

M-32



Department of Energy

Idaho Operations Office
West Valley Project Office
P.O. Box 191
West Valley, NY 14171

January 20, 1994

Mr. Gary C. Comfort
Headquarters
U.S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: Air Permit Applications for Radionuclide Emissions for the Vitrification Facility

Dear Mr. Comfort:

As R. B. Provencher promised you during your visit to the West Valley Demonstration Project in December 1993, enclosed for your information is a copy of the air permit applications for the emissions of radionuclides from the vitrification facility HVAC system and slurry fed ceramic melter.

If you have any questions, please contact R. B. Provencher of my staff at (716) 942-4101.

Sincerely,

Barbara A. Mozgowski
for T. J. Rowland, Director
West Valley Project Office

Enclosures: Air Permit Applications

RBP:001:94 - 0065:94:01

RBP/smn

090065

9403110314 940120
PDR PROJ
M-32 PDR

Change: LA

NF13
WR Encl
2 2



Department of Energy

Idaho Operations Office
West Valley Project Office
P.O. Box 191
West Valley, NY 14171

September 29, 1993

Mr. Paul A. Giardina
Regional Radiation Representative
Region II
MS-2AWM-RAD
United States Environmental Protection Agency
26 Federal Plaza
New York, NY 10278

SUBJECT: Air Permit Applications for the Emission of Radionuclides from the
Vitrification Facility (VF) Heating, Ventilating, and Air
Conditioning (HVAC) System and Slurry Fed Ceramic Melter

Dear Mr. Giardina:

Pursuant to the National Emission Standards for Hazardous Air Pollutants,
two permit applications are enclosed for the emission of radionuclides from

1. The Vitrification Facility HVAC System, and
2. The Slurry Fed Ceramic Melter, located within the VF.

If you have any questions or comments, please contact Elizabeth Matthews of my
staff at (716) 942-4930.

Sincerely,

Paula A. Mazurowski
T. J. Rowland, Director
West Valley Project Office

Enclosures: 1. VF HVAC Permit Application
2. Application

cc: J. MacGruder, EPA-Region II, w/enc.
B. Varcasio, NYSDEC-Albany, w/enc.
B. Bartz, NYSDEC-Buffalo, w/o enc.
B. A. Mazurowski, WVPO, w/o enc.
L. Salvatori, WVNS, MS B1L, w/o enc.

EAM:180:93 - 1147:93:10
1149:93:10

EAM/cch

REQUEST FOR APPROVAL TO CONSTRUCT OR MODIFY
SOURCES OF ATMOSPHERIC EMISSIONS OF RADIONUCLIDES

I. NAME AND ADDRESS OF APPLICANT

U.S. Department of Energy
West Valley Demonstration Project
10282 Rock Springs Road
P.O.Box 191
West Valley, New York 14171-0191

Operating Contractor:

West Valley Nuclear Services Co., Inc.
10282 Rock Springs Road
P.O.Box 191
West Valley, New York 14171-0191

II. NAME AND LOCATION OF SOURCE

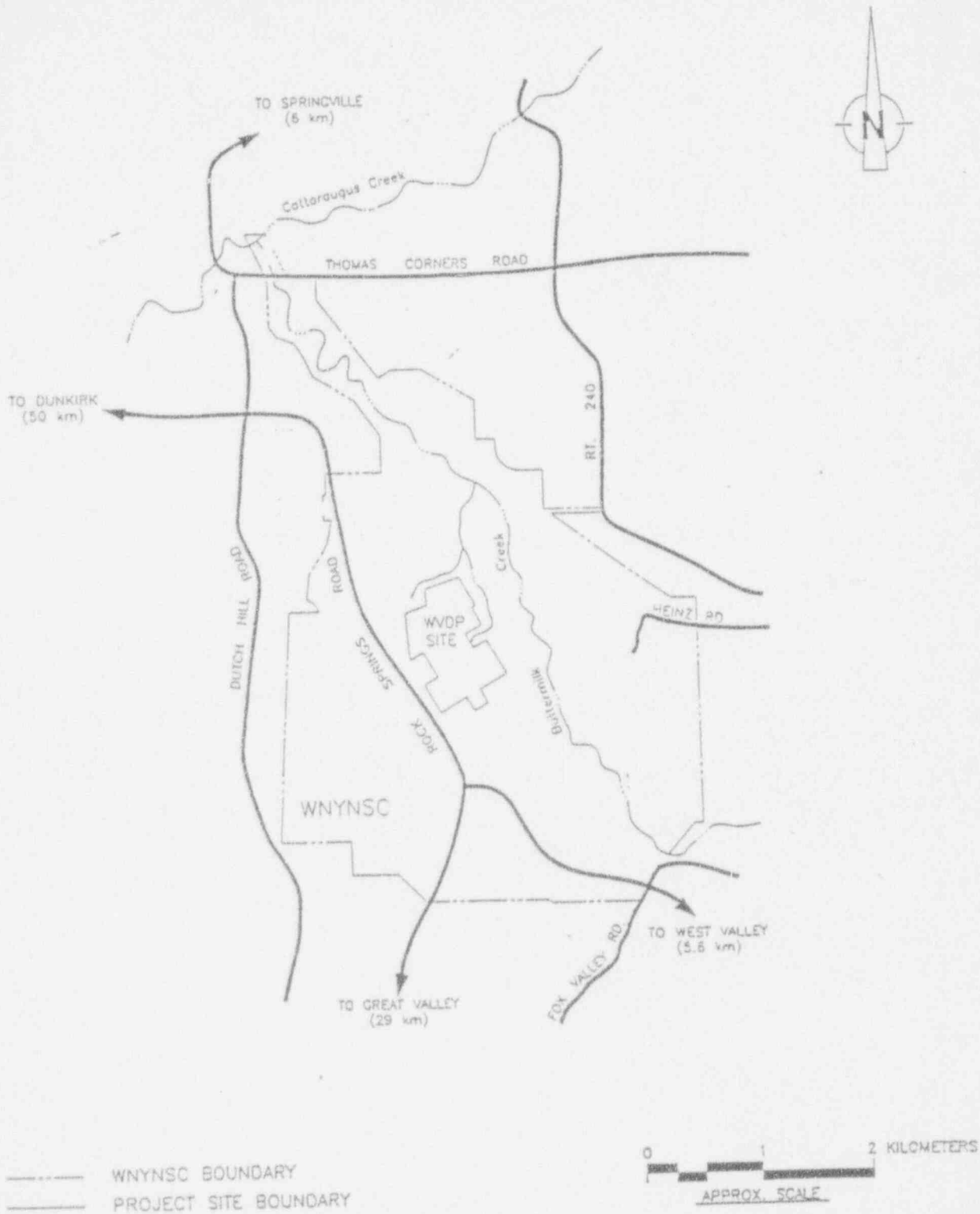
Name: Vitrification Facility HVAC System

Location: West Valley Demonstration Project
 10282 Rock Springs Road
 West Valley, New York 14171

Latitude:	42 Degrees 27 Minutes N
Longitude:	78 Degrees 39 Minutes W
Estimated date of construction:	September 1995
Estimated date of start up:	September 1995

III. RELEASE POINT INFORMATION

Emission point ID:	15F-2
Ground elevation (ft above MSL):	1415
Stack height (ft):	75
Height above structure (ft):	27.75
Inside diameter (inches):	36
Exit temperature (degrees F):	90
Exit velocity (ft/sec):	55.6
Exit volume (ACFM):	23,600



MAP 1

LOCATION OF BOUNDRY LINE



MAP 2

ASHFORD HOLLOW, N. Y.

N4222 5 - W7837 5/7.5

IV. SITE HISTORY

The West Valley Demonstration Project (WVDP) is located on 200 acres within the 3,345 acre Western New York Nuclear Services Center (Map 1) in the town of Ashford, Cattaraugus County, New York (Map 2). Nuclear Fuel Services (NFS) operated this facility to reprocess spent nuclear fuel from 1966 until 1972, after which NFS notified the New York State Energy Research and Development Authority (NYSERDA) that it would not continue in the fuel reprocessing business.

The West Valley Demonstration Project Act of October 1, 1980 (Public Law 96-368), authorized the Department of Energy (DOE) to perform a high-level radioactive waste management demonstration project for the purpose of demonstrating the solidification of high-level radioactive waste (HLWs) for disposal. The WVDP site contains high-level radioactive waste, which resulted from nuclear fuel reprocessing operations performed at the site prior to 1973 by NFS. The mission of the Project also includes: disposing of low-level wastes; developing containers for the high and low-level wastes; transporting the waste to a Federal repository; and decontaminating and decommissioning Project facilities.

The HLW is contained in two underground tanks, identified as 8D-2 and 8D-4. The majority of the radioactivity is contained in Tank 8D-2, where the waste has settled to form two layers: a precipitated sludge and an overlying supernatant. The supernatant is being processed to remove water and salts prior to immobilizing the sludge into a borosilicate glass matrix. The supernatant is decontaminated with a low-level waste treatment system and solidified into a cement waste form. After supernatant processing, the sludge layer will be washed to remove salts. These salts will be decontaminated using zeolite ion-exchange columns and then immobilized in cement. Once the salts have been effectively washed from the sludge, the zeolite ion-exchange media and the remaining sludge will be transferred to Tank 8D-2 and homogenized. The HLW will then be transferred to a Vitrification Facility (VF) and solidified in borosilicate glass with a Slurry-Fed Ceramic Melter (SFCM).

V. IDENTIFICATION OF RADIONUCLIDES

Approximately 660,000 gallons of HLW was stored in the underground tanks when the Department of Energy (DOE) began the WVDP in 1982. The radionuclide content of Tank 8D-2 is listed in Table 1. Only the nuclides that constitute more than 0.1% of the total release are listed. A dispersion model was developed with this data using the CAP88-PC Computer Code (Attachment A). Other emission points and the location of these points are listed in Table 2 and Drawing 900E-5290, Rev. B.

VI. OVERVIEW OF OPERATIONS

The basic vitrification equipment is contained in a shielded vitrification cell; it consists of a Concentrator Feed Make-up Tank (CFMT), sample station, and a Slurry-Fed Ceramic Melter (SFCM). Additional equipment in the vitrification cell includes the In-Cell Off-Gas System, Canister Turntable, Canister Capping Station, Canister Decontamination Station, 4.5-ton and 25-ton Capacity Cranes, and High-Efficiency Particulate Air (HEPA) filter units. HEPA filters remove 99.97% of airborne particulate 0.3 micrometers or greater in size. Equipment outside the Vitrification Cell consists of the Ex-Cell System. The vitrification process also uses the Equipment Decontamination Room (EDR) for transport and the CPC for storage of the vitrified product.

Ventilation for the VF will be provided by the Heating, Ventilation, and Air Conditioning System (HVAC), the In-Cell and Ex-Cell Exhaust Systems, the Main Plant/Head and Ventilation (HEV) System, and the 01-14 Building Off-Gas System.

The Vitrification Facility HVAC Supply System will clean and condition ventilation air in the Vitrification Cell, Crane Maintenance Room (CMR), VF/EDR Tunnel, Operating Aisles, and other support areas.

VIII. OVERVIEW OF VITRIFICATION FACILITY HVAC SYSTEM

The Vitrification Facility HVAC System is shown in several of the VF General Arrangement Drawings (905-D-030, 905-D-034, 905-D-036, 905-D-037, 905-D-038, and 905-D-040). The VF HVAC System consists of a 24,000-CFM capacity, outside air supply system that cleans and conditions the air entering the VF; an exhaust system composed of a train of HEPA filters located in the Vitrification Cell; and secondary HEPA filtration, blowers, and a continuously monitored discharge stack.

Through the HVAC, the filtered and heated or cooled air enters the VF at a minimum temperature of 55°F and maximum of 75°F and is distributed in a once-through system to the operating aisles, stairwells, and other service areas. Air from the upper east and west operating aisles flows into the CMR. In addition, air from the secondary HEPA Filtration Room flows into the VF/EDR Transfer Tunnel. The air to the Vitrification Cell consists of approximately 3,960 CFM from the CMR, approximately 2,000 CFM from the transfer tunnel; 500 CFM from the CMR shield door enclosure; and 540 CFM from miscellaneous sources (Figure 1).

The air from the Vitrification Cell exhausts through the primary filter units, which contain roughing filters and a bank of HEPA filters. The air then flows into the secondary HEPA filtration unit, which contains a second bank of HEPA filters. From there, the air flows to the Plenum Chamber, where it is entrained to the VF stack (15-F2) by means of a 23,600-CFM blower. 23,600 is the planned flow for nominal operating conditions. The design capacity is 26800 CFM. In case of blower failure, the system will automatically switch to a back-up blower. In the event of a loss of electrical power, the blowers and all required support instrumentation are supplied with auxiliary power from a diesel generator. The system provides a train of filters with 50% spare capacity and dual blowers for back-up, enabling continuous operation of the system (Figure 2).

The remainder of the VF HVAC System air supply (approximately 16,000 CFM) is distributed to the other operating aisles and various service areas outside the Vitrification Cell. Some infiltration of outside air is anticipated, since the aisles are maintained at a negative pressure. Most of this noncontaminated air is processed for discharge through roughing filters and a single bank of HEPA filters in the secondary filter unit. In the plenum of the secondary filter unit, this air is combined with the air from the Vitrification Cell and moved by the exhaust blower.

Control room ventilation is provided by a separate unit that recirculates the air with approximately 10% additional make-up air from the main air handler unit. A second unit is provided to maintain safe operating temperatures and ensure that the pressure in the control room is always positive with respect to the adjacent operating aisles and service areas. The fans are on auxiliary power to provide 100% outside air in the event of chilled water or site power loss.

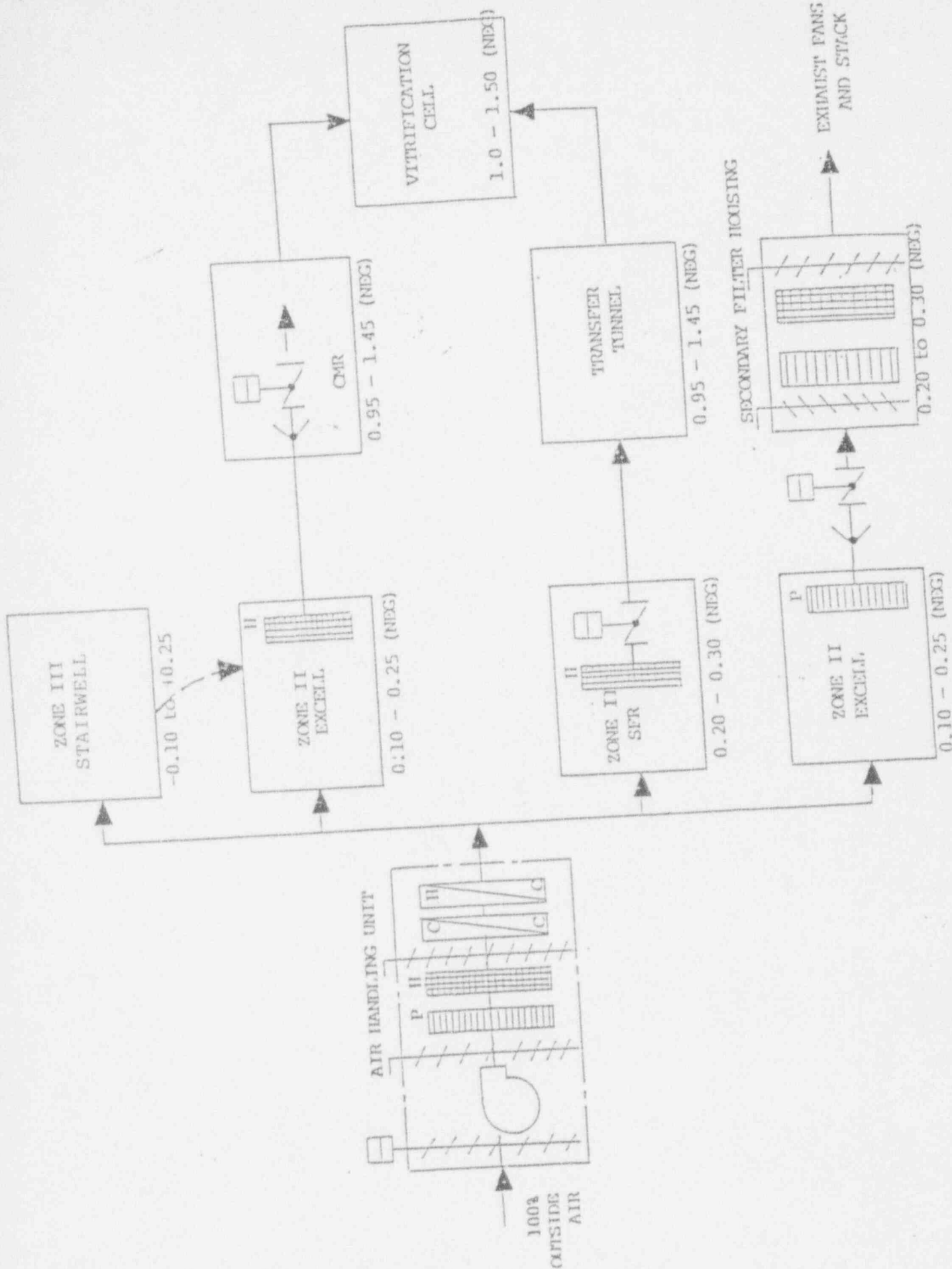
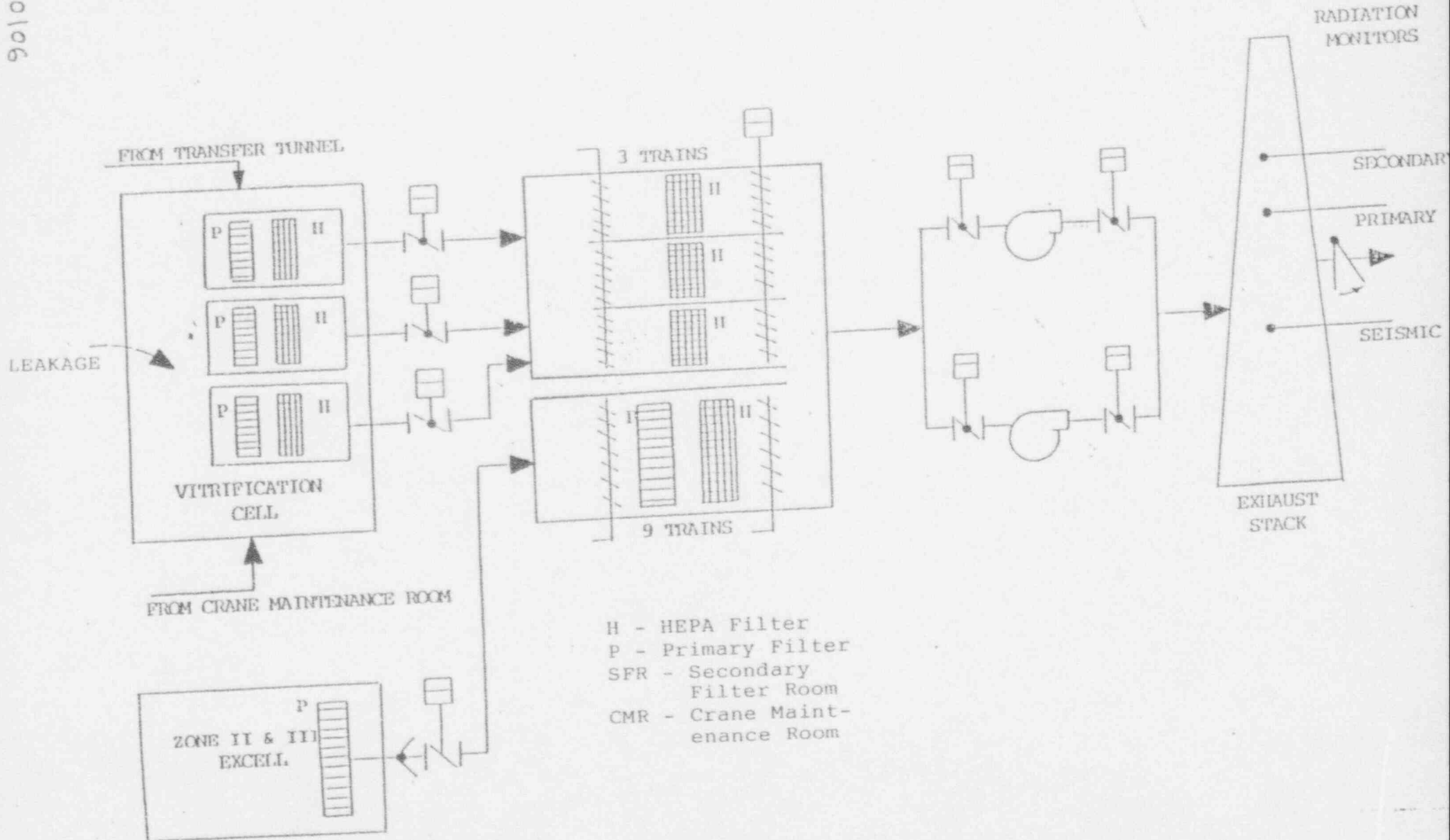


Figure 1

EXHAUST VENTILATION SYSTEM

BC:93:0106



- H - HEPA Filter
- P - Primary Filter
- SFR - Secondary Filter Room
- CMR - Crane Maintenance Room

Figure 2

The VF HVAC System maintains pressure differentials throughout the VF to ensure air flow from areas of potentially less contamination to areas of potentially greater contamination. Airlocks are provided between all operating aisles adjacent to the Vitrification Cell and exterior doors to minimize disruptions of maintained pressures. Furthermore, shield doors provide an air lock between the EDR (served by the Main Plant/HEV VF HVAC System) and the Vitrification Cell (served by the VF HVAC System). All transfer air sources to the cell are equipped with HEPA filters, automatic isolation valves, and tornado dampers to prevent the spread of contamination following an accidental system negative pressure loss. In addition, all critical components of the ventilation system are designed to remain functional after a seismic event, to mitigate the uncontrolled release of radioactive materials to the environment.

Airflow diagrams for the VF HVAC Systems are shown on Drawings 905-D-450 and 905-D-451. The instrumentation and controls for the supply system, cell intakes, and exhaust system are presented in Drawing 905-D-452. Details of the VF HVAC System by floor plan and section view are presented in Drawings 905-D-401 through -407, 409, and 905-D-466 through 472. Airborne effluents released to the atmosphere from the Vitrification Stack (15-F2) will be sampled isokinetically and continuously monitored for gross alpha and beta activity. Samples will be collected and analyzed for specific radionuclides that are being released to the atmosphere. Whenever alarm points are exceeded, audiovisual alarms will be activated in the control room to inform operators of abnormal operating conditions. Stack monitoring data will be stored.

The Stack Sampling and Monitoring System will consist of two sets of radiation monitors (two alpha monitors and two beta monitors), one in operation and one for back-up. Upon failure of the unit in operation, the system will automatically switch to the back-up unit. In addition, the system will be equipped with back-up vacuum pumps that will automatically begin operating upon loss of sample line flow. The stack sampling equipment and piping details are shown on Drawings 900D-2734, Sheets 1 and 2. The sample probe fabrication and installation details are shown on Drawings 900D-2732 and 900D-2733. Other stack sampling details are shown on Drawings 900D-2375, -2376, and -2377, Sheets 1 and 2.

IX. VITRIFICATION SCHEDULE

Vitrification of HLW is scheduled to begin in January 1996. Following is the tentative schedule for vitrification activities:

- | | |
|-------------------------------|----------------------------|
| • Completion of Construction | January 1995 |
| • Checkout of Process | March 95 - August 95 |
| • Cold Operation Start/Finish | September 95 - December 95 |
| • Hot Operation Start/Finish | January 96 - December 99 |

During cold operations, glass will be produced without HLW to determine any unforeseen problems.

X. SOURCE TERM DEVELOPMENT

The major potential source of airborne radioactivity to be discharged from the VF HVAC System will be process operations in the Vitrification Cell. All process vessels, piping, and associated equipment are potential sources of airborne radioactivity. The most significant sources of airborne contamination will be minor maintenance activities, feed sampling activities, and canister handling. Since the SFCM and other vessels off-gas will be processed in a totally enclosed system and discharged in a separate stack, it is not considered part of the VF HVAC System exhaust. A separate permit application is being submitted for the VF In-Cell Off-Gas Ventilation System.

To estimate the source term for normal operation of the VF HVAC System, it was assumed that 0.001% of the radioactive materials to be vitrified become airborne within the Vitrification Cell. The contaminated air will be entrained through two HEPA filters in series before being discharged through the VF Stack (15F-2) to the atmosphere. The overall decontamination factor (DF) of the VF HVAC System is assumed to be 100,000; the DF for the first HEPA filter is assumed to be 1,000 and the DF for the second HEPA filter assumed to be 100. It is assumed that 0.001 percent of the radioactivity processed in the VF HVAC System will be released into the cell atmosphere. Approximately 0.81 mCi of activity (principally Cs-137, Sr-90, and their short lived decay products Ba-137m and Y-90) will be released to the environment from the new VF HVAC Stack (15F-2).

XI. DOSE ASSESSMENT

The effective dose equivalent (EDE) to the maximally exposed off-site individual (MEOSI) from emissions from the VF HVAC stack (15F-2) was calculated using the CAP88-PC Computer Code. The modeling was performed using the five year average, 10 meter meteorological data collected at the on-site primary tower. The distance from the Main Plant Stack (15F-1), in close proximity to 15F-2, to the nearest receptor in each of the sixteen compass point sectors was also used as input to the code to determine the MEOSI. The results of model run indicated that MEOSI is located approximately 1900 meters north-northwest from the main plant stack and will receive an estimated EDE of $9.5E-04$ mrem/year.

The actual (measured) EDE from main facility was $2.9E-04$ mrem/year for 1992 (Reference 2).

XII. REFERENCES

- 1) Letter EK:89:0232, R. L. Crocker to Distribution, "Vitrification Mass Balance Spreadsheet Revision Number 7," Dated October 10, 1989.
- 2) West Valley Demonstration Project Site Environmental Report - 1992.

XIII. LIST OF DRAWINGS

905-D-030	General Arrangement, Vit. Fac., Plan E1	100 Ft
905-D-034	General Arrangement, Vit. Fac., Plan E1	124 Ft and above.
905-D-036	General Arrangement, Vit.Fac. Sections	
905-D-037	General Arrangement, Vit.Fac. Sections	
905-D-038	General Arrangement, Vit.Fac. Sections	

905-D-040 General Arrangement, Vit.Fac. Plan El 146.25 Ft and Roof.
 905-D-401 Ventilation System El. 100 Ft
 905-D-402 Ventilation System Sections
 905-D-403 Secondary HEPA Filter Room El 100 Ft
 905-D-404 Secondary HEPA Filter Room Sections
 905-D-405 Ventilation System Plans & Sections
 905-D-406 Ventilation System El. 124 Ft
 905-D-407 Miscellaneous HVAC Details
 905-D-409 HVAC Instrumentation Piping El. 100 Ft
 905-D-450 HVAC Air Flow Diagram - VF
 905-D-451 HVAC Air Flow Diagram & P&ID - Control Room
 905-D-452 P&ID -HVAC
 905-D-461 Ventilation System Plan El 98.5 & 100 Ft
 905-D-462 Ventilation System Plan 115 Ft and Above
 905-D-465 Control Room Ventilation System Plan El 100 Ft
 905-D-466 Ventilation System Plan El 110 Ft
 905-D-467 Ventilation System Plan El 110.3 Ft
 905-D-468 Ventilation System Plan El 125 Ft 4-1/4
 905-D-469 Ventilation System HVAC Equipment Room
 Plan El 125 Ft 4-1/4.
 905-D-470 Ventilation System Sections Sh 1
 905-D-471 Ventilation System Sections Sh 2
 905-D-472 Ventilation System Sections Sh 3
 900-D-2731 VF Stack Sampling System P&ID
 900-D-2732 VF Stack Sampling System Assy & Details
 900-D-2733 VF Stack Sampling System Details
 900-D-2734 VF Stack Sampling System Plan & Sections
 900-D-2735 VF Stack Sampling System Details
 900-D-2736 VF Stack Sampling System Details
 900-D-2737 VF Stack Sampling System Arrangement
 900-D-2739 VF Stack Rad Monitor Control Panel Electrical Schematic.
 900-D-4214 VF Stack-Rad Monitor Control Panel-General arrangement.
 900E-5290 WVDP Site Map - Radiological Emission Source Points
 (Informational Copy)

TABLE 1

LIST OF RADIONUCLIDES THAT CONTRIBUTE GREATER THAN 0.1% OF THE EDE

JUNE 1993

ASSUMPTION: 0.001% of the radioactivity of materials that are vitrified becomes airborne within the Vitrification Cell.

NUCLIDES	TOT. CURIES	CURIES/YR	DF PER NRC	DISCHARGE Ci/Year
Sr-90	5.81E+06	1.94E+01	1.00E+05	1.94E-04
Y-90	5.81E+06	1.94E+01	1.00E+05	1.94E-04
Cs-137	6.29E+06	2.09E+01	1.00E+05	2.09E-04
Ac-227	9.43E+00	3.14E-05	1.00E+05	3.14E-10
Pu-238	7.92E+03	2.64E-02	1.00E+05	2.64E-07
Pu-239	1.63E+03	5.42E-03	1.00E+05	5.42E-08
Pu-240	1.19E+03	3.98E-03	1.00E+05	3.98E-08
Pu-241	6.04E+04	2.01E-01	1.00E+05	2.01E-06
Am-241	5.36E+04	1.79E-01	1.00E+05	1.79E-06
Am-242m	2.89E+02	9.62E-04	1.00E+05	9.62E-09
Am-243	3.47E+02	1.16E-03	1.00E+05	1.16E-08
Cm-244	6.07E+03	2.02E-02	1.00E+05	2.02E-07

TABLE 2

SUMMARY OF POTENTIAL RADIOLOGICAL DISCHARGE POINTS AT THE WVDP

JUNE 1993

E.P	DESCRIPTION	PERMIT #	EDE/Yr & MONITOR.	STACK HT/DIA (ft/in)	STACK EXT. VFL/TEMP (F, S/°F)
01*	Main Process Bldg Ventilation.	WVDP-687-01	> 0.1 mrem. Stack monitoring done.	208/54	60/100
02	Portable Ventil. Unit	WVDP-587-01	< 0.0001 mrem.	Var/5-10	30-61.2/70
03	Low level waste comp.	WVDP-487-01	No monitoring done < 0.01 mrem.	18/9.5	27/70
04	Supernatant treatment system ventilation.	WVDP-387-01	No monitoring done. > 0.10 mrem.	33/18.5	35-66/100
05	Contact size reduction	WVDP-287-01	Monitoring done. 0.12 mrem.	195/21	42/100
06	Cement System Ventilation.	WVDP-107-01	Monitoring done. 4.3 mrem.	73/23.6	50/100
07	Low Level Waste Treatment Facility	No Permit	Monitoring done. 0.005 mrem.	10/18	40/70
08	Laundry	EDE < 0.1 mrem	monitoring	10/12	75/75
09	Low Level Storage Building	No Permit	Periodic conf. measurement.	----	----
10	Drum Cell	EDE < 0.1 mrem	0.005 mrem	----	----
11	CPC Storage Bldg	No Permit	No monitoring.	----	----
12	NDA Interc. Trench Pretreatment Syst.	EDE < 0.01 mrem	< 0.01 mrem	----	----
13	Environmental Lab Ventilation	EDE < 0.01 mrem	No monitoring.	----	----
14	Vit Facility HVAC System	No permit	0.08 mrem	75/36	55.6/90
		EDE < 0.1 mrem	No monitoring.		
		No Permit	0.0008 mrem		
		EDE < 0.1 mrem	No monitoring.		
		No Permit	0.00005 mrem		
		EDE < 0.1 mrem	No monitoring.		
		New Permit applied.	0.00095 mrem.		

TABLE 2 (Continued)

E.P	DESCRIPTION	PERMIT #	EDE/Yr & MONITOR.	STACK HT/DIA (ft/in)	STACK EXT.VEL/TEMP (F/S/°F)
15*	Slurry Fed Ceramic Melter Off-Gas Sys.	New Permit (mod) applied	0.20 mrem.	208/54	60/100

* Emission Point 15 is same as Emission Point 01. This New Permit will be modification to the Existing permit WVDP-687-01.

Attachment A

C A P 8 8 - P C

Version 1.00

Clean Air Act Assessment Package - 1988

D O S E A N D R I S K E Q U I V A L E N T S U M M A R I E S

Non-Radon Individual Assessment
Apr 14, 1993 8:10 am

Facility: West Valley Demonstration Project
Address: P. O. Box 191
 Rock Srpings Road
City: West Valley
State: NY Zip: 14171-0191

Source Category: Vitrification Facility In-Cell HVAC
Source Type: Stack
Emission Year: 1996

Comments: Emission Point: Vitrification Facility Stack

Dataset Name: VFInCell Per App
Dataset Date: Apr 14, 1993 8:08 am
Wind File: WNDFILES\SYRAV10M.WND

BC:93:0106

RADIONUCLIDE EMISSIONS DURING THE YEAR 1996

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
SR-90	D	1.00	1.9E-04	1.9E-04
Y-90	Y	1.00	1.9E-04	1.9E-04
CS-137	D	1.00	2.1E-04	2.1E-04
BA-137M	D	1.00	2.1E-04	2.1E-04
AM-241	W	1.00	1.8E-06	1.8E-06
AC-227	Y	1.00	3.1E-10	3.1E-10
PU-238	Y	1.00	2.6E-07	2.6E-07
PU-239	Y	1.00	5.4E-08	5.4E-08
PU-240	Y	1.00	4.0E-08	4.0E-08
PU-241	Y	1.00	2.0E-06	2.0E-06
AM-242M	W	1.00	9.6E-09	9.6E-09
AM-243	W	1.00	1.2E-08	1.2E-08
CM-244	W	1.00	2.0E-07	2.0E-07

SITE INFORMATION

Temperature: 10 degrees C
 Precipitation: 100 cm/y
 Mixing Height: 1000 m

SOURCE INFORMATION

Source Number: 1
Stack Height (m): 22.90
Diameter (m): 0.90
Plume Rise
Momentum (m/s): 1.69E+01
(Exit Velocity)

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.700	0.399	0.442
Fraction From Assessment Area:	0.300	0.601	0.558
Fraction Imported:	0.000	0.000	0.000

Food Arrays were not generated for this run.
Default Values used.

DISTANCES USED FOR MAXIMUM INDIVIDUAL ASSESSMENT

1300 1400 1800 1900 2100 2300 2400 2500 2600 2700
2900 3400

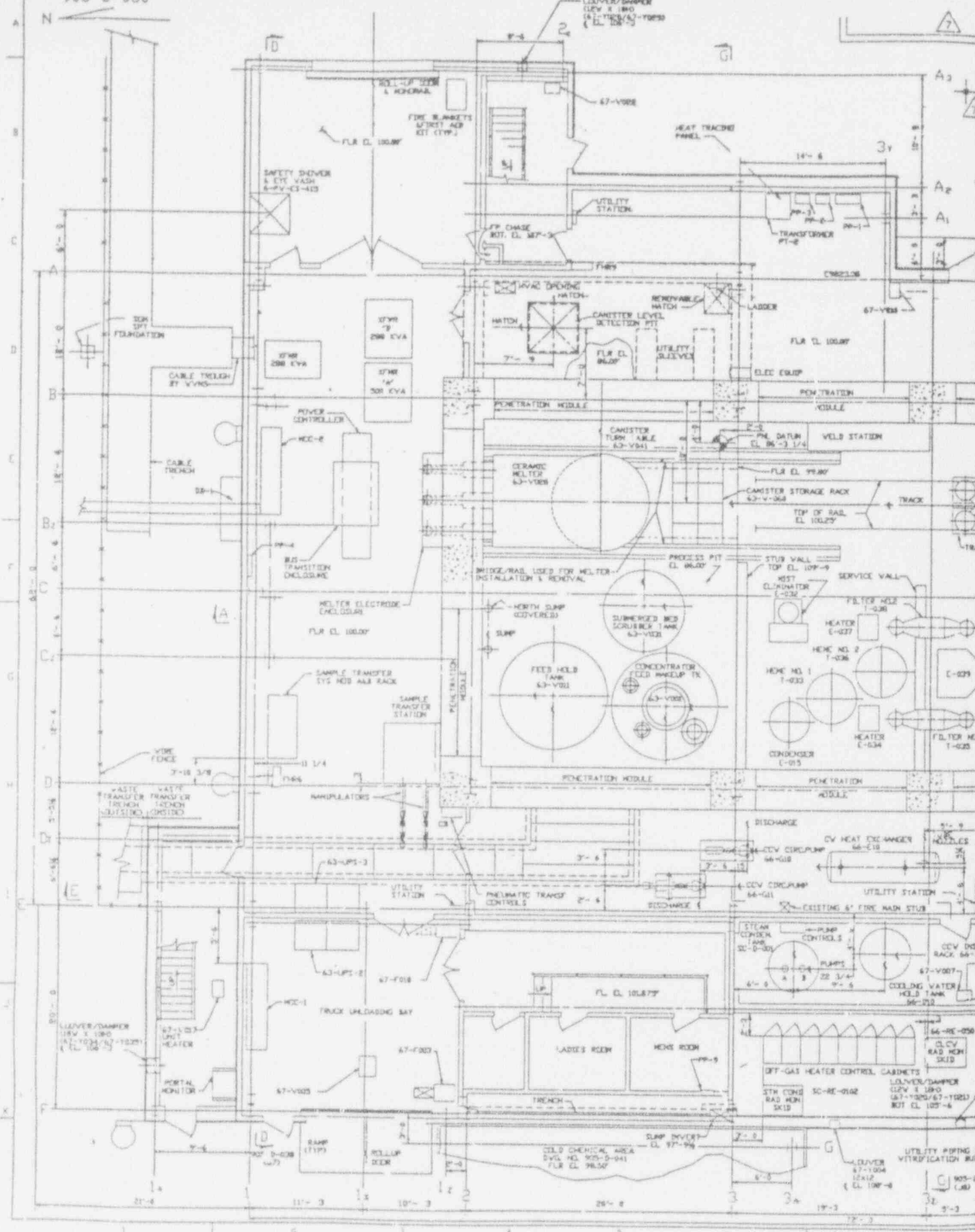
INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

Direction	Distance (m)						
	1300	1400	1800	1900	2100	2300	2400
N	1.6E-03	1.5E-03	1.2E-03	1.1E-03	1.0E-03	9.2E-04	8.8E-04
NNW	1.4E-03	1.3E-03	1.0E-03	9.5E-04*	8.6E-04	7.9E-04	7.6E-04
NW	6.8E-04	6.4E-04	5.0E-04	4.8E-04	4.3E-04	4.0E-04	3.8E-04
WNW	3.2E-04	3.0E-04	2.5E-04	2.4E-04	2.2E-04	2.0E-04	2.0E-04
W	2.7E-04	2.5E-04	2.1E-04	2.0E-04	1.8E-04	1.7E-04	1.7E-04
WSW	2.3E-04	2.1E-04	1.8E-04	1.7E-04	1.6E-04	1.5E-04	1.4E-04
SW	2.6E-04	2.4E-04	2.0E-04	1.9E-04	1.7E-04	1.6E-04	1.6E-04
SSW	2.5E-04	2.3E-04	1.9E-04	1.8E-04	1.7E-04	1.6E-04	1.5E-04
S	3.6E-04	3.4E-04	2.6E-04	2.5E-04	2.3E-04	2.1E-04	2.0E-04
SSE	9.0E-04	8.2E-04	6.1E-04	5.7E-04	5.1E-04	4.6E-04	4.3E-04
SE	1.5E-03	1.4E-03	1.0E-03	9.8E-04	8.6E-04	7.7E-04	7.3E-04
ESE	1.1E-03	1.0E-03	7.7E-04	7.3E-04	6.5E-04	5.9E-04	5.6E-04
E	8.3E-04	7.8E-04	6.1E-04	5.8E-04	5.2E-04	4.8E-04	4.6E-04
ENE	7.8E-04	7.3E-04	5.7E-04	5.4E-04	4.9E-04	4.5E-04	4.3E-04
NE	1.1E-03	1.0E-03	7.8E-04	7.3E-04	6.6E-04	6.0E-04	5.7E-04
NNE	1.2E-03	1.1E-03	8.9E-04	8.5E-04	7.6E-04	7.0E-04	6.7E-04

Direction	Distance (m)				
	2500	2600	2700	2900	3400
N	8.4E-04	8.1E-04	7.8E-04	7.3E-04	6.2E-04
NNW	7.3E-04	7.0E-04	6.8E-04	6.3E-04	5.4E-04
NW	3.7E-04	3.6E-04	3.4E-04	3.2E-04	2.8E-04
WNW	1.9E-04	1.9E-04	1.8E-04	1.7E-04	1.6E-04
W	1.6E-04	1.6E-04	1.5E-04	1.5E-04	1.3E-04
WSW	1.4E-04	1.4E-04	1.3E-04	1.3E-04	1.2E-04
SW	1.9E-04	1.5E-04	1.5E-04	1.4E-04	1.3E-04
SSW	1.5E-04	1.5E-04	1.4E-04	1.4E-04	1.2E-04
S	2.0E-04	1.9E-04	1.8E-04	1.7E-04	1.5E-04
SSE	4.1E-04	4.0E-04	3.8E-04	3.5E-04	3.0E-04
SE	7.0E-04	6.7E-04	6.4E-04	5.8E-04	4.9E-04
ESE	5.3E-04	5.1E-04	4.9E-04	4.5E-04	3.8E-04
E	4.4E-04	4.2E-04	4.0E-04	3.8E-04	3.2E-04
ENE	4.1E-04	4.0E-04	3.8E-04	3.6E-04	3.1E-04
NE	5.5E-04	5.3E-04	5.1E-04	4.7E-04	4.0E-04
NNE	6.4E-04	6.2E-04	5.9E-04	5.5E-04	4.7E-04

Shaded values indicate the location of the nearest residence in each sector.
* Location of the maximally exposed off-site individual.

