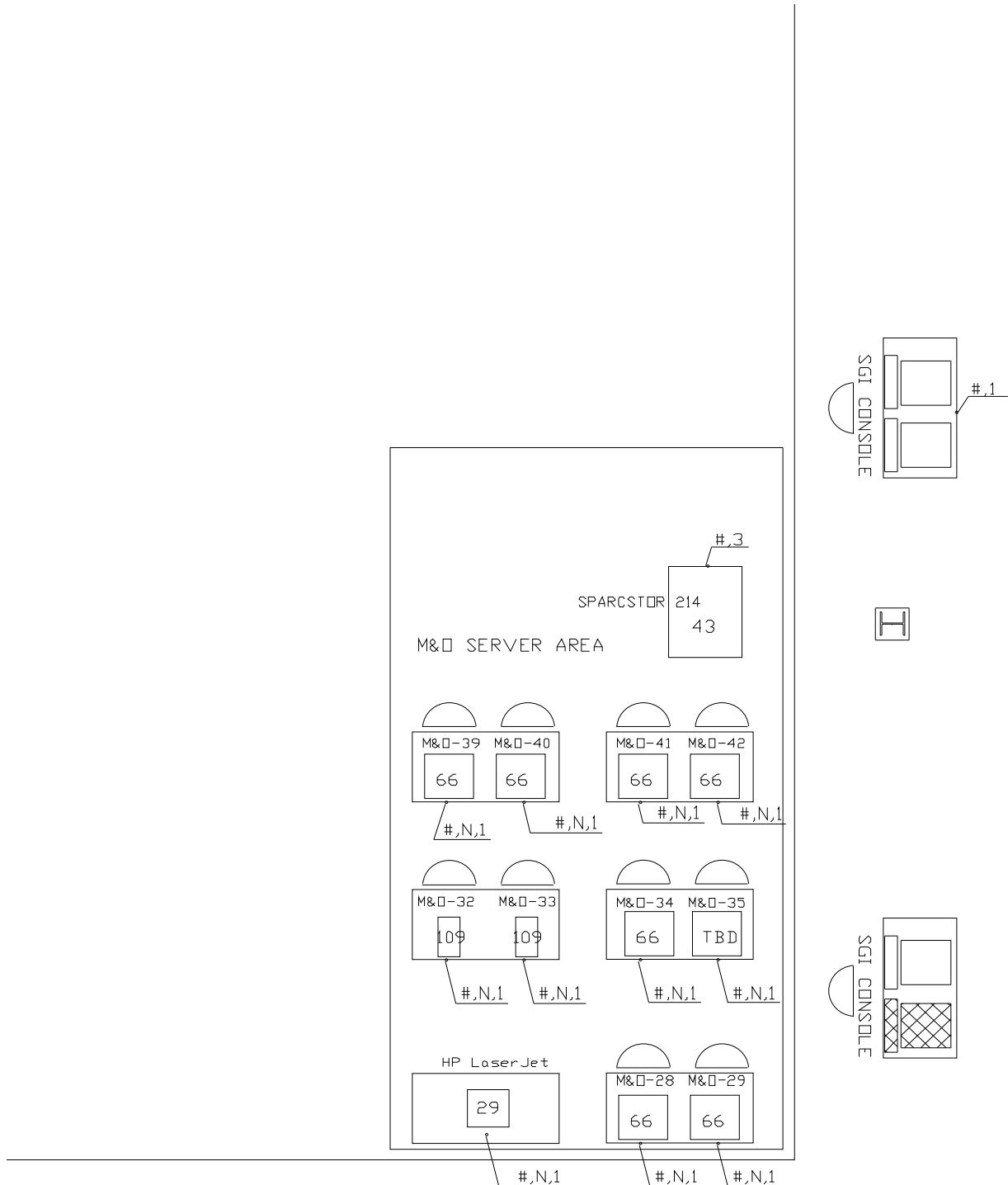


Figure B.5-1. EDC Release B First Procurement -- Floor Plan for M & O Servers

B.6 LAN Connectivity

Figure B.6-1 identifies the planned Release B first procurement M & O equipment connectivity with the EDC DAAC network.

Figure B.6-1. EDC DAAC Network Connectivity for Release B First Procurement M & O Equipment

(unavailable at time of publication -- will be added in revised plan, 800-TP-007-002, at a later date.)