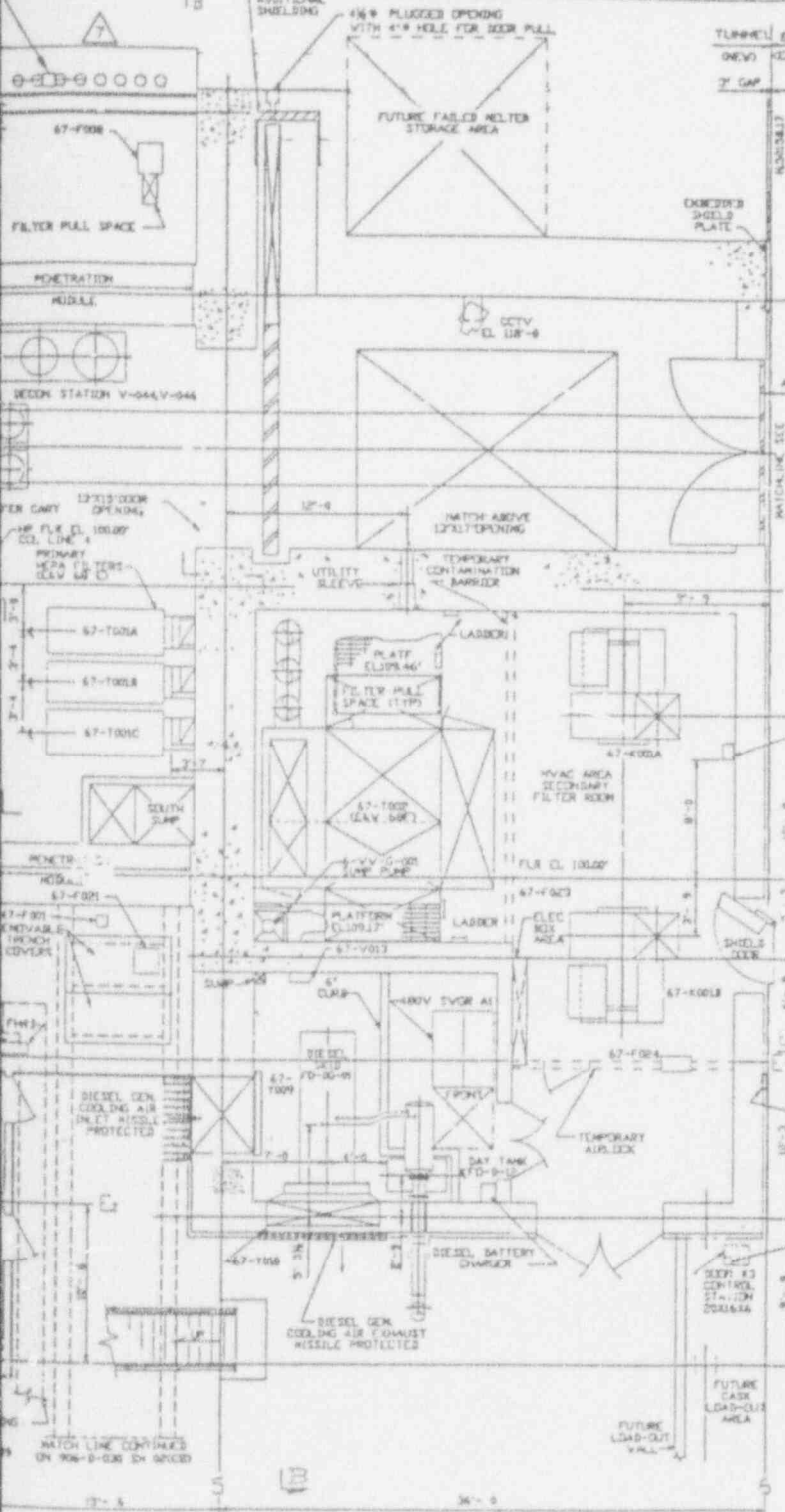
905-D-030

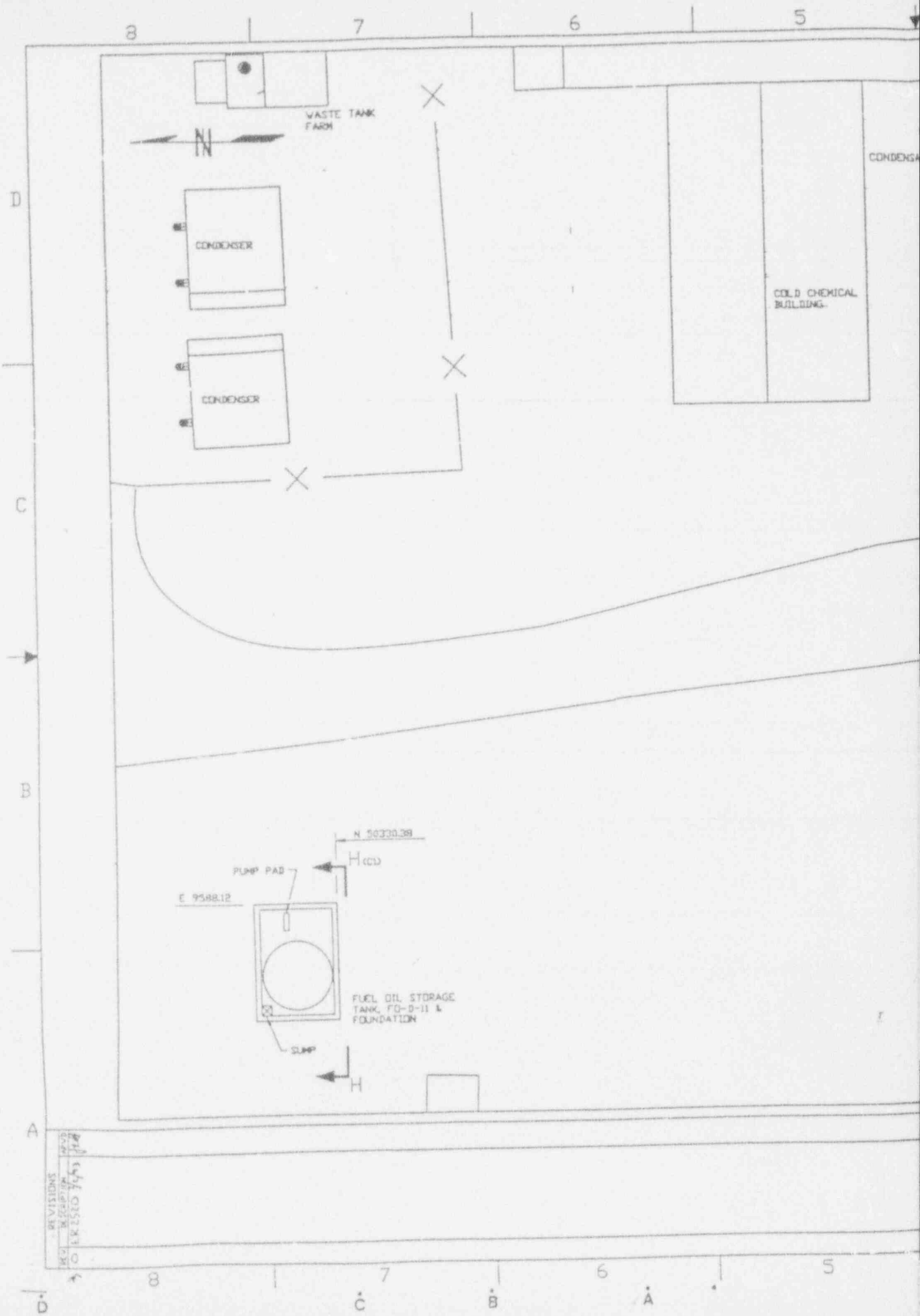


BC:93:0106

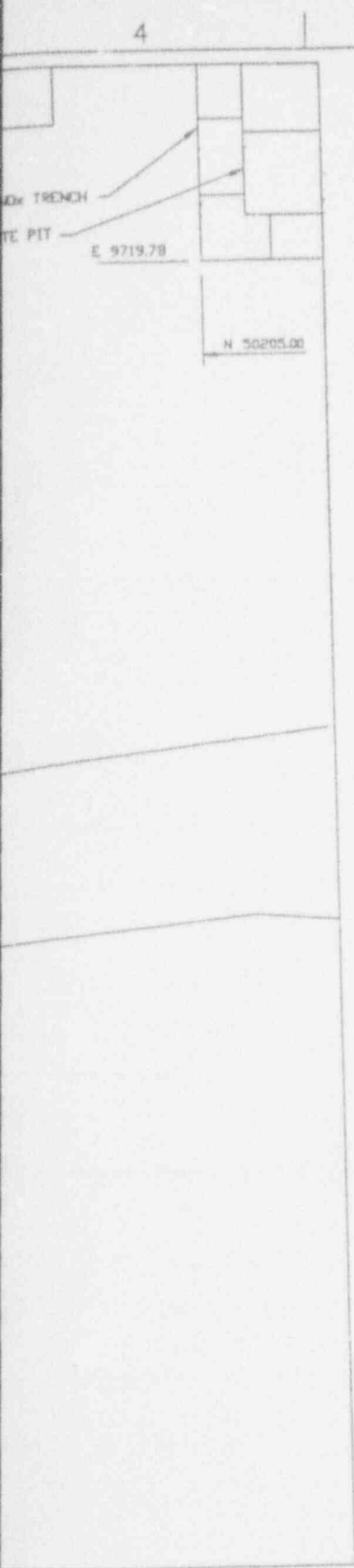
C B A

NO.	DATE	REVISION	DR	CH	APPROVED	NO.	DATE	REVISION	DR	CH	APPROVED	
0	06-30-87		R.A.	F.S.K.	R.A.	F.S.K.	11-11-86		R.A.	F.S.K.	R.A.	F.S.K.
GENERAL REVISION						GENERAL REVISION						
1	7-13-89	ER 1646			J.H.	C	04-25-87		T.M.	J.P.	R.A.	F.S.K.
GENERAL REVISION PER EBAR 851A DATED 3-19-87						GENERAL REVISION PER EBAR 851A DATED 3-19-87						
2	9/10/91	ECN 4375	DAK	DRS	ZB	D	11-04-87		T.M.	J.E.	R.A.	F.S.K.
GENERAL REVISION PER TA-612						GENERAL REVISION PER TA-612						
3	10/20/92	ECN 5112	J.H.	HAB	GFB	E	04-25-87		T.M.	R.J.S.	R.A.	F.S.K.
GENERAL REVISION PER TA-688 & 724						GENERAL REVISION PER TA-688 & 724						
4	11/18/92	ECN 5684	DAK	HAB	GFB	F	11-04-87		M.R.	CA	R.A.	F.S.K.
GENERAL REVISION PER EBAR NO. 1147						GENERAL REVISION PER EBAR NO. 1147						
5	12/15/92	ECN 5768, 5777	L.R.K.	HAB	P.V.M.							
6	1/13/93	ECN 5798	H.A.	DRS	SP							
7	1/25/93	ECN 5325	H.J.L.	F.S.	SP							



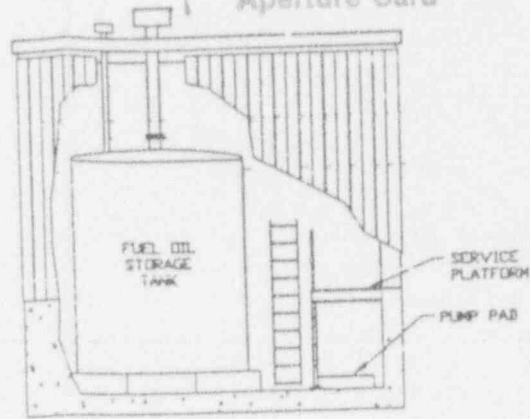


RC:03:0106



ANSTEC APERTURE CARD

Also Available on Aperture Card



VIEW H-H (87)
SCALE: NTS

9403 110314-02

- 9050-169 DIESEL FUEL OIL STORAGE TANK FOUNDATION & DETAILS
- 9000-2777 FUEL OIL STORAGE TANK FD-D-11
- 9000-2849 DIESEL FUEL OIL STORAGE TANK WEATHER ENCLOSURE DETAIL
- 9000-2888 ELECTRICAL CONDUITS TO DIESEL FUEL AREA

REFERENCE DRAWINGS

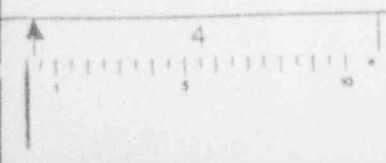
REV	DESCRIPTION	DATE	BY	CHECKED	DATE	BY	SCALE	WEIGHT	REV
1	GENERAL ARRANGEMENT FUEL OIL STORAGE	11-12-92	J. L. HENRY		11-12-92		1"=10'-0"	9050-030	0
2		1-16-93			1-16-93				

UNLESS OTHERWISE SPECIFIED
 ALL DIMS IN INCHES
 TOLERANCES-SEE DETAIL
 WEST VALLEY NUCLEAR SERVICES CO. INC.
 WEST VALLEY, NEW YORK

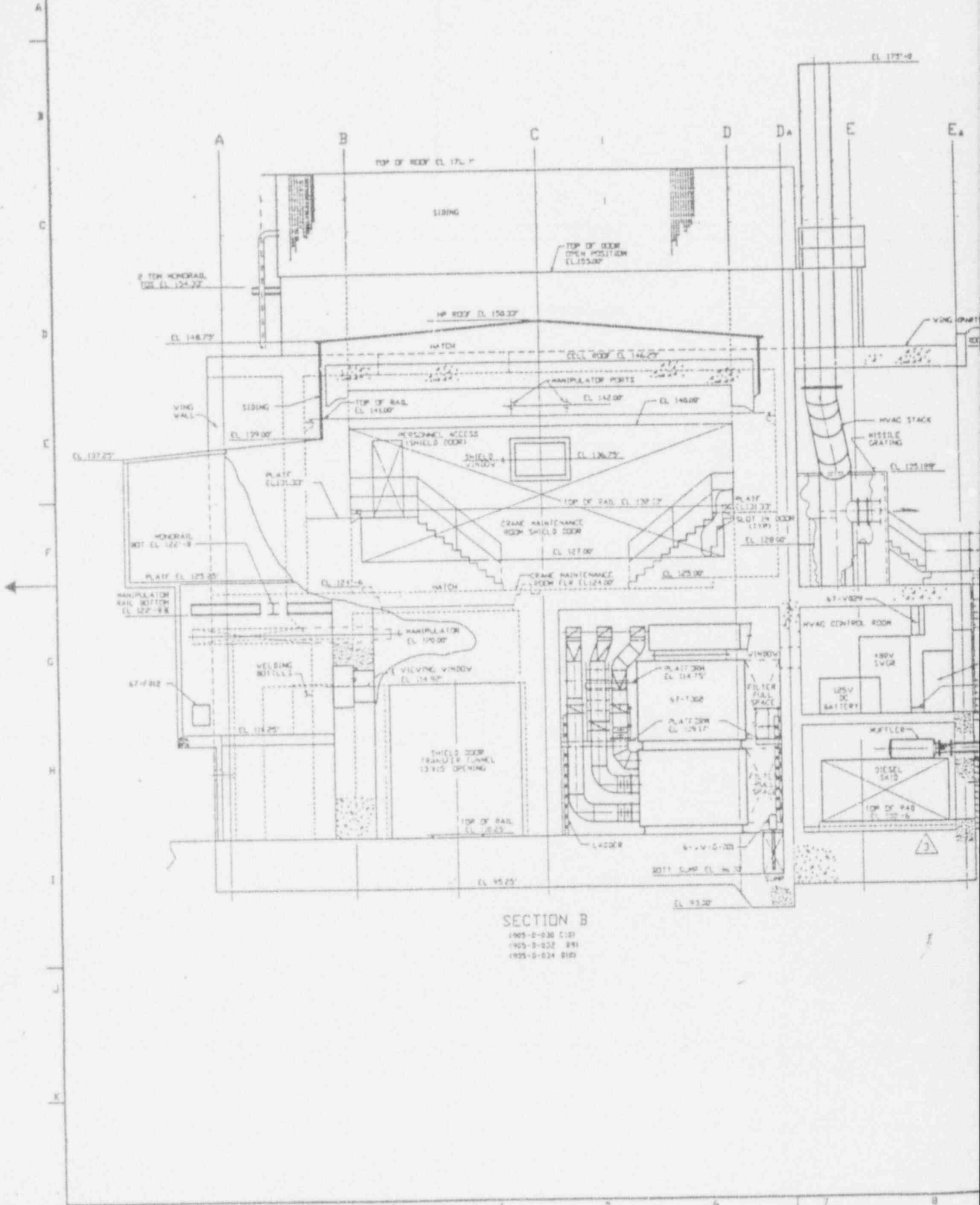
VEST VALLEY NUCLEAR SERVICES CO. INC.
 WEST VALLEY, NEW YORK

SCALE: 1"=10'-0"
 WEIGHT: 9050-030
 SHEET 2 OF 2

CAD DRAWING-DO NOT REVISE THIS ORIGINAL



905-D-036



SECTION B

905-D-030 C181
 905-D-032 891
 905-D-034 818

D B 103

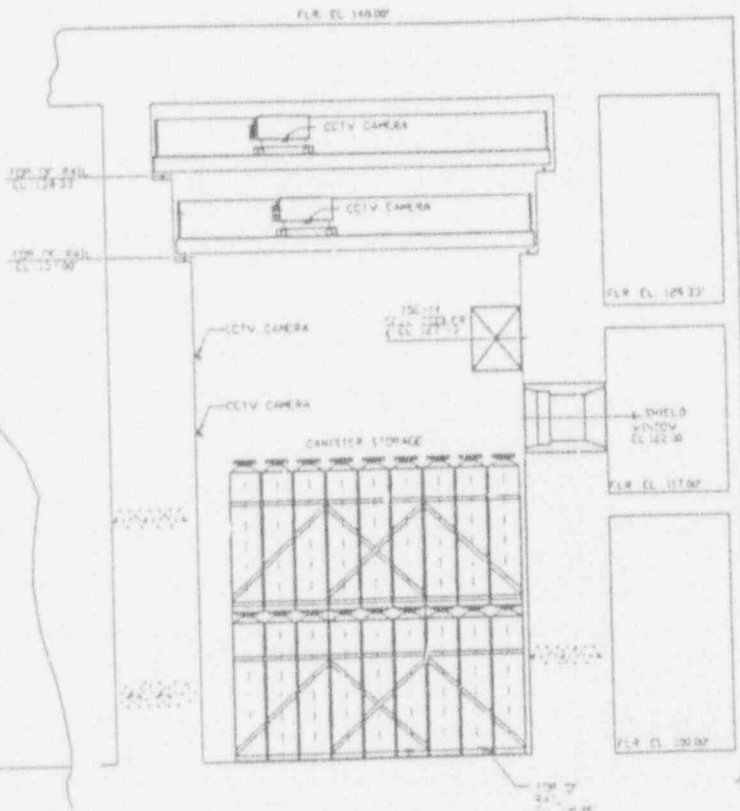
NO.	DATE	REVISION	DR	CH	APPROVED	NO.	DATE	REVISION	DR	CH	APPROVED	
1	06-20-89	GENERAL REVISION	P.S.	S.E.	R.A.	F.S.	F.S.	GENERAL REVISION	R.A.	F.S.	R.A.	F.S.
4	07-19-89	ER 1646			J.M.			GENERAL REVISION PER EBAR 8514 DATED 3-19-87.	T.K.	T.P.	R.A.	F.S.
5		ECN 3387	Y.P.	A.T.V.				GENERAL REVISION PER TA-612	T.K.	S.E.	R.A.	F.S.
6	9/24/91	ECN 4375	M.W.	S.H.S.	Z.H.			GENERAL REVISION PER TA-688 & 724.	T.K.	R.S.	R.A.	F.S.
7	11/18/92	ECN 5684	M.W.	J.S.	R.S.			GENERAL REVISION PER EBAR NO. 1147	M.R.	C.A.	R.A.	F.S.

NOTES

1. FOR NOTES, LEGEND AND REFERENCE DRAWINGS SEE 905-D-032.

ANSTEC APERTURE CARD

Also Available on Aperture Card



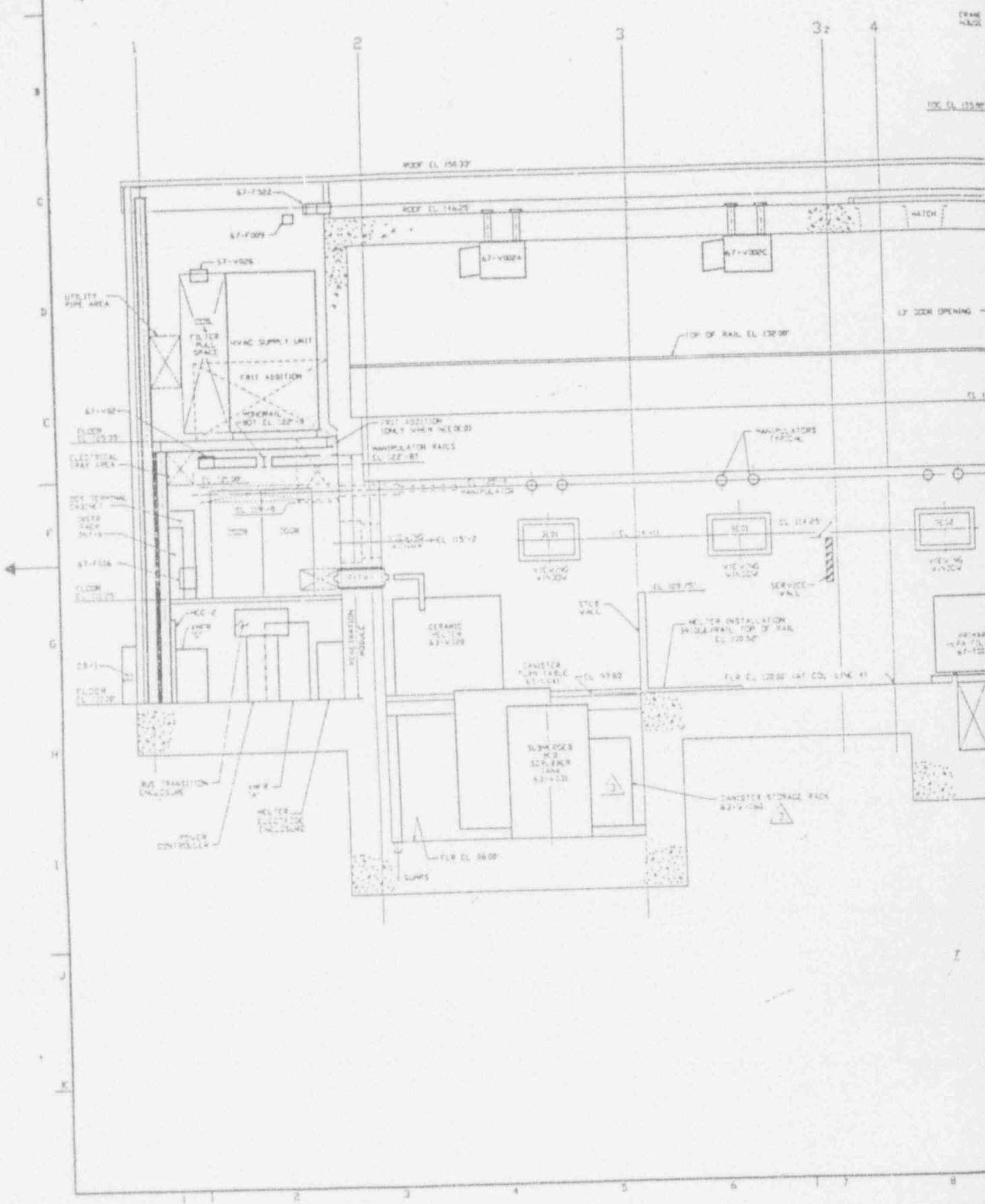
SECTION C
 1905-D-031 021
 1905-D-033 023
 1905-D-025 011

1 0 4 8 12 16 20 FT 3/16"=1'-0"

FOR DRAWING INDEX SEE DRAWING NO.		EBASCO SERVICES INCORPORATED A/E O.P.S. NO. 2000 TASK ORDER 202	
APPROVED BY: G.C.	PROJECT NO. 99-05-01	WEST VALLEY NUCLEAR SERVICES COMPANY, INC. WEST VALLEY, NEW YORK	
DESIGNED BY: J. LEWKO 08-05-84	ENGINEER SUPV: F. KOVALICZ 08-05-84		
CHECKED BY: J. PIATZA 08-05-84	LEAD ENG. DESK: F. KOVALICZ 08-05-84	WEST VALLEY DEMONSTRATION PROJECT	
DRAWN BY: J. LEWKO 08-05-84	DATE: 08-05-84		
PROJECT NO. 99-05-01	SCALE: AS SHOWN	GENERAL ARRANGEMENT VITRIFICATION FACILITY SECTIONS	
SUBCONTRACT NO. 19-CVV-08275	DATE: 08-05-84		
ISSUED FOR CONSTRUCTION	SCALE: AS SHOWN	PROJECT NO. 905-D-036	REV. 3

9403110314-04

905-D-037



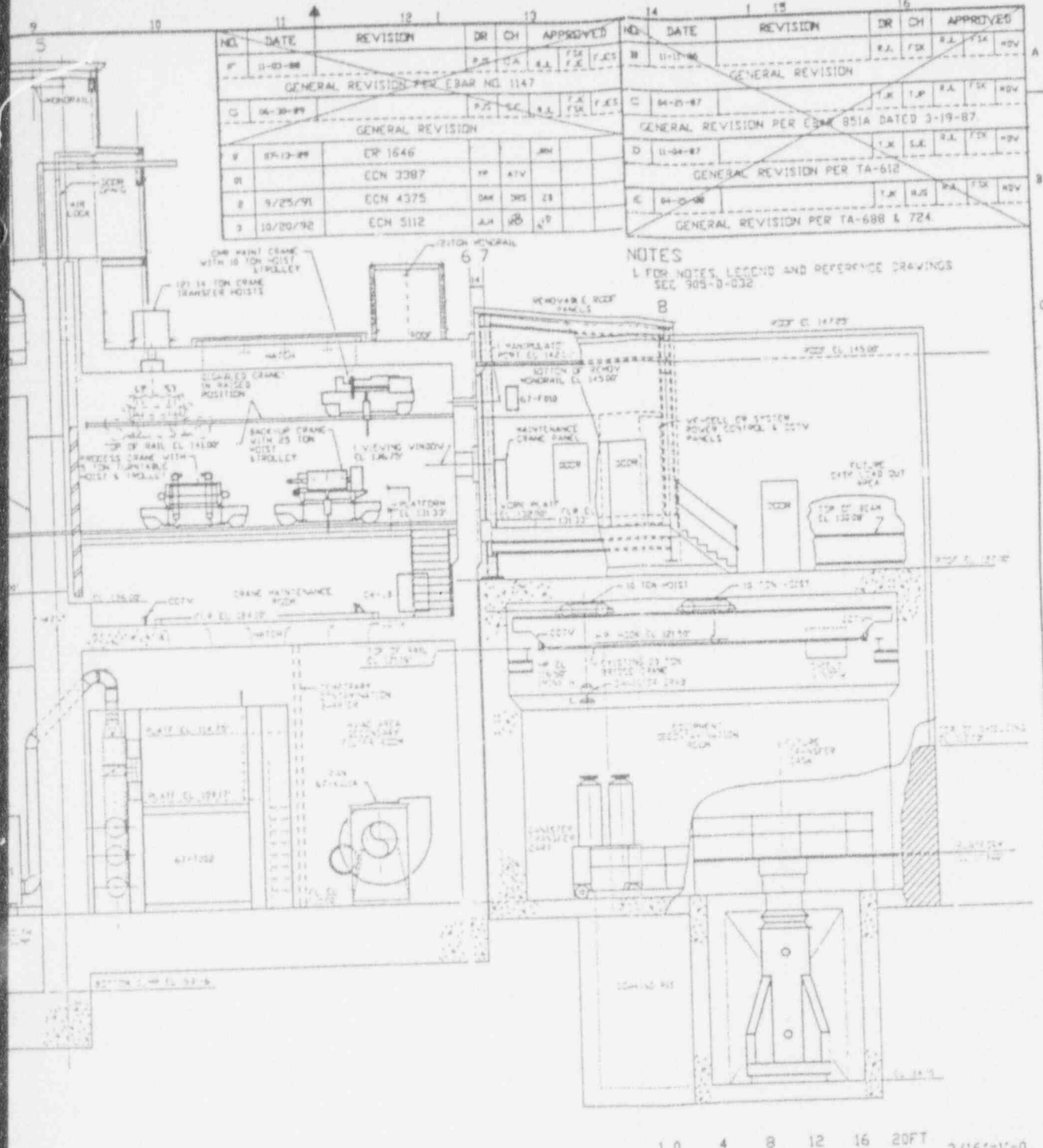
D
C
B
A

NO.	DATE	REVISION	DR	CH	APPROVED	NO.	DATE	REVISION	DR	CH	APPROVED
F	11-03-88		P.S.	CA	R.L.	F.S.	11-11-88		R.A.	F.S.	R.D.V.
GENERAL REVISION PER EBAR NO. 1147											
G	06-30-89		P.S.	CA	R.L.	F.S.			J.K.	J.P.	R.A.
GENERAL REVISION											
H	07-13-89	ER 1646			J.M.				J.K.	S.E.	R.A.
GENERAL REVISION PER EBAR 851A DATED 3-19-87											
I		ECN 2387	TR	ATV					J.K.	S.E.	R.A.
GENERAL REVISION PER TA-612											
J	9/25/91	ECN 4375	DAK	MS	TR				J.K.	R.S.	R.A.
GENERAL REVISION PER TA-688 & 724											
K	10/20/92	ECN 5112	A.H.	WB	L.D.				J.K.	R.S.	R.A.

ANSTEC APERTURE CARD

Also Available on Aperture Card

NOTES
 1. FOR NOTES, LEGEND AND REFERENCE DRAWINGS SEE 905-D-032



10 4 8 12 16 20FT 3/16"=1'-0"

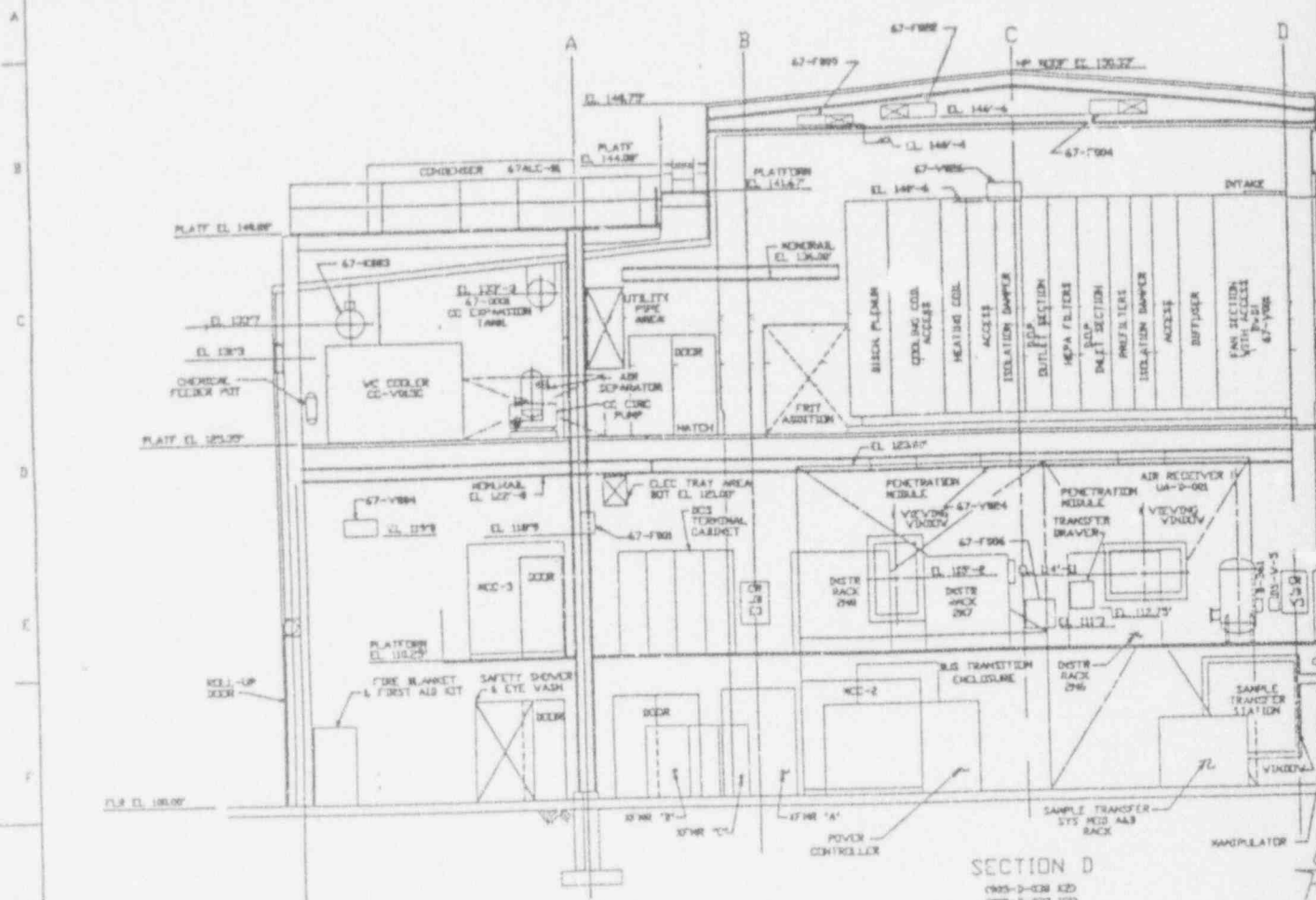
SECTION A

- 1905-D-030 H-31
- 1905-D-031 H-31
- 1905-D-032 G-31
- 1905-D-033 H-62
- 1905-D-034 F-31

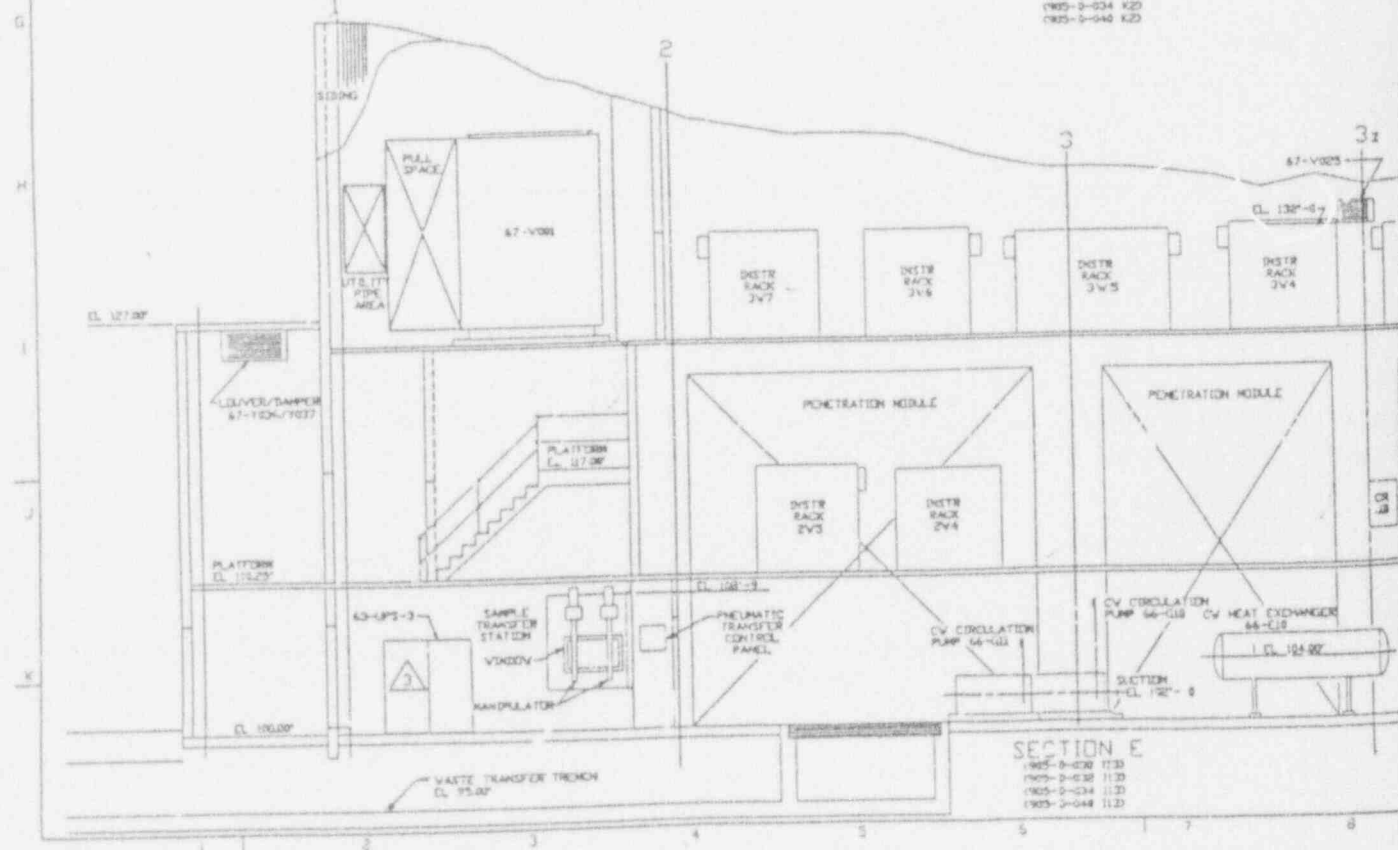
FOR DRAWING INDEX SEE DRAWING NO.	
APPROVED BY	EBASCO SERVICES INCORPORATED
PROJECT NO.	A/E D/F/S NO. 23088 TASK CRANE 522
DESIGNED BY	WEST VALLEY NUCLEAR SERVICES COMPANY, INC.
CHECKED BY	WEST VALLEY, NEW YORK
LEAD TECH. ENGR.	WEST VALLEY DEMONSTRATION PROJECT
DESIGNER	GENERAL ARRANGEMENT VITRIFICATION FACILITY SECTIONS
CHECKED	
DRAWN	
DATE	
PROJECT NO.	905-D-037 3
SCALE	AS SHOWN

9403 110314-05

905-D-038

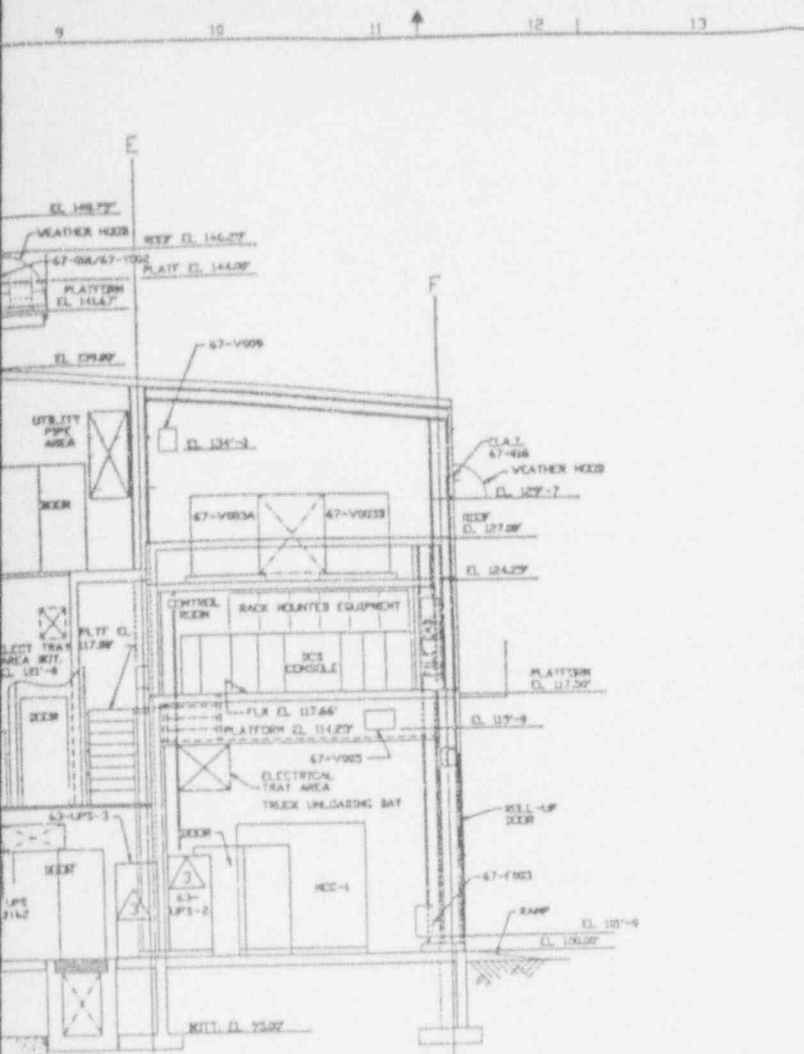


SECTION D
 905-D-038 K20
 905-D-032 K20
 905-D-034 K20
 905-D-044 K20



SECTION E
 905-D-030 1130
 905-D-032 1130
 905-D-034 1130
 905-D-044 1130

B BC:93:0106



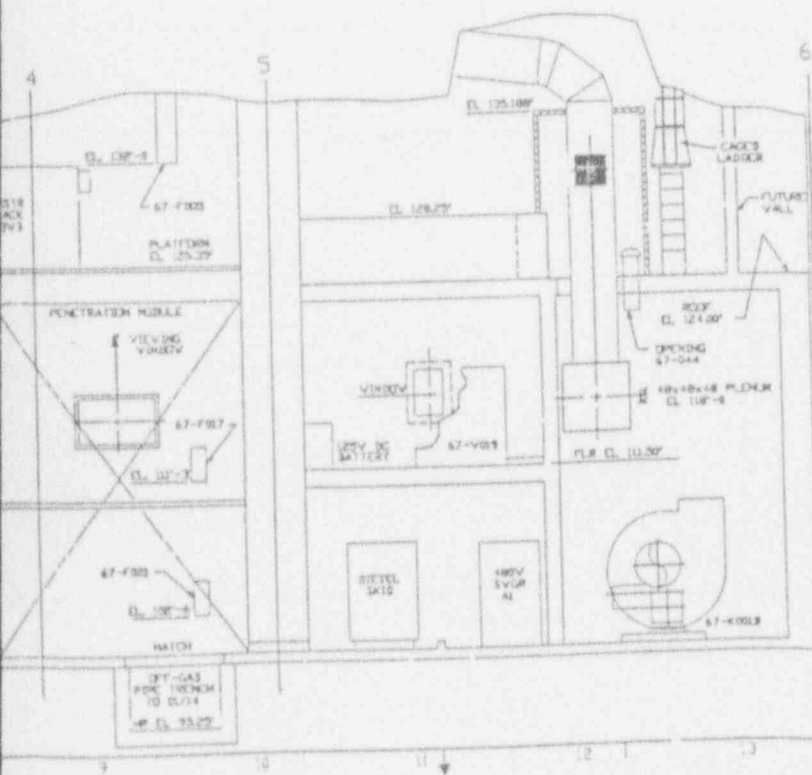
NO	DATE	REVISION	DR	CH	APPROVED
B	04-27-88		TJK	AJD	S.K. TSK KDV
GENERAL REVISION PER TA-688-724 & 736					
C	11-03-88		WFR	CA	R.E. TSK T.K.S
GENERAL REVISION PER EBAR NO 1147					
D	06-30-88		P.S	SE	R.S. TSK T.K.S
GENERAL REVISION					
E	07-13-89	ER 1646			JBI
F		ECN 3387	HP	ATV	
G	5/23/91	ECN 4375	DAK	MS	DB
H	1/16/93	ECN 5798	H.A.	RED	DO

NOTE
FOR NOTES, LEGEND AND REFERENCE DRAWINGS SEE
DRAWING 905-1-032.

ANSTEC APERTURE CARD

Also Available on
Aperture Card

9403110314-06



FOR DRAWING INDEX SEE DRAWING NO. 905-1-032

PROJECT NO.	WBASCO SERVICES INCORPORATED
PROJECT NAME	A/E OFS NO. 2089 TASK ORDER 208
PROJECT LOCATION	WEST VALLEY NUCLEAR SERVICES COMPANY, INC. WEST VALLEY, NEW YORK
PROJECT DESCRIPTION	WEST VALLEY DEMONSTRATION PROJECT
PROJECT TITLE	GENERAL ARRANGEMENT VITRIFICATION FACILITY SECTIONS
PROJECT NO.	905-1-038 3

905-D-040



PLAN EL 146.25' & ABOVE

905-D-036(7)

OLD CHY BLDG
905-D-042

905-D-779(2)

NO.	DATE	REVISION	DR	CH	APPROVED
B	8-21-88		T.R.	R.S.	E.A. F.S. R.D.V.
GENERAL REVISION PER TA-688 & 724					
C	11-03-88		M.R.	C.A.	R.S. F.S. F.S.
GENERAL REVISION PER EBAR NO. 1147					
D	06-20-89		P.S.	S.C.	R.S. F.S. F.S.
GENERAL REVISION					
E	07-13-89	ER 1645			J.H.
F		ECN 3387		Y.P.	A.T.V.
G	5/23/91	ECN 4375		J.A.K.	

NOTE

FOR NOTES/LEGEND AND REFERENCE DRAWINGS SEE 905-D-032.

ANSTEC APERTURE CARD

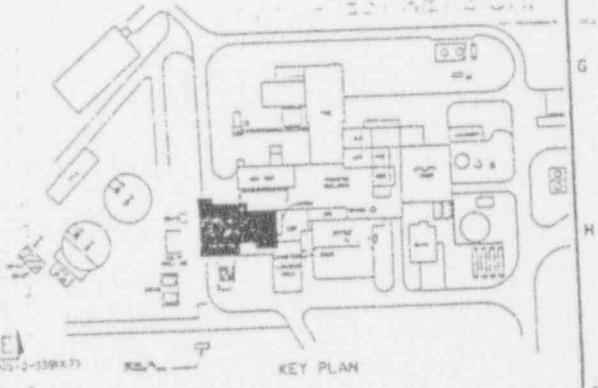
Also Available on Aperture Card

DALTON

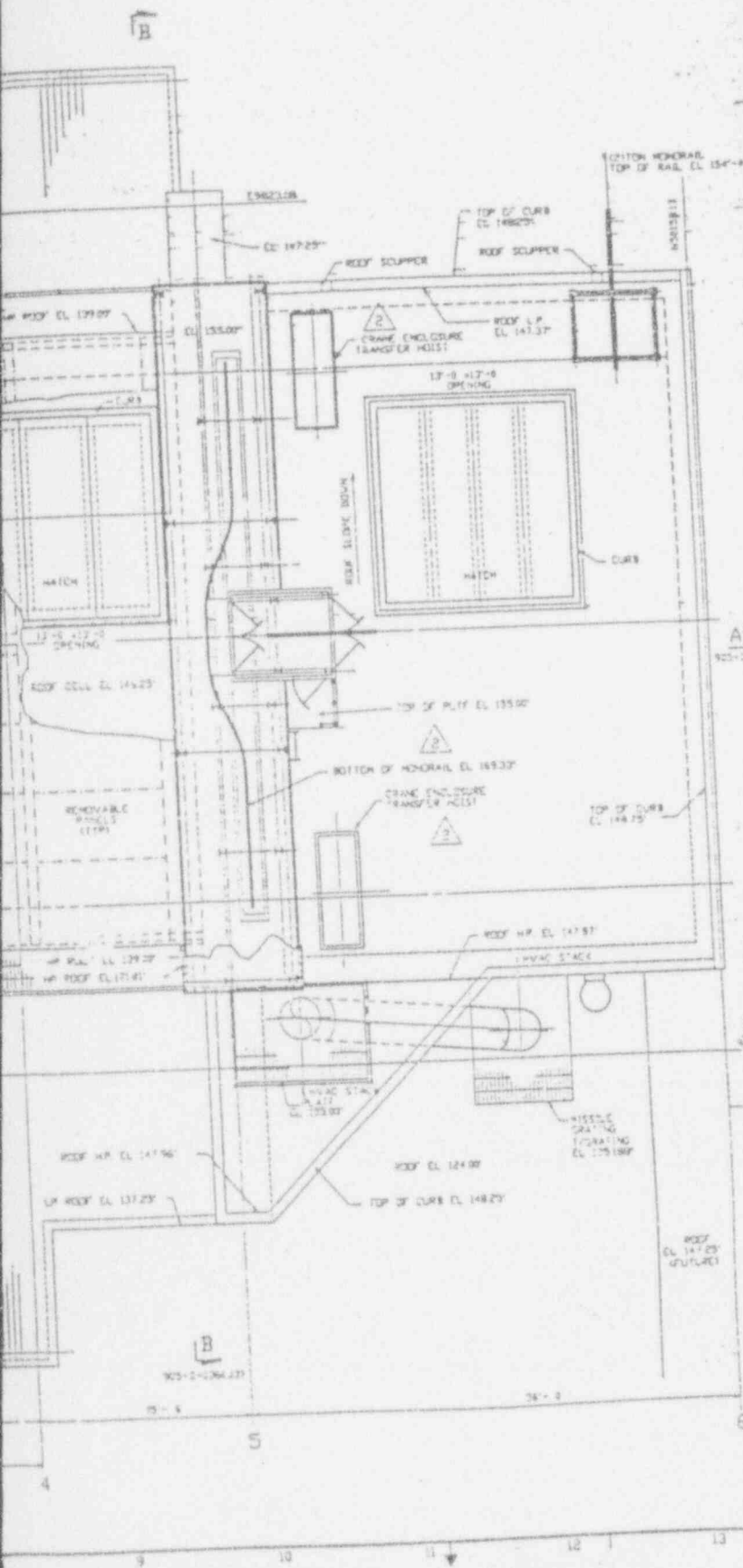
PLANT ROOF

FEB 09 1993

PLANT CONTROL TEST ROOM



1 0 4 8 12 16 20 FT 3/16"=1'-0"



FOR DRAWING INDEX SEE DRAWING NO.		EBCO SERVICES INCORPORATED	
APPROVE	VING CO.	A/E O.P.S. NO. 2388	TASK ORDER 002
PROJECT NO.	H-3-VEINGART 0-8-8	WEST VALLEY NUCLEAR SERVICES COMPANY, INC. WEST VALLEY, NEW YORK	
ENGINEER SUPV.	T.S. VALCOTEK 0-8-8	WEST VALLEY DEMONSTRATION PROJECT	
LEAD ENG. CHGR.	T.S. VALCOTEK 0-8-8	GENERAL ARRANGEMENT VITRIFICATION FACILITY PLAN EL. 146.25' AND ROOF	
DESIGN	D. LEVKO 0-8-8	PROJECT NO. 905-D-040-2	
CHECKER	S. J. ELIA 0-8-8	DRAWING NO. 905-D-040	
DRAWN	J. KITZ DATE 0-8-8	SCALE 3/16"=1'-0"	
DATE	0-8-8	REV. D	
CONTRACT NO.	19-CV-00273	DATE 0-8-8	
ISSUE FOR CONTRACTOR		REV. D	

9403110314-07

90° D 40E

N

IN CELL

STUB WALL

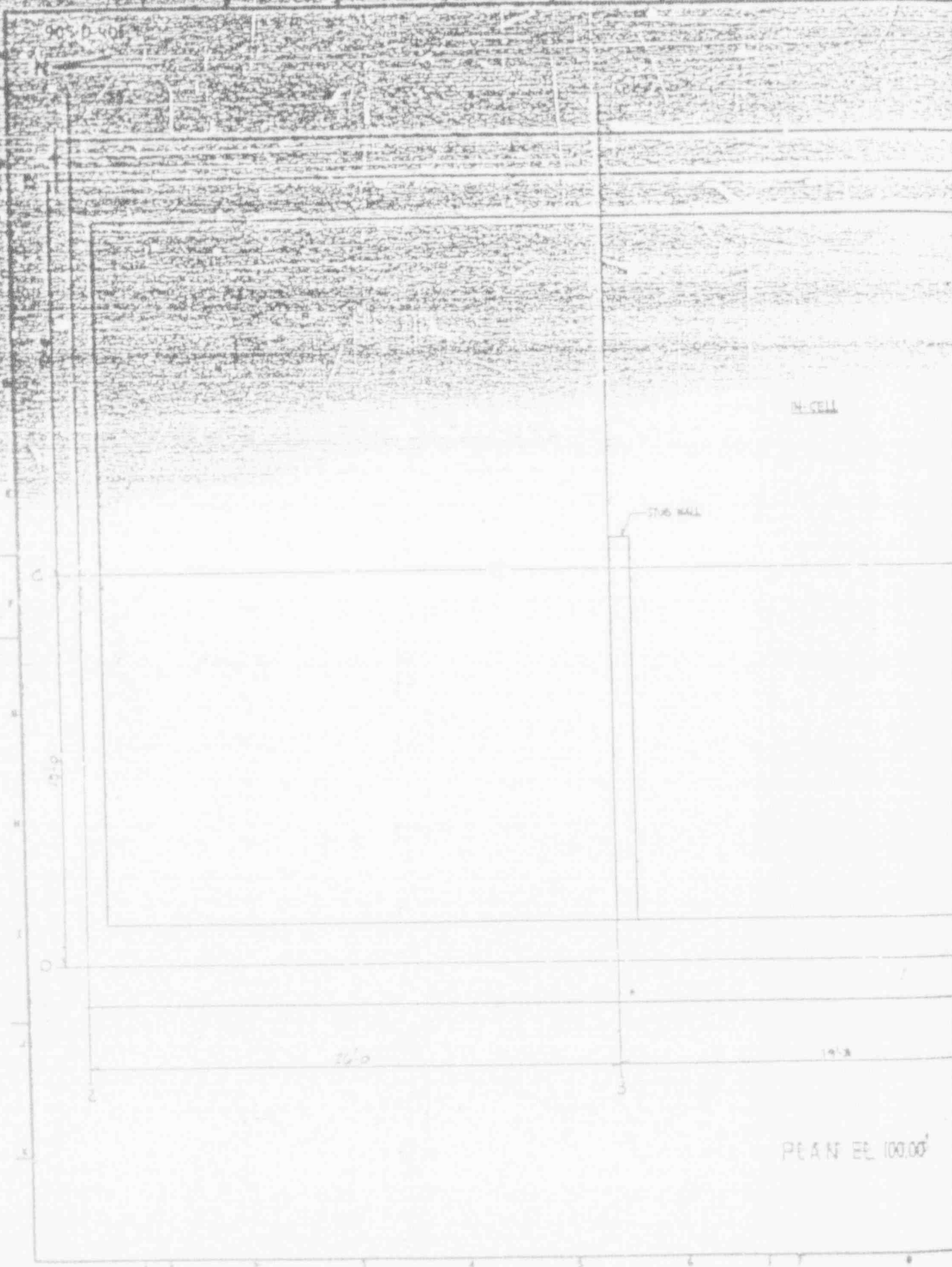
12.9

26.0

14.8

PLAN EE 100.00'

BC:93:0106



DATE	REVISION	DR	CHK	APPROVED
1-16-87				
GENERAL REVISION AS CIRCLED PER EDGAR DAVIS DATED 1/16/87				
10-19-87				
GENERAL REVISION AS CIRCLED PER TA 99A DATED 10/19/87 AND TA 99B DATED 10/19/87				
GENERAL REVISION AS CIRCLED PER EDGAR DAVIS DATED 1/16/87				
3-31-88	BR 1376			
7-28-88	REV PER EDGAR DAVIS			

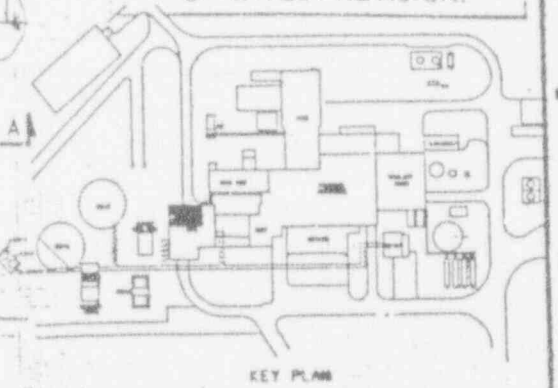
- NOTES**
- FOR GENERAL NOTING & REVISIONS DRAWING SEE DRAWING 905-D-402
 - FOR POT & CIP Piping SEE DRAWING 905-D-403
 - CIRCLED ITEMS (LIKE EMBEDDED DUCTING) SHALL BE INSTALLED UNDER SPECIFICATION CS-154. ALL OTHER ITEMS ON THIS DRAWING SHALL BE INSTALLED UNDER SPECIFICATION CS-154.

ANSTEC APERTURE CARD

Also Available on Aperture Card

CAUTION
CURRENT AS OF
FEB 10 1993

CHECK DOCUMENT CONTROL FOR LATEST REVISION.

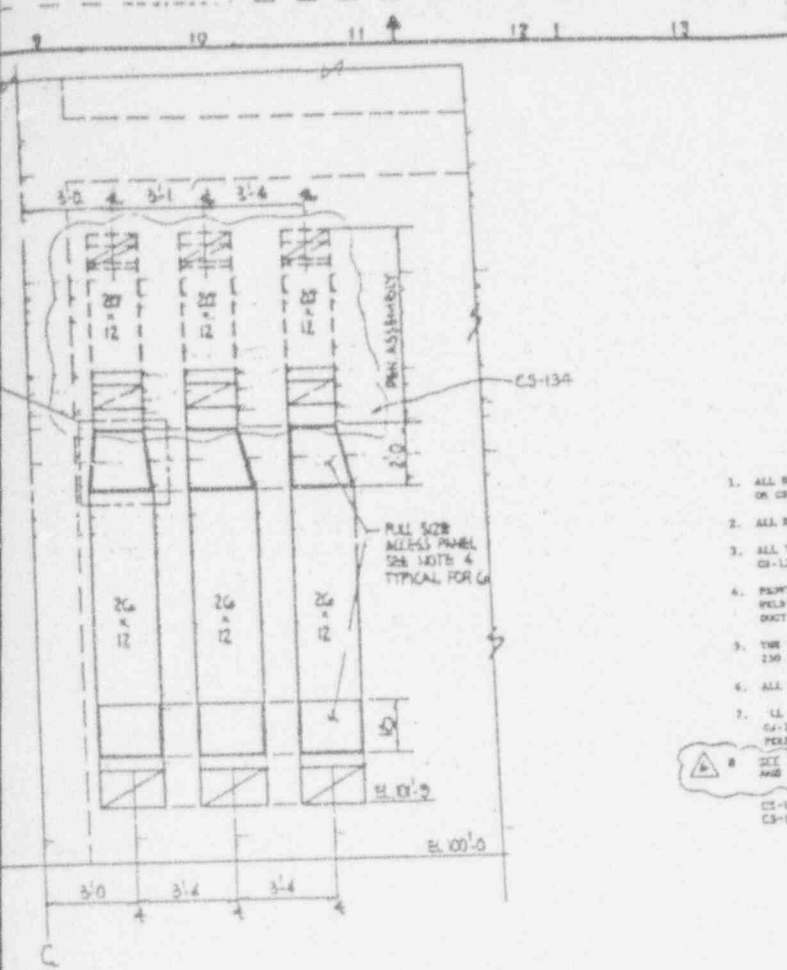


FOR DRAWING INDEX SEE DRAWING NO.

<p>DESIGNED BY: [Signature]</p> <p>CHECKED BY: [Signature]</p> <p>DATE: [Date]</p> <p>SCALE: [Scale]</p> <p>PROJECT NO.: [Project No.]</p> <p>ISSUED FOR: [Issued For]</p> <p>DATE FOR: [Date For]</p>	<p>ELASCO SERVICES INCORPORATED A/E & P. E. No. 2388</p> <p>WEST VALLEY NUCLEAR SERVICES COMPANY, INC. WEST VALLEY, NEW YORK</p> <p>WEST VALLEY DEMONSTRATION PROJECT</p> <p>VITRIFICATION FACILITY VENTILATION SYSTEM</p> <p>PLAN EL. 100'-0"</p> <p>905D-401</p>
--	---

WVNS APPROVAL

DES. BY	[Signature]
CHK. BY	[Signature]
DATE	[Date]
SCALE	[Scale]
PROJECT NO.	[Project No.]
ISSUED FOR	[Issued For]
DATE FOR	[Date For]



REV	DATE	REVISION	DR	CH	APPROVED
B	1-24-87				WVL [Signature]
GENERAL REVISION AS CIRCLED PER EBAR 80% DATED 10/10/86					
C	2-23-87				WVL [Signature]
GENERAL REVISION AS CIRCLED PER TA 50% DATED 8/10/87 TA 590 DATED 9/4/87 AND TA 612 DATED 11/1/87					
D	1-11-88				WVL [Signature]
GENERAL REVISION AS CIRCLED PER EBAR 100% DATED 7/24/88					
E	5/24/88	ER1376			[Signature]
F	7-28-88	REV PER ECN 2549			[Signature]
G	11-4-89	REV. PER ECN 3041			[Signature]
H	1-24-90	REV. PER ECN 3400			[Signature]
I	6-21-90	REV. PER ECN 3751			[Signature]
J	8-21-90	REV. PER ECN 3823			[Signature]
K	10-24-90	REV. PER ECN 3976			[Signature]

ANSTEC APERTURE CARD
Also Available on Aperture Card

- GENERAL NOTES**
- ALL DUCT WORK ON THIS SYSTEM IS TO CONFORM TO SPECIFICATION CS-134, CS-136 OR CS-139 AS APPLICABLE.
 - ALL RECTANGULAR DUCT SLICES ARE DIMING DIMENSIONS.
 - ALL THROUGH, TOP AND BRASS FLIPPING AND WELDING TO CONFORM TO SPEC. CS-134 OR CS-139 AS APPLICABLE.
 - PROMOTE ACCESS PANELS FOR IN-CELL PORTS MAKE SURE OF CLEARANCE TO ALLOW WELDING OF SEAM DUCT JOINTS. ALL ACCESS PANELS TO BE SEAL WELDED AFTER DUCT INSTALLATION AND BEFORE AIR LEAKAGE TESTING.
 - THE OPERATING TEMPERATURE FOR WELDS TO THE DIMENSIONED PLATE SHALL NOT EXCEED 250 DEGREE F.
 - ALL DUCT SHALL BE 304L STAINLESS, 1/4" THICK, UNLESS OTHERWISE NOTED.
 - ALL "CLEANUP" TYPE WORK TO BE PERFORMED UNDER SPECIFICATION CS-134 OR CS-139 AS INDICATED. ALL OTHER WORK ON THIS DRAWING IS TO BE PERFORMED UNDER SPECIFICATION CS-139.
- SEE SPEC. APPROPRIATE SECTION 12090 FOR CASSETT MATERIAL AND SECTION 11070 FOR EXPANSION JOINT MATERIAL.
- CS-134 DIM. 1204
CS-134 DIM. 1204, 1204, 1204, 1204, 1204, 1204

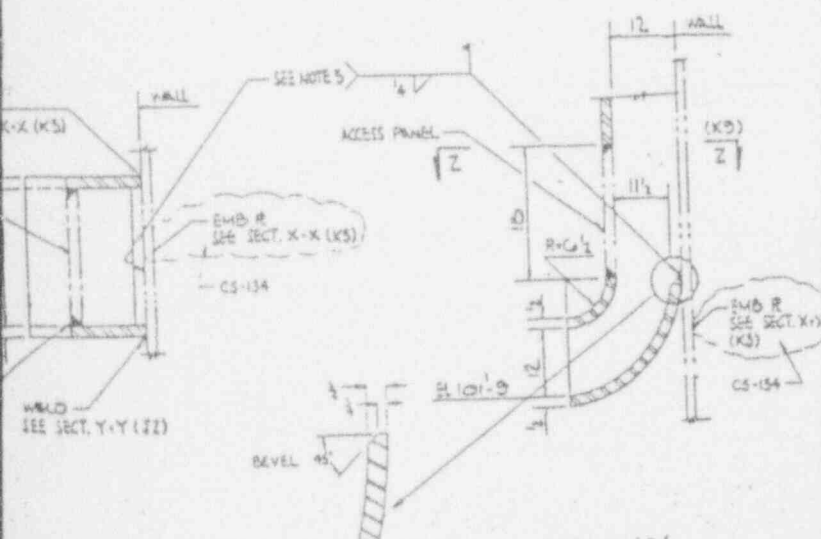
EXISTING
CURRENT
FEB 9 1993
CONTROL ROOM DESIGN

SECTION B-B DWG. 905-D-401 (112)

9403110314-09

REFERENCE DRAWINGS:

- 1 SYMBOLS & LEGEND 905-D-1100
- 2 HVAC SEC. FILTER RM PLAN EL 100.00' 905-D-408
- 3 HVAC PLAN EL 124.00' 905-D-408
- 4 HVAC MISCELLANEOUS DETAILS 905-D-407
- 5 GENERAL ARRANGEMENT EL 100.00' 905-D-050
- 6 GENERAL ARRANGEMENT EL 111.00' 905-D-038
- 7 HVAC AIR FLOW DIAGRAM 905-D-490
- 8 HVAC P#10 905-D-498
- 9 HVAC PLAN EL 100.00' & EL 111.00' 905-D-054
- 10 GENERAL ARRANGEMENT EL 124.00' 905-D-078
- 11 GENERAL ARRANGEMENT EL 124.00' 905-D-078
- 12 CIVIL 305-D-122
- 13 ELECTRICAL 305-D-245
- 14 I & C 305-D-370/381
- 15 MECH 305-D-060
- 16 DELETED
- 17 V.P. LINE 5 HVAC DUCT PENETRATION ASSEMBLY 905-D-193
- 18 HVAC DISTRIBUTION PIPING EL 100.00' 905-D-409
- 19 VIT. FACIL VENTILATION SYST. PLANS 1 SECT. 905-D-605



DETAIL 'B' (14)
NO SCALE

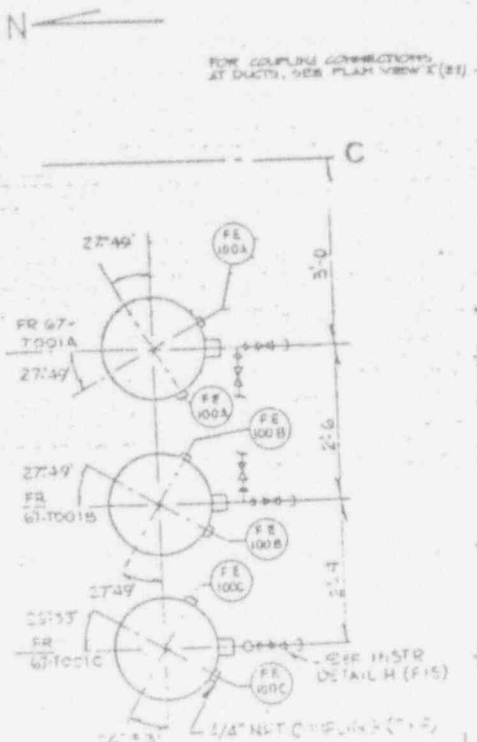
FOR DRAWINGS INDEX SEE DRAWINGS MFG.

APPROVE WORK CELL		EBASCO SERVICES INCORPORATED AVE G.P.S. 905-0000	
[Signature]		THREE BARRIS 005	
[Signature]		WEST VALLEY NUCLEAR SERVICES COMPANY INC WEST VALLEY, NEW YORK	
[Signature]		WEST VALLEY DEMONSTRATION PROJECT VITRIFICATION FACILITY VENTILATION SYSTEM SECTIONS	
[Signature]		PROJECT NO. 905-D-401	
[Signature]		SCALE: 1/4" = 1'-0"	
[Signature]		SHEET NO. 6	
[Signature]		DATE: 905-D-002	

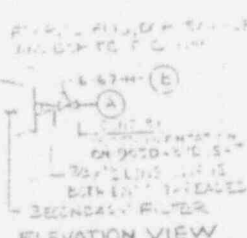
SECTION Z-Z (113)
NO SCALE

905-D-403

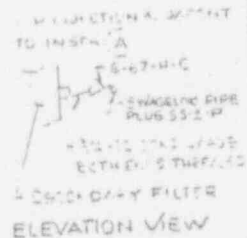
DWG. 905-D-404 (F4) C



PLAN VIEW "X" (83)



ELEVATION VIEW

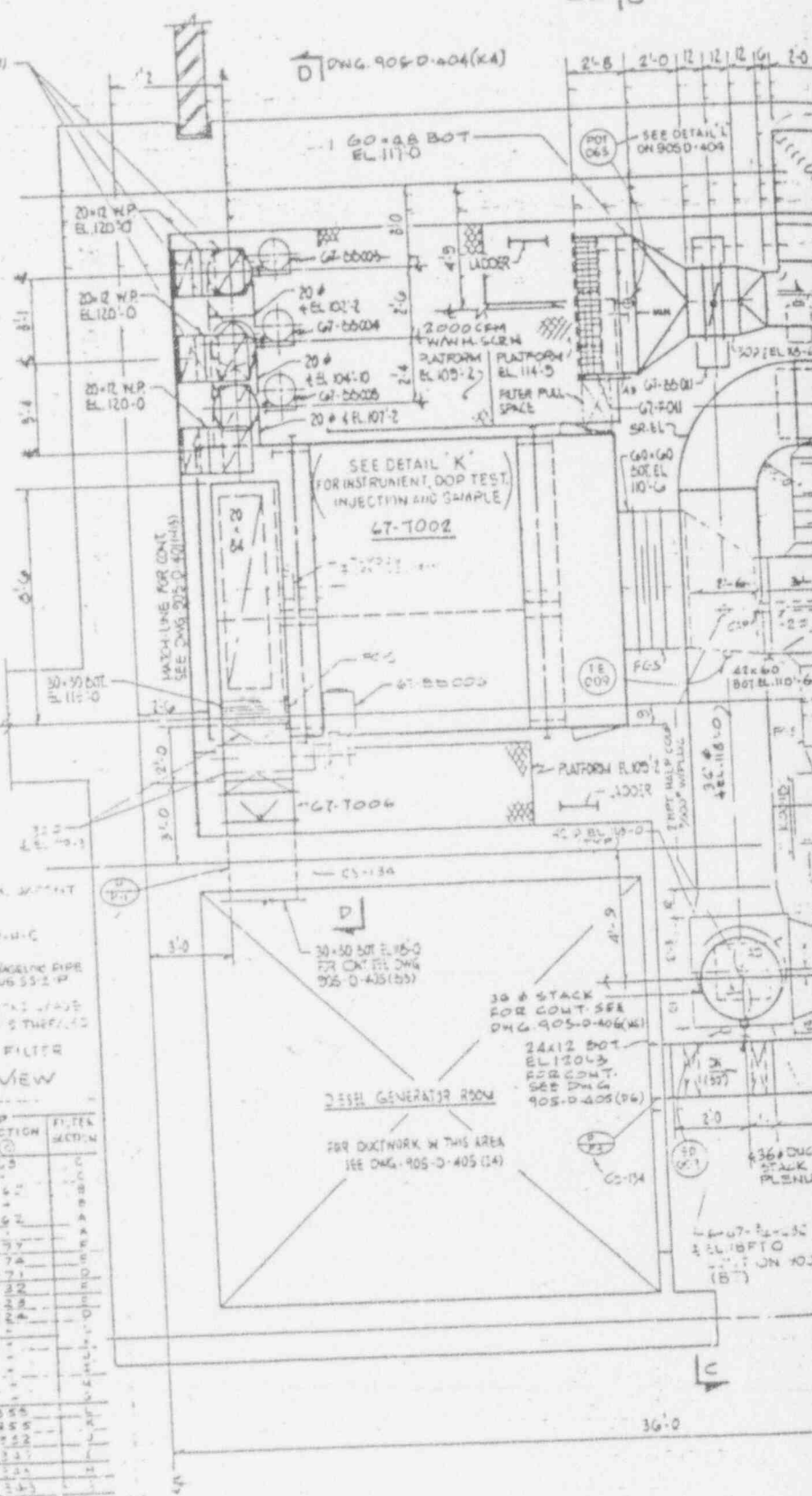


ELEVATION VIEW

INSTR. NO.	VALVE NO.	LOC.	ION		DOP INJECTION	FILTER SECTION
			LOW	HIGH		
PPIS-636	H	267			1.5	
637	L	267			2.5	
638	H	267			2.5	
639	L	267			2.5	
63A	H	267			2.5	
63B	L	267			2.5	
73	H	267			1.5	
72	L	267			1.5	
71	H	267			2.2	
601-69	L	267			2.2	
602	L	267			2.2	
603	L	267			2.2	
604	L	267			2.2	
605	L	267			2.2	
606	L	267			2.2	
607	L	267			2.2	
608	L	267			2.2	
609	L	267			2.2	
610	L	267			2.2	
611	L	267			2.2	
612	L	267			2.2	
613	L	267			2.2	
614	L	267			2.2	
615	L	267			2.2	
616	L	267			2.2	
617	L	267			2.2	
618	L	267			2.2	
619	L	267			2.2	
620	L	267			2.2	

DETAIL "K"

67-7002 SEC. PLAN - FILTER INSTR. IDENTIFICATION. WORK THIS DETAIL WITH INSTRUMENTS IN DETAIL "L" ON DWG. 905-D-405 (F4)



PLAN EL 1000'

BC:93:0106

C

B

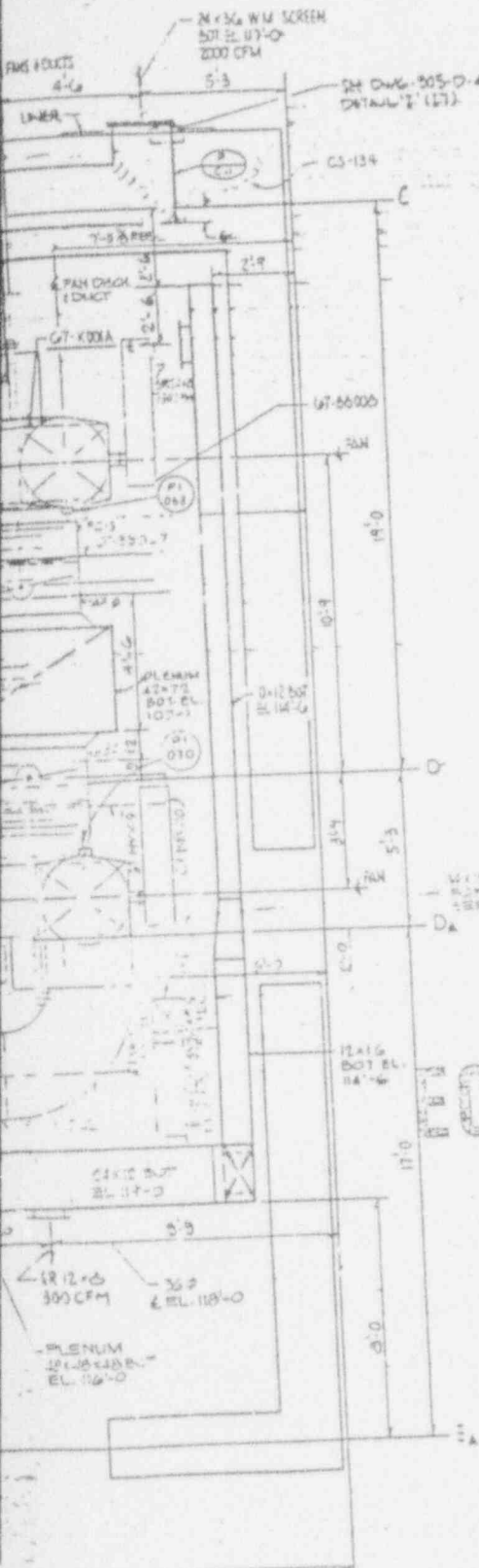
A

700 D-700

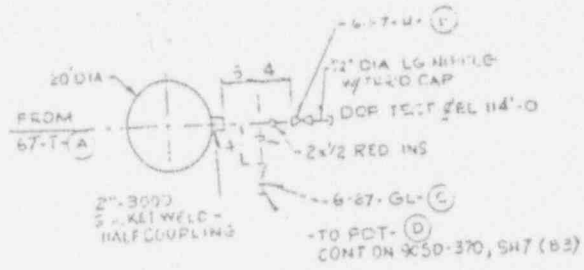
REV NO	DATE	REVISION	DR	CH	APPROVED
7	11-20-92	GEN REV/SCN 5041	FD	→3	LA

ANSTEC APERTURE CARD

Also Available on Aperture Card



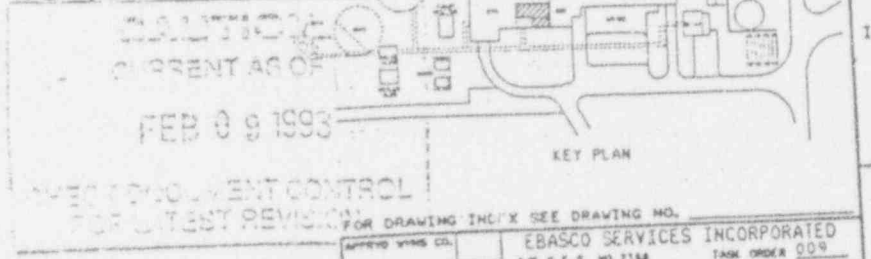
- NOTE
- 1) FOR GENERAL NOTES AND REFERENCE DRAWINGS SEE DRAWING 9050-407
 - 2) FOR HVAC DUCT SUPPORTS SEE DRAWING 9050-155, 9050-156 AND 9000-2891
 - 3) FOR PLATFORM SEE DRAWING 9050-136
 - 4) THIS DWG IS PART OF CS-139 EXCEPT AS NOTED: CS-134 ZONES (G4) (C9) (H7), RELATED DETAILS AND PLATFORMS.
 - 5) UNLESS OTHERWISE NOTED ALL 2" DIA AND 1/2" DIA PIPE SHALL BE SCH 40S, SEAMLESS, A312 TP 304L PLAIN END
 - 6) UNLESS OTHERWISE NOTED ALL 2" DIA AND 1/2" DIA PIPE FITTINGS SHALL BE 3000° SWA182 6RF 304L



DCP INSTRUMENTATION DETAIL 'H'
SEE PLAN VIEW 'X' FOR ORIENTATION AND LOCATION

ITEM	DESCRIPTION	QTY	UNIT
A	2" x 3/4" KEI WELD - HALF COUPLING	227	EA
B	2" DIA LG NIBBLE WITH 1/2" CAP	235	EA
C	6-27-G1	236	EA
D	PCT-100	1	EA

REVISIONS
#3903



9403110314-10

WVNS APPROVAL

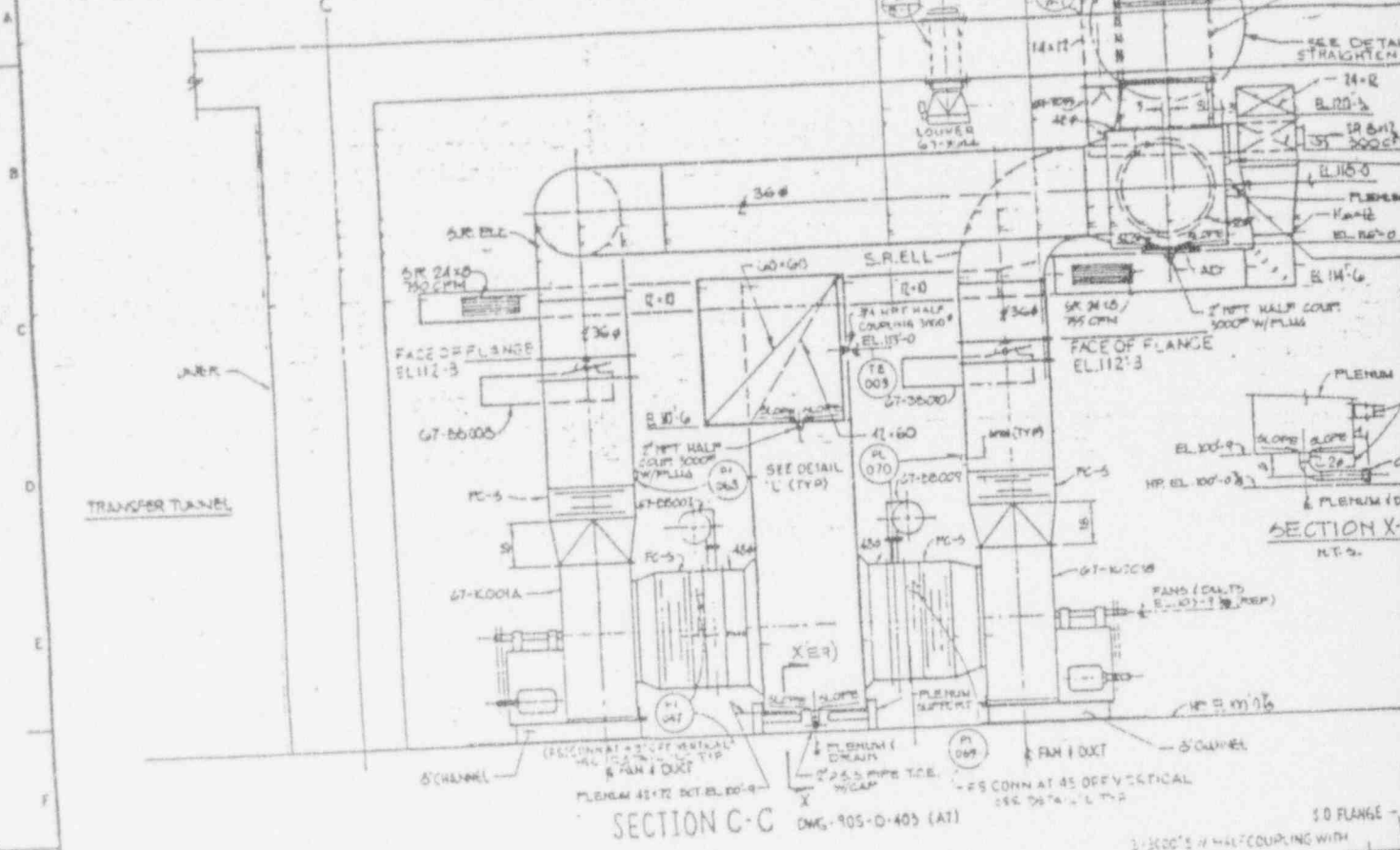
DESIGNER	
CHECKED	
DRAWN	
DATE	

APPROVED WVNS CO.	EBASCO SERVICES INCORPORATED A/E C.V.S. NO. 2134
PROJECT NO.	TASK ORDER 009
ENGINEER SUPV.	WEST VALLEY NUCLEAR SERVICES COMPANY, INC WEST VALLEY, NEW YORK
DESIGNER	WEST VALLEY DEMONSTRATION PROJECT - VITRIFICATION FACILITY SECONDARY HEPA FILTER ROOM PLAN EL. 100'-0"
CHECKED	DATE
DRAWN	DATE
DATE	
ISSUED FOR CONSTRUCTION	SCALE

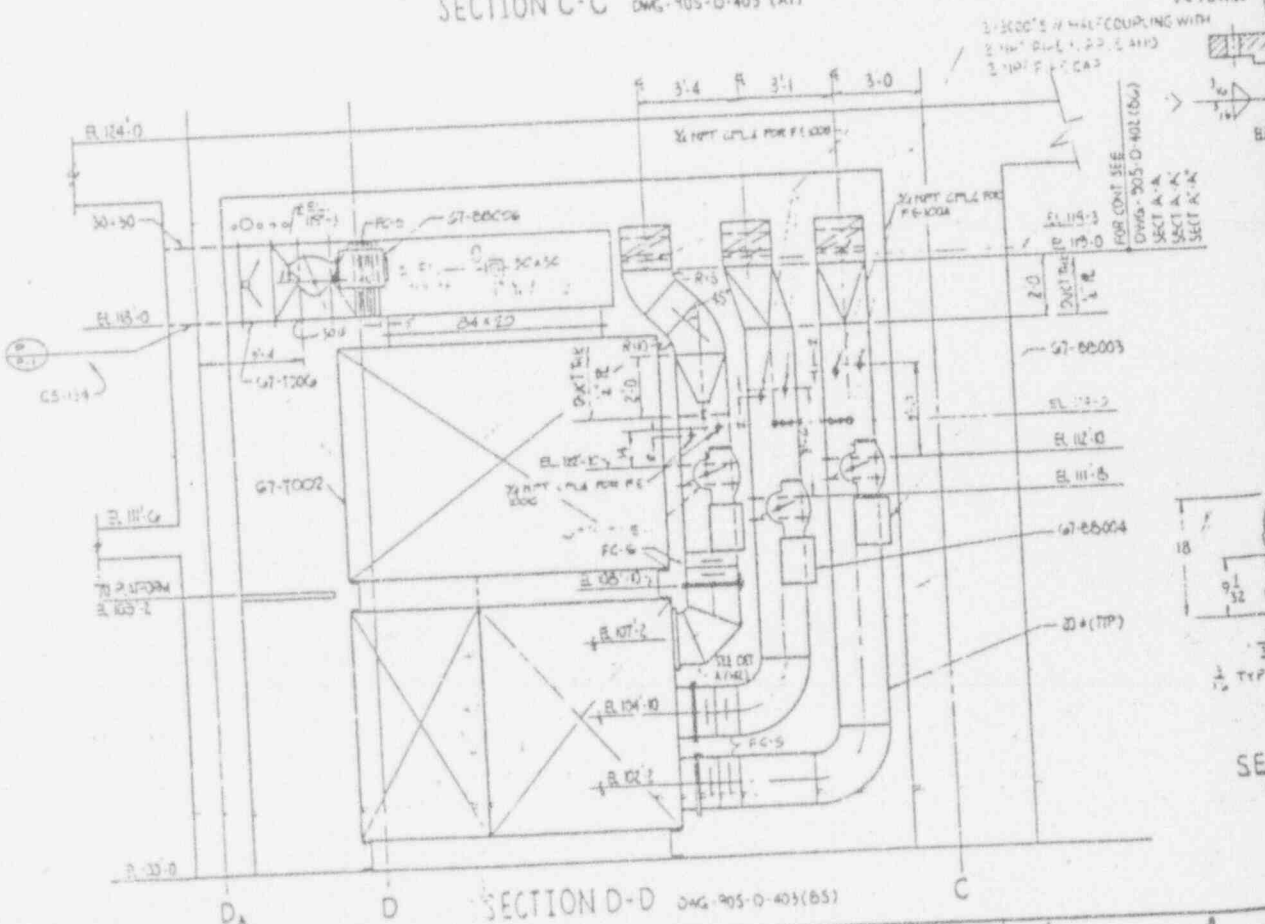
905-D-104

FOR FURTHER INFO -
SEE 905-D-404(MG) (HIS)

FOR CONT SEE
905-D-404(MG)



SECTION C-C DWG. 905-D-403 (AT)



SECTION D-D DWG. 905-D-403 (BS)

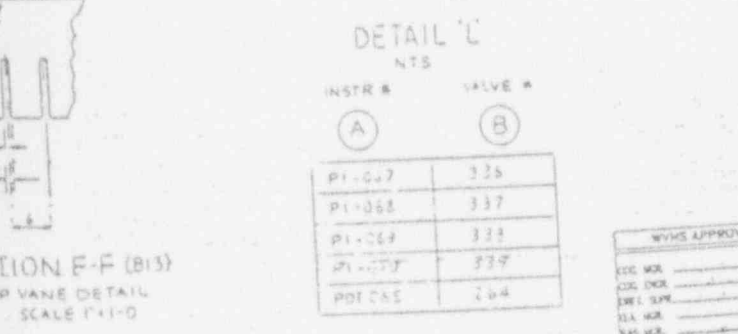
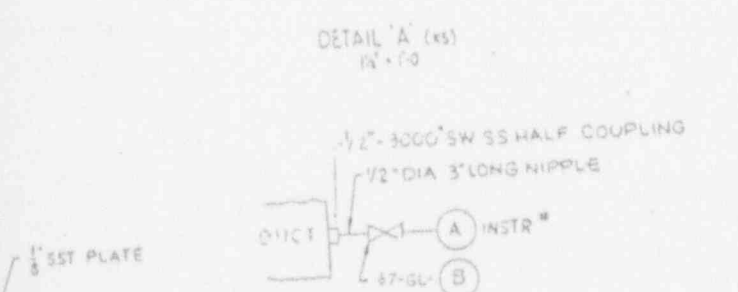
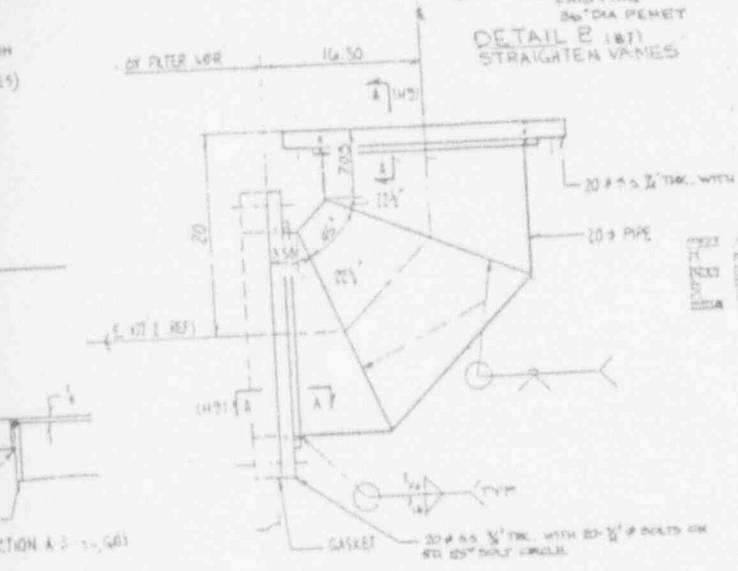
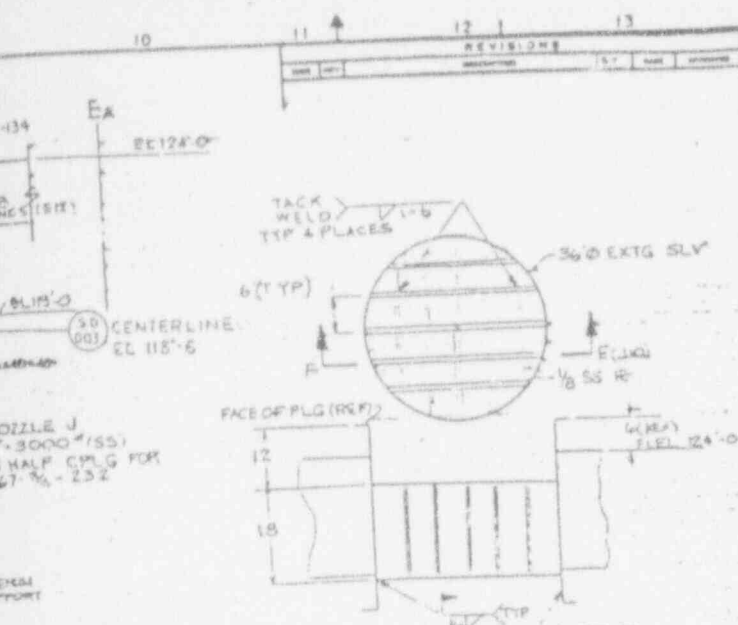
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ANSTEC APERTURE CARD

Also Available on Aperture Card

REV	DATE	REVISION	DR	CH	APPROVED
1	1-26-87		WV	FF	[Signature]
GENERAL REVISION AS CIRCLED PER EGAR 876 DATED 01/26/87					
2	5-7-87		KG	FF	[Signature]
GENERAL REVISION AS CIRCLED PER EGAR 876 DATED 06/04/87					
3	5-13-87		WV	WV	[Signature]
GENERAL REVISION AS CIRCLED PER EGAR 876 DATED 9/14/87 AND 1A 1A2 DATED 10/1/87					
4	5-1-88		WV	WV	[Signature]
GENERAL REVISION AS CIRCLED PER EGAR 876 DATED 4/29/88					
11	12-1-92	1 GEN REV/ECN 4041, PD 1, 2, 11, 21			

NOTE:
 1) FOR GENERAL NOTES & REFERENCE DRAWINGS SEE DRAWING 905-D-402.
 2) FOR HVAC PUCT SUPPORTS SEE DRAWING 905-D-155 & 905-D-156.
 3) FOR STACK ENCLOSURE SEE DWG. 905-D-191.
 4) FOR ADDITIONAL NOTES, SEE 905-D-110



FECH(S) RECORD

#5903

FEB 0 9 1993

CHECK DOCUMENT CONTROL

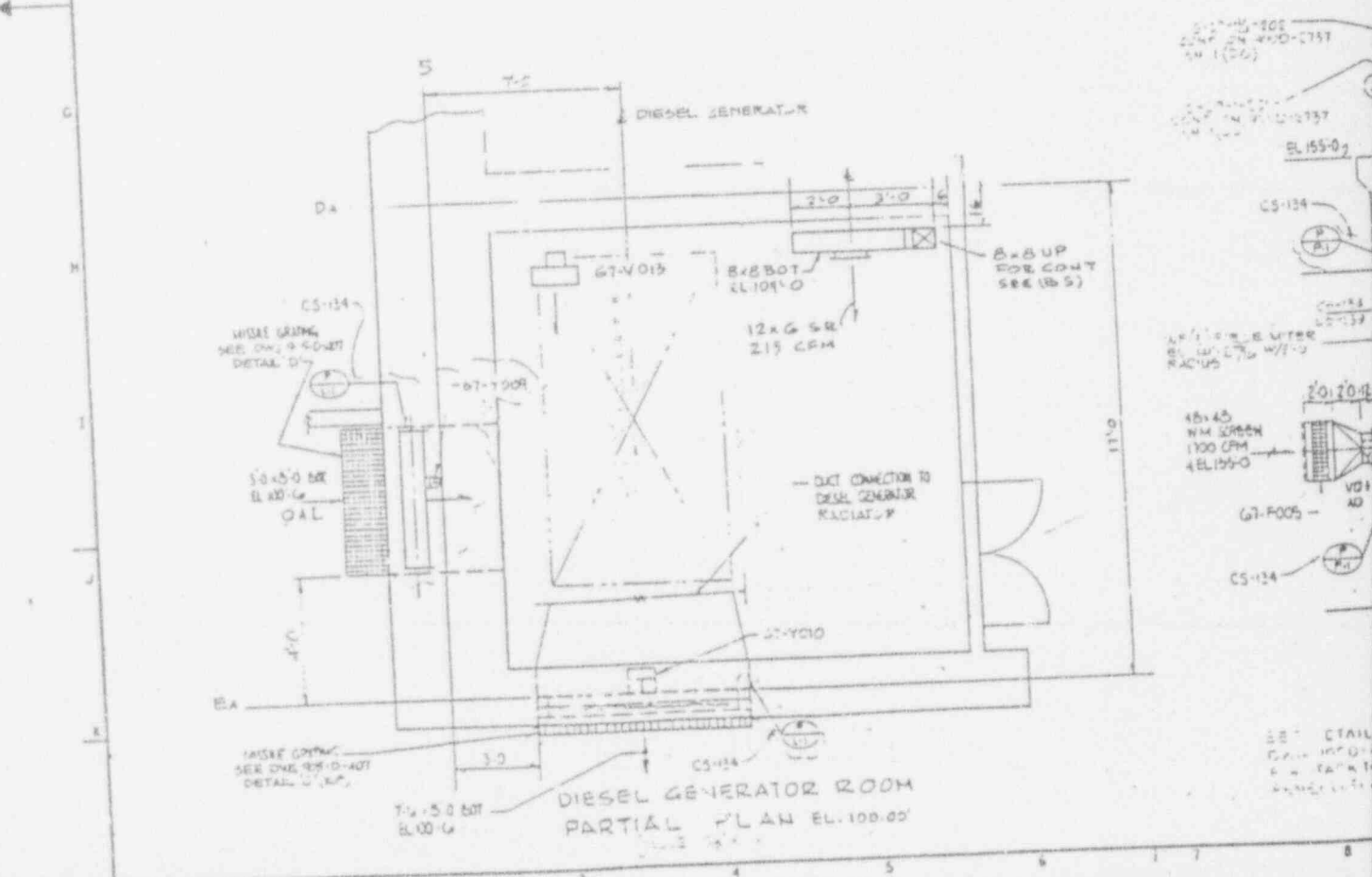
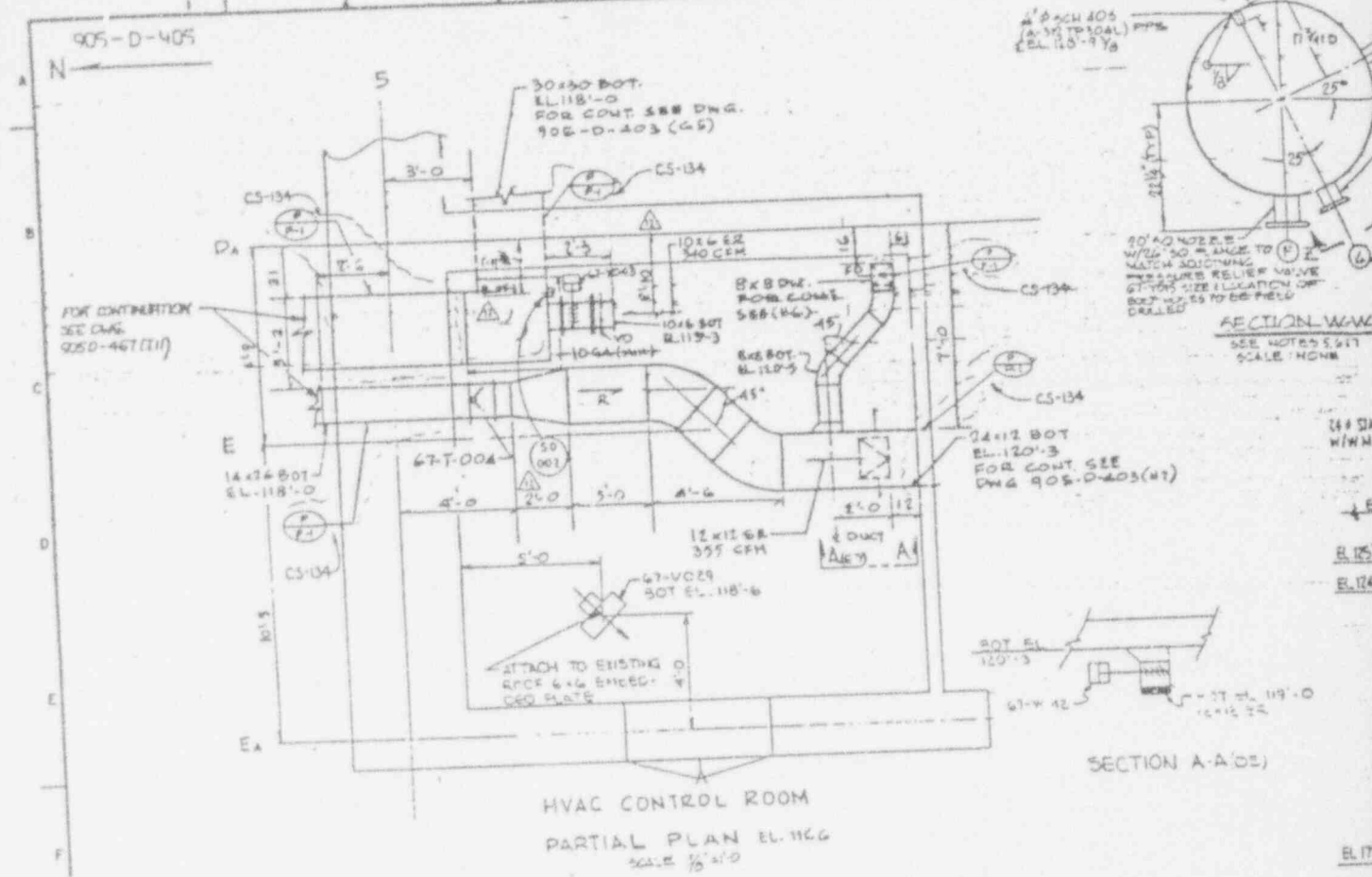
FOR LATEST REVISION.

THIS DIAG IS PART OF
 AS SHOWN AS NOTED SEE DRAWING
 20 # 4 S 1/2 THK. WITH 20 # 1/8 S BOLTS ON 180 DEG BOLT CIRCLE

FOR DRAWING INDEX SEE DRAWING NO.

APPROVED	WVMS CO.	EBASCO SERVICES INCORPORATED
PROJECT NO.	WVMS CO.	WVMS CO.
ENGINEER	WVMS CO.	WVMS CO.
DESIGN	WVMS CO.	WVMS CO.
CHECKED	WVMS CO.	WVMS CO.
DATE	WVMS CO.	WVMS CO.
PROJECT NO.	WVMS CO.	WVMS CO.
SCALE	WVMS CO.	WVMS CO.

9403 110314-//



BC:02:1111

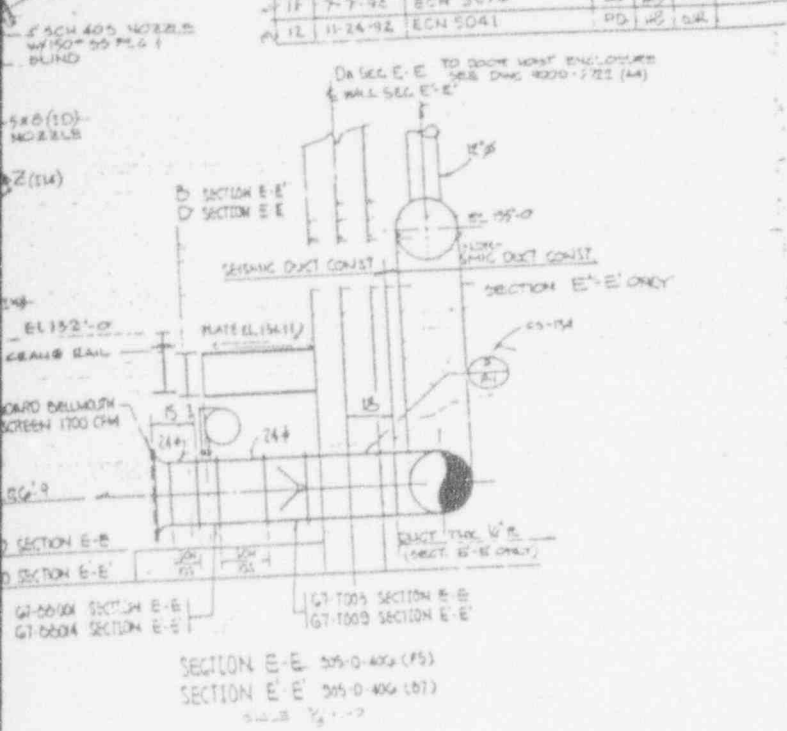
5 B A

REV NO	DATE	REVISION	DR	CH	APPROVED
8	12-13-81	ECN 4554	PD	JBS	
9	4-27-82	ECN 5397	PD	OB	
10	5-27-82	ECN 5135	PD	OB	
11	7-7-82	ECN 5274	SW	ES	
12	11-24-82	ECN 5041	PD	OB	

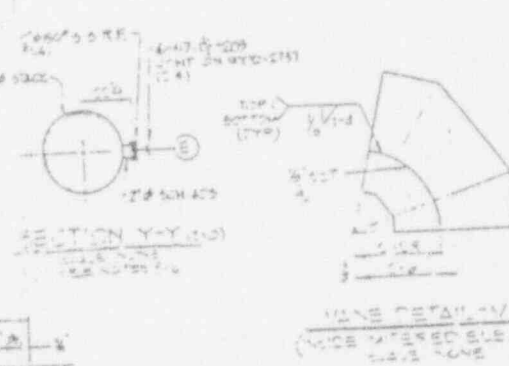
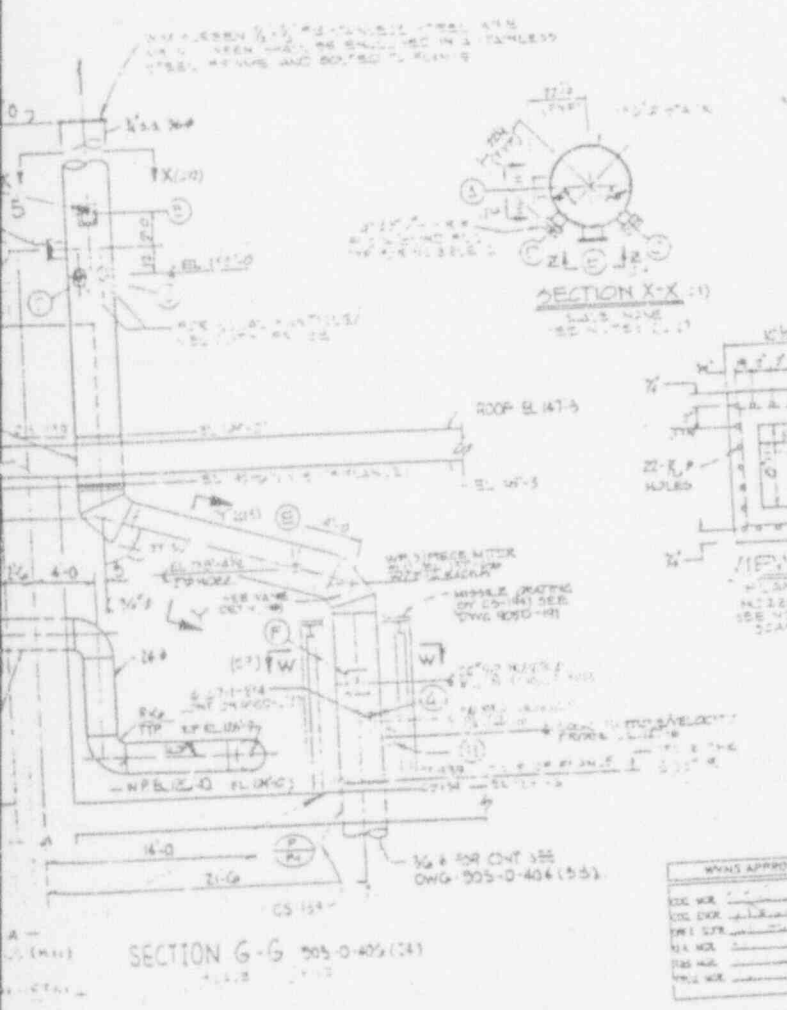
REV NO	DATE	REVISION	DR	CH	APPROVED
13	1-26-87	GENERAL REVISION AS CIRCLED PER EBAR 876 DATED 10/10/86	WVL	JM	FF
14	5-1-87	GENERAL REVISION AS CIRCLED PER EBAR 876 DATED 3/6/87	RG	FF	FF
15	10-24-87	GENERAL REVISION AS CIRCLED PER EBAR 876 DATED 6/22/87 AND TA 612 DATED 10/11/87	WVL	DR	WVL
16	5-13-88	GENERAL REVISION AS CIRCLED PER EBAR 876 DATED 4/29/88	WVL	RLL	FF
17	5/3/88	ER 1376			
18	7-29-88	REV PER ECN 2549			
19	10-9-88	REV PER ECN 2721			
20	1-2-89	REV PER ECN 3558			
21	1-24-90	REV PER ECN 3823			
22	5-8-90	REV PER ECN 3822			
23	6-7-90	REV PER ECN 3751			
24	8-29-91	REV PER ECN 4167			

ANSTEC APERTURE CARD

Also Available on Aperture Card



NOTE:
 1 FOR GENERAL NOTES & REFERENCE DRAWINGS SEE DRAWING 905-D-402
 2 FOR HVAC DUCT SUPPORTS SEE DWG 905-D-157 & 905-D-166
 3 FOR HVAC STACK SUPPORTS SEE DWG 905-D-749
 4 FOR ADDITIONAL NOTES, SEE 410-D-77
 UNLESS OTHERWISE NOTED, LATEST MATERIAL THICKNESS FOR PLATED NOZZLES SHALL BE AS THE NEAREST ASTM D330-83 SS2 SOCKET 3000. NOZZLE FLANGE SHALL BE A307 TYPE 1.5\"/>



CAUTION
 THIS DWG IS PART OF THE 905-D-157 EXCEPT AS NOTED BELOW:
 CS-154 ZONES, BE, CE, DE, DR, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, 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WVNS APPROVAL

SEE WFL	
SEE DWR	
SEE SFR	
SEE MFL	
SEE WFL	

FOR DRAWING INDEX SEE DRAWING NO.

APPROVED BY	WVNS
DESIGN	E. G. GOWAN
CHECKED BY	T. J. CATER
DATE	5/18/88
PROJECT NO.	9403110314-12
SCALE	AS SHOWN

EBASCO SERVICES INCORPORATED
 400 S. F. S. NO. 2388
 WEST VALLEY NUCLEAR SERVICES COMPANY, INC
 WEST VALLEY, NEW YORK

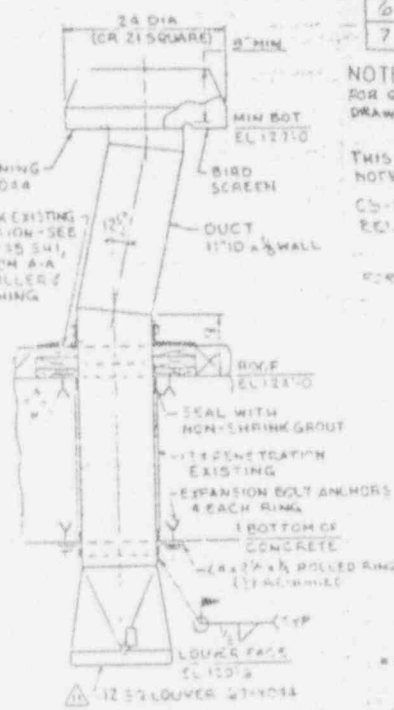
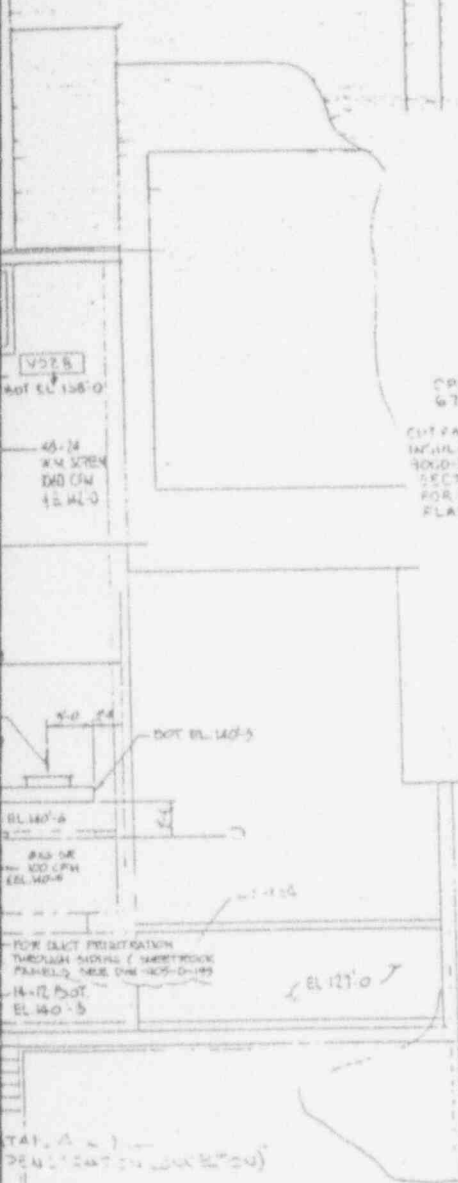
WEST VALLEY DEMONSTRATION PROJECT
 VITRIFICATION FACILITY
 VENTILATION SYSTEM
 PLANS AND SECTIONS

DRAWING NO. 9403110314-12

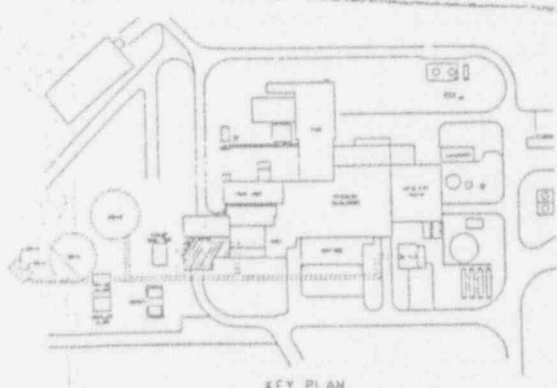
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10	8-18-87	REV PER ECN 4448	PO	WB	
11	7-23-91	REV PER ECN 5711	PO	WB	
C	5-7-87		KG	FR	FF
D	10-25-87		WVL	DR	WVL
E	8-13-88		WVL	DR	WVL
O	5/31/88	ER 1376		M	WVL
1	7-29-88	REV PER ECN 2549	DR	M	WVL
2	8-24-88	REV PER ECN 2735	DR	M	WVL
3	10-6-89	REV PER ECN 3142	DR	M	WVL
4	12-15-89	REV PER ECN 3240	DR	M	WVL
5	1-21-90	REV PER ECN 3400	DR	M	WVL
6	4-26-91	REV PER ECN 4167	DR	M	WVL
7	12-13-91	ECN 4556	DR	M	WVL

ANSTEC APERTURE CARD

Also Available on Aperture Card



REVISIONS
AS OF
FEB 09 1993
CHECK DOCUMENT CONTROL FOR LATEST REVISION



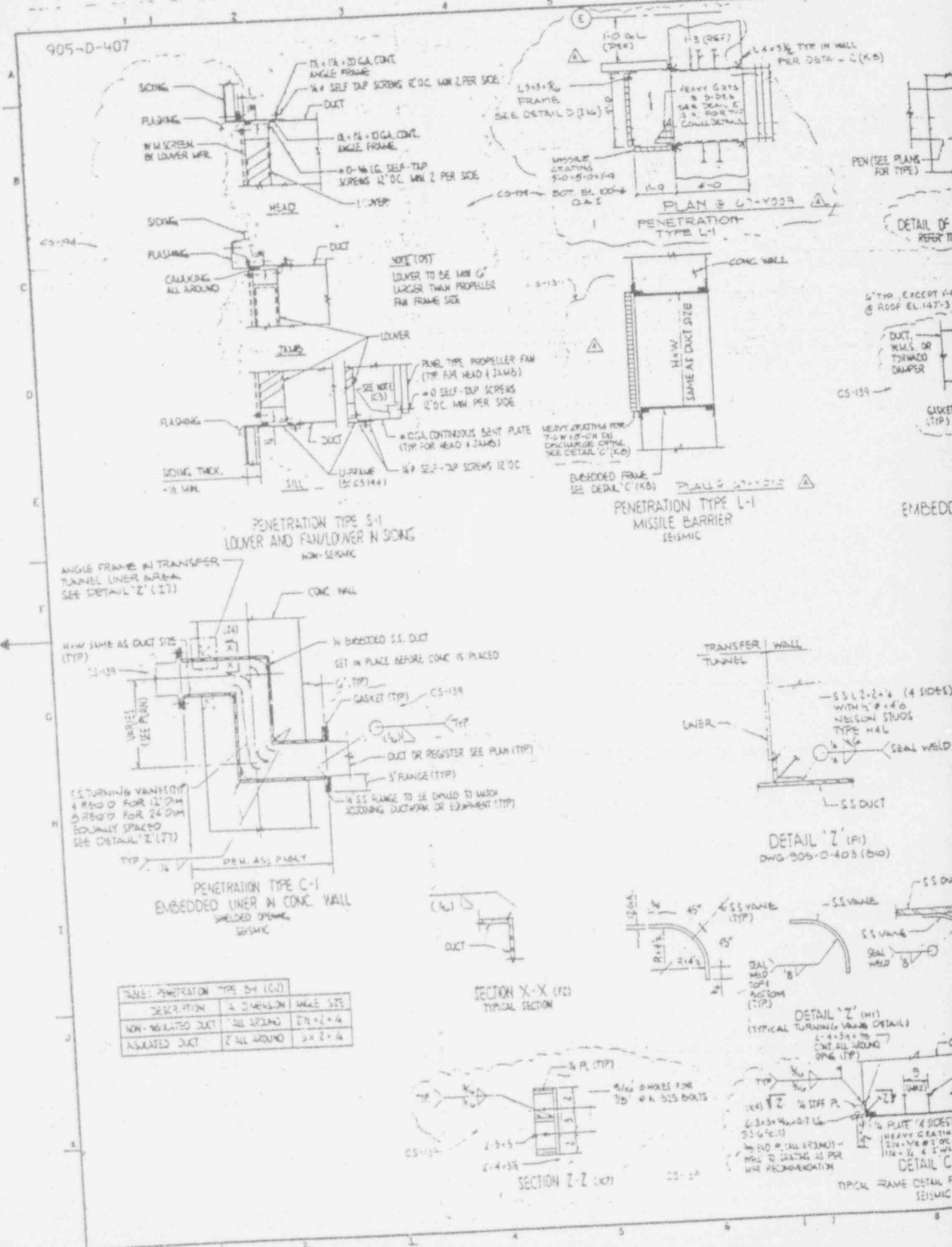
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PROJECT NO. [Blank]	WEST VALLEY NUCLEAR SERVICES COMPANY, INC WEST VALLEY, NEW YORK
DESIGNER: [Signature]	WEST VALLEY DEMONSTRATION PROJECT
CHECKED: [Signature]	VITRIFICATION FACILITY
DATE: [Blank]	PLAN EL 124'-0"
PROJECT NO. [Blank]	ISSUE NO. [Blank]
SCALE: 3/16"=1'-0"	DATE: [Blank]

WVNS APPROVAL	
DESIGNER	[Signature]
CHECKER	[Signature]
DATE	[Blank]

9403110314-13

STANDARD

905-D-407



NOTE (DIT)
LOUVER TO BE MIN 6"
LARGER THAN PROPELLER
FAN FRAME SIZE

ANGLE FRAME IN TRANSFER
TUNNEL LINER AREA
SEE DETAIL 'Z' (17)

SEE TURNING VANES (DIT)
4 R50 D FOR 12' DIA
OR 2 R50 D FOR 24' DIA
EQUALLY SPACED
SEE DETAIL 'Z' (17)

TABLE: PENETRATION TYPE D-1 (C2)			
DESCRIPTION	ALL AROUND	2" x 2" x 4"	ANGLE SITE
NON-INSULATED DUCT	ALL AROUND	2" x 2" x 4"	
INSULATED DUCT	ALL AROUND	2" x 2" x 4"	

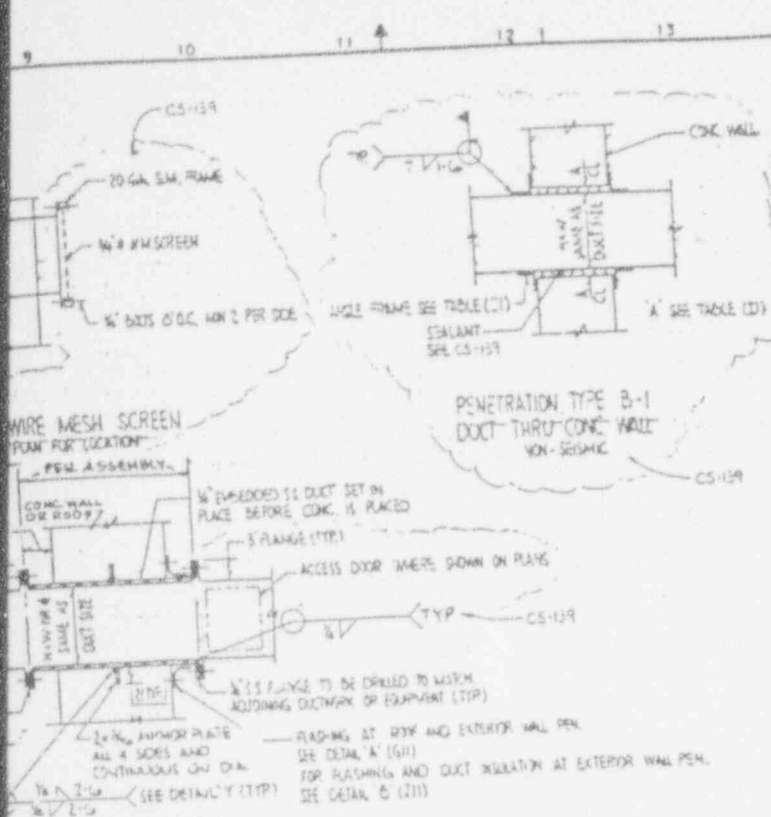
SECTION X-X (12)
TYPICAL SECTION

DETAIL 'Z' (18)
DWG. 905-D-408 (B10)

SECTION Z-Z (17)

DETAIL 'C'
TYPICAL FRAME DETAIL FOR
SEISMIC

405D-110!

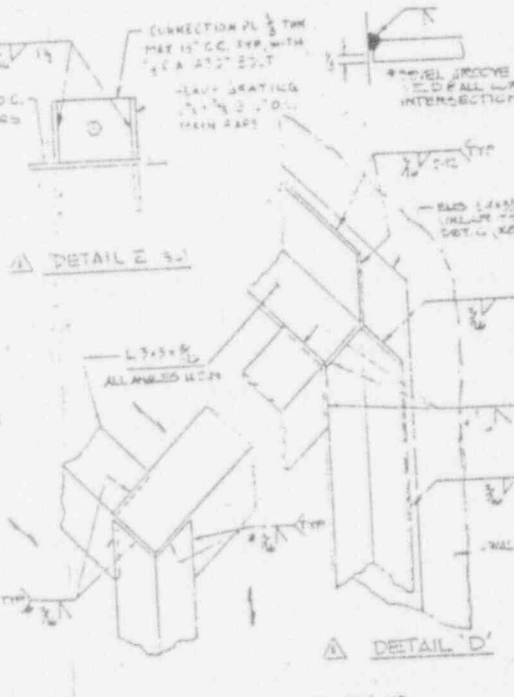
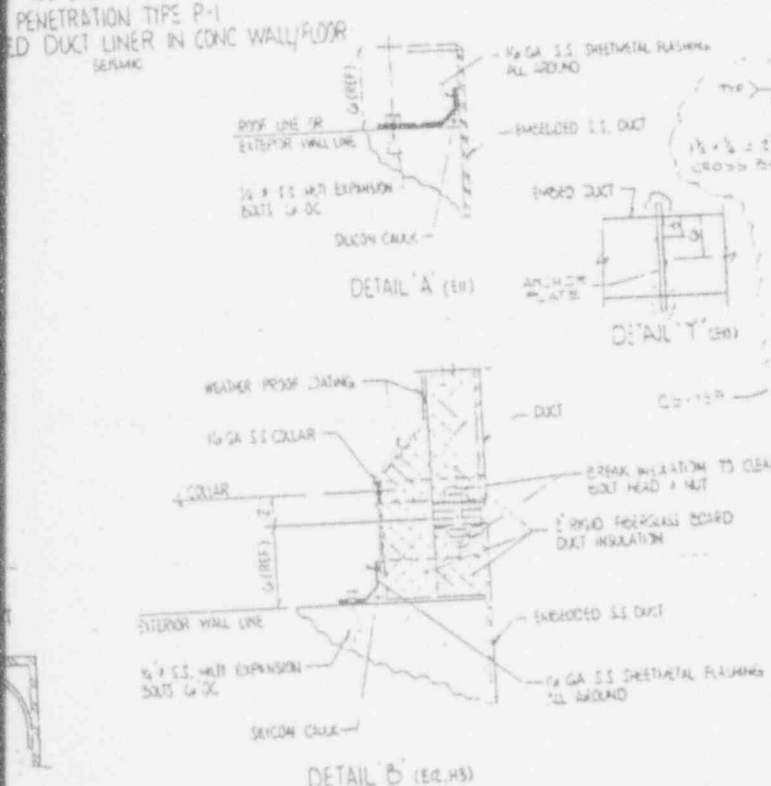


REV NO	DATE	REVISION	DR	CH	APPROVED
B	2-8-87		WVL	KG	FF
GENERAL REVISION AS CIRCLED PER EBAR 887 DATED 8/3/86					
C	5-1-87		KG	WVL	FF
GENERAL REVISION AS CIRCLED PER EBAR 887A DATED 8-1-87					
D	11-5-87		WVL	WVL	FF
GENERAL REVISION AS CIRCLED PER TA 906 DATED 9/4/87					
E	5-1-88		WVL	WVL	FF
GENERAL REVISION AS CIRCLED PER EBAR 1066 DATED 4/24/88					
O	5-1-88	REV. PER EBAR 1066			
1	8-1-88	REV. PER EBAR 1066			
2	12-1-88	REV. PER EBAR 1066			
3	12-1-88	REV. PER EBAR 1066			
4	11-30-92	REV. PER EBAR 5219			

ANSTEC APERTURE CARD

Also Available on Aperture Card

- NOTES**
- FOR GENERAL NOTES AND REFERENCE DRAWINGS SEE DWG 905-D-407.
 - WHERE "T" IS NOTED, "T" DENOTES THE THICKNESS OF THE TUBES BEING JOINED (INCH).
 - PENETRATION NOTE:
 - 1: PENETRATION INSULATION TYPE
 - 2: PENETRATION TYPE
 - INSULATION:
 - 1: NON-INSULATED DUCT
 - 2: EXTERNALLY INSULATED DUCT
 - SEALANTS: HYDROSTATIC SHOP TESTING OF WALL PENETRATIONS ASSEMBLIES SHALL BE PERFORMED IN ACCORDANCE WITH PARAGRAPH 343.4 OF ANSI/ASME B31.3-1987 FOLLOWED BY PNEUMATIC TESTING IN ACCORDANCE WITH PARAGRAPH 343.5 OF THE CODE/ASME B31.3-1987. THE PNEUMATIC TEST SHALL BE PERFORMED USING THE SOUP BUBBLE TECHNIQUE. NO PERMISSIBLE LEAKS ARE ACCEPTABLE. RECORDS OF TESTING SHALL BE MAINTAINED IN ACCORDANCE WITH PARAGRAPH 344 OF ANSI/ASME B31.3-1987. THE TEST PRESSURE FOR WALL PENETRATION ASSEMBLIES SHALL NOT BE LESS THAN 3 PSIG.
 - ALL WORK INDICATED ON THIS DRAWING SHALL BE PERFORMED UNDER SPECIFICATION CS-134 WITH THE EXCEPTION OF ALL "CLOUDED" ITEMS TO BE PERFORMED UNDER SPECIFICATION CS-135 (ITEMS CS, A10, 913, 911, 94, 84, 84, 83, 911 AND CS-134 ITEMS 911 AND 94C).
 - SEE DRAWING 905-D-191 FOR ROOF FLASHING DETAILS.



CAUTION
CURRENT AS OF
FEB 0
CHECK DOCUMENT FOR LATEST REVISION.

WVNS APPROVAL	
DESIGN	
CHECKED	
DRAWN	
DATE	

FOR DRAWING INDEX SEE DRAWING NO.

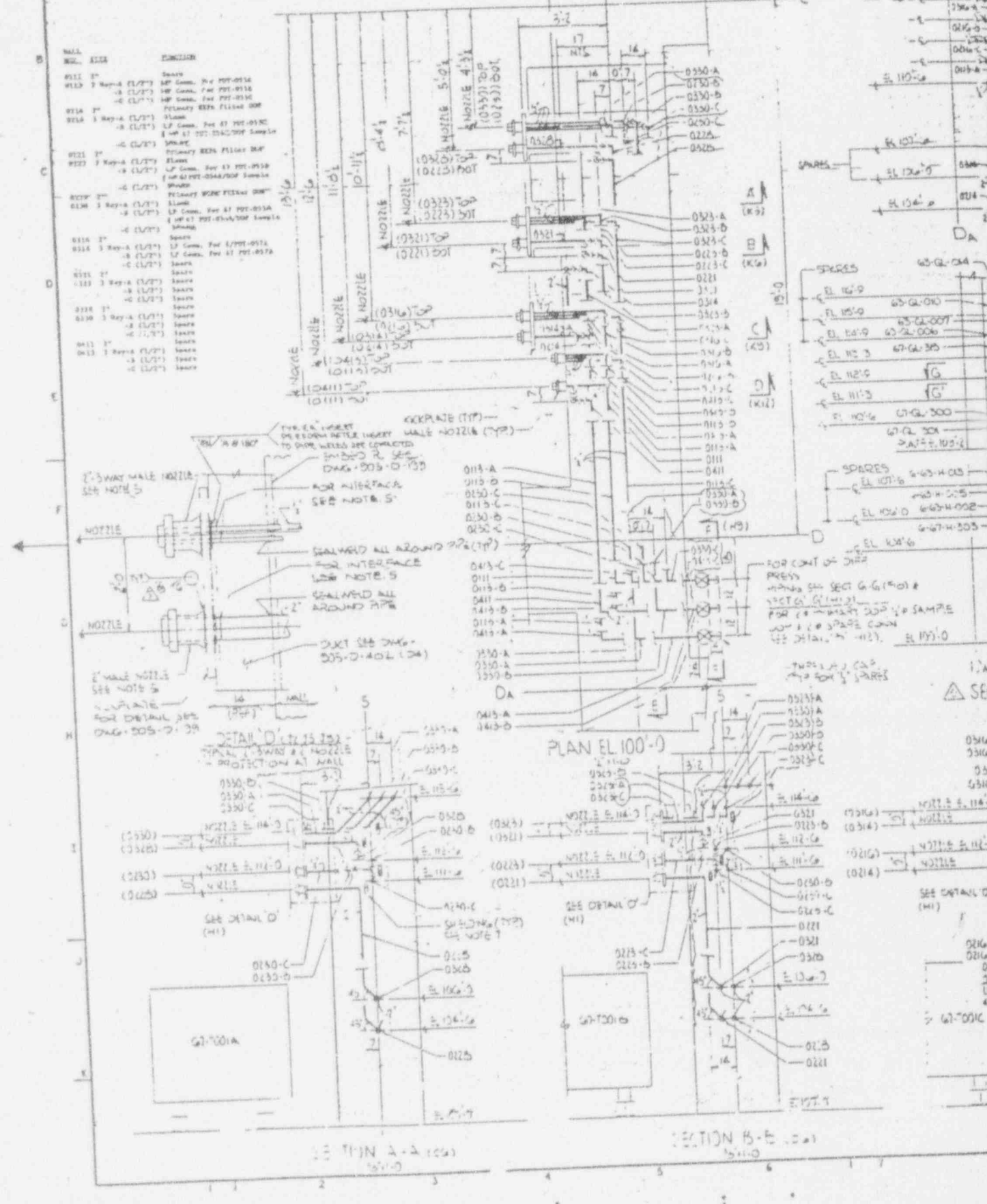
APPROVED BY	WVNS CO.	EBASCO SERVICES INCORPORATED
PROJECT NO.	11-1-86	AVE. O.P.S. NO. 2238
ENGINEER	WVNS	WEST VALLEY NUCLEAR SERVICES COMPANY, INC.
LANDSCAPE ENGINEER	WVNS	WEST VALLEY, NEW YORK
DESIGN	WVNS	WEST VALLEY DEMONSTRATION PROJECT
CHECKED	WVNS	VITRIFICATION FACILITY
DRAWN	WVNS	HVAC-MISCELLANEOUS DETAILS
DATE	11-1-86	
PROJECT NO.	11-1-86	
SCALE	AS SHOWN	
ISSUED FOR CONSTRUCTION		

9403110314-14

905-D-409

N

NO.	SIZE	FUNCTION
0111	2"	Spare
0112	2"	HP Conn. For POT-0514
		HP Conn. For POT-0514
		HP Conn. For POT-0514
0114	2"	Primary BEPS Filter DMF
0114	2"	LP Conn. For AT POT-0514
		LP Conn. For AT POT-0514
		LP Conn. For AT POT-0514
0117	2"	Spares
0117	2"	Primary BEPS Filter DMF
		LP Conn. For AT POT-0514
		LP Conn. For AT POT-0514
0119	2"	Spares
0119	2"	Primary BEPS Filter DMF
		LP Conn. For AT POT-0514
		LP Conn. For AT POT-0514
0116	2"	Spares
0116	2"	LP Conn. For AT POT-0514
		LP Conn. For AT POT-0514
0113	2"	Spares
0113	2"	LP Conn. For AT POT-0514
		LP Conn. For AT POT-0514
0118	2"	Spares
0118	2"	LP Conn. For AT POT-0514
		LP Conn. For AT POT-0514
0115	2"	Spares
0115	2"	LP Conn. For AT POT-0514
		LP Conn. For AT POT-0514
0112	2"	Spares
0112	2"	LP Conn. For AT POT-0514
		LP Conn. For AT POT-0514



SPARES

EL 100'-0"	63-Q-010	1
EL 100'-0"	63-Q-010	1
EL 100'-0"	63-Q-007	1
EL 100'-0"	63-Q-006	1
EL 100'-0"	63-Q-005	1
EL 100'-0"	63-Q-004	1
EL 100'-0"	63-Q-003	1
EL 100'-0"	63-Q-002	1
EL 100'-0"	63-Q-001	1
EL 100'-0"	63-Q-000	1

PLAN EL 100'-0"

SECTION B-B

SECTION A-A

SECTION 1-A

0116-B
0116-A
0114
0114-C
0114-D

NOZZLE # 114-0
NOZZLE
NOZZLE # 112-0
NOZZLE

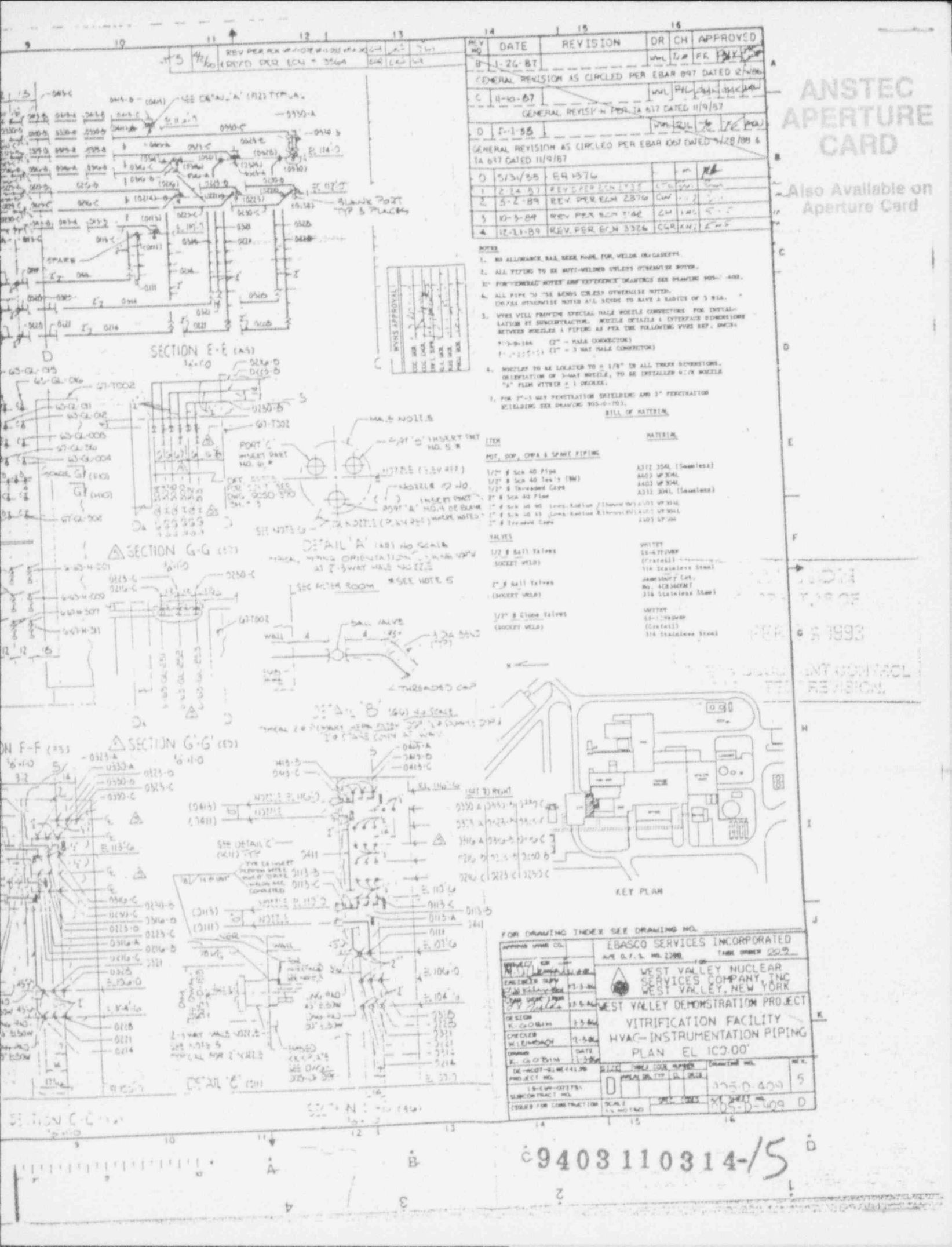
SEE DETAIL D
(H1)

0116-C
0116-B
0114
0114-D
0114-E

63-Q-001
63-Q-002
63-Q-003
63-Q-004
63-Q-005
63-Q-006
63-Q-007
63-Q-010

EL 100'-0"
EL 100'-0"
EL 100'-0"
EL 100'-0"
EL 100'-0"
EL 100'-0"
EL 100'-0"
EL 100'-0"

SPARES



REV. NO.	DATE	REVISION	DR	CH	APPROVED
B	1-26-87		WHL	FR	FR
GENERAL REVISION AS CIRCLED PER EBAR 897 DATED 2/10/87					
C	11-10-87		WHL	FR	FR
GENERAL REVISION PER EBAR 897 DATED 11/9/87					
D	5-1-88		WHL	FR	FR
GENERAL REVISION AS CIRCLED PER EBAR 897 DATED 1/28/88 & TA 897 DATED 11/9/87					
0	5/31/88	EA 4576			
1	2-14-87	REV PER EGM 2876	CH	WHL	FR
2	5-2-89	REV PER EGM 2876	CH	WHL	FR
3	10-3-89	REV PER EGM 2142	CH	WHL	FR
4	12-21-89	REV PER EGM 3326	CH	WHL	FR

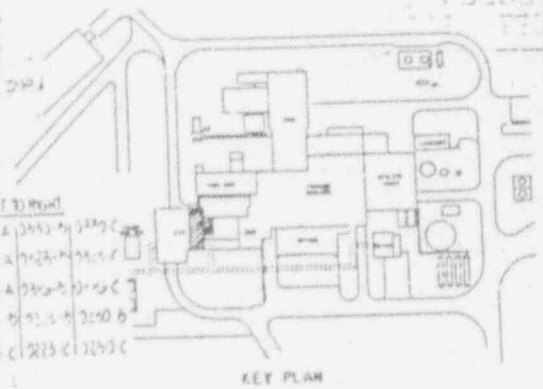
ANSTEC APERTURE CARD

Also Available on Aperture Card

- NOTES**
- NO ALLOWANCE SHALL BE MADE FOR WELDS OR GASKETS.
 - ALL PIPING TO BE WELD-NECKED UNLESS OTHERWISE NOTED.
 - FOR GENERAL NOTES AND SPECIFIC DRAWINGS SEE DRAWING NOS. 400.
 - ALL PIPE TO BE SMOOTH ENDS UNLESS OTHERWISE NOTED. DRUGS OTHERWISE NOTED AT ALL JOINTS TO HAVE A RADIUS OF 3 DIA.
 - WHL WILL PROVIDE SPECIAL MALE WHEEL CONNECTIONS FOR INSTALLATION BY SUBCONTRACTOR. WHEEL DETAILS & INTERFACE DIMENSIONS BETWEEN WHEELS & PIPING AS PER THE FOLLOWING WHEEL SPEC. DIMS:
 2" - 3/4" DIA. (2") - MALE CONNECTION
 2" - 1/2" DIA. (2") - 3 WAY MALE CONNECTION
 - WHEELS TO BE LOCATED TO ± 1/8" IN ALL THREE DIMENSIONS. ORIENTATION OF 3-WAY WHEELS TO BE INSTALLED AS SHOWN IN 2" PLAN WITHIN ± 1 DEGREE.
 - FOR 2" & 3" WY FERTILIZATION SHIELDING AND 3" FERTILIZATION SHIELDING SEE DRAWING NOS. 8-101.

BILL OF MATERIAL

ITEM	MATERIAL
PIPE, COP, OPA & SPARE PIPING	
1/2" S Sch 40 Pipe	A312 304 (Seamless)
1/2" S Sch 40 Tee's (90°)	A403 W 304L
1/2" S Threaded Caps	A312 304L (Seamless)
2" S Sch 40 Pipe	A312 304 (Seamless)
2" S Sch 40 Tee's (90°)	A403 W 304L
2" S Threaded Caps	A312 304L (Seamless)
VALVES	
1/2" S Ball Valves (Socket Weld)	WHITTY SS-47200P (Cast Steel) 316 Stainless Steel
2" S Ball Valves (Socket Weld)	JACKSONOFF Cast No. 42840000 316 Stainless Steel
1/2" S Check Valves (Socket Weld)	WHITTY SS-172000P (Cast Steel) 316 Stainless Steel



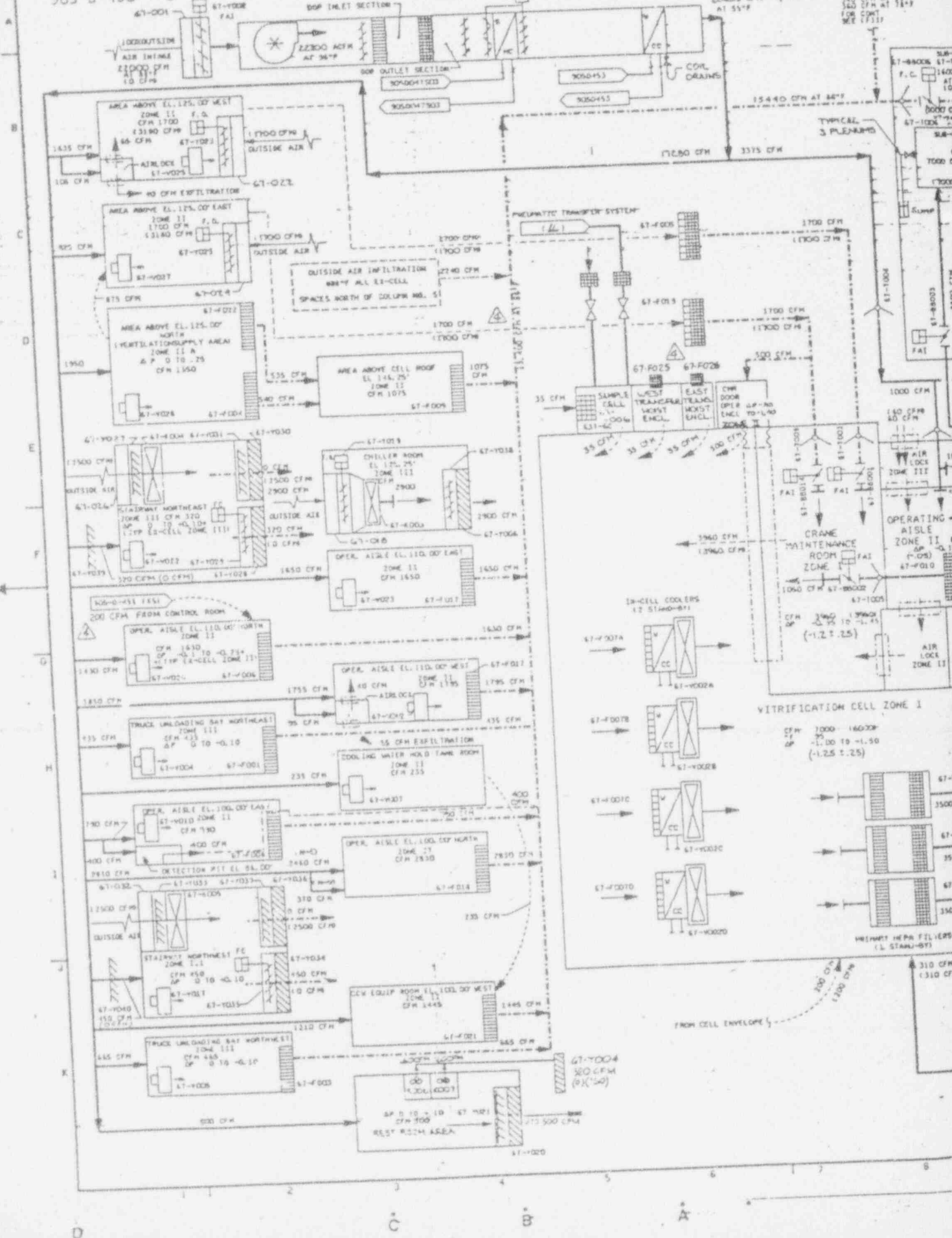
FOR DRAWING INDEX SEE DRAWING NO.		EBASCO SERVICES INCORPORATED 410 E. 7. S. HWY. 2200 TOWN OF ORISKANY, NY 13428	
PROJECT NO. 13-5-AL DESIGNER: J. J. BROWN CHECKER: M. J. BROWN DATE: 1-2-88	PROJECT NO. 13-5-AL DESIGNER: J. J. BROWN CHECKER: M. J. BROWN DATE: 1-2-88	PROJECT NO. 13-5-AL DESIGNER: J. J. BROWN CHECKER: M. J. BROWN DATE: 1-2-88	PROJECT NO. 13-5-AL DESIGNER: J. J. BROWN CHECKER: M. J. BROWN DATE: 1-2-88
WEST VALLEY NUCLEAR SERVICES COMPANY INC WEST VALLEY, NEW YORK		WEST VALLEY DEMONSTRATION PROJECT VITRIFICATION FACILITY HVAC-INSTRUMENTATION PIPING PLAN EL 100.00	
PROJECT NO. 13-5-AL DRAWING NO. 13-5-AL-100	PROJECT NO. 13-5-AL DRAWING NO. 13-5-AL-100	PROJECT NO. 13-5-AL DRAWING NO. 13-5-AL-100	PROJECT NO. 13-5-AL DRAWING NO. 13-5-AL-100

9403110314-15

905-D-450 G

VENTILATION SUPPLY SYSTEM

2	5-1-90	REVIEW ECM 549
3	4-12-90	REV PER ECM 357
4	7-1-90	REV PER ECM 372

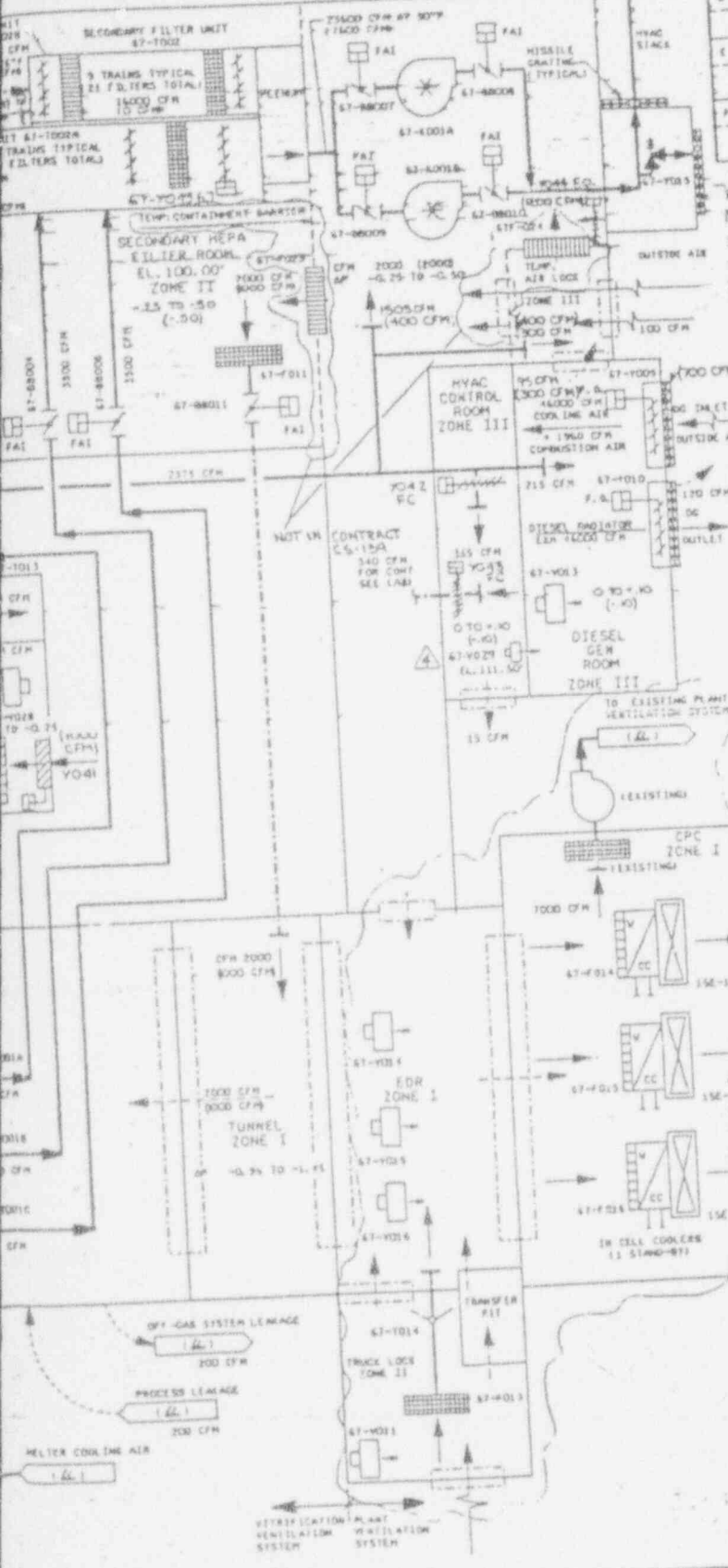


NO.	DATE	REVISION	DR	CH	APPROVED
1	7/14/89	ER 1449			
2	7/28/89	GEN. REV. PER ECR 3291 KGR p. 23			

NO.	DATE	REVISION	DR	CH	APPROVED
A	11-13-86	GENERAL REVISION			
B	02-27-87	GENERAL REVISION			
C	08-15-87	GENERAL REVISION			
D	11-25-87	GENERAL REVISION PER 14 GCM DATED 9-22-87 PER ECRAN 3434 & TA 622 DATED 10-13-87			
E	10-31-88	GENERAL REVISION PER ECRAN 1380			

ANSTEC APERTURE CARD

Also Available on Aperture Card



- NOTES**
- FOR SYMBOLS, NOTES, AND LEGEND, SEE DRAWINGS 905-0-1306, 1307 & 1308.
 - AP DENOTES INCHES OF WATER COLUMN.
 - ALL AIR QUANTITIES (CFM) ARE FOR 1500 FT ALTITUDE ABOVE SEA LEVEL.
 - THE FLOWS SHOWN IN THE PARENTHESES INDICATES THE UPSET AIR FLOWS DURING THE FAILURE OF THE VENTILATION SUPPLY SYSTEM (UNIT 67-V001).

- REFERENCE DRAWING**
- VIT FACILITY HVAC AIR FLOW DIAGRAM AND PAID CONTROL ROOM 905-0-451
 - VIT FACILITY HVAC AIR SYSTEM PAID 905-0-452 501
 - VIT FACILITY HVAC AIR SYSTEM PAID 905-0-452 502
 - VIT FACILITY HVAC CHILLED WATER SYSTEM PAID 905-0-453
 - VIT FACILITY HVAC CHILLED WATER SYSTEM PAID 905-0-454
 - VIT FACILITY HVAC STEAM SYSTEM PAID 905-0-471 503
 - VIT FACILITY VENT SYS PLAN EL. 100.00' 905-0-401
 - VIT FACILITY VENT SYS SECTIONS 905-0-402
 - VIT FACILITY SECONDARY HEPA FILTER ROOM PLAN EL. 100.00' 905-0-403
 - VIT FACILITY SECONDARY HEPA FILTER ROOM SECTIONS 905-0-404
 - VIT FACILITY VENT SYS PLANS & SECTIONS 905-0-405
 - VIT FACILITY VENT SYS PLAN EL. 124.00' 905-0-406
 - VIT FACILITY VENT SYS PLAN EL. 100.00' 905-0-456
 - VIT FACILITY VENT SYS PLAN EL. 110.25' 905-0-467
 - VIT FACILITY VENT SYS PLAN EL. 125.25' 905-0-468
 - VIT FACILITY VENT SYS HVAC EQUIPMENT ROOM PLAN EL. 125.25' 905-0-469
 - VIT FACILITY VENT SYS SECTIONS 905-0-470
 - VIT FACILITY VENT SYS SECTIONS 905-0-471
 - VIT FACILITY VENT SYS SECTIONS 905-0-472

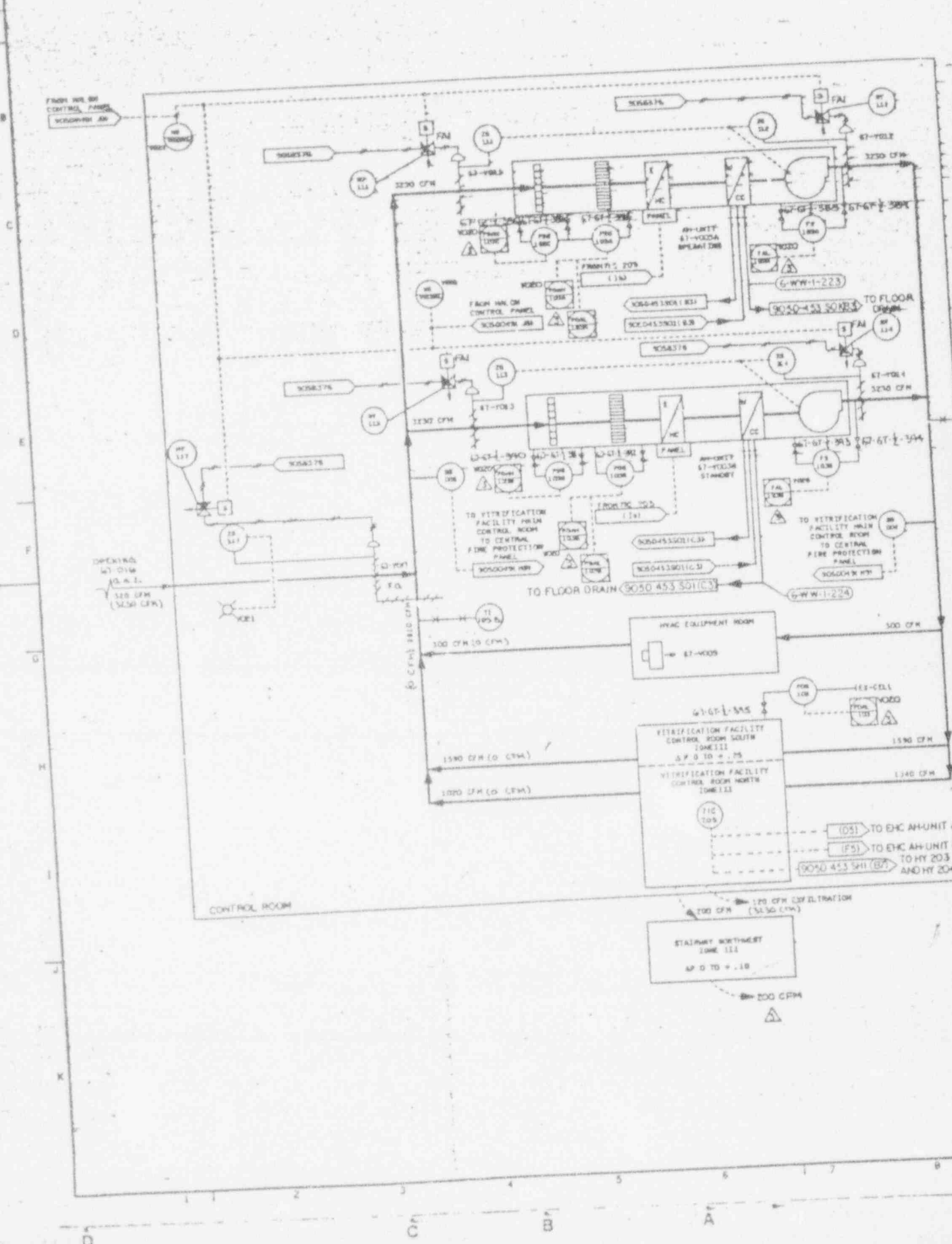
NOT IN CONTRACT CS-138
CAUTION
 OPERATE AS OF
FEB 09 1993
 CHECK DOCUMENT CONTAINS LATEST REVISION.
 FOR DRAWING INDEX SEE DRAWING NO.

APPROVING ENGINEER	PROJECT NO.	905-0-450	REV.	4
DESIGNER	DRAWING NO.	905-0-450	SCALE	AS SHOWN
CHECKED	DATE	02-19-88	BY	W. J. LEWIS
DRAWN	DATE	02-19-88	BY	W. J. LEWIS
DESIGNED	DATE	02-19-88	BY	W. J. LEWIS
PROJECT NO.	905-0-450	SCALE	AS SHOWN	
TITLE FOR CONSTRUCTION	VITRIFICATION SYSTEM HVAC AIR FLOW DIAGRAM VITRIFICATION FACILITY			

9403110314-16

905-D-451 E

FRESH AIR BY CONTROL PANEL SCREENED AIR



ANSTEC APERTURE CARD

Also Available on Aperture Card

NO	DATE	REVISION	BY	CHK	APPROVED
B	07-27-87	GENERAL REVISION	AJL	ML	JJ
C	08-13-87	GENERAL REVISION	FJZ	PEL	JA
D	09-08-88	GENERAL REVISION PER ERM 1130	AJL	PEL	JA
E	6/28/90	GENERAL REVISION	PJA	ML	JJ
F	7-13-90	GENERAL REVISION PER ERM 3297	CAW	ML	JJ
G	7-16-90	GENERAL REVISION PER ERM 3300	CAW	ML	JJ
H	10-3-90	REV. PER ERM 5962	CAW	ML	JJ

NOTES

- FOR SYMBOLS, NOTES AND LEGEND SEE DRAWINGS 900-D-1306, 1307 & 1308.
- Δ P DENOTES INCHES OF WATER COLUMN.
- ALL AIR QUANTITIES (CFM) ARE FOR 1500 FT ELEVATION ABOVE SEA LEVEL.
- ALL EQUIPMENT TAG NUMBERS ARE PREFIXED BY SYSTEM NUMBER 67 UNLESS OTHERWISE NOTED.

- REPRESENTS DESIGNATED CONTROL PANEL. SHARPO DISPLAY SYMBOLS PER ISA-5.5.3 (1982) INDICATE CRT DISPLAY OR KEYBOARD CONTROL.
- REPRESENTS SEPARATE INSTRUMENTS TAG NUMBERS WITH SUFFIXES A, B, C, ... Z.
- REPRESENTS INSTRUMENT AIR SUPPLY. SEE REFERENCE DWG 905-B-376 BELOW.

REFERENCE DRAWINGS

- VITRIFICATION FACILITY CONTROL ROOM VENTILATION SYSTEM PLAN EL. 124'-3" & 127'-0" 905-D-465
- VITRIFICATION FACILITY AIR FLOW DIAG 905-D-450
- VITRIFICATION FACILITY HVAC CHILLED WATER SYSTEM P&ID 905-D-453SD1 AND 905-D-453SD2
- VITRIFICATION FACILITY HVAC CHILLED WATER SYSTEM P&ID 905-D-454
- VITRIFICATION FACILITY FIRE PROTECTION SYSTEM P&ID 905-D-049
- INSTRUMENT INSTALLATION DETAILS (FOR EXACT SHEET NUMBER SHOWING DETAILED AIR SUPPLY TO PARTICULAR AIR USER SEE HVAC INSTRUMENT LIST) 905-B-376
- INSTRUMENT LOCATION ARRANGEMENTS 905-D-370
- INSTRUMENT LOCATION ARRANGEMENTS 905-D-378

QUALITY CONTROL
 AS OF
 FEB 09 1993

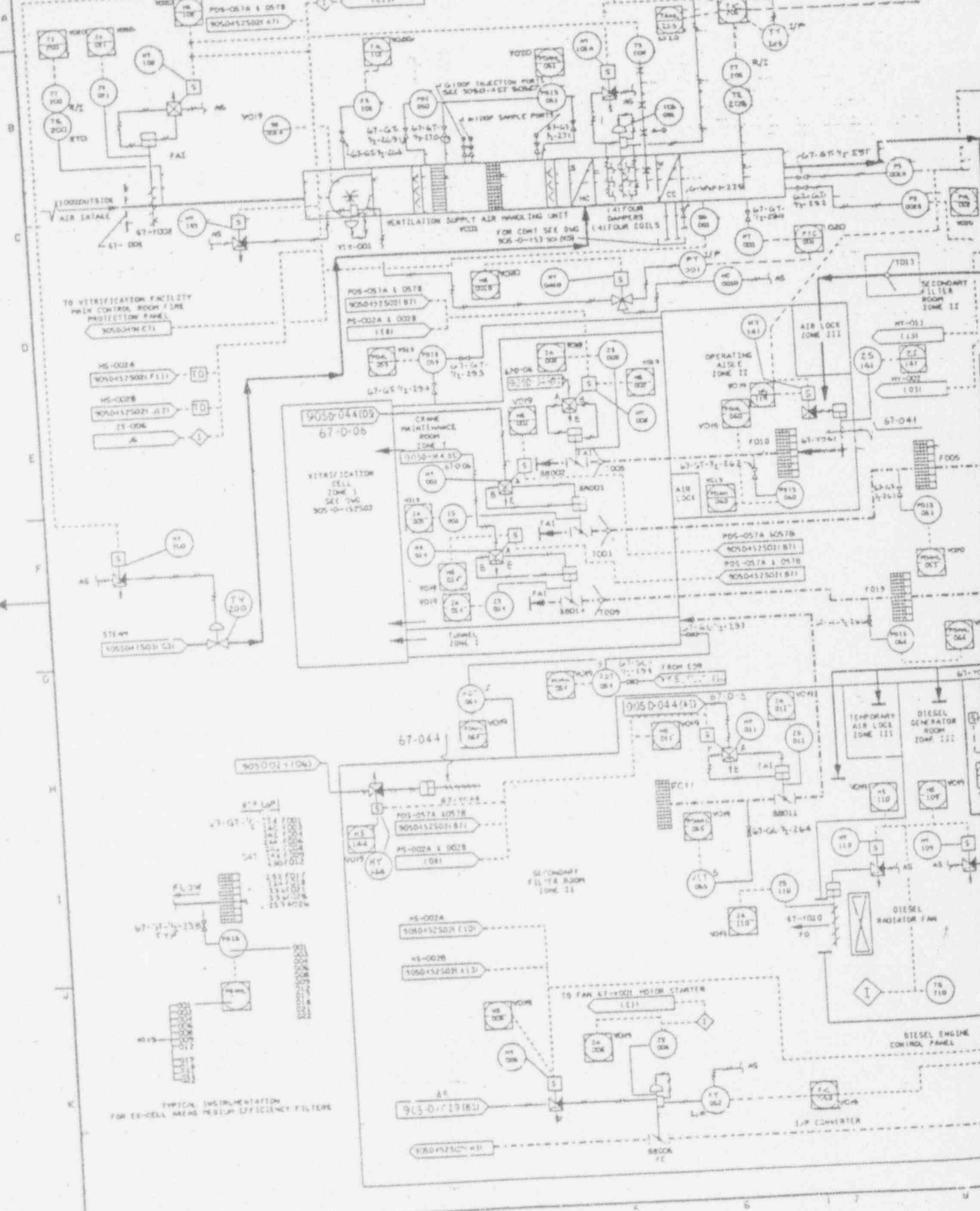
WVNS APPROVAL	
CCG MGR	<i>[Signature]</i>
CCG DGR	<i>[Signature]</i>
DFT. S.P.R.	<i>[Signature]</i>
QA MGR	<i>[Signature]</i>
RAS MGR	<i>[Signature]</i>

INSTRUMENT CONTROL
 FOR DIVISION
 FOR DRAWING INDEX SEE DRAWING NO.

APPROVE WVNS CO.	EBASCO SERVICES INCORPORATED 475 R.T. 2, NO. 1038 TOWN OF WEST VALLEY, NEW YORK	
PROJECT MGR R. J. WITKAMP 09-20-88	WEST VALLEY NUCLEAR SERVICES COMPANY, INC WEST VALLEY, NEW YORK	
ENGINEER SUPV J. J. CALABRETT 09-20-88	WEST VALLEY DEMONSTRATION PROJECT	
LEAD S.E.C. CHRG T. J. CALABRETT 09-20-88	VITRIFICATION SYSTEM HVAC AIR FLOW DIAGRAM AND P&ID CONTROL ROOM	
DESIGN R. LEFRANCE 09-20-88	SIZE	DRAWING NO.
CHECKED M. CORBIN 09-20-88	D	905D-451
ISSUED DATE 09-20-88	SCALE	REV.
PL. A. 1 (4) P.		3
REVISION - 09-20-88	PROJECT NO.	905-D-451
19-CWP-CRITS	SCALE	
REVISION TRACT NO.		
ISSUED FOR CONSTRUCTION		

9403110314-17

905-D-452501



TO VITRIFICATION FACILITY
WALK CONTROL ROOM / LINE
PROTECTION FRAME
W05D-452501-111

HS-002A
W05D-452501-111

HS-002B
W05D-452501-111

TS-006

905-D-041D9
67-D-06
VITRIFICATION
CELL
ZONE I
SEE ENG
905-D-152502

67-044

905-D-044(A)

TEMPORARY
AIR LOCK
ZONE III

DIESEL
GENERATOR
ROOM
ZONE III

TYPICAL INSTRUMENTATION
FOR EX-CELL AREAS WITH HIGH EFFICIENCY FILTERS

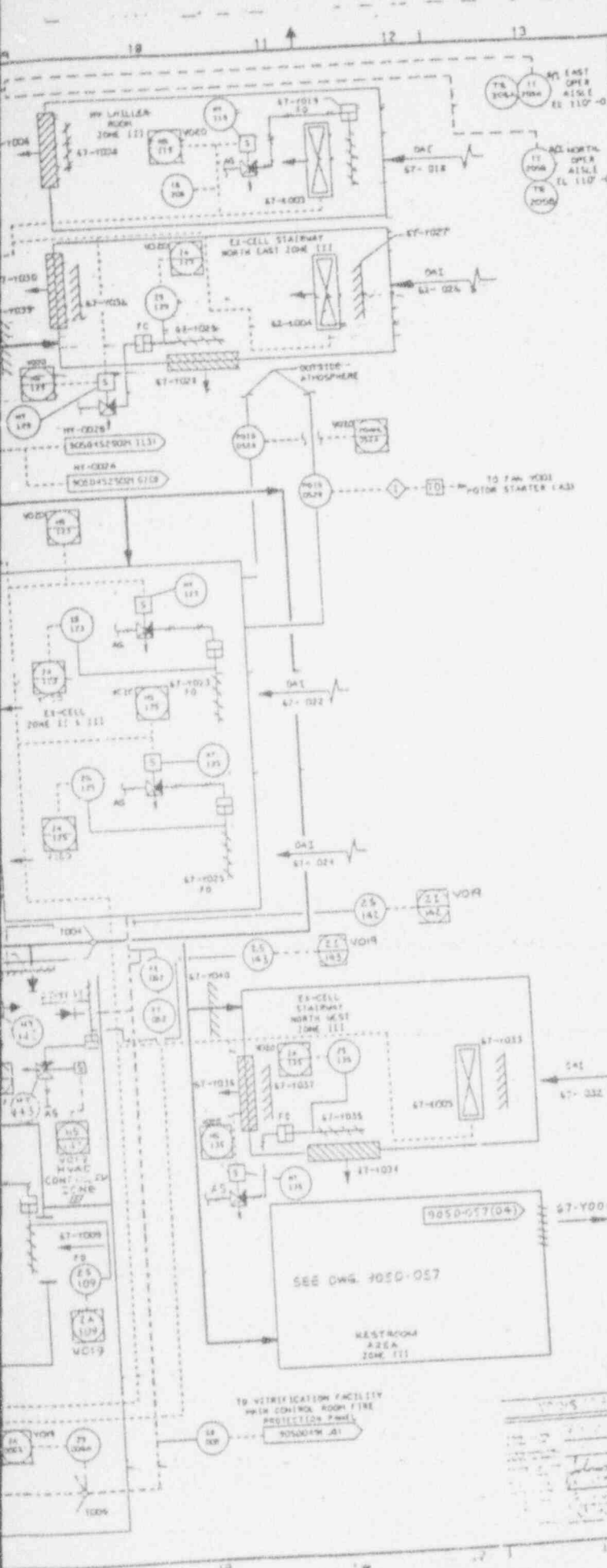
A
B
C
D
E
F
G
H
I
J
K

1 2 3 4 5 6 7 8

A
B
A

ANSTEC APERTURE CARD

Also Available on Aperture Card



NO.	DATE	REVISION	DR	CH	APPROVED
1	12-21-87	GENERAL REVISION	J.A.	M.	J.G.A.
2	05-13-87	GENERAL REVISION	J.A.	V.A.	J.G.A.
3	11-15-87	GENERAL REVISION PER EGM 1130 DATED 10-19-87	J.A.	V.A.	J.G.A.
4	10-13-88	GENERAL REVISION PER EGM 1130	J.A.	V.A.	J.G.A.
5	07/21/89	GENERAL REVISION PER EGM 1130	J.A.	V.A.	J.G.A.
6	7/19/91	REV. PER EGN 3370	JAW	DES	J.G.A.
7	11/2/90	REVISED PER EGN 3593	AW	DES	J.G.A.
8	5/7/90	REVISED PER EGN 3623	AW	DES	J.G.A.
9	7/3/90	REV. PER EGN 3763	AW	DES	J.G.A.
10	12-3-90	REV PER EGN 3982	CGR	DES	J.G.A.
11	01/07/91	REV PER EGN 4265	JLH	DES	J.G.A.
12	2-16-92	REV. PER EGN 4781	CA	DES	J.G.A.

- NOTES**
- FOR SYMBOLS, NOTES AND LEGEND SEE DRAWINGS 905-0-1306, 1307 & 1308.
 - ALL EQUIPMENT IN THE SECONDARY FILTER ROOM AND CRANE MAINT. ROOM SHALL BE SEISMICALLY QUALIFIED EQUIPMENT AND SHALL BE SEISMICALLY SUPPORTED.
 - ALL TAG NUMBERS ARE PREFIXED BY SYSTEM NUMBER 87 UNLESS OTHERWISE NOTED.
 - INSTRUMENTS REPRESENT SEPARATE INSTRUMENTS TAG NUMBERS WITH SUFFIXES A, B, C, -2.
 - INSTRUMENTS REPRESENT DESIGNATED CONTROL PANEL CHANGE LISTEN SYMBOLS IN ISN-555 (1985) INDICATES GAS DISCONNECT AND EYE AND CONTROL.
 - AS - REPRESENTS INSTRUMENT AIR SUPPLY SEE REFERENCED DWG 905-B-376 AND 377.

REFERENCE DRAWINGS

V.F. HVAC STEAM SYSTEM P&ID	905-0-047503
V.F. FIRE PROTECTION P&ID	905-0-049
V.F. VENTILATION SYSTEM PLAN EL. 100.00'	905-0-401
V.F. VENTILATION SYSTEM SECTIONS	905-0-412
V.F. SECONDARY HEPA FILTER RM PLAN EL. 100.00'	905-0-403
V.F. SECONDARY HEPA FILTER RM SECTIONS	905-0-404
V.F. VENTILATION SYSTEM PLANS & SECTIONS	905-0-405
V.F. VENTILATION SYSTEM PLAN EL. 124.70'	905-0-406
V.F. HVAC-INSTRUMENTATION PIPING PLAN EL. 100.00'	905-0-409
VITRIFICATION FACILITY AIR FLOW DIAG. CONTROL ROOM	905-0-451
VITRIFICATION FACILITY AIR FLOW DIAG. CONTROL ROOM	905-0-453
VITRIFICATION FACILITY HVAC CHILLED WATER SYSTEM P&ID	AND 905-0-454
INSTRUMENT LOCATION ARRANGEMENTS	905-0-370
	AND 905-0-378
	905-0-379
	905-0-382

FOR DRAWING INDEX SEE DRAWING NO.

NO.	DATE	REVISED PER	BY	CHKD	APP'D
1	11-21-92	REV PER EGN 4891	JAW	DES	J.G.A.
2	11-21-92	REV PER EGN 5225	JAW	DES	J.G.A.
3	11-21-92	REV PER EGN 5225	JAW	DES	J.G.A.

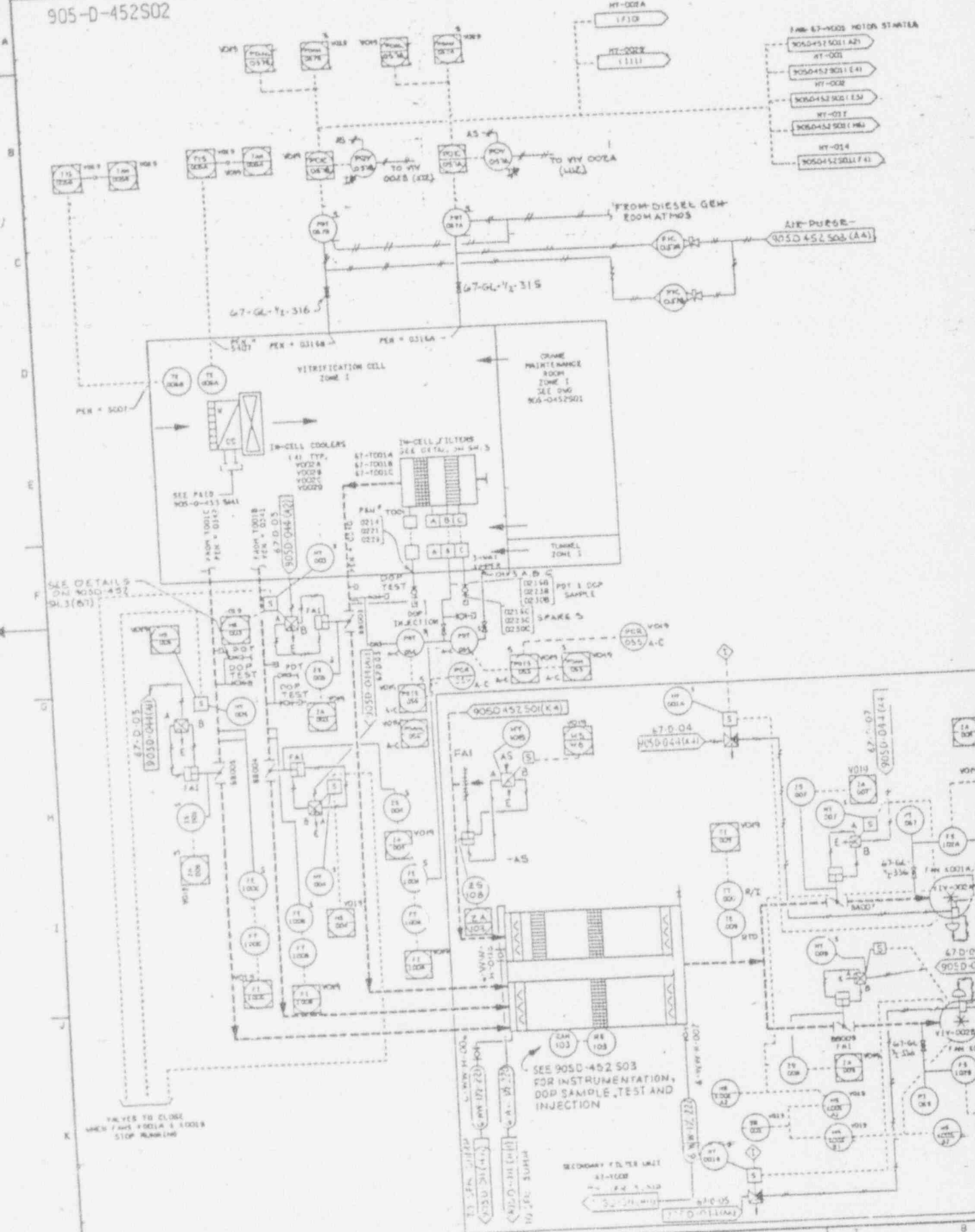
APPROVED BY: [Signature] DATE: [Date]

PROJECT NO. 905-0-48901-1

DRWG NO. 905D-452-9

9403110314-18

905-D-452S02



SEE DETAILS ON 905D-452S03 (A4)

SEE 905D-452S03 FOR INSTRUMENTATION, DOP SAMPLE TEST AND INJECTION

VALVES TO CLOSE WHEN FANS STOP & LOCKS STOP RUNNING

- FROM 67-4002 MOTOR STARTER
- 905D-452S01 (A2)
- 905D-452S01 (E4)
- 905D-452S01 (E3)
- 905D-452S01 (H4)
- 905D-452S01 (F4)

FROM DIESEL GEN EDOMATMOS

AIR PURGE 905D-452S03 (AA)

67-GL-72-316

67-GL-72-319

VITRIFICATION CELL ZONE I

CRANE MAINTENANCE ROOM ZONE I SEE DWG NO. 905-D-452S01

IN-CELL COOLERS

IN-CELL FILTERS SEE DETAIL DWG 905-D-452S01

TUNNEL ZONE I

INJECTION

DOP TEST

SPARE 5

SPARE 5

SPARE 5

SPARE 5

SPARE 5

SPARE 5

SPARE 5

SPARE 5

SPARE 5

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SPARE 5

SPARE 5

SPARE 5

NO.	DATE	REVISION	CR	CH	APPROVED
0	7/4/84	221649			
1	11/01/90	GEN REV PER ECH 3370	JAW	DES	EUC
2	4/30/93	REV. PER ECH 3598	AN	DES	EUC
3	12-3-90	REV. PER ECH 3982	KJR	DES	EUC
4	6-26-91	REV. PER ECH 4263	REV	DES	DIR
5	2-18-92	REV. PER ECH 4731	CM	HAB	DIR
6	3-28-92	REV. PER ECH 4971	KD	DES	DIR
7	6-29-92	REV. PER ECH 4891	PD	DES	DIR
8	1-24-92	GEN REV/ECH 5041	PD	DES	DIR

ANSTEC APERTURE CARD

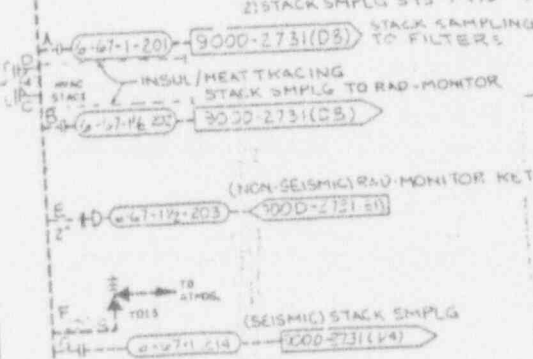
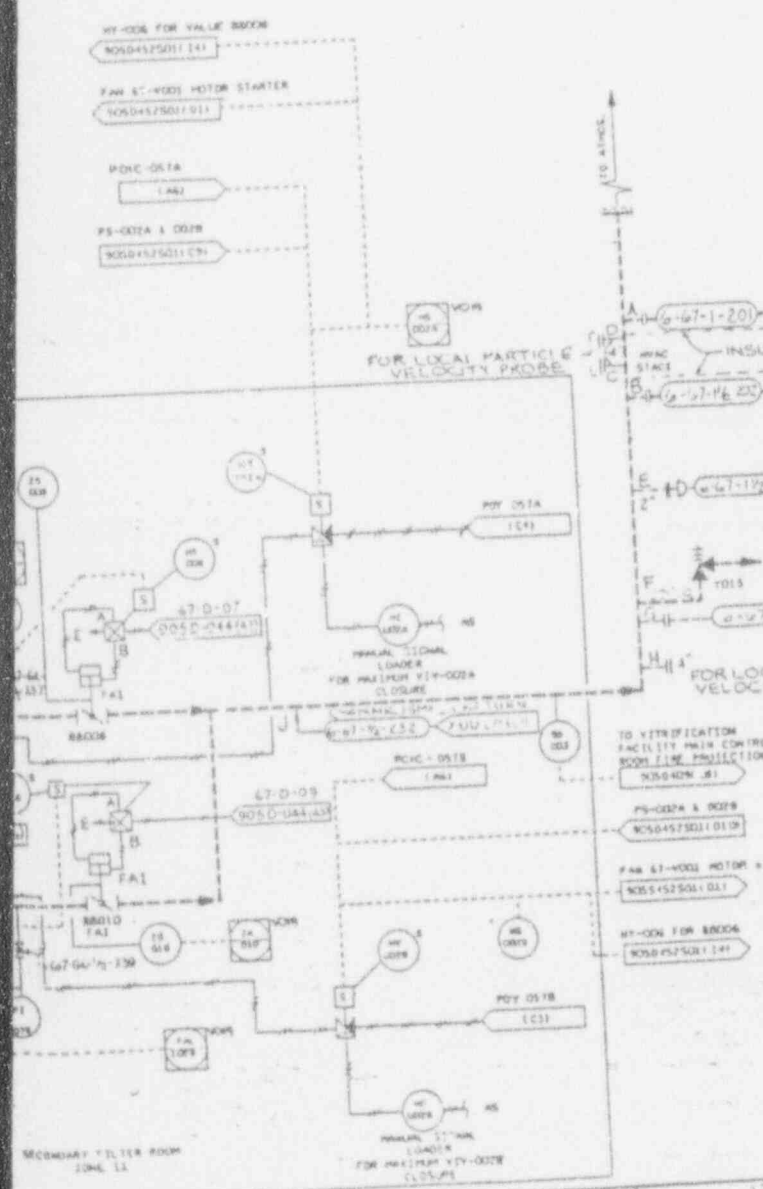
Also Available on Aperture Card

NOTES

- ① denotes SEISMICALLY QUALIFIED INSTRUMENTATION.
- FOR OTHER NOTES SEE DWG 905-D-452501

REFERENCE DRAWINGS

- FOR REFERENCE DRAWINGS SEE DWG 905-D-452501
- STACK SEMPLG SYS P&ID DWG 4000-2731



REVISION 8 OF 8
 FEB 0 1993
 T CONTROL REVISION

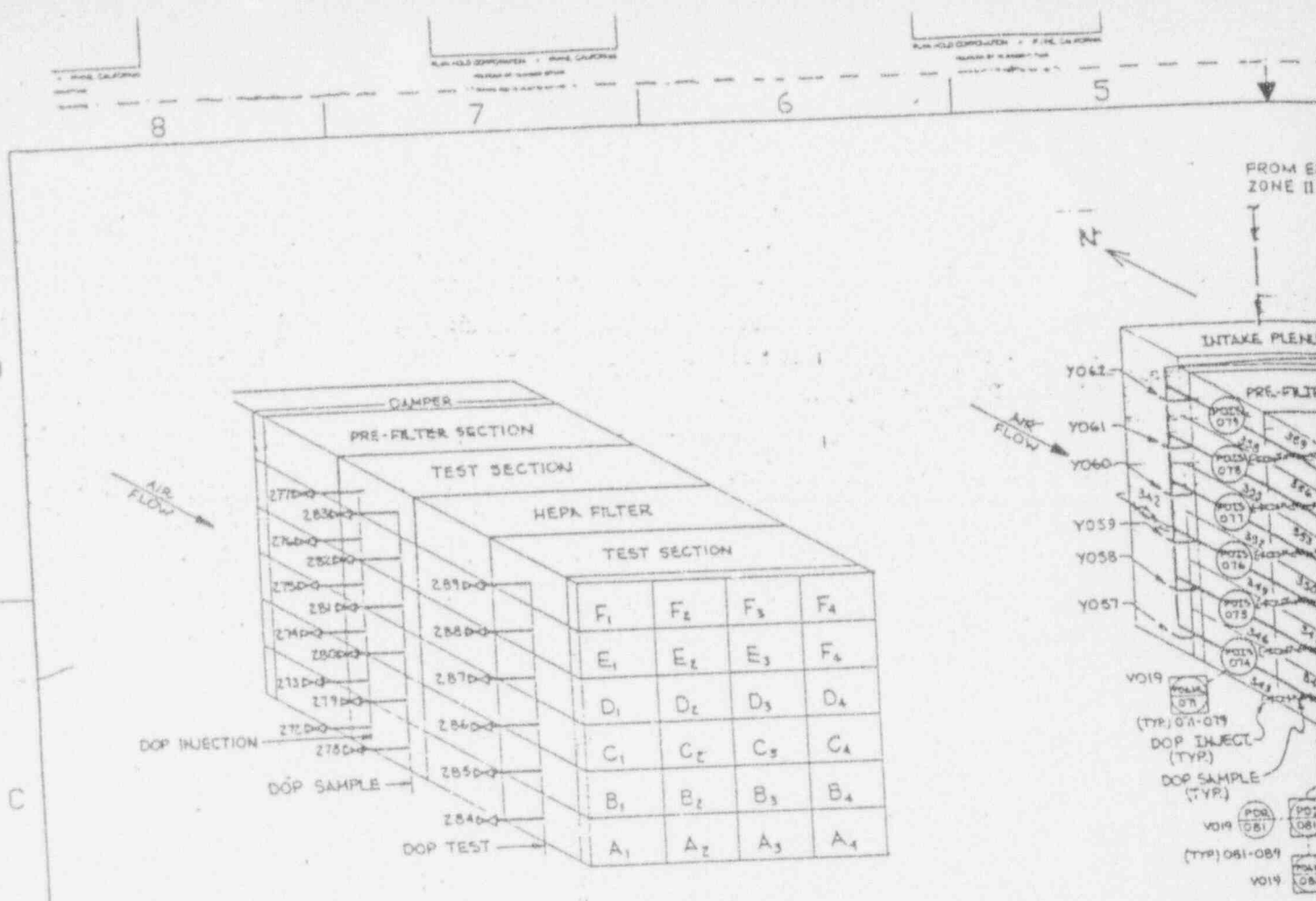
APPROVAL
 [Signatures and stamps]

FOR DRAWING INDEX SEE DRAWING NO.

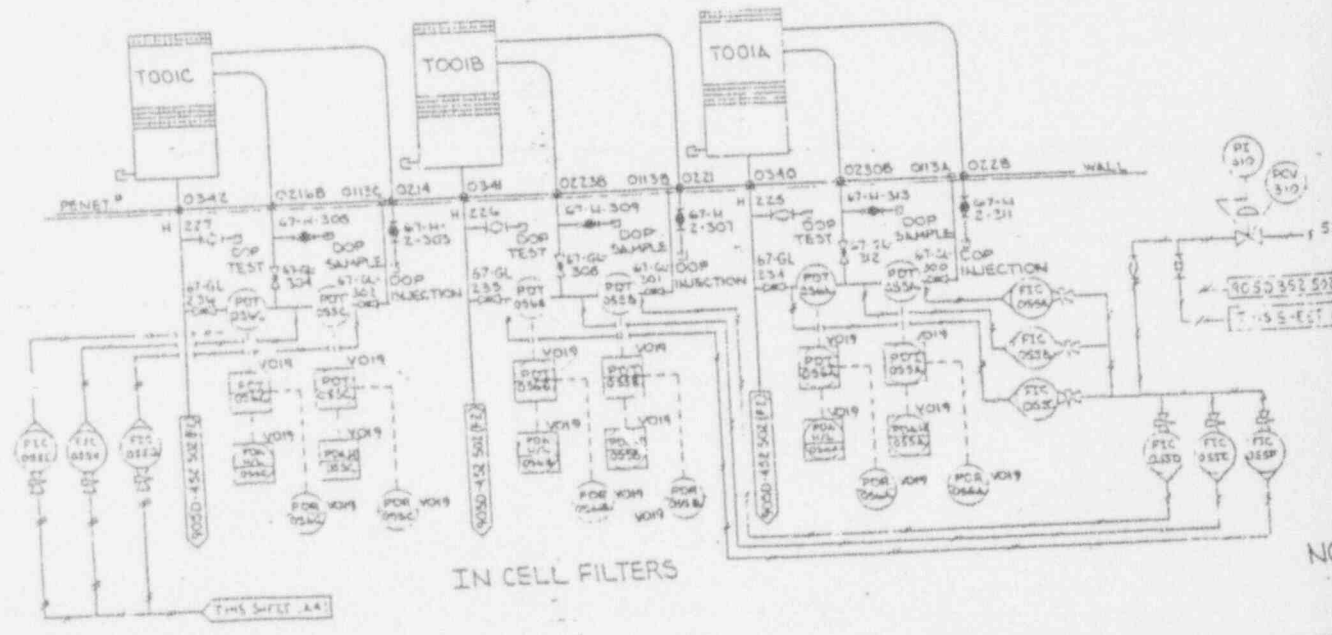
APPROVED	DATE	BY	FOR
PROJECT NO.	7210		
ENGINEER			
LEAD DESIGNER			
DESIGNER			
CHECKED			
DRAWN			
DATE			
DE-ACCT-81-44433	SCALE	INSTR CODE NUMBER	DRAWING NO.
PROJECT NO.			905-D-452
19-40-00275			8
SUBCONTRACT NO.			
ISSUED FOR CONSTRUCTION			

EBASCO SERVICES INCORPORATED
 A/E C/P/E NO. 2188 TASK ORDER 002
 WEST VALLEY NUCLEAR SERVICES COMPANY INC
 WEST VALLEY, NEW YORK
 WEST VALLEY DEMONSTRATION PROJECT
 VITRIFICATION SYSTEM
 HVAC P&ID
 VITRIFICATION FACILITY

9403110314-19



AHU VOOI FILTER UNIT
9050-452 501
SEE NOTE 1

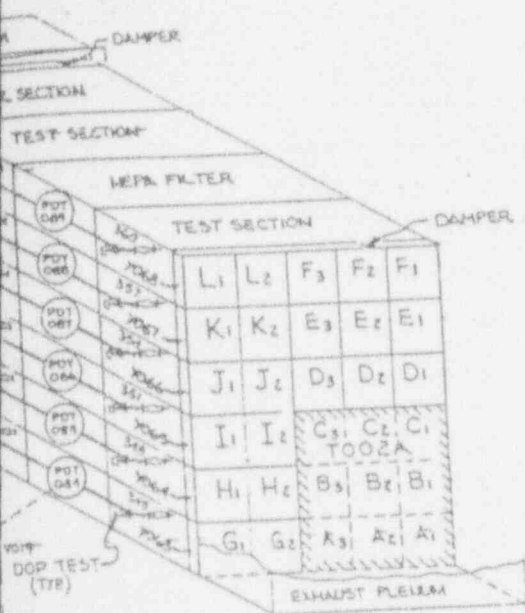


IN CELL FILTERS

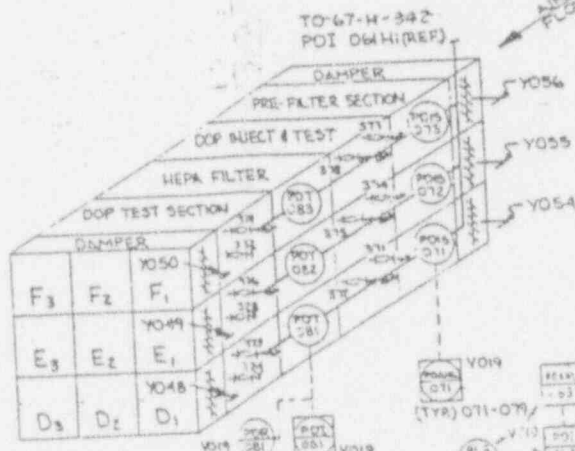
REV	DESCRIPTION	DATE	BY
0	AS BUILT	11-25-71	SK
1	REVISION FOR	11-25-71	SK
2	REVISION FOR	11-25-71	SK
3	REVISION FOR	11-25-71	SK

ANSTEC APERTURE CARD

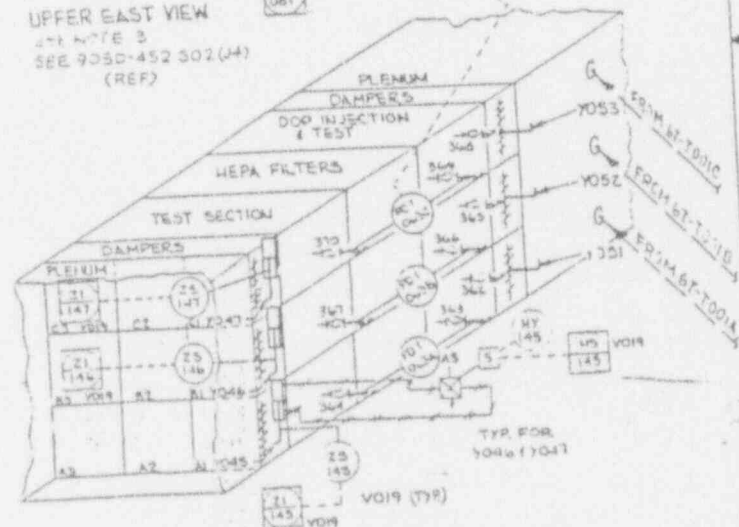
Also Available on Aperture Card



TOOZ
WEST VIEW
SEE NOTE 3
SEE 9050-452 502(14)



TOOZ
UPPER EAST VIEW
SEE NOTE 3
SEE 9050-452 502(14) (REF)



TOOZ
LOWER EAST SIDE
SEE NOTE 3
SEE 9050-452 502(14)

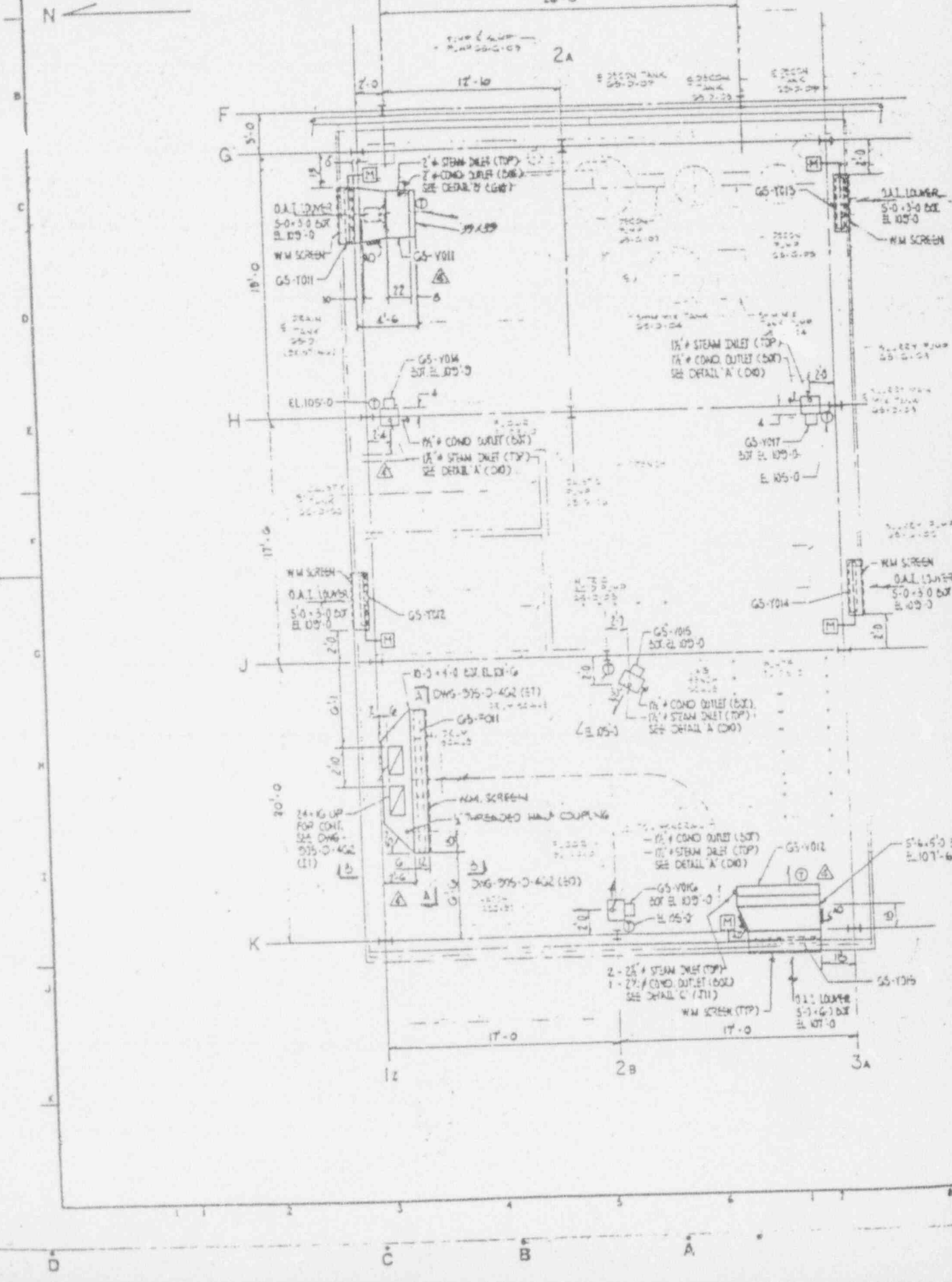
- 1) UNLESS OTHERWISE NOTED ALL BALL VALVES ARE PRECEDED BY 57-N-XXX
- 2) ALL INSTRUMENTATION ON THIS SHEET EXCEPT ON ANU VOO1 TO BE 56ISHK.
- 3) ALL GATE VALVES ARE 57-ST-V2-XXX UNLESS NOTED OTHERWISE.

REV	DESCRIPTION	DATE	BY	CHKD
1	ISSUED FOR CONSTRUCTION	1-30-60	C. ROOLEE	
2	REVISION	8-25-60		
3	REVISION	11-12-60		

REV	DESCRIPTION	DATE	BY	CHKD
1	ISSUED FOR CONSTRUCTION	1-30-60	C. ROOLEE	
2	REVISION	8-25-60		
3	REVISION	11-12-60		

REV	DESCRIPTION	DATE	BY	CHKD
1	ISSUED FOR CONSTRUCTION	1-30-60	C. ROOLEE	
2	REVISION	8-25-60		
3	REVISION	11-12-60		

905-D-461



REV NO	DATE	REVISION	DR	CH	APPROVED
0	7-2-82		ML	C	78/122/ML
GENERAL REVISION AS CIRCLED PER 7A 524 DATED 8/10/81 41K					
ERRA 991 DATED 11/1/81					
1	7/1/84	ERRA 46			ML
2	11/17/84	REV'D PER ECHS284	LR	DES	F-1
3	2-8-90	REV'D PER ECH 3444	CGA	ENG	
4	4-12-90	REV'D PER ECH 3502	GW	DES	PLP
5	9-27-90	REV'D PER ECH 3874	REA	DES	MLP

ANSTEC APERTURE CARD

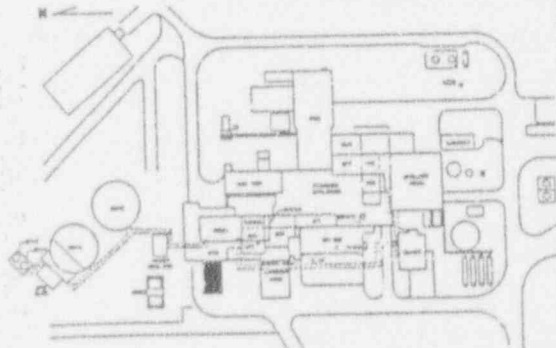
Also Available on Aperture Card

NOTES:

- FOR SYMBOLS NOTES AND LEGEND SEE DWGS 900-D-3006, 907-D-1900
- ⊕ DENOTES THERMOSTAT
- ⊞ DENOTES STEAM TRAP

REFERENCE DRAWINGS:

- COLD CHEM BLDG HEV FLOW DIAGRAM AND P&ID 900-D-2808
- HAC PLAN EL 115'-0" & ABOVE 905-D-452
- MECH PLAN EL 05'-6" - 10'-6" 905-D-567
- MECH PLAN EL 0'-0" - 115'-0" 905-D-1066
- MECH PLAN EL 115'-0" & ABOVE 905-D-060
- P&ID COLD CHEM FEED SYSTEM 905-D-016
- P&ID STEAM & CONDENSATE SYSTEM 905-D-019
- COLD CHEM FOUNDATION PLAN & DET. 905-D-173
- COLD CHEM BLDG GENERAL NOTES 905-D-251
- COLD CHEM BLDG ARCH PLANS/ELEV. 905-D-110



KEY PLAN

FOR DRAWING INDEX SEE DRAWING NO.

APPROVED VVNS CO.	EBASCO SERVICES INCORPORATED	
PROJECT NO.	AVE D.P.S. NO. 2388	TASK ORDER 0029
ENGINEER SUPERVISOR	WEST VALLEY NUCLEAR SERVICES COMPANY, INC	
LEAD ENGINEER	WEST VALLEY, NEW YORK	
DESIGNER	WEST VALLEY DEMONSTRATION PROJECT	
CHECKER	VENTILATION SYSTEM	
DATE	COLD CHEMICAL BLDG	
SCALE	PLAN EL 98.50' & 100.00'	
DRAWING NO.	905-D-461	REV. 4
PROJECT NO.	905-D-461	B

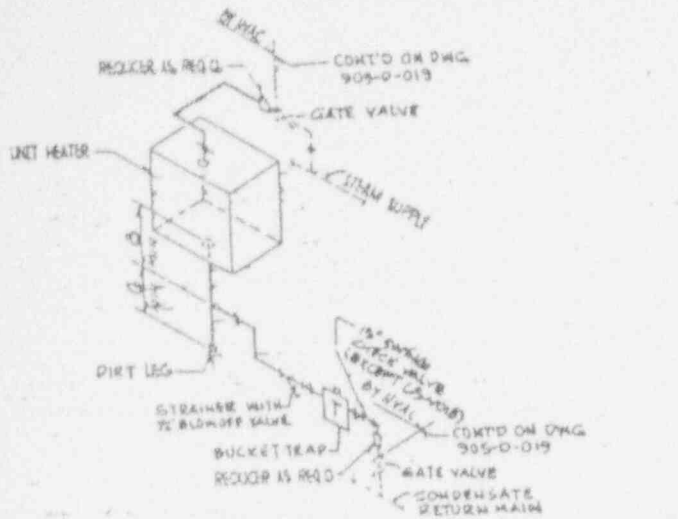
VVNS APPROVAL

COG. BY: *[Signature]*

DATE: *[Date]*

SCALE: *[Scale]*

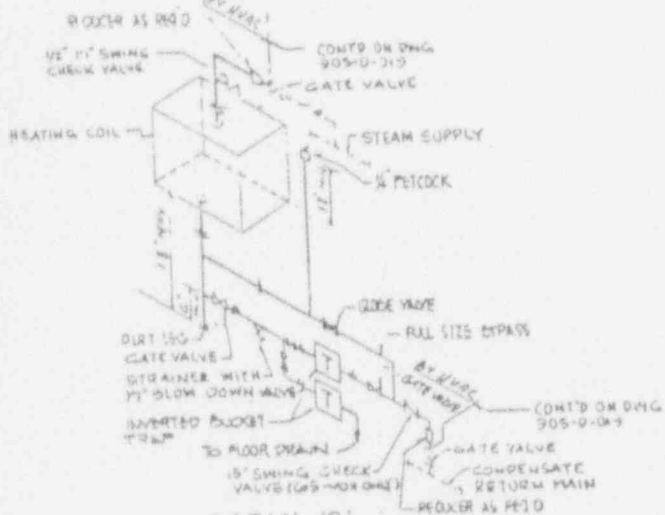
DATE FOR CONSTRUCTION: *[Date]*



DETAIL A'

UNIT HEATERS

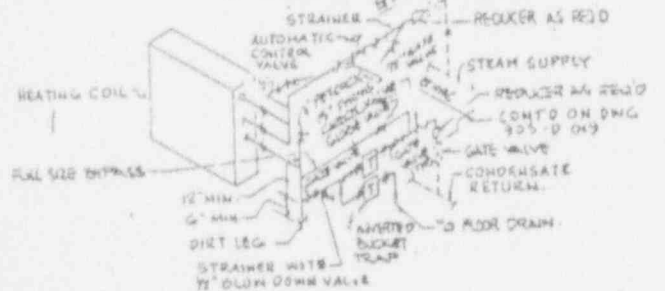
GS-V014, GS-V015, GS-V016, GS-V017 & GS-V015



DETAIL B'

MAKE UP AIR HEATERS

GS-V018 & GS-V019



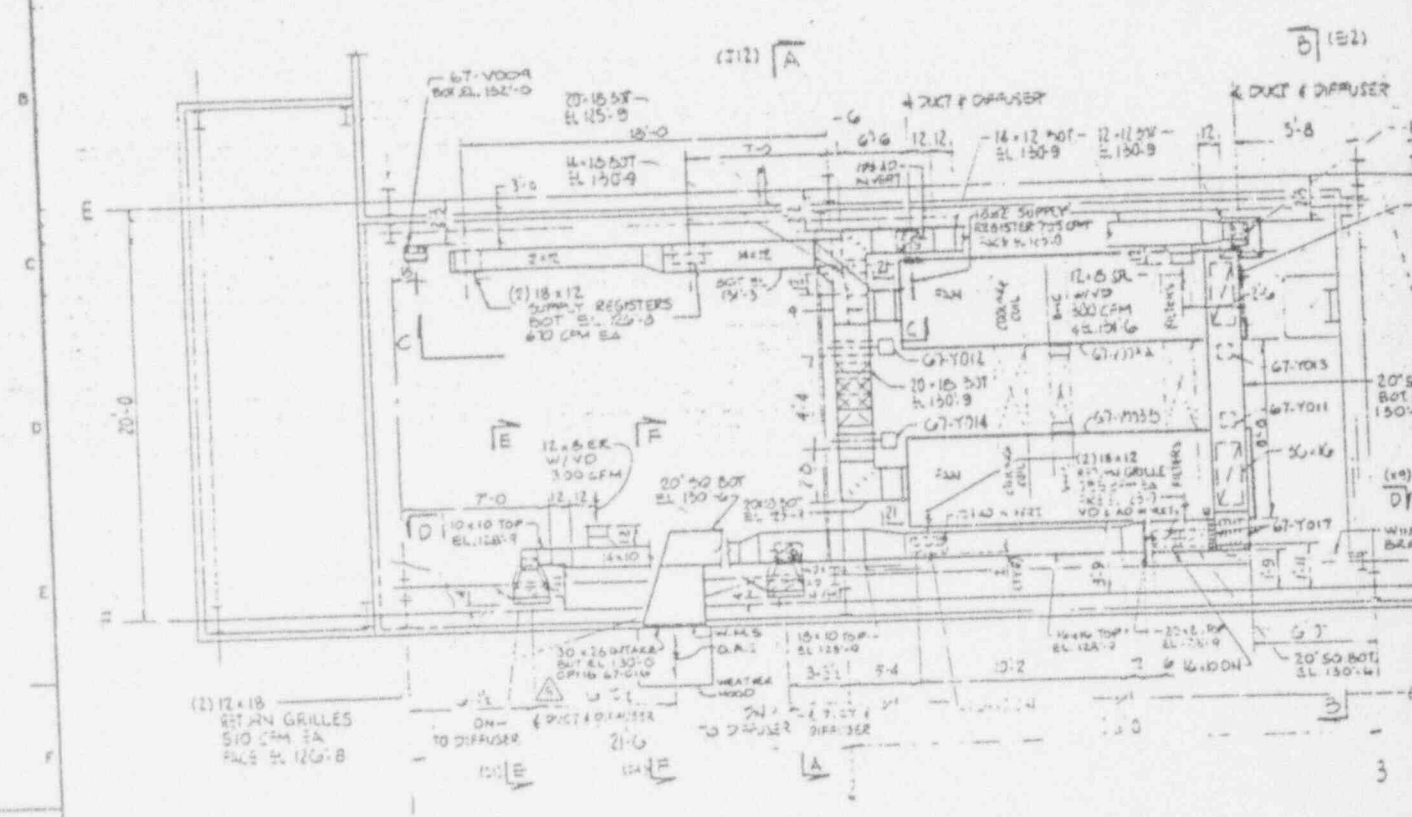
DETAIL C'

MAKE UP AIR HEATING COIL

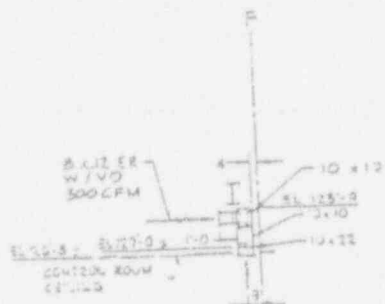
GS-V012

9403110314-21

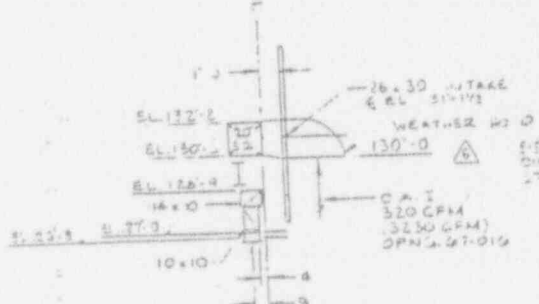
905-D-465



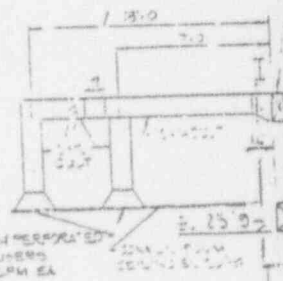
PLAN EL 124'-3 + 127'-0



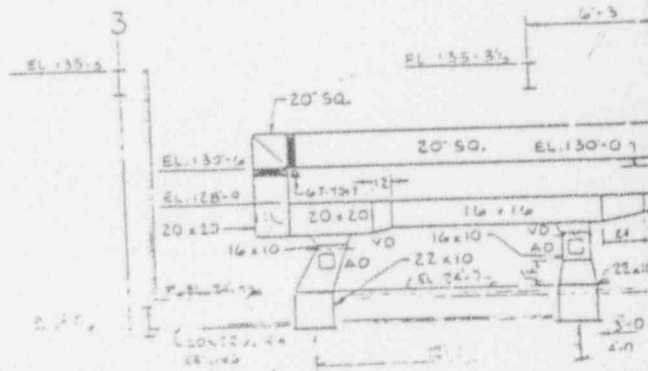
SECTION E-E (1/4)



SECTION F-F (1/4)

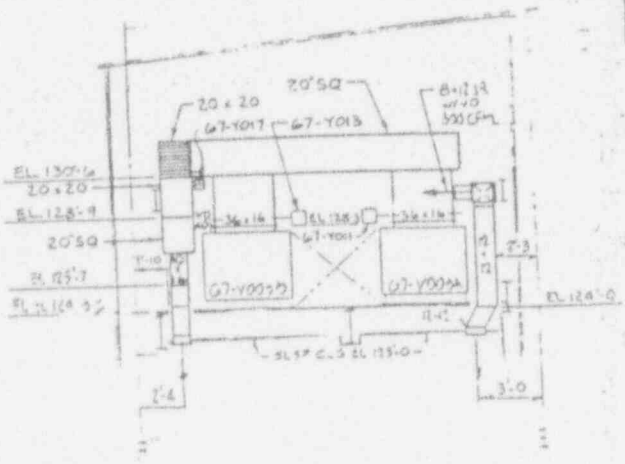


SECTION C-C (1/4)



SECTION B-B (1/4)

REV NO	DATE	REVISION	DR	CH	APPROVED
B	3-2-84	GENERAL REV. AS CIRCLED AND PER EGAR 1189	VS	HWL	JR JA VA VLS
C	6-18-84	REVISION AS CIRCLED PER EGAR 1189A	HWL	JA	JA VA VLS
D	7-11-74	REV. 10-4-74			
E	12/8/83	REV'D PER ECH 3276	JAW	ZCS	
F	2-28-90	REV PER ECH 3478	GM		
G	4-11-90	REV PER ECH 3571	GM		
H	7-3-90	REV PER ECH 3766	AWH		
I	7-29-92	REV PER ECH 5310	GM		
J	10-17-92	REV PER ECH 5449	DS		



NOTES:

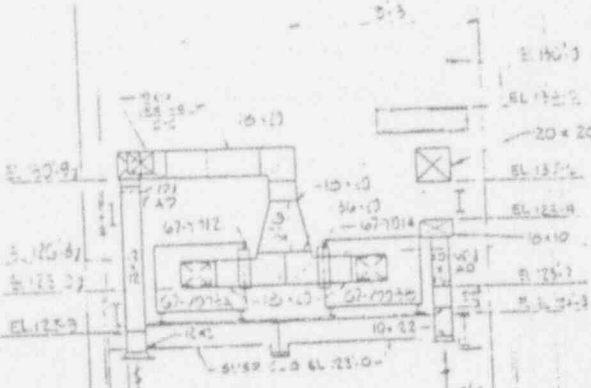
ANSTEC APERTURE CARD

Also Available on Aperture Card

REFERENCE DRAWINGS:

- 1/2 - AC AIR FLOW DIAGRAM CONTROL ROOM 905-D-451
- 1/2 GENERAL ARRANGEMENT H. 14-D 905-D-184
- 1/2 PLATFORM DRAWING EL. 125-D 905-D-713
- 1/2 ARCHITECTURAL, 2.112 PLAN E. 1-D 905-D-715

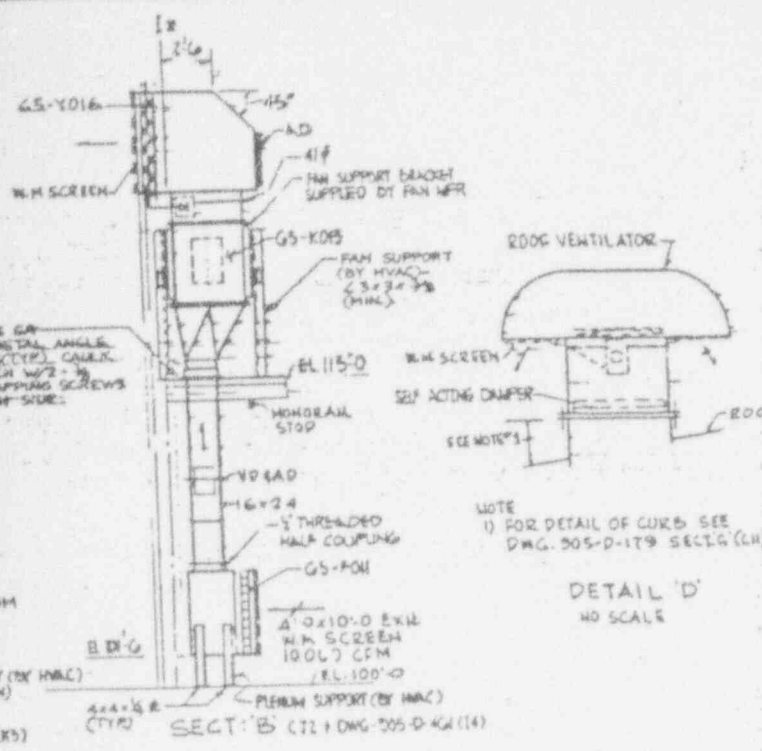
CAUTION
 CLERK OF WORK
 FEB 0 9 1993
 WORK IN PROGRESS CONTROL ROOM
 LATEST REVISION



FOR DRAWING INDEX SEE DRAWING NO.		EBSACO SERVICES INCORPORATED AVE G. P. S. NO. 1188 FOR TAKE ORDER 3009	
APPROVED WORKING COPY	PROJECT NO. 1-10	WEST VALLEY NUCLEAR SERVICES COMPANY, INC WEST VALLEY, NEW YORK	
ENGINEER SUPPLY	LEAD DISC ENGINEER	WEST VALLEY DEMONSTRATION PROJECT VITRIFICATION FACILITY CONTROL ROOM VENTILATION SYSTEM	
DESIGN	CHECKED	DRAWING NO. 905-D-465	
DRAWN	DATE	REV. 6	
DE-1001-11-14-13	PROJECT NO.	SCALE 1/8" = 1'-0"	
19-10-11-02-13	SUBCONTRACT NO.	SHEET NO. 1 OF 1	
ISSUED FOR CONSTRUCTION	SCALE	DATE 12-1-92	

9403110314-22

REV NO	DATE	REVISION	DR	CH	APPROVED
B	12-7-87		WM	JK	[Signature]
GENERAL REVISION AS CIRCLED & PER EBAR PER DATED 11/11/87					
0	7/11/84	ERRATA			
1	11/17/87	REV'D PER ECH 3283	LR	CC	[Signature]
2	2/8/90	REVISIONS TO 0005	CGR	RMG	[Signature]
3	9/23/90	COVER PER ECH 5074	RMG	MB	[Signature]



ANSTEC APERTURE CARD

Also Available on Aperture Card

NOTE:
 1) FOR DETAIL OF CURB SEE DWG. 905-D-179 SECT D (LH)

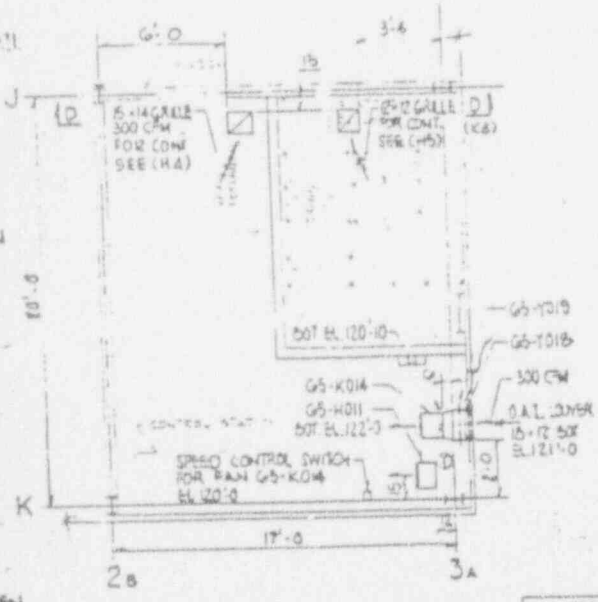
DETAIL 'D'
 NO SCALE

NOTES:

FOR GENERAL NOTES AND REFERENCE DRAWINGS SEE DRAWING 905-D-404

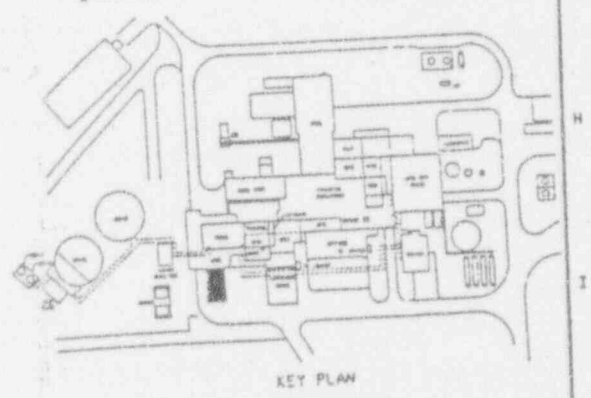
RECEIVED
 FEB 19 1988
 CHECK DISBURSEMENT CONTROL FOR LATEST REV.

- ANG AS REQ'D 2x2x1/4
- NEW SUPP STEEL (BY HVAC) 2x2x1/4 (MIN) OR EASVT. STEEL.
- ROD SUPPORT (BY HVAC) 3/8" THRD' ROD (MIN.)
- UNIT MEMBER GS-Y04, GS-Y05, GS-Y06, GS-Y07 + GS-Y08



CONTROL ROOM
 PLAN EL. 115.00'

WVNS APPROVAL	
DESIGN	[Signature]
CHK'D BY	[Signature]
DATE	10/18/87
SCALE	AS SHOWN



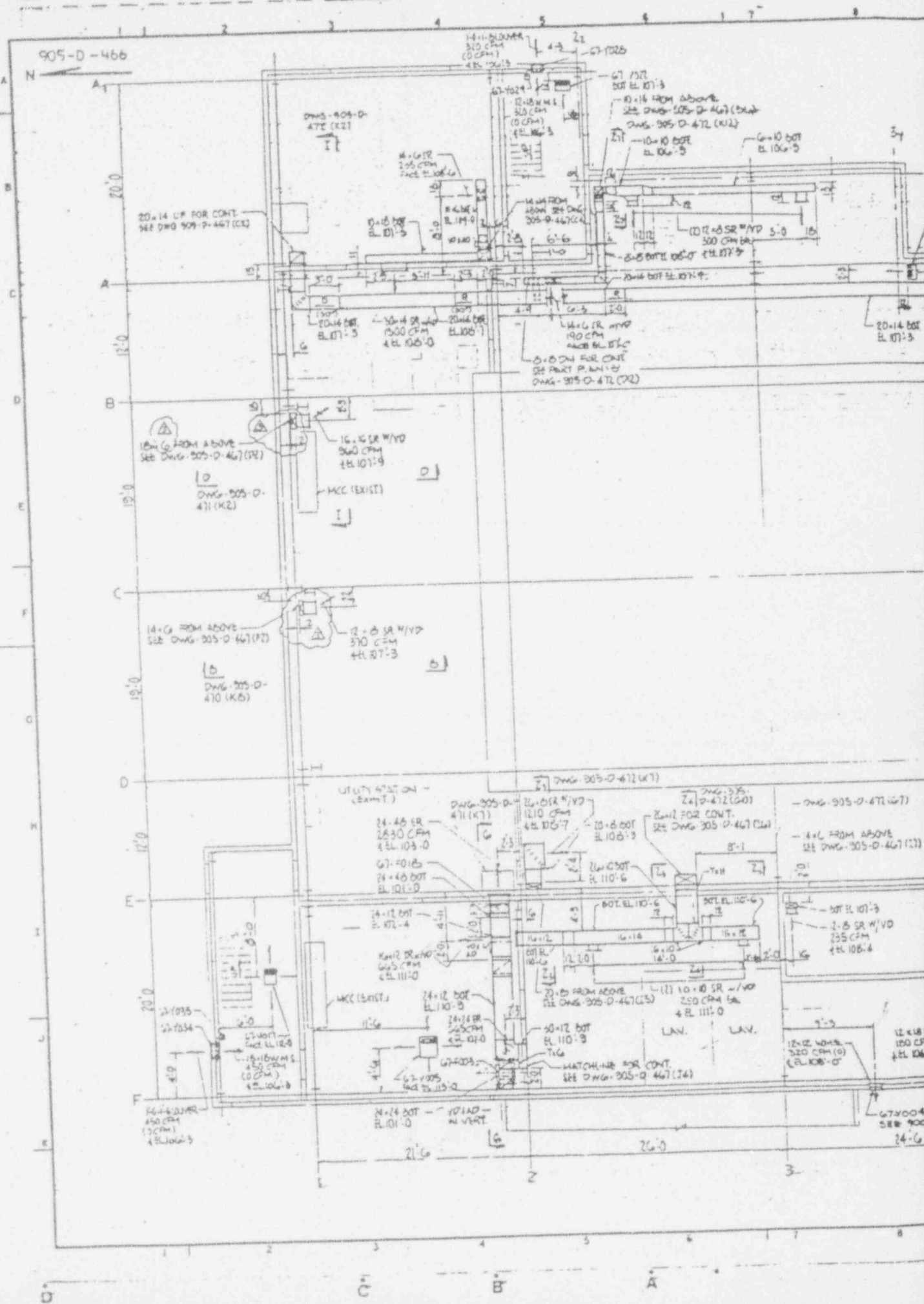
KEY PLAN

FOR DRAWING INDEX SEE DRAWING NO.	
APPROVED WORK CO.	EBASCO SERVICES INCORPORATED A/E & E. S. NO. 2288. TAKE ORDER 009
PROJECT NO.	100-000000
ENGINEER'S SIGNATURE	[Signature]
DATE	10-18-87
DESIGNER	K. G. GORDON
CHK'D BY	R. S. BACH
DATE	10-18-87
PROJECT NO.	100-000000
SUBCONTRACT NO.	19-CV-00778
SCALE	AS SHOWN
DATE	10-18-87
PROJECT NO.	100-000000
SCALE	AS SHOWN
DATE	10-18-87

WEST VALLEY NUCLEAR SERVICES COMPANY, INC
 WEST VALLEY, NEW YORK
 WEST VALLEY DEMONSTRATION PROJECT
 VENTILATION SYSTEM
 COLD CHEMICAL BLDG
 PLAN EL. 115.00' & ABOVE

DWG. NO. 905-D-402
 SHEET NO. 3
 SCALE: 1/4" = 1'-0"

9403110314-230



20000100

REV NO	DATE	REVISION	DR	CH	APPROVED
B	5-20-89	GENERAL REV AS CIRCLED L&D AS PER EBAR 1189	K.S.	WNL	J.A. J.B. V.L.L.
C	6-3-89		WNL	J.A.	J.A. J.B.
GENERAL REVISION AS CIRCLED AND PER EBAR 1189					
D	7-19-89	PER 11626			J.B.
E	11-27-89	REV PER ECH 326A	CW	OKS	R.H.S.
F	9-7-90	REV PER ECH 362A	CGR	J.S.	R.H.S.
G	10-25-90	REV PER ECH 397B	BP	WAS	R.H.S.

ANSTEC APERTURE CARD

Also Available on Aperture Card

NOTES:

- ALL DUCTWORK IS TO CONFORM TO SPECIFICATION HVAC INSTALLATION SPEC NR CS-139
- ALL DUCT SIZES ARE NUDE DIMENSIONS.
- FOR INSTRUMENTATION LOCATION SEE DWG-305-D-551 SH-4 AND 555-D-530 SH-1 & SH-2.
- WALL PENETRATIONS PER 908D-196, 731, 732, & 736 - ALL BY CS-139.

REFERENCE DRAWINGS:

SYMBOLS & LEGEND	905-D-130, 1301 & 1308
V.F. HVAC FLOW DIAGRAM	905-D-450
V.F. HVAC P&ID	905-D-452
C.A. PLAN EL 100' 00'	905-D-030
C.A. PLAN EL 110' 25'	905-D-031
C.A. PLAN EL 124' 00' + ABOVE	905-D-034
V.F. HVAC MISCELLANEOUS DETAILS	905-D-407
V.F. VENTILATION SYSTEM PLAN EL 100' 10'	905-D-466
V.F. VENTILATION SYSTEM PLAN EL 110' 3'	905-D-467
V.F. VENTILATION SYSTEM PLAN EL 125' 3'	905-D-468
INSC. EQUIPMENT ROOM EL 125' 3'	905-D-469
V.F. HVAC CHILLED WATER PIPING	905-D-0851X
V.F. ARCHITECTURAL FLOOR PLAN EL 110' 0'	905-D-733

APPROVED AS OF

FEB 09 1993

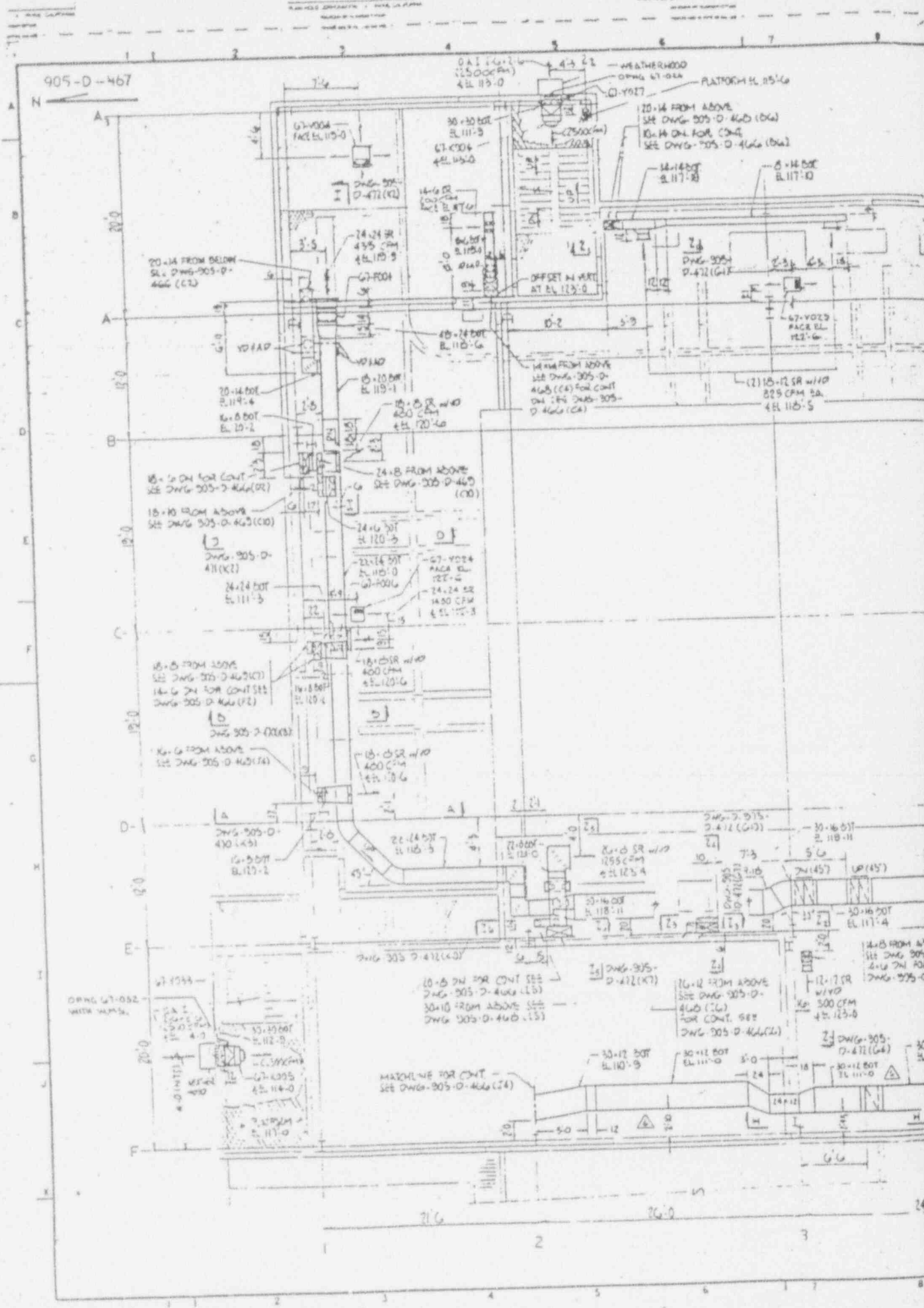
CONTROL DOCUMENT CONTROL
NO TEST REVISION

WVNS APPROVAL	
COO. MGR.	<i>[Signature]</i>
COO. ENGR.	<i>[Signature]</i>
DRFT. SUPER.	<i>[Signature]</i>
PLA. MGR.	<i>[Signature]</i>
SRVS. MGR.	<i>[Signature]</i>

FOR DRAWING INDEX SEE DRAWING NO.

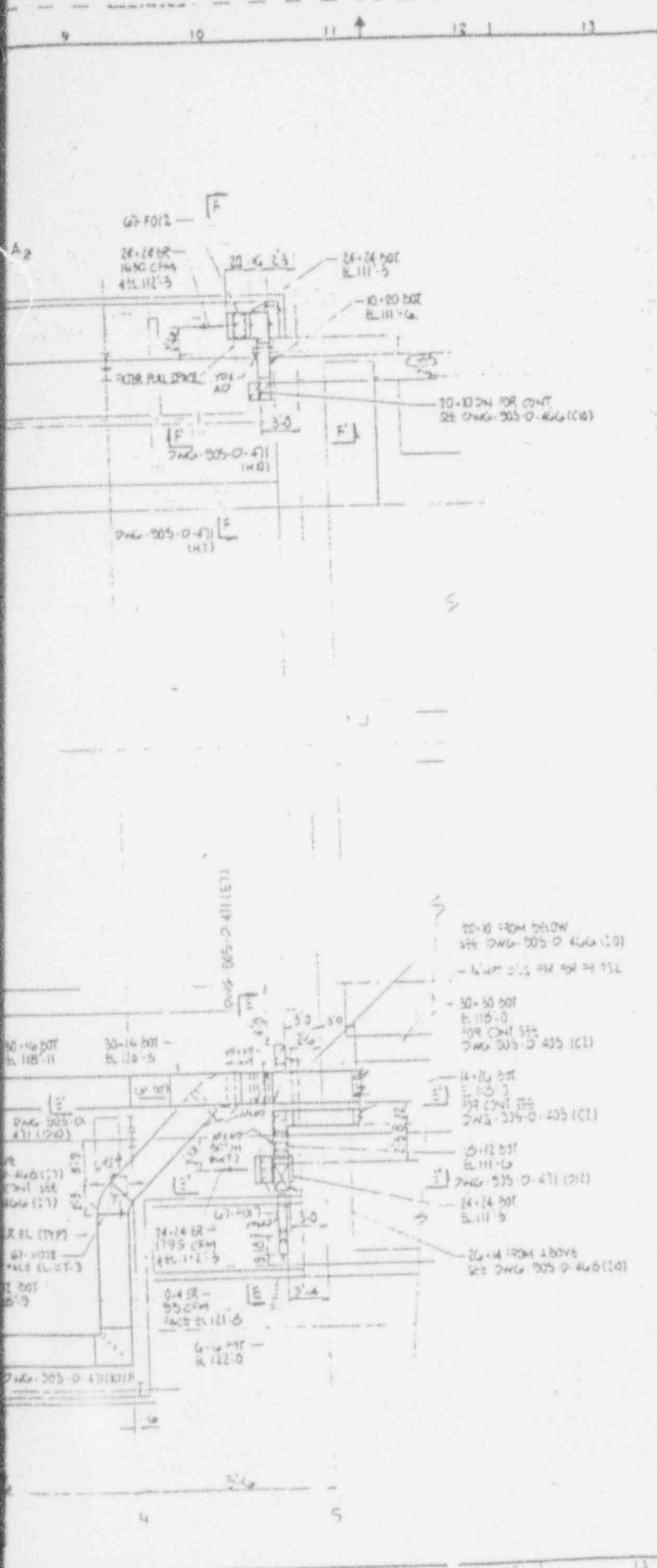
APPROVED WVNS CO.	EBASCO SERVICES INCORPORATED
PROJECT NO.	WVE D.P. S. NO. 2388
ENGINEER	TASK ORDER 009
DESIGNER	WEST VALLEY NUCLEAR SERVICES COMPANY, INC. WEST VALLEY, NEW YORK
CHECKED	WEST VALLEY DEMONSTRATION PROJECT
DATE	VITRIFICATION FACILITY VENTILATION SYSTEM
SCALE	PLAN EL. 100'-0"
DRAWING NO.	905-D-466
REV.	3
ISSUED FOR CONSTRUCTION	SCALE 1/4" = 1'-0"

9403110314-24



905-D-467

RC:93:0106



REV NO	DATE	REVISION	DR	CH	APPROVED
B	3-6-87	GENERAL REVISIONS CIRCLED 2-B AS PER EBAS 1189	US	MHL	JR
C	6-3-87		MHL	JR	JR
GENERAL REVISION AS CIRCLED AND PER EBAS 1187A					
D	7-13-87	ER 10-4-6			
F	11-22-89	REV PER ECH 3270	GW	PCS	GW
Z	4-12-90	REV PER ECH 3275	GH	PDS	GH
3	5-7-90	REV PER ECH 3274	EGR	PDS	EGR
4	10-25-90	REV PER ECH 3276	BP	MAD	BP
5	11-12-90	PER ECH 4036	JLN	MAD	JLN
6	12-21-92	REV PER YF-25-0435	MS	PDS	MS

NOTE
FOR NOTES AND REFERENCE DRAWINGS SEE DRAWING
935-D-466.

ANSTEC APERTURE CARD

Also Available on
Aperture Card

REVISION
OF SHEET 43 OF
FEB 09 1993
CHECK ELEMENT CONTROL
DATE TEST REVISION

WVNS APPROVAL	
DESIGN	<i>[Signature]</i>
CHECKED	<i>[Signature]</i>
DATE	10/10/93
SCALE	<i>[Signature]</i>

FOR DRAWING INDEX SEE DRAWING NO.

APPROVED WHO CO.	EBASCO SERVICES INCORPORATED
PROJECT NO.	A/E D.F.S. NO. 1188 TASK ORDER 000
ENGINEER SUPV.	WEST VALLEY NUCLEAR SERVICES COMPANY, INC. WEST VALLEY, NEW YORK
LEAD DISE ENGR	WEST VALLEY DEMONSTRATION PROJECT
DESIGN	VITRIFICATION FACILITY VENTILATION SYSTEM
CHECKED	PLAN EL 111'-3"
DRAWN	
DATE	
DE-ACCT-R1864133	SHEET INDEX CODE NUMBER
PROJECT NO.	DRAWING NO. 935-D-467
15-CW-02715	REV. 6
DISCONTRACT NO.	
ISSUED FOR CONSTRUCTION	SCALE

9403110314-25



905-D-468

26x16 DUCT (900 CFM) EL. 134'-3"

DWG 905-D-472 (C7)

42x14 SR (2000 CFM) EL. 133'-0"

20x12 AT 125' + 1/4" FLOOR PENETRATION ONLY

20x14 BOT EL. 134'-6"

MATCHLINE FOR CONT SEE DWG 905-D-463 (L/S)

MATCHLINE FOR CONT SEE DWG 905-D-463 (R/S)

FOR DUCTWORK IN THIS AREA SEE DRAWING 905-D-463

MATCHLINE FOR CONT SEE DWG 905-D-463 (R/S)

24x18 BOT EL. 133'-0"

30x10 DUCT FOR CONT SEE DWG 905-D-467 (1/2)

FOR DUCTWORK IN THIS AREA SEE DRAWING 905-D-463

26x16 DUCT (1500 CFM) EL. 134'-7"

24x14 DUCT FOR CONT SEE DWG 905-D-467 (2A)

30x12 BOT EL. 134'-6"

24x14 BOT EL. 134'-6"

24x14 BOT EL. 134'-6"

24x14 BOT EL. 134'-6"

24x14 BOT EL. 134'-6"

24x14 BOT EL. 134'-6"

24x14 BOT EL. 134'-6"

24x14 BOT EL. 134'-6"

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24x14 BOT EL. 134'-6"

24x14 BOT EL. 134'-6"

24x14 BOT EL. 134'-6"

24x14 BOT EL. 134'-6"

24x14 BOT EL. 134'-6"

24x14 BOT EL. 134'-6"

24x14 BOT EL. 134'-6"

24x14 BOT EL. 134'-6"

D R0930106

C B A

39'-4" (1200 CFM) EL. 134'-0"

OPNG 67-1 WITH W/4" 5"

24'-6"

REV NO	DATE	REVISION	DR	CH	APPROVED
B	3-2-89	GENERAL PER AS C-221R 2.14 PER EBAR 1189	VS	WVL	JB / CC
C	6-30-89		WVL	JA	JA / CC
GENERAL REVISION AS CIRCLED AND PER EBAR 11574					
O	7-11-89	ER No 46			WVL
1	11-21-89	REV PER ECH 3271	GN	DJS	CWS
2	5-7-90	REV PER ECH 3424	KCR	CCS	S.P.
3	5-27-91	ECH 5155	PD	AB	C.P.
4	9-17-92	REV/FEN VF-28-0295 REV/PLN VF-28-0296 REV/FEN VF-28-0297			C.P.

ANSTEC APERTURE CARD

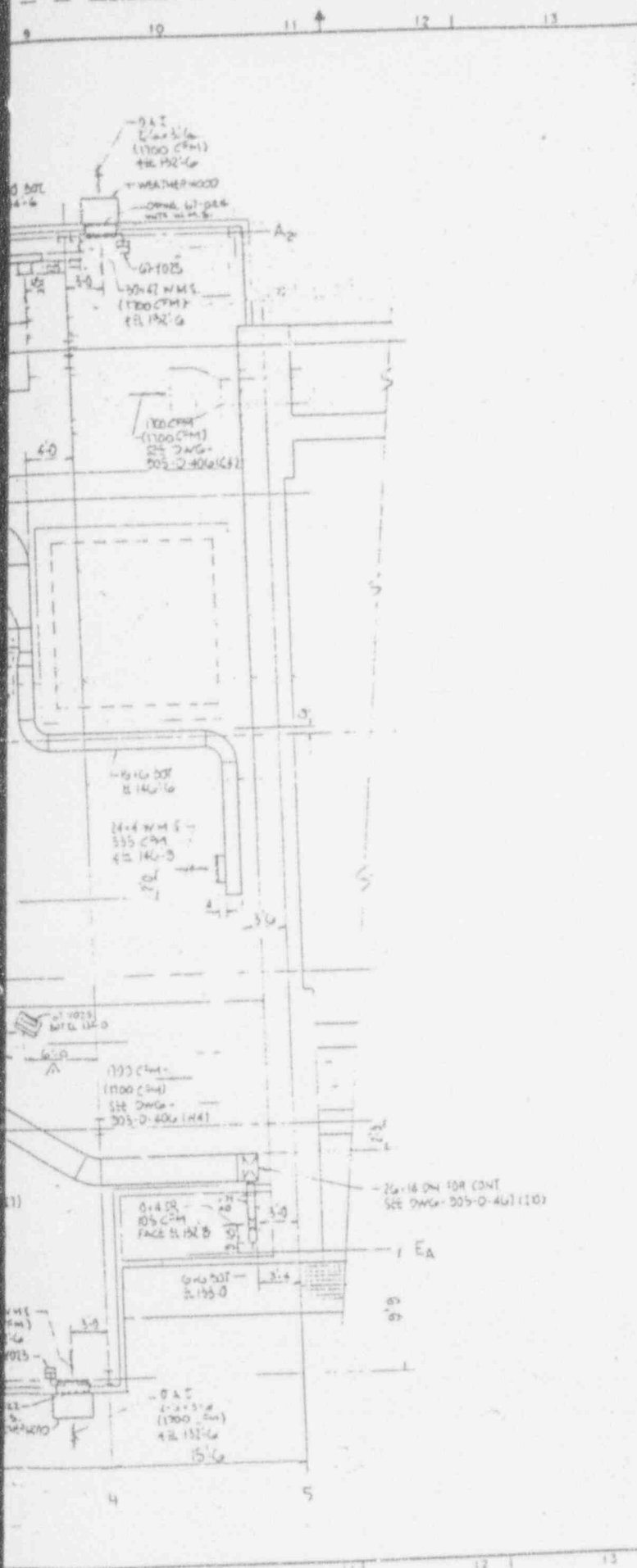
Also Available on
Aperture Card

NOTE
FOR NOTES AND REFERENCE DRAWINGS SEE DRAWING
905-D-466.

WEST VALLEY NUCLEAR
FACILITY
FEB 0 2 1983
MEDIA QUALITY CONTROL
BY: [Signature]

WVNS APPROVAL	
DESIGNER	[Signature]
CHECKED	[Signature]
DATE	1/27/83
SCALE	AS SHOWN
ISSUED FOR CONSTRUCTION	[Signature]

FOR DRAWING INDEX SEE DRAWING NO.		EBASCO SERVICES INCORPORATED	
APPROVED WVNS CO.		AVE G.F.S. NO. 2188	TASK ORDER 009
PROJECT NO.		WEST VALLEY NUCLEAR SERVICES COMPANY, INC WEST VALLEY, NEW YORK	
ENGINEER		WEST VALLEY DEMONSTRATION PROJECT	
LEAD DESIGNER		VITRIFICATION FACILITY VENTILATION SYSTEM PLAN EL 125'-4 1/4	
DESIGN			
CHECKED			
DATE			
DE-ACCT #	4139	DRAWING NO.	905-D-463
REV. NO.	1	REV.	4
SUBCONTRACT NO.		SCALE	AS SHOWN
ISSUED FOR CONSTRUCTION		DATE	02/02/83



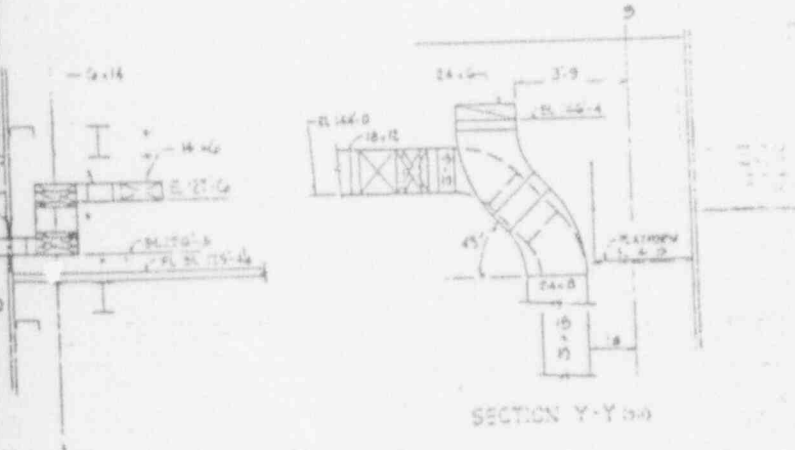
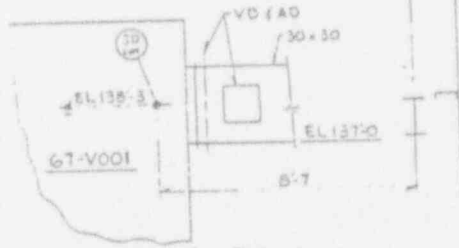
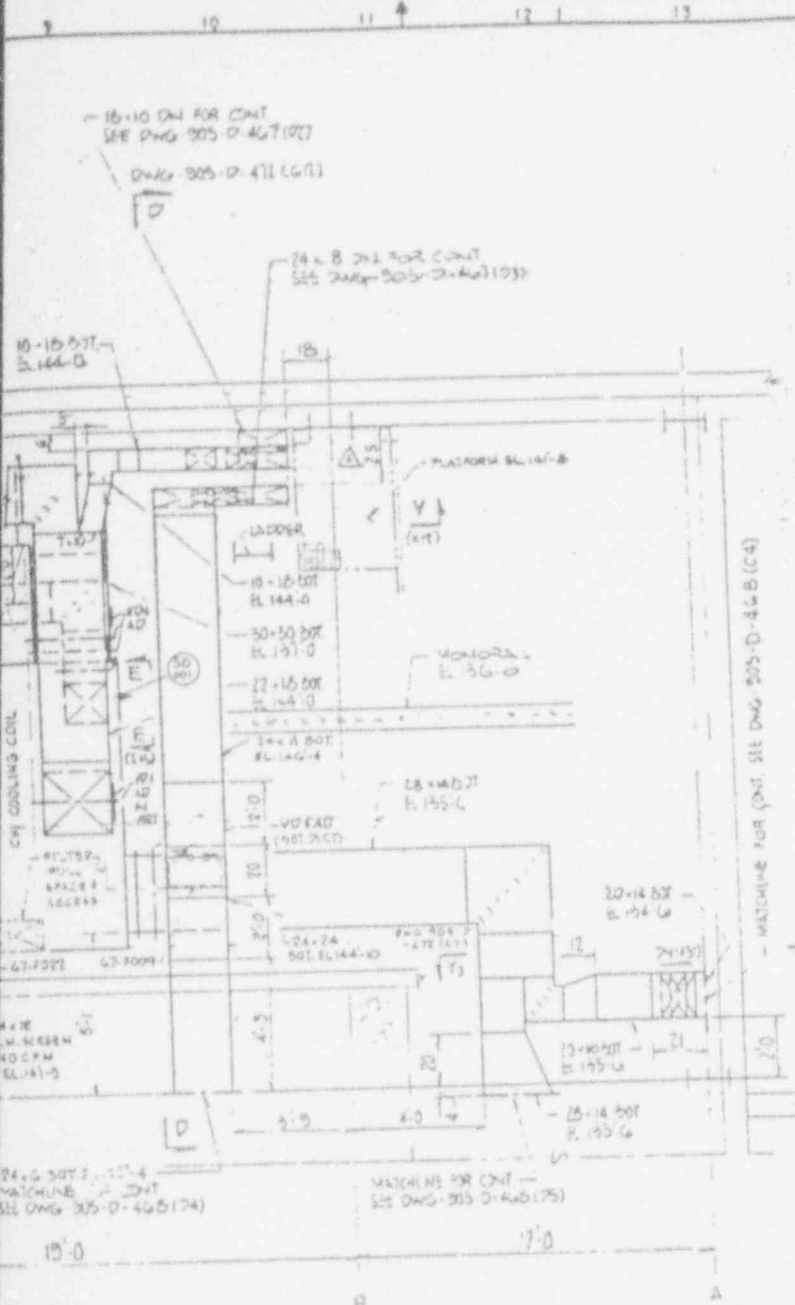
9403110314-26

REV NO	DATE	REVISION	DR	CH	APPROVED
B	7-20-81	GENERAL REV. AS CIRCLED AND PER EBAR 1159	V.S.	WVL	JK 96 21
C	6-30-84	GENERAL REVISION AS CIRCLED AND PER EBAR 1159	WVL	JK	JK 96 21
GENERAL REVISION AS CIRCLED AND PER EBAR 1159					
D	7-17-90	REV PER EGM 5274	GW	DES	WHL
E	11-20-89	REV PER EGM 5274	GW	DES	WHL
F	11-12-90	REV PER EGM 5351	GW	DES	WHL
G	8-12-92	REV PER EGM 5351	GW	DES	WHL
H	12-29-92	REV PER EGM 5351	GW	DES	WHL

ANSTEC APERTURE CARD

Also Available on Aperture Card

NOTE
FOR NOTES AND REFERENCE DRAWINGS SEE DRAWING 905-D-466.



FOR DRAWING INDEX SEE DRAWING NO. 905-D-466

DATE: FEB 09 1993

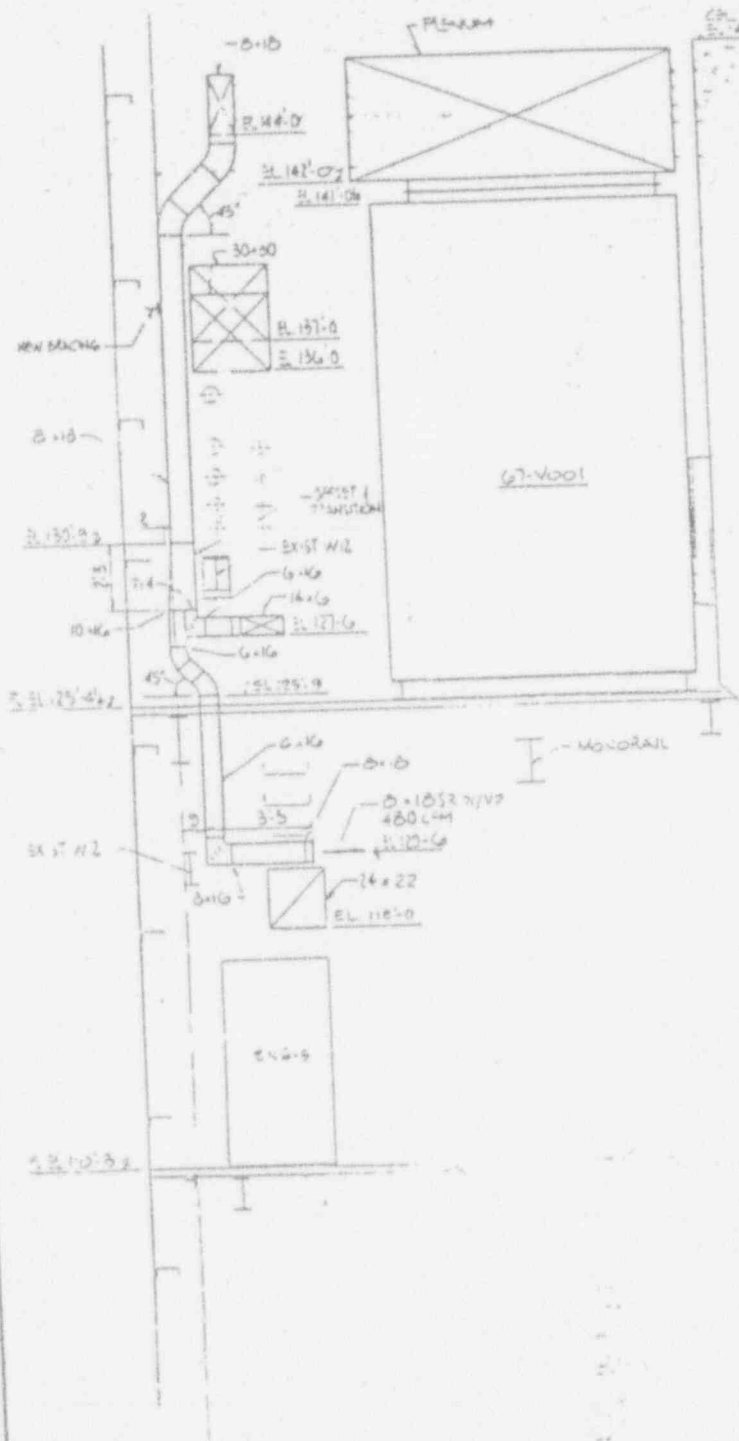
PROJECT: WEST VALLEY NUCLEAR SERVICES COMPANY, INC. TEST REVISION.

WVNS APPROVAL	
DESIGNER	<i>[Signature]</i>
CHECKED	<i>[Signature]</i>
DATE	12-29-92

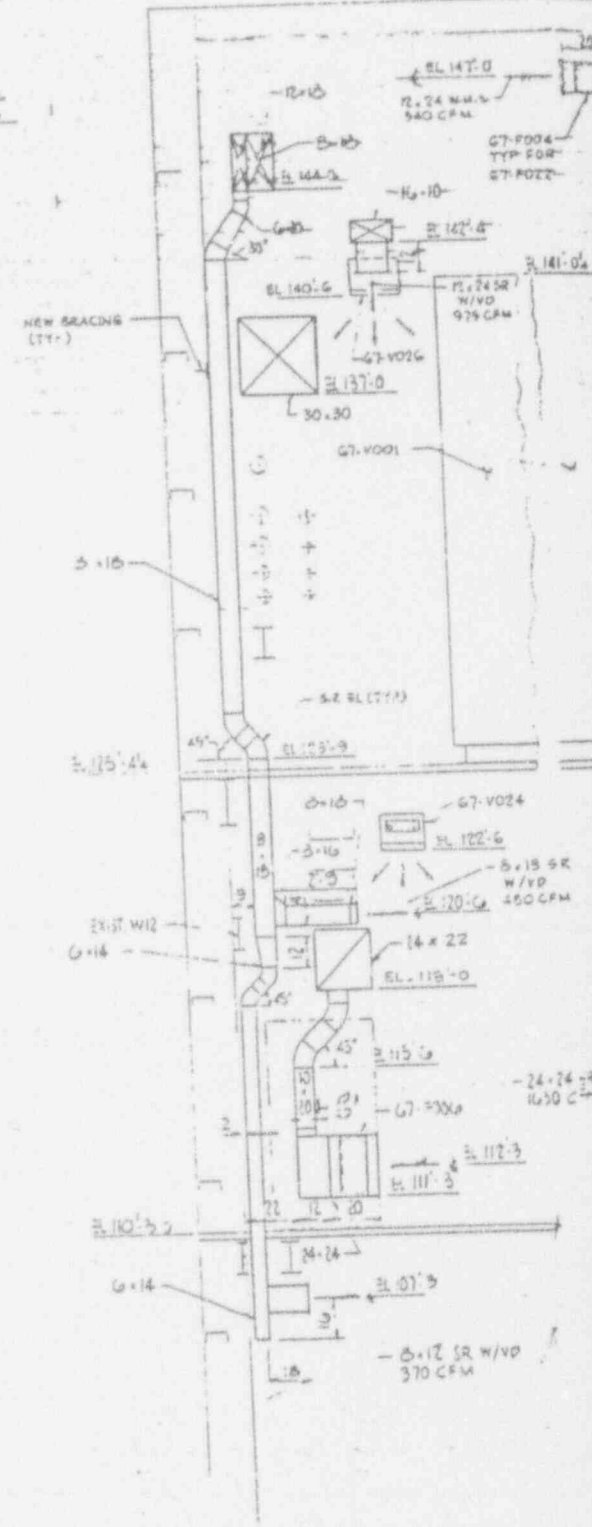
APPROVED WING CO.		EBASCO SERVICES INCORPORATED	
PROJECT NO.	DATE	A/E G.P.S. NO. 2188	TAKE ORDER 009
PROJECT NO.	DATE		
DESIGNER	DATE		
CHECKED	DATE		
DATE	DATE		
PROJECT NO.	DATE		
PROJECT NO.	DATE		
PROJECT NO.	DATE		
PROJECT NO.	DATE		

9403110314-27

905-D-470



SECTION A-A
 DWG 335-D-467 (M1)
 DWG 335-D-469 (75 15)



SECTION B-B
 DWG 335-D-467
 DWG 335-D-469
 DWG 335-D-469

BC:93:0106

C B A

REV NO	DATE	REVISION	DR	CH	APPROVED
5	9-6-89	GENERAL REV AS CIRCLED AND 0.25 PER S&P 1189	25	WVL	JR JR JR
C	6-30-89		WVL	JR JR JR	WVL

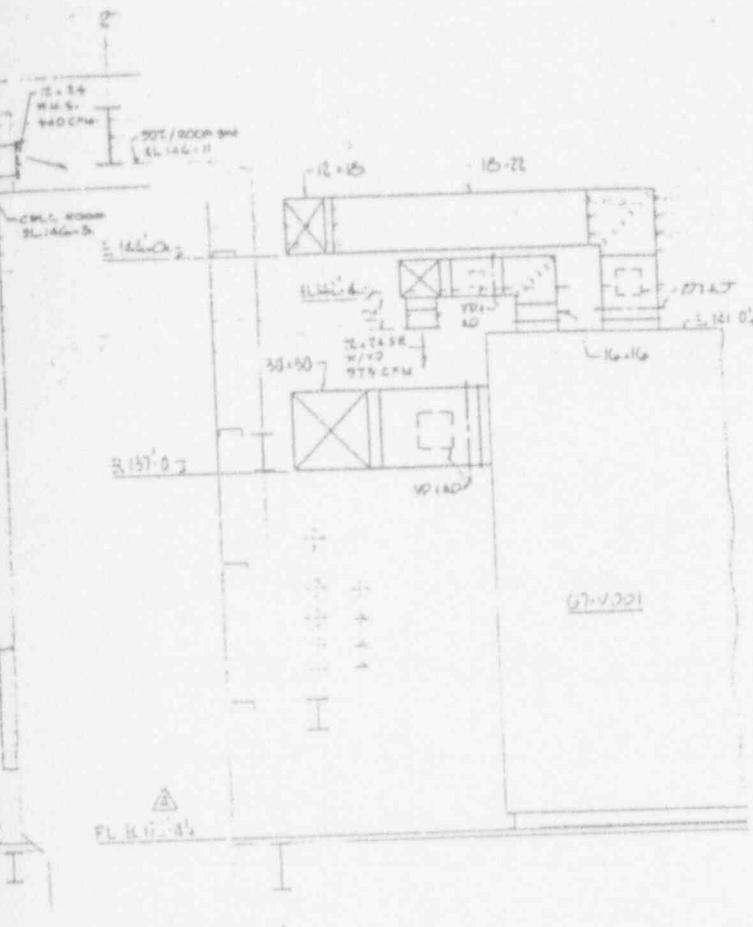
GENERAL REVISIONS AS CIRCLED AND PER EPAR 1109A

1	11/1/89	REV. 1-25			WVL
1	11/20/89	ECN 3275	LR	DES	FWS
2	9-12-90	REV PER ECN 3577	GW	DES	FWS
3	10-25-90	REV PER ECN 3976	BP	DES	FWS
4	11-12-90	REV PER ECN 3351	DES	DES	FWS

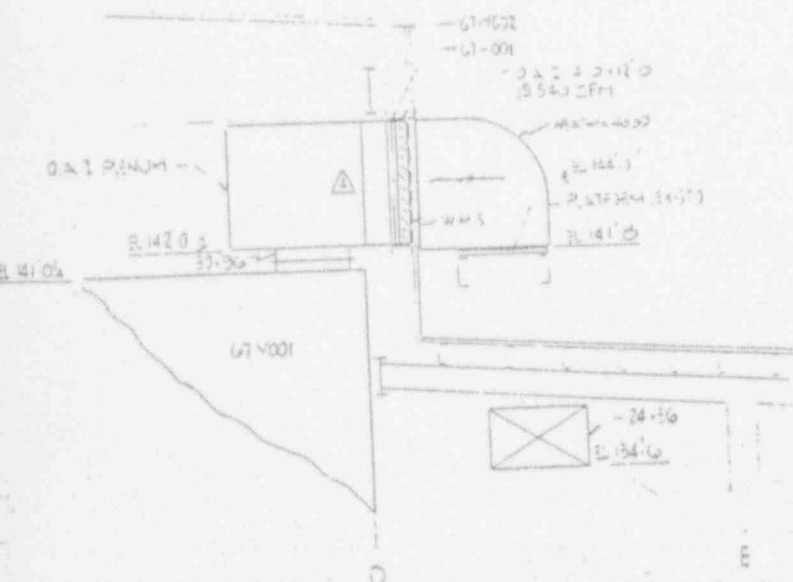
ANSTEC APERTURE CARD

Also Available on Aperture Card

NOTE
FOR NOTES AND REFERENCE DRAWINGS SEE DRAWING 905-D-466.



SECTION C-C DWG 905-D-463 (50)



SECTION I-I DWG 905-D-463 (51)

DATE: FEB 09 1993

TEST REVISION

WVNS APPROVAL

DESIGN	J. Deane
CHECKED	J. Deane
DATE	02/09/93
SCALE	AS SHOWN
BY	J. Deane

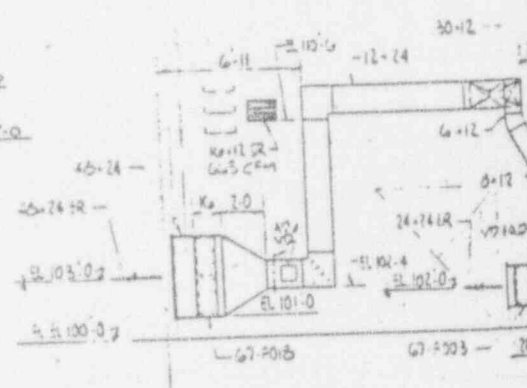
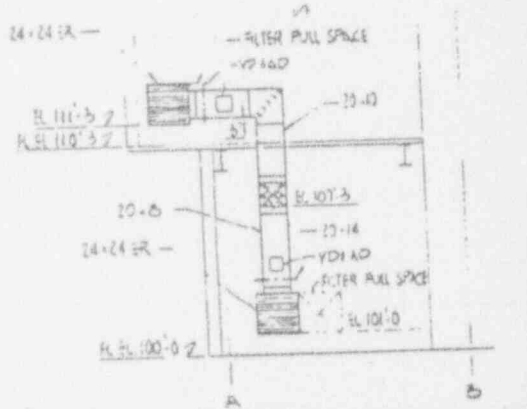
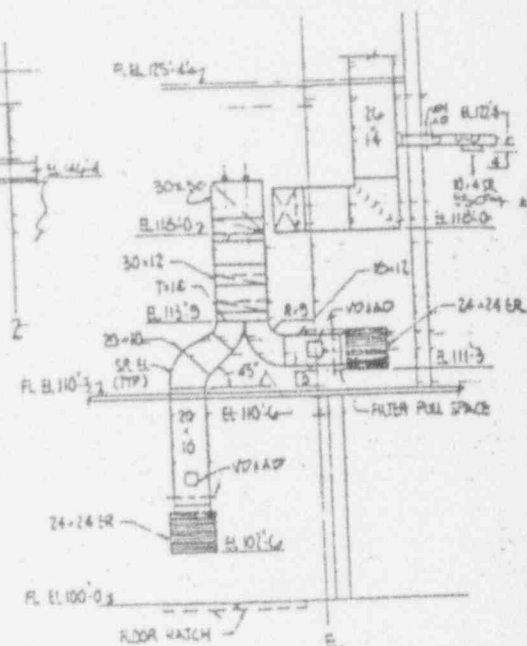
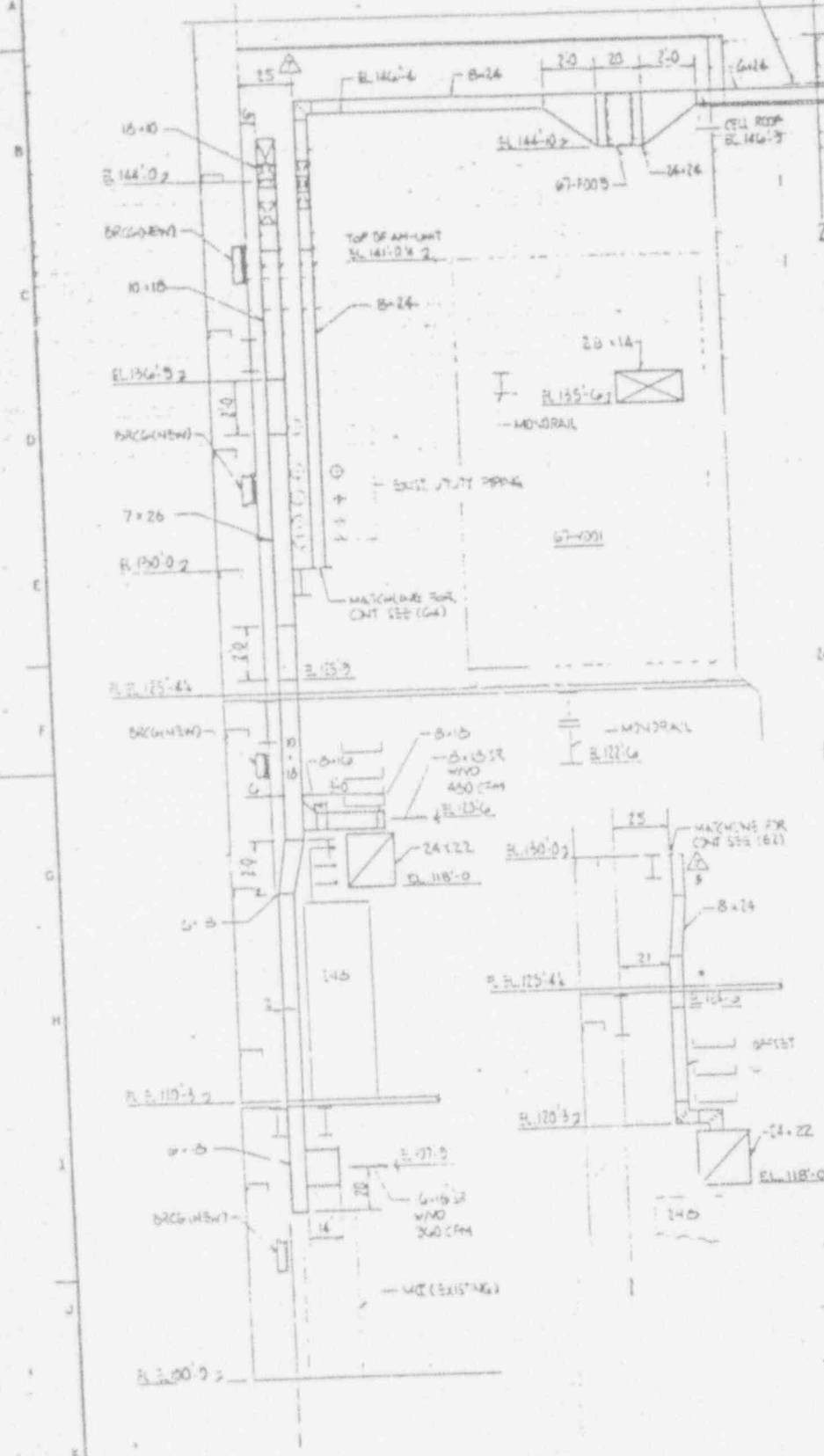
FOR DRAWING INDEX SEE DRAWING NO.

APPROVE WVL CO.	EBASCO SERVICES INCORPORATED 470 B.F.S. NO. 2288
PROJECT FOR	WEST VALLEY NUCLEAR SERVICES COMPANY, INC WEST VALLEY, NEW YORK
ENGINEER	WEST VALLEY NUCLEAR SERVICES COMPANY, INC WEST VALLEY, NEW YORK
LEAD DESIGNER	WEST VALLEY NUCLEAR SERVICES COMPANY, INC WEST VALLEY, NEW YORK
DESIGN	WEST VALLEY NUCLEAR SERVICES COMPANY, INC WEST VALLEY, NEW YORK
CHECKED	WEST VALLEY NUCLEAR SERVICES COMPANY, INC WEST VALLEY, NEW YORK
DATE	WEST VALLEY NUCLEAR SERVICES COMPANY, INC WEST VALLEY, NEW YORK
BY	WEST VALLEY NUCLEAR SERVICES COMPANY, INC WEST VALLEY, NEW YORK
SCALE	WEST VALLEY NUCLEAR SERVICES COMPANY, INC WEST VALLEY, NEW YORK
PROJECT NO.	905D 470 4
DRAWING NO.	905-D-463
SHEET NO.	905-D-463

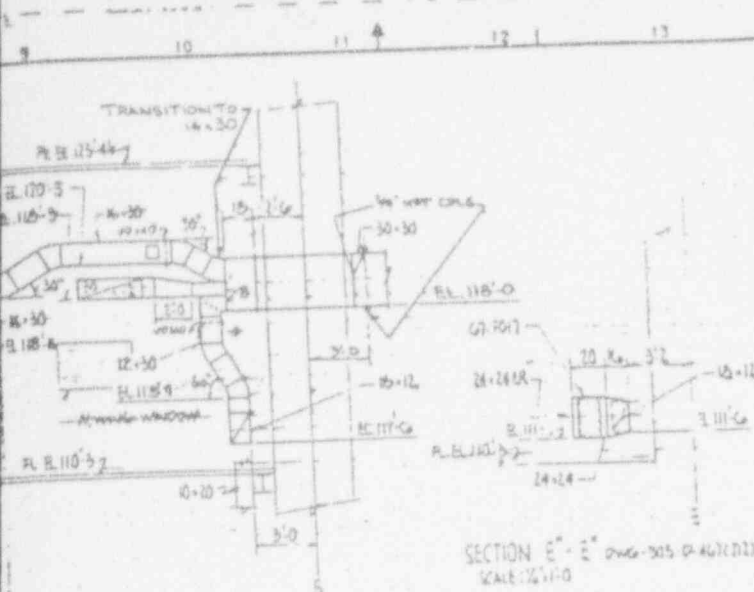
9403 110314-28

905-D-471

BOTTOM OF ROOF EXAMIN EL. 146'-11"



SECTION D-D DWG. 905-D-466 (120)
 SCALE: 1/4"=1'-0"
 DWG. 905-D-467 (130)
 DWG. 905-D-467 (140)



SECTION E-E' DWG 905-D-467(120)
SCALE: 1/4"=1'-0"

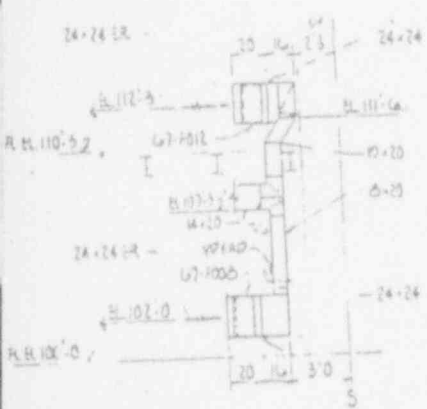
SECTION E-E' DWG 905-D-467(120)
SCALE: 1/4"=1'-0"

REV NO	DATE	REVISION	DR	CH	APPROVED
B	1-2-92	GENERAL REVISIONS TO PER EBAR 1187	YS	NAL	YS
C	6-2-89		WAL	JA	JA
GENERAL REVISIONS AS CIRCLED AND PER EBAR 1187A					
D	7-11-94	REV PER EBAR 1187A			
1	11-21-89	REV PER ECH 3273	GW	SES	SES
2	4-12-90	REV PER ECH 3274	GW	DES	DES
3	10-25-90	REV PER ECH 3276	SP	WAG	WAG
4	8-12-92	REV PER ECH 5351	MS	HB	HB
5	10-1-92	REV PER VV-28-0349	PD	SD	SD
6	12-21-92	REV PER VV-28-0485	HB	PKS	PKS
7	12-29-92	REV PER VV-28-0505	PD	PKS	PKS

NOTE
FOR NOTES AND REFERENCE DRAWINGS SEE DRAWING
905-D-466.

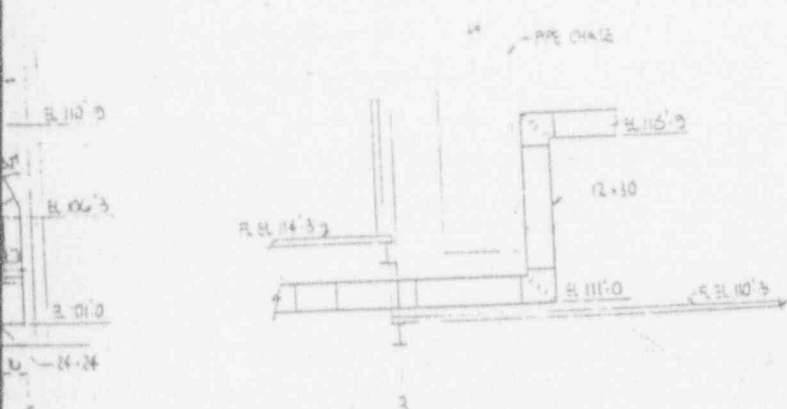
**ANSTEC
APERTURE
CARD**

Also Available on
Aperture Card



SECTION F-F' DWG 905-D-467(120)
SCALE: 1/4"=1'-0"

QUALITY
CONTROL
FEB 09 1993



SECTION H-H' DWG 905-D-467(120)
SCALE: 1/4"=1'-0"

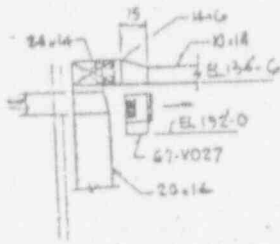
WVNS APPROVAL	
DESIGNER	<i>[Signature]</i>
CHECKED	<i>[Signature]</i>
DATE	<i>[Signature]</i>
SCALE	<i>[Signature]</i>

FOR DRAWING INDEX SEE DRAWING NO.

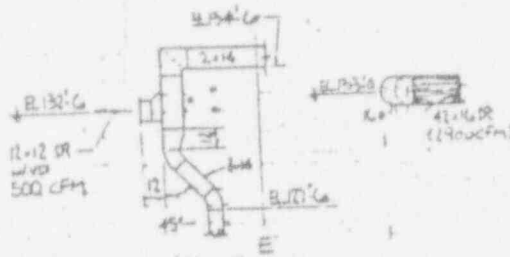
APPROVED WVNS CO.	EBASCO SERVICES INCORPORATED
PROJECT NO.	AVE R.F.S. NO. 2288
ENGINEER	TASK ORDER 119
LEAD ENGINEER	WEST VALLEY NUCLEAR SERVICES COMPANY, INC
DESIGN	WEST VALLEY DEMONSTRATION PROJECT
CHECKED	VITRIFICATION FACILITY
DRAWN	VENTILATION SYSTEM
DATE	SECTION 5H-2
PROJECT NO.	DRAWING NO.
SCALE	90504717
ISSUED FOR CONSTRUCTION	DATE

9403110314-29^o

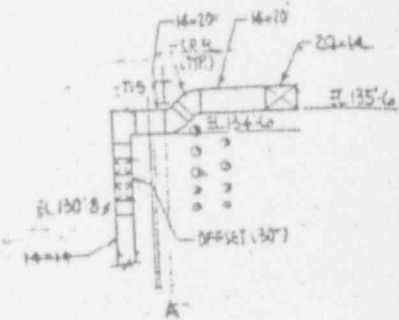
905-D-472



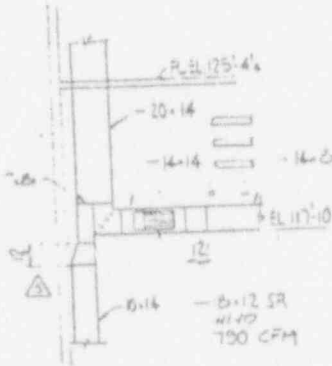
SECTION Y₁-Y₂
DWG. 905-D-468 (26x)



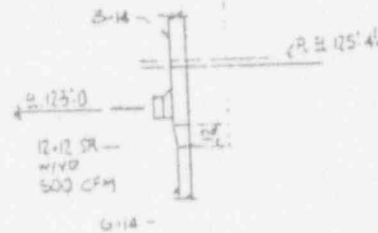
SECTION Y₂-Y₃
DWG. 905-D-468 (27)



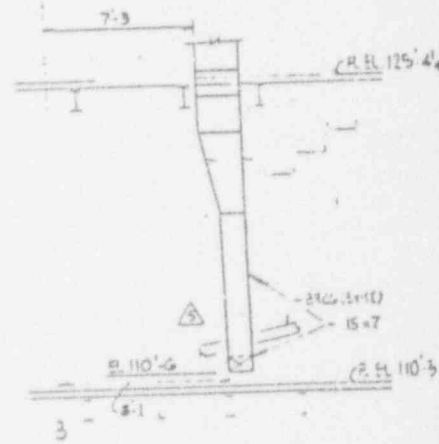
SECTION Y₃-Y₄
DWG. 905-D-468 (A5)



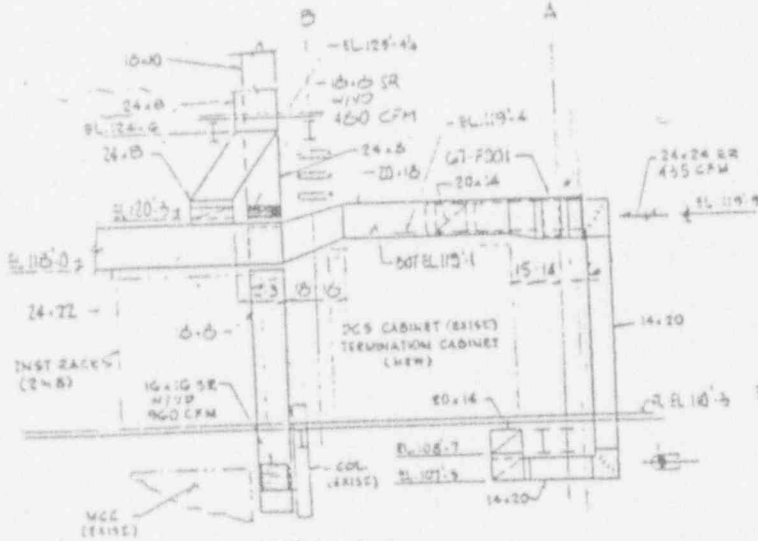
SECTION Z₁-Z₂
DWG. 905-D-467 (20x)



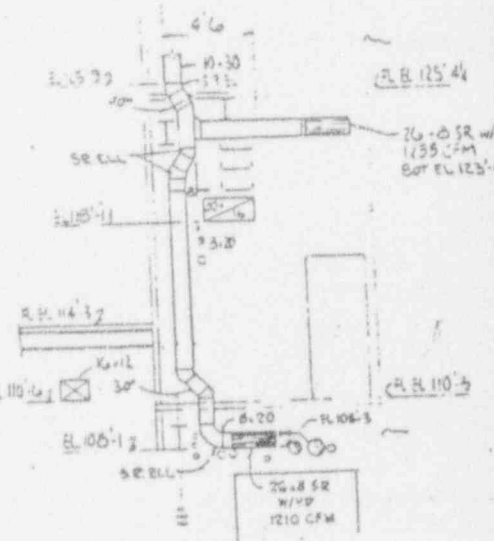
SECTION Z₂-Z₃
DWG. 905-D-467 (21)



SECTION Z₃-Z₄
DWG. 905-D-466 (27)
DWG. 305-D-467 (16)

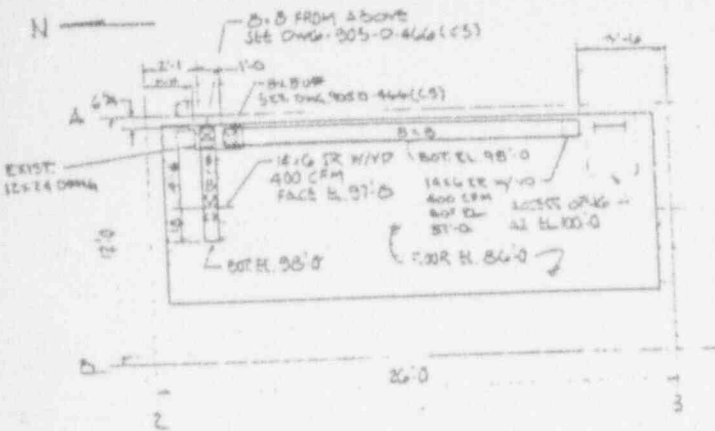


SECTION I-I
DWG. 905-D-466 (25)
DWG. 905-D-467 (22)

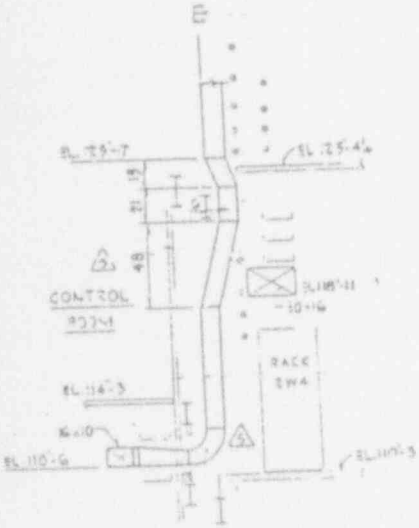


SECTION Z₄-Z₅
DWG. 905-D-466 (25)
DWG. 305-D-467 (25)

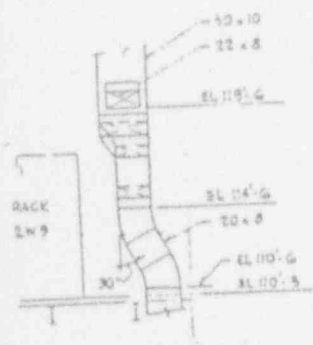
BC:93:0106



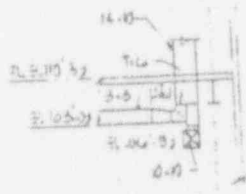
PART PLAN 'B'
DWG. 305-D-466 (CS)



SECTION Z4-Z4
DWG. 305-D-466 (CS)
DWG. 305-D-467 (CS)



SECTION Z6-Z6
DWG. 305-D-467 (CS)



SECTION Z7-Z7
DWG. 305-D-466 (CS)

REV. NO.	DATE	REVISION	DR	CH	APPROVED
5	7-21-84	GENERAL REV. AS CIRCLED AND PER EBAR 1189	V.S.	WNL	12 18 12'
C	6-12-84		WNL	18 18 18	12'

GENERAL REVISION AS CIRCLED AND PER EBAR 1189X

0	7/11/84	ERR. IN 4.6			12'
1	11-21-89	REV. PER ECN 3272	GW	DES	12'
2	5-7-90	REV. PER ECN 3624	CGR	DES	12'
3	6-29-90	REV. PER ECN 3751	BTR	DES	12'
4	11-12-90	REV. PER ECN 4036	JLH	DES	12'
5	12-16-92	REV. PER ECN 4390 AND 4391	PD	DES	12'

ANSTEC APERTURE CARD

Also Available on Aperture Card

NOTE
FOR NOTES AND REFERENCE DRAWINGS SEE DRAWING 905-D-460.

RECEIVED
CURRENT LOG
FEB 09 1993
WEST VALLEY NUCLEAR SERVICES COMPANY, INC.

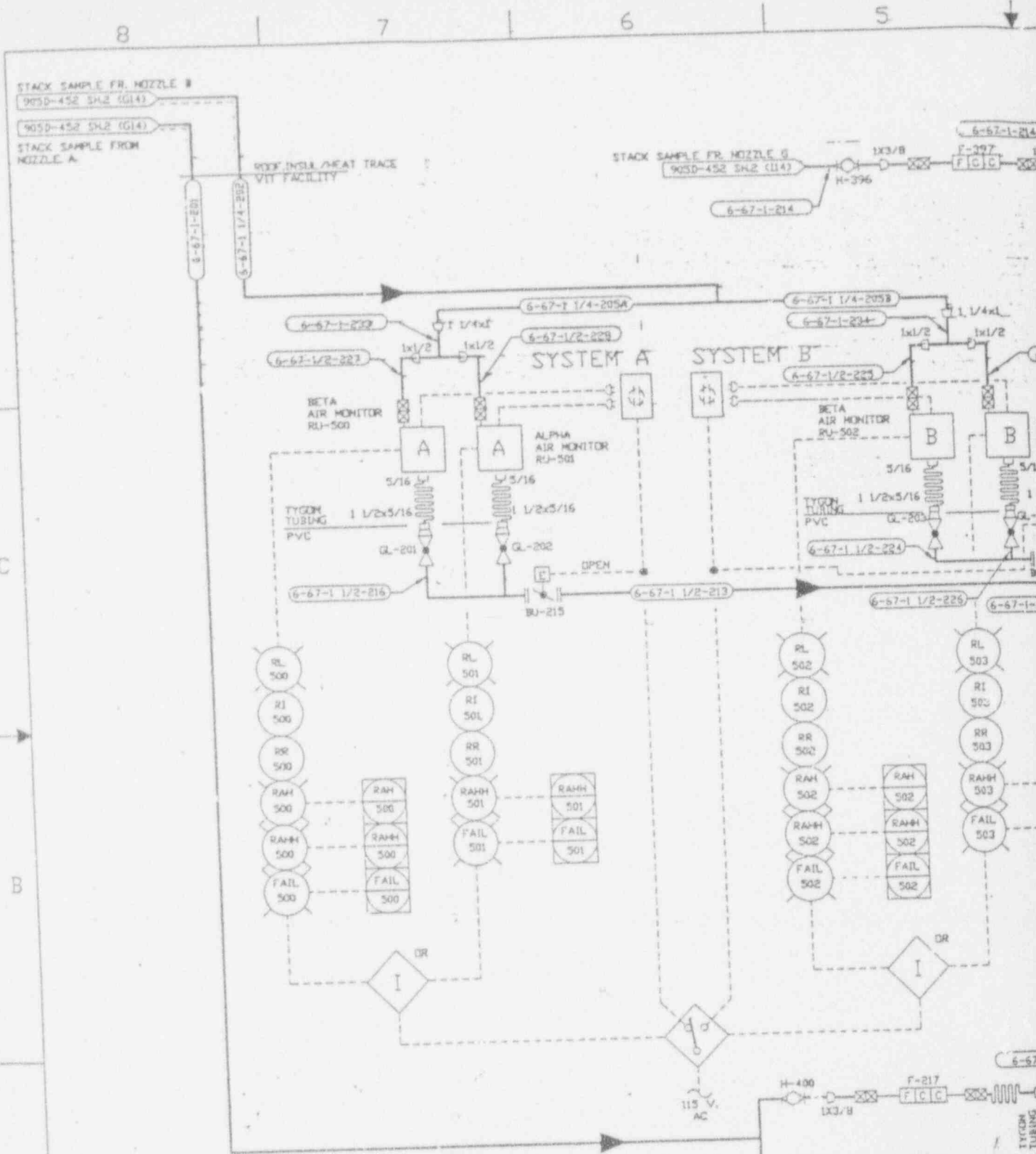
WV J APPROVAL

DESIGNER: V. DeGrip
CHECKED: J. DeGrip
DATE: 1/14/84
SCALE: AS SHOWN
REV. 1: J. DeGrip

FOR DRAWING INDEX SEE DRAWING NO.

APPROVED BY: [Signature]	EBASCO SERVICES INCORPORATED AVE. D.P.S. NO. 1388
PROJECT NO. 905-D-466	TASK ORDER 379
ENGINEER: V.S. WNL	WEST VALLEY NUCLEAR SERVICES COMPANY, INC. WEST VALLEY, NEW YORK
LEAD DESIGN ENGINEER: J. DeGrip	WEST VALLEY DEMONSTRATION PROJECT
DESIGN: J. DeGrip	VITRIFICATION FACILITY VENTILATION SYSTEM
CHECKED: J. DeGrip	SECTIONS 4-7
DRAWN: J. DeGrip	DRAWING NO. 905-D-466
DATE: 7/21/84	SHEET NO. 5
PROJECT NO. 905-D-466	DATE SHEET NO. 905-D-472
ISSUED FOR CONSTRUCTION	SCALE: AS SHOWN

9403110314-30



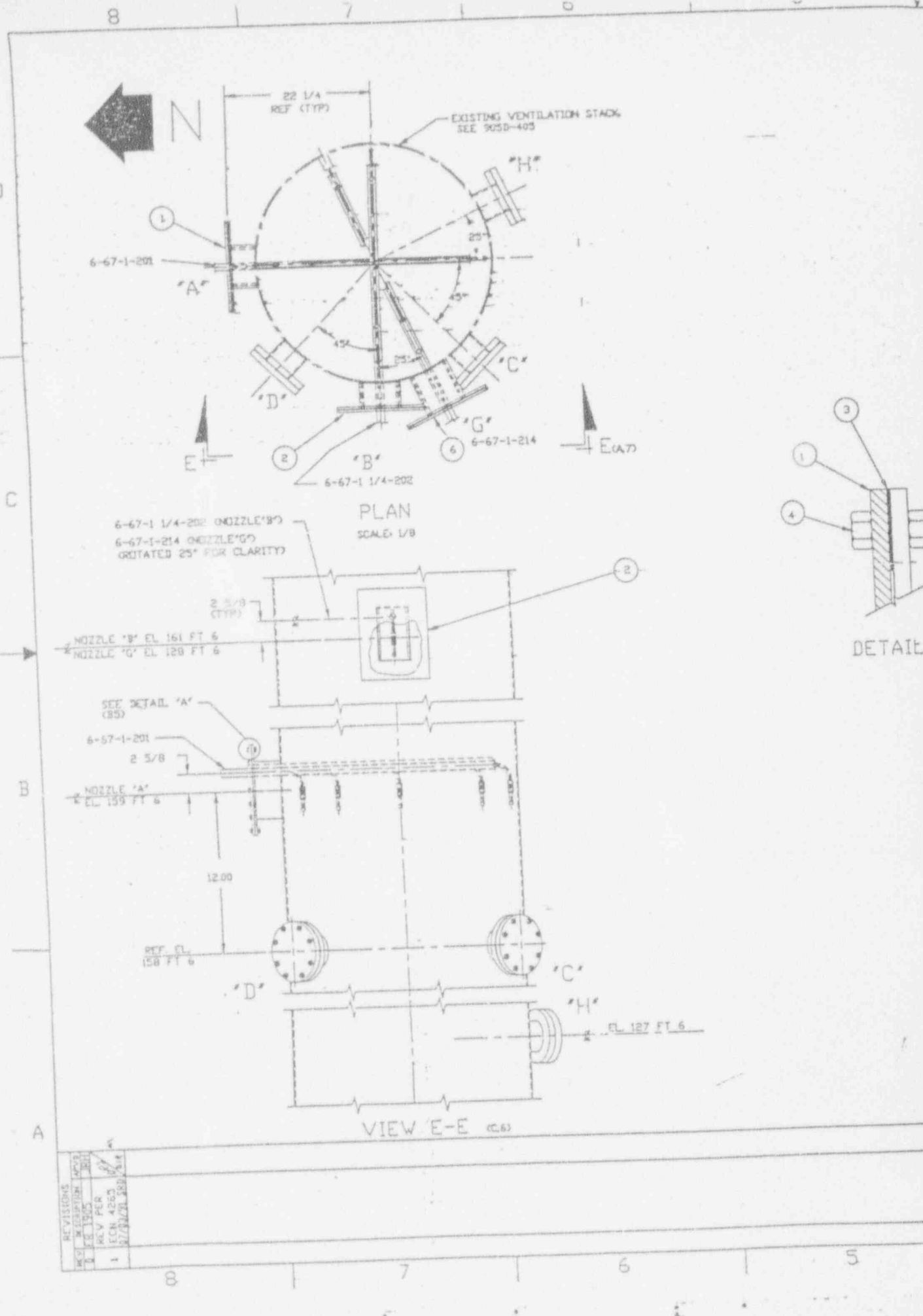
(S) INSTR TAG NO.
 (S) DENOTES SEISMICALLY QUALIFIED INSTRUMENT
 1 ALL VALVES ARE PREFIXED BY 6-67.

REFERENCE DRAWINGS:
 VITRIFICATION SYS HVAC P&ID
 VITRIFICATION FACILITY # 90SD-452
 SYMBOLS NOTES & LEGEND # 90SD-1306, 1307, 1308.

REVISIONS

NO.	DATE	BY	CHKD	DESCRIPTION
1	07/16/91	ECN 4283	SRB	07/01/91
2	12/30/92	ECN 4875	SRB	12/30/92

BC:93:0106

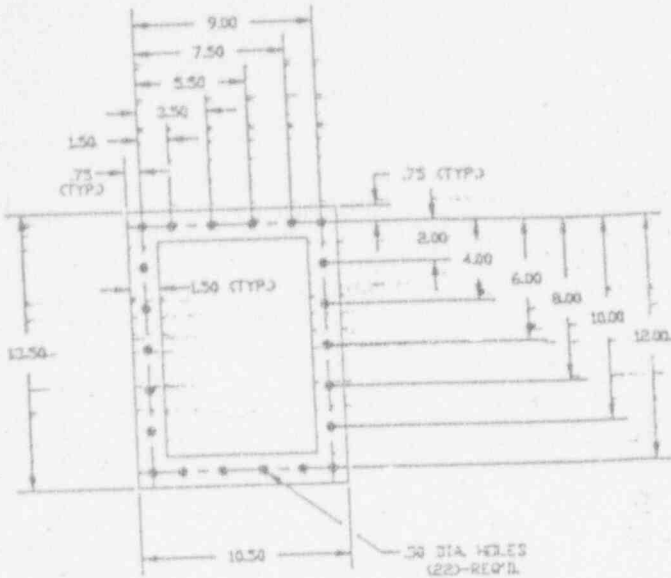


NO.	DATE	BY	CHKD.	REVISIONS
1	12/15/55	W.P.R.		REV FOR
2	1/27/56	W.P.R.		RECON 4263
3	3/17/56	W.P.R.		RECON 4263

BC:93:0106

ANSTEC APERTURE CARD

Also Available on Aperture Card



GASKET DETAIL (3)

SCALE: 1/4

- 3) FOR GENERAL NOTES & REFERENCE DVGS SEE 9000-2737 SH 1
 - 2) FOR ACTUAL NOZZLE LOCATION AND SAMPLING ROUTING SEE 9000-2737 SH 1
 - 1) SEE DRAWING 9000-2733, TABLE I FOR NOZZLE SIZES
- NOTE:

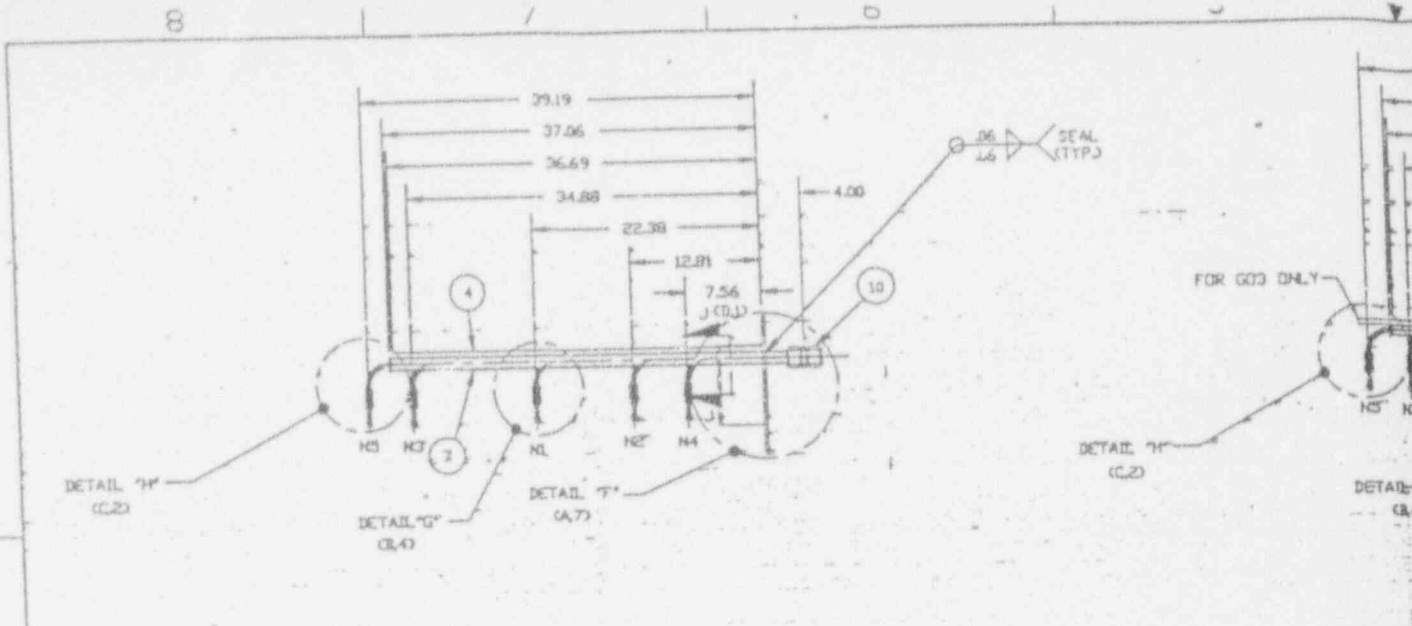
FEB 09 1993

QTY	ITEM	DESCRIPTION	PART OR IDENTIFYING NO.	MATERIAL OR SPEC.
1	6	PROBE ASSEMBLY	9000-2733G03	18-B S.S.
66	5	NUT 3/8-16UNC-28 HVY HEX SEMI-FIN		18-B S.S.
66	4	BOLT 3/8-16UNC-28 x 1-1/4 LG		18-B S.S.
3	3	GASKET 1/8TK. NEOPRENE	ASTM D2000-86	ESAC 2000BCL08
1	2	PROBE ASSEMBLY	9000-2733G01	
1	1	PROBE ASSEMBLY	9000-2733G02	

UNLESS OTHERWISE SPECIFIED		DRAWN	DATE	BY CONTRACT NO.	
DIM. GIVEN IN INCHES		C. GORVITZ	7-26-89	FOR	
TOLERANCES - SEE NOTE SCALE		CHECKED	DATE	Vest Valley Nuclear Services Co., Inc.	
P. H. DIM. 3 P. H. DIM. HOLES N/A		MARK L. AGHEV	6/26/90	Vest Valley, New York	
FRACTING N/A		ENGR.	DATE	V.F. STACK SAMPLING SYSTEM ASSY & DETAILS	
SPECIES 1515		MARK L. AGHEV	6/26/90	SCALE	NOTED
HEAT ASSEMBLY		DATE	DATE	SIZE	WEIGHT
9000-2733		DATE	DATE	AVE DVG NO.	DRGT 1 OF 1

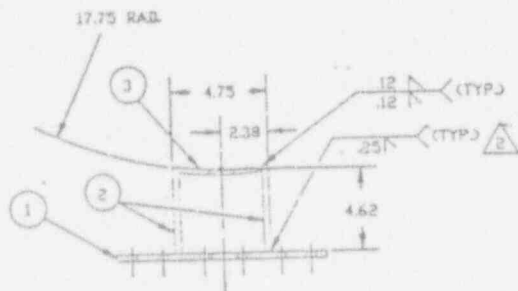
FAB DRAWING - DO NOT REVISE THIS ORIGINAL

9403110314-32



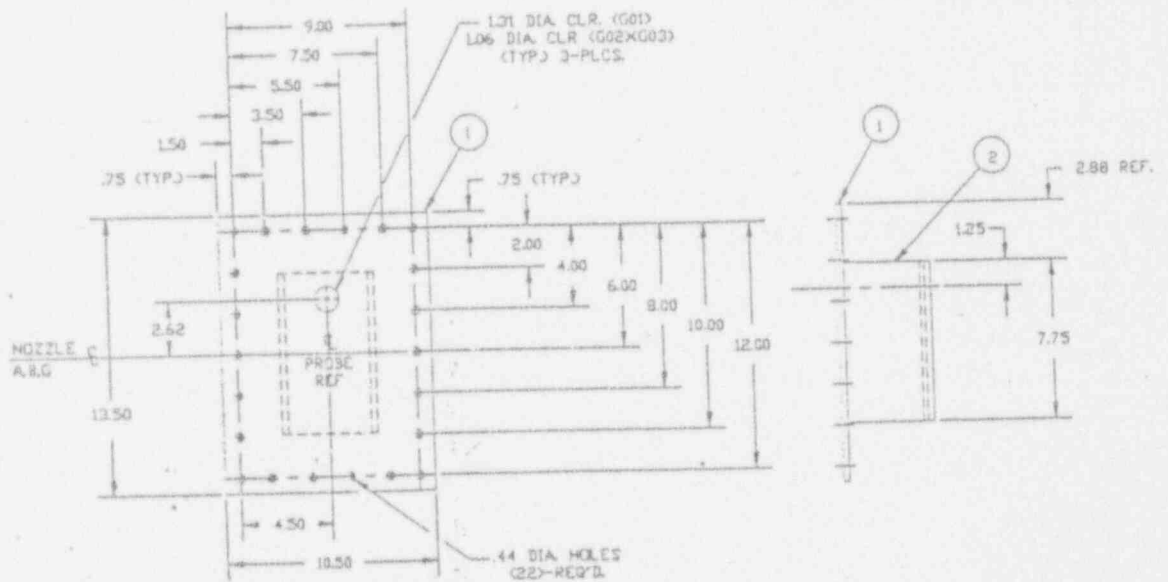
G01 NOZZLE ID

SCALE: 1/8



NOZZLE I.D.	PRELIMINARY NOZZLE SIZE	QUANTITY REQ'D.
N1	7/32	2
N2	7/32	2
N3	1/4	2
N4	1/4	2
N5	5/16	2
N6	5/16	2
N7	1/4	2
N8	1/4	2
N9	1/4	2
N10	1/4	2

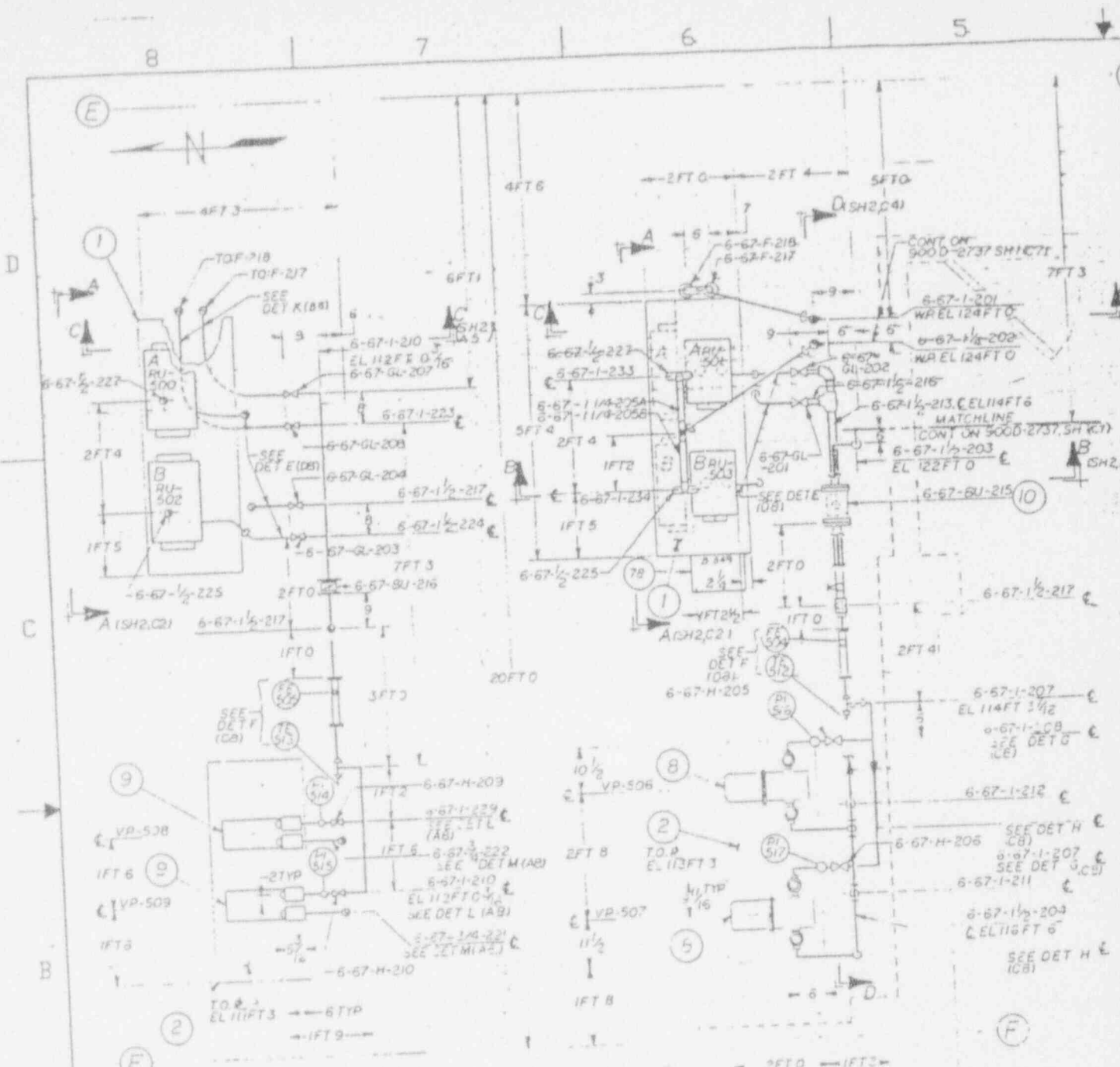
TABLE 1 - NOZZLE I.D. SIZES
NOTE: ALL NOZZLES TO HAVE 1/2" O.D. TUBE STUB.



FLANGE DETAIL
DETAIL "F"

SCALE: 1/4

REV	DESCRIPTION	DATE	BY	CHKD
1	REV FOR EGN 4265	07/05/91	SRB	JR
2	REVISED PER AB	04/15/98	AB	AB
3	REVISED PER AB	07/19/98	AB	AB



PARTIAL PLAN
EL 113FT 3 & BELOW

PARTIAL PLAN
EL 113FT 3 & ABOVE

REFERENCE DRAWINGS:
INSTRUMENT INSTALLATION DETAILS 902B-376 SH 16

HOFFMAN ENGINEERING CO
300 EHLEN DR
ANDOKA, MN 55303

- 16 FOR DETAILS ETHKU M, SEE 90CD-2734 SH 2.
- 15 FOR GEN NOTES (REF DWG), SEE 90CD-2737 SH 1.
- 14 PUMP & NON-TOR TABLES SHALL BE INSTALLED WITH (10.0) INCH OF NON-SHRINK GROUT AT BASE PLATES.

- 13 CAJON COMPANY
9780 SHEPARD RD
MADISONIA, OH 44058
- 12 WHITEY CO
318 BISHOP RD
HIGHLAND HEIGHTS, OH 4
- 11 PARKER HANNIFAN CORP
3145 LEWIS RD
MINNEAPOLIS, MN 55427
- 10 CRAWFORD FITTING CO
29500 SCLON RD
SOLTA, OH 44139

NO.	DATE	REVISIONS
1	11/15/66	REVISED PER COMMENTS
2	11/15/66	REVISED PER COMMENTS
3	11/15/66	REVISED PER COMMENTS
4	11/15/66	REVISED PER COMMENTS
5	11/15/66	REVISED PER COMMENTS
6	11/15/66	REVISED PER COMMENTS
7	11/15/66	REVISED PER COMMENTS
8	11/15/66	REVISED PER COMMENTS
9	11/15/66	REVISED PER COMMENTS
10	11/15/66	REVISED PER COMMENTS
11	11/15/66	REVISED PER COMMENTS
12	11/15/66	REVISED PER COMMENTS
13	11/15/66	REVISED PER COMMENTS
14	11/15/66	REVISED PER COMMENTS
15	11/15/66	REVISED PER COMMENTS
16	11/15/66	REVISED PER COMMENTS
17	11/15/66	REVISED PER COMMENTS

BC:93:0106

ANSTEC APERTURE CARD

Also Available on D Aperture Card.

▷ NORTON PERFORMANCE PLASTICS
PO BOX 350
AKRON, OH 44309

▷ OMEGA ENGINEERING INC
71 E. 34th ST. BOX 3047
STAMFORD, CT 06907-4797

▷ UNISTRUT BUILDING SYSTEMS
3005 MICHIGAN AVE
WEST WAYNE, MI 48184

▷

▷ H-Q ENVIRONMENTAL PRODUCTS CO
PO BOX 2847
LAJOLLA, CA 92030-2847

▷ EAST MANUFACTURING CORP
PO BOX 97
BENIGN HARBOR, MA 01928

▷ ASAMI/AMERICA
425 RIVER SIDE AVE
MELROD, MA 02155

▷ KURZ INSTRUMENTS INC
2411 GARDEN RD
MONTEREY, CA 93940

NOTES ▷ SUPPLIED BY WVNS.

1/4" 84	1/4 BRONZE GLOBE V NPT	GL-19	WVNS VSL-DOE
1/4" 83	1/4-125" SO HEAD PIPE PLUG		BRASS
1/4" 82	1/4-125" TEE FEMALE NPT		BRASS
1/4" 81	1/4 DIA SCH 40, 3/16 NIPPLE TBE	ASTM B-453	BRASS
1	90 ELECTRICAL TERM BLOCK		(16) POSN MM
1	79 HOFFMAN ELECTRICAL BOX	A-12102DL AND A-1210	
2	78 DIGITAL TEMP INDICATOR	DP461-RTD	
1/4" 77	UNISTRUT, W/PIPE CLAMPS	F 017 CHANNEL	
1/4" 76	STREET ELBOW, 1/2 DIA (CAJON)	SS-12-1E	T-316
1	75 CONNM (M), 1/2 DIA (SWAGELOK)	SS-2400-1-04	T-316
1	74 ADAPTOR, 1/2 SKT XTPT		PVC
1	73 BUSHING, RED, 1/2 X 1/2, SKT ENDS		PVC
2	72 PROBE, THERMORESISTANCE	PH-12-2 100-10-6-E	
2	71 THERMOWELL	6-2205-148	T-304
4	70 VACUUM GAGE, 1/4" O-30 IN HG	ASHCROFT	
4	69 BUSHING, RED, 1/2 X 1/2, SP X T		PVC
1/4" 68	PIPE, 1/2 DIA SCH 40 TYPE 1		PVC
6	67 BUSHING, RED, 1 X 1/2, SP X T		PVC
3	66 BALL VALVE, 1 DIA, INT LIND		T-316
2	65 CONNM (V), 1/2 DIA (CAJON)	SS-12-1E	PVC
4	64 BUSHING, RED, 1/2 X 1, SP X T		PVC
4	63 GASKET, 1/2 DIA FLG X 1/2 THK		PVC
4	62 FLANGE, 1/2 DIA, 150° TMD		PVC
3	61 HOSE CONN, 1/2 NPT X 1/2 ID	SS-2400-1-04	T-316
1/4" 60	VACUUM TUBE, 1/2 ID X 1/2 OD	R-3603	TYSON
2	59 UNION, RED, 1/2 X 1/2 (CAJON)	SS-12-RA-6	T-316
4	58 BALL VALVE, 1 DIA SKT END		PVC
1/4" 57	TUBING, 1/2 OD X .035 WALL		T-304
4	56 CONN, ZERO CL, 1/2 DIA (CAJON)	SS-12-RA-6	T-316
4	55 CONN, ZERO CL, 1/2 DIA (CAJON)	SS-12-RA-6	T-316
1/4" 54	TUBING, 1/2 OD X .035 WALL		T-304
1/4" 53	BALL VALVE, 1 DIA, (WHITET)	SS-63TD16	T-316
2	52 REDUCER, 1/2 X 1/4 (SWAGELOK)	SS-460-R-10	T-316

1/4" 51	UNION, 1/2 DIA, (SWAGELOK)	SS-2400-1-04	T-316
1/4" 50	VACUUM TUBE, 1/2 ID X 1/2 OD	R-3603	TYSON
4	49 ELBOW, 1 DIA, 90°, SKT ENDS		PVC
8	48 TEE, 1/2 DIA, SKT ENDS		PVC
1/4" 47	HOSE CONN, 1/2 NPT X 1/2 ID (CAJON)	SS-12-RA-6	T-316
2	46 ADAPTOR, RED, 1/2 X 1/2 (CAJON)	SS-12-RA-6	T-316
1/4" 45	PLUG, ST, 1/2 DIA	SSST N3M	T-316
4	44 CONN, ZERO CL, 1/2 DIA (CAJON)	SS-12-RA-6	T-316
2	43 ELBOW, 1/2 DIA, (CAJON)	SS-12-RA-6	T-316
4	42 CONNM (M), 1/2 DIA, (SWAGELOK)	SS-2400-1-04	T-316
2	41 HOSE CONN, 1/2 NPT X 1/2 ID (CAJON)	SS-12-RA-6	T-316
2	40 HOSE CONN, 1/2 NPT X 1/2 ID (CAJON)	SS-12-RA-6	T-316
1/4" 39	VACUUM TUBE, 1/2 ID X 1/2 OD	R-3603	TYSON
12	38 BASKET, 1/2 THK X 1 DIA FLG		NEOPRENE
14	37 STUD BOLT, 1/2-13 UNC X 1 1/2 FNJ		A 305
4	36 FLANGE, 1 DIA, 150° TMD		PVC
12	35 FLANGE, 1 DIA, 150° SKT TYPE		PVC
3	34 TEE, 1 DIA, SKT TYPE		PVC
5	33 ELBOW, 1 DIA, 90°, SKT TYPE		PVC
4	32 BUSHING, RED, 1 X 1/2, SP X T		PVC
2	31 CARTRIDGE HOLDER, (H-1)	RVH-25	
2	30 TUB CARTRIDGE HOLDER, (H-1)	CTH-50	
2	29 ADAPTOR, 1/2 DIA, (H-1)	R-12-5	
1/4" 28	HOSE CONN, 1/2 NPT X 1/2 ID (CAJON)	SS-12-RA-6	T-316
1/4" 27	COUPLER, ST, 1/2 DIA	SSST 94Y	T-316
1/4" 26	COUPLER, 1/2 X 1/2, (SWAGELOK)	SS-12-RA-6	T-316
1/4" 25	CONNM (M), 1/2 DIA (SWAGELOK)	SS-2400-1-04	T-316
1/4" 24	BUSHING, RED, 1/2 X 1/2, SP X T	SS-12-RA-6	T-316
2	23 CONNM (M), 1/2 DIA (SWAGELOK)	SS-2400-1-04	T-316
1	22 UNION, 1/2 DIA, (SWAGELOK)	SS-12-RA-6	T-316
1/4" 21	VACUUM TUBE, 1/2 ID X 1/2 OD	R-3603	TYSON
1/4" 20	PIPE, 1/2 DIA, SCH 40, TYPE 1		PVC
1/4" 19	PIPE, 1/2 DIA, SCH 40, TYPE 1		PVC
4	18 TEE, RED, 1 X 1/2, SKT ENDS		PVC
4	17 GLOBE V, 1/2 DIA, SKT ENDS		PVC
1/4" 16	TUBING, 1/2 OD X .035 WALL, ANL		T-304
1/4" 15	TUBING, 1/2 OD X .035 WALL, ANL		T-304
1/4" 14	TUBING, 1/2 OD X .035 WALL, ANL		T-304
1/4" 13	PORT CONNECTOR, 1/2 DIA	SS-12-RA-6	T-316
2	12 GLOBE V, 1/2 DIA, SKT ENDS		PVC
2	11 WASH FLW MTR, 1/2 DIA	SS-9-00	
2	10 BUTTERFLY V, 1/2 DIA, ACTVT	A-7-NL	
2	9 FANLIER VACUUM PUMP	CC-27	
2	8 MONITOR VACUUM PUMP	CC-27	
2	7 ALPHA AIR MONITOR	ALPHA-7A	
2	6 BETA PARTICULATE AIR MON	AV	
4	5 1/2 INJ VALVE, 1/2 DIA, FLSD	SS-12-RA-6	T-316
1	4 TUBE WYE	SS-12-RA-6	T-316
3	3 TUBE WYE	SS-12-RA-6	T-316
1	2 PUMP SUPPORT TABLE	SS-12-RA-6	T-316
1	1 MONITOR SUPPORT TABLE	SS-12-RA-6	T-316

PT ITEM	NOMENCLATURE OR DESCRIPTION	PART OR IDENTIFYING NO.	NATURAL OR SPEC
REQD NO.			

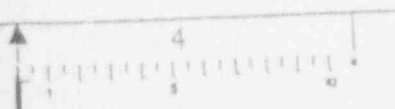
DATE	BY	CHKD	APPD
1-1-78	R B MOSEY		
10-2-78	MARK LADREW		
10-2-78	MARK LADREW		

UNLESS OTHERWISE SPECIFIED		DATE	1-1-78
DIM. IN FT & INCHES		DATE	10-2-78
TOLERANCES-SEE DET SCALE		DATE	10-2-78
P. R. DES. P. REC. SHEETS		DATE	
FRAC. DES. P. REC. SHEETS		DATE	
SPECIAL INSTRUCTIONS		DATE	
NEXT ASSEMBLY		DATE	

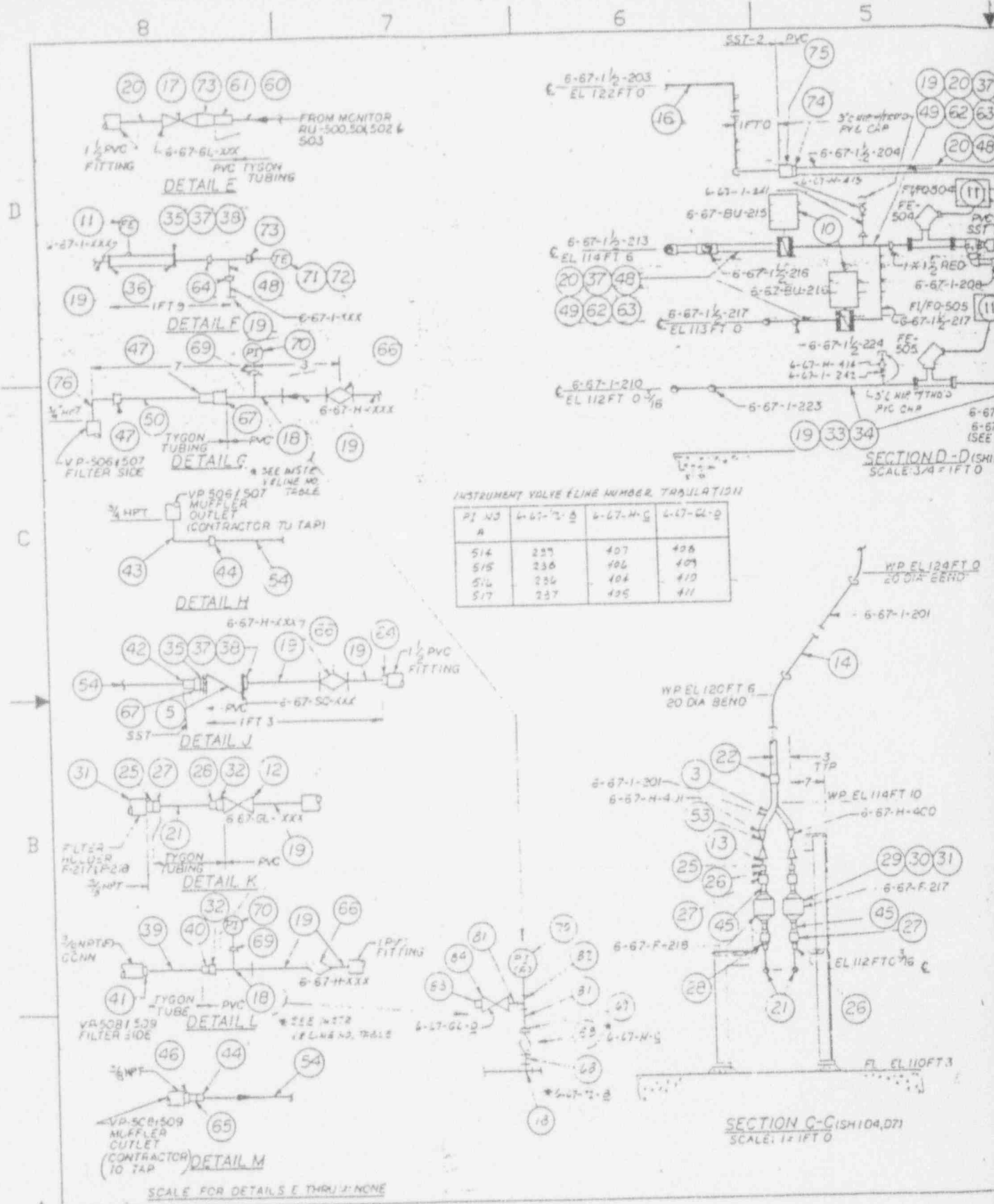
STACK SAMPLING SYSTEM PLAN AND SECTIONS

SCALE	AS SHOWN
DWG NO.	9403-1103-14
REV	1
DATE	

REV	REV STATUS
3	2
2	1
1	



9403 1103 14-34



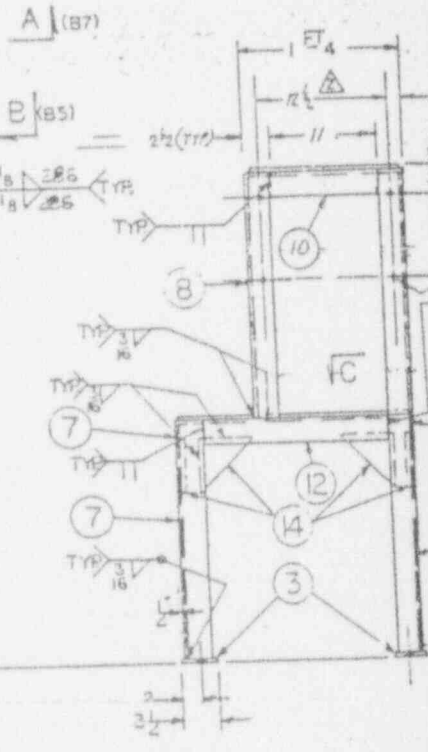
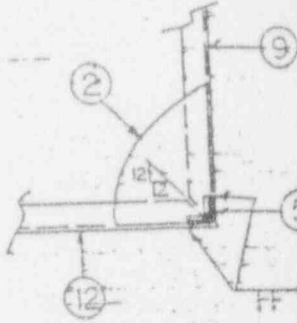
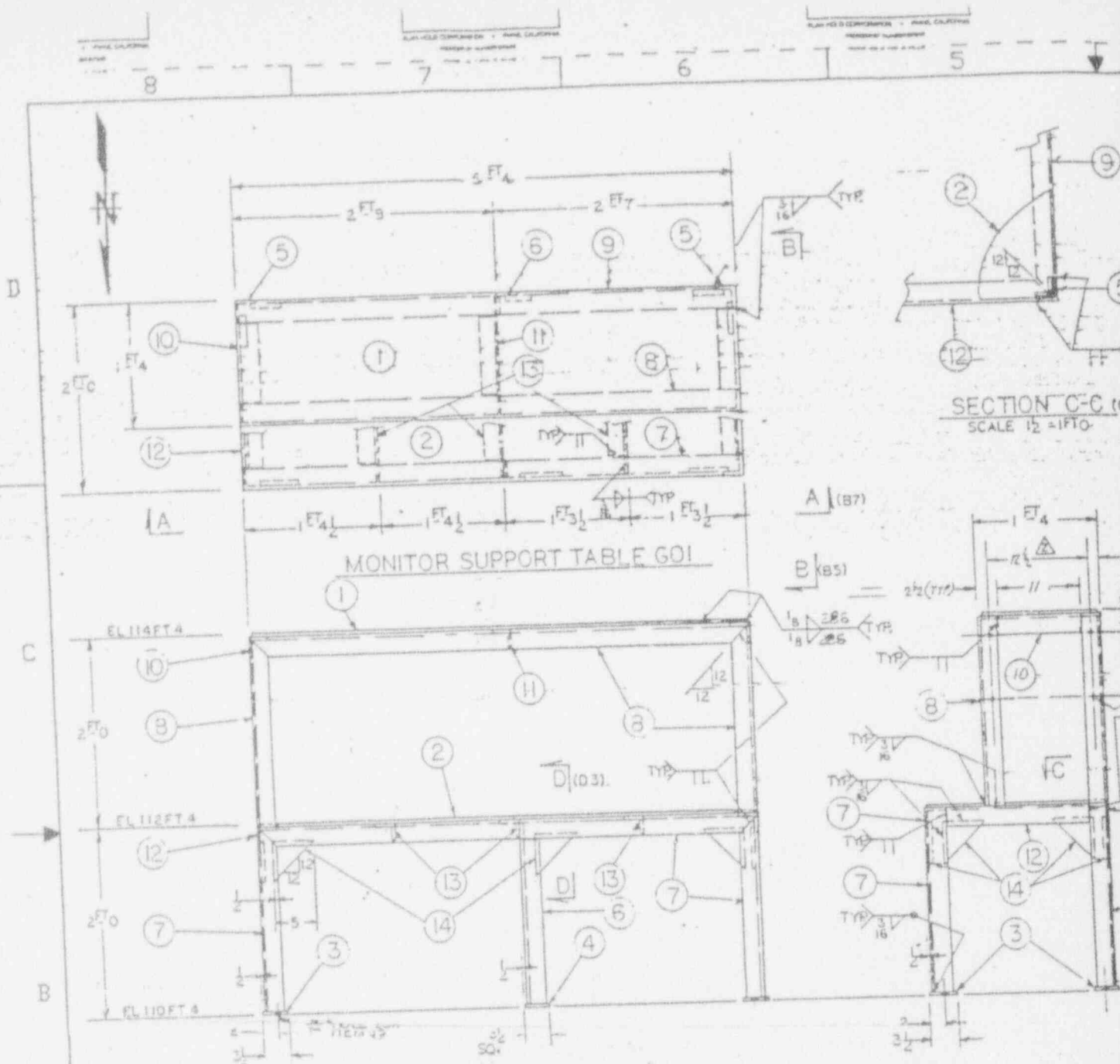
INSTRUMENT VALVE LINE NUMBER TABULATION

PI NO	6-67-2-0	6-67-H-0	6-67-6-0
A			
514	227	407	408
515	236	406	409
516	226	404	410
517	237	405	411

REVISIONS

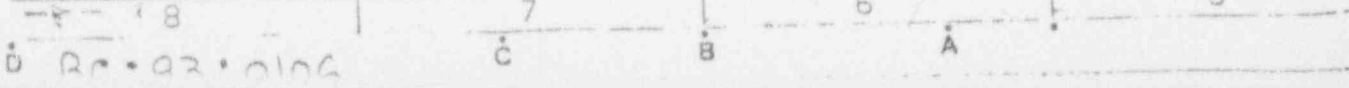
NO.	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			

BE:93:0106



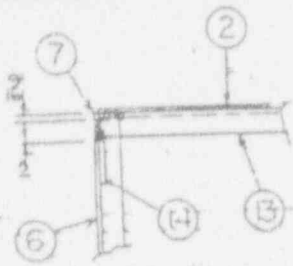
VIEW A-A (106)
SCALE 1/2" = 1 FT 0"

NO.	REVISIONS	DATE	BY	CHKD.
1	REVISED	10/19/58		
2	REVISED	11/10/58		



ANSTEC APERTURE CARD

Also Available on Aperture Card



SECTION D-D (C67)
SCALE 1/2=1FT.

- 2) ALL STEEL FABRICATION SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 05120 OF SPECIFICATION WVHS-CS-139
- 1) CONTRACTOR TO VERIFY QUANTITIES & DIMENSIONS ON PARTS LIST

NOTES

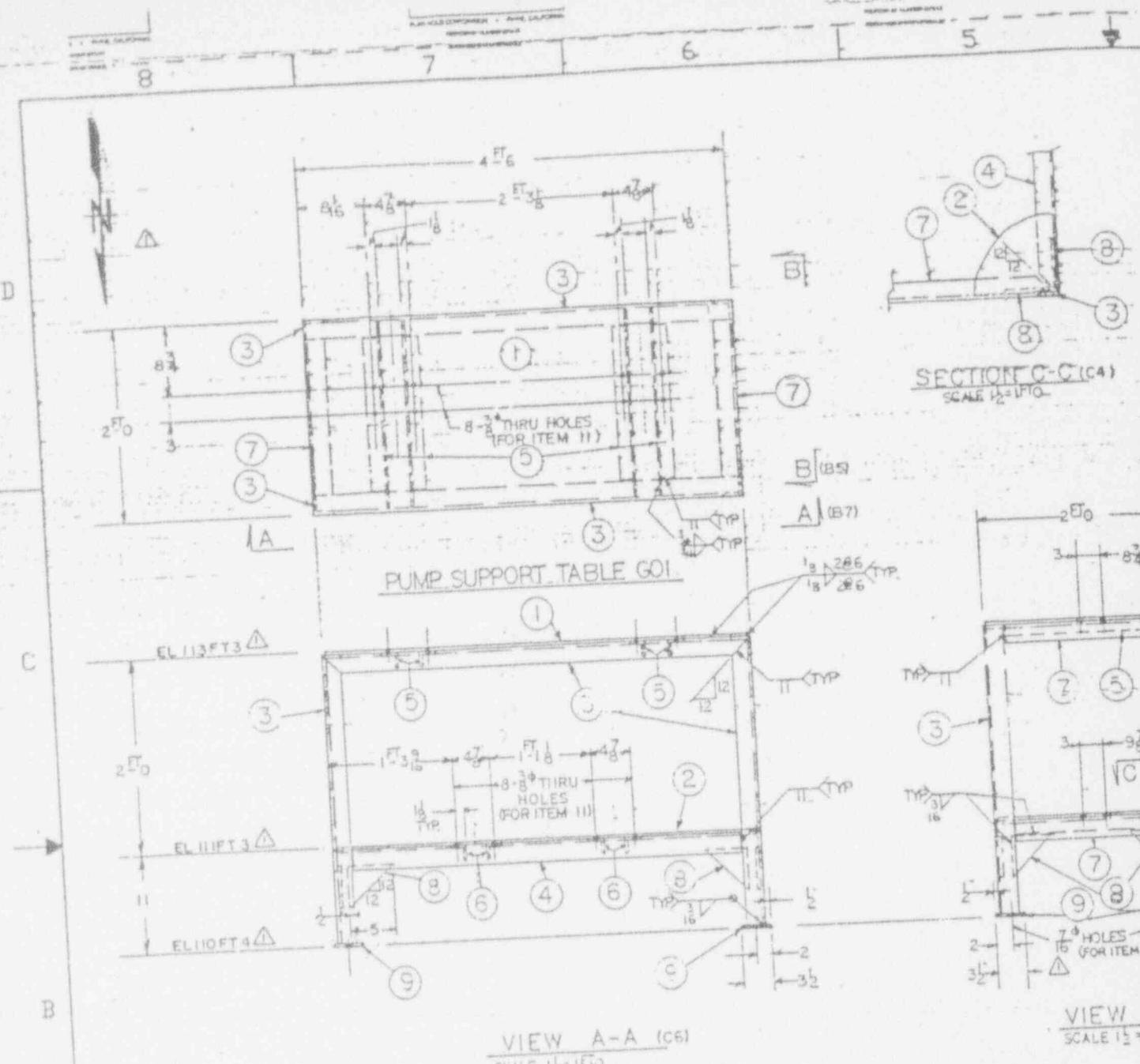
3/16" DIA. HOLES
(FOR 1/8" DIA. BOLTS)

CAUTION
CURRENT AS OF
FEB 10 1993
CHECK DOCUMENT CONTROL
FOR LATEST REVISION.

QTY	ITEM NO.	DESCRIPTION	UNIT OR IDENTIFYING NO.	MATERIAL OR SPEC.
4	14	1/2" X 1/8" HEX HD BOLT/UNIT	#325	
4	15	MULTI KWIK BOLT 1/3" X 2 1/2"		ASTM A36
10	14	1/2" X 5 X 5		
13	13	L-25 X 25 X 1/4 X 1-1/2		
12	12	L-25 X 25 X 1/4 X 1-7		
11	11	L-25 X 25 X 1/4 X 1-3/4		
10	10	L-25 X 25 X 1/4 X 1-0-11		
9	9	L-25 X 25 X 1/4 X 5-3/2		
8	8	L-25 X 25 X 1/4 X 9-4		
7	7	L-25 X 25 X 1/4 X 9-3/4		
6	6	L-25 X 25 X 1/4 X 1-11-2		
5	5	U-25 X 25 X 1/4 X 3-11-2		
4	4	1/2" X 3/8" X 3/8"		
3	3	1/2" X 3/8" X 3/8"		
2	2	10GA SHT 23 1/2" X 3-3/8"		
1	1	14GA SHT 15 1/2" X 3-3/8"		

UNLESS OTHERWISE SPECIFIED		BY: R.B. HICOPER	DATE: 7-25-89
DIMENSIONS IN FT/IN		CHK'D: [Signature]	DATE: 8-24-89
TOLERANCES-NO. NOT SCALE		CHK'D: [Signature]	DATE: 8-24-89
1/2" DIA.	1/16"		
1/8"	1/32"		
PROJECT NO. 9000-2734		SCALE 1/2"=1FT	
NEXT ASSEMBLY		DWG NO. 9000-2734	
9000-2734		SHEET 1 OF 1	

9408110314-36

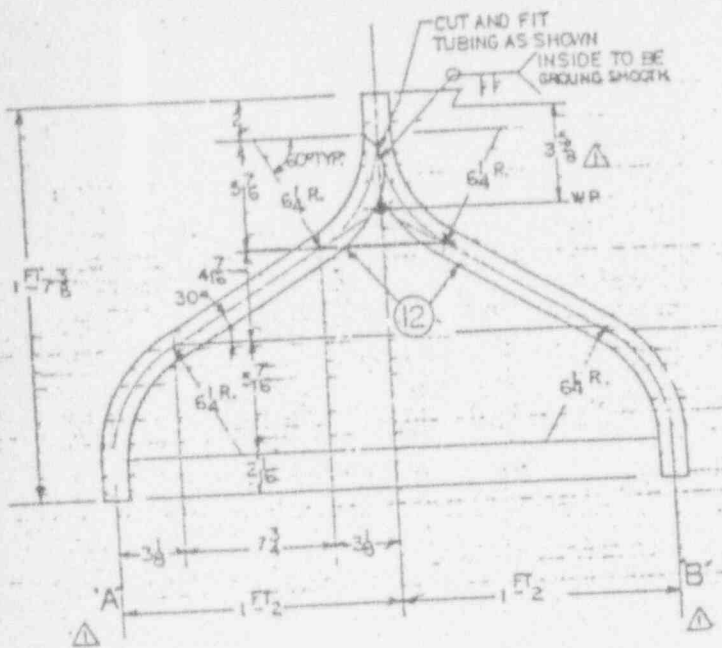


NO.	REVISIONS	DESCRIPTION	DATE	BY	CHKD.
0		AS SHOWN			
1		REVISED FOR CONSTRUCTION			

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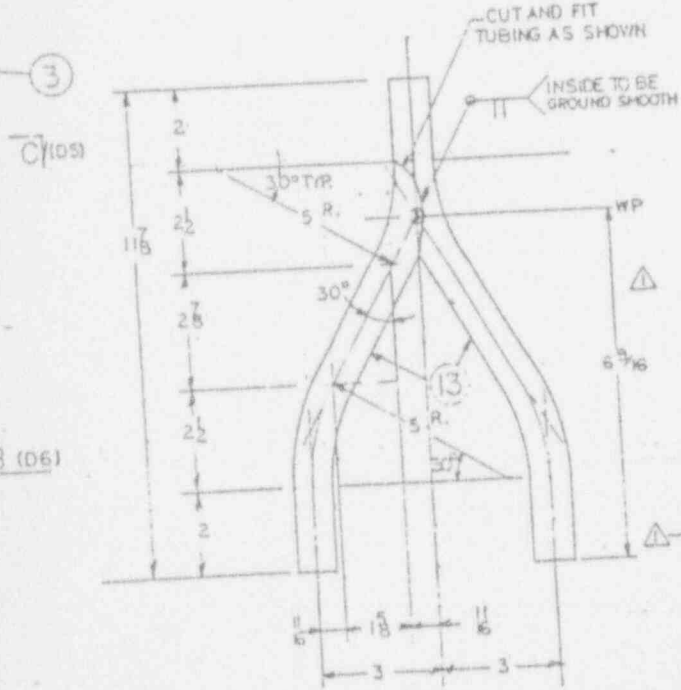
ANSTEC APERTURE CARD

Also Available on Aperture Card



TUBE WYE G02
SCALE 1/4
LINE NO. 6-57-1-205

- 1) CONTRACTOR TO VERIFY QUANTITIES & DIMENSIONS ON PARTS LIST NOTES
- 2) TUBE WYE WELD JOINTS SHALL BE GROUNDED SMOOTH AND SHALL BE FREE OF EXCESSIVE WELD PENETRATION AND PITTING
- 3) ALL STEEL FABRICATION SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 05120 OF SPECIFICATION WYNS-CS-139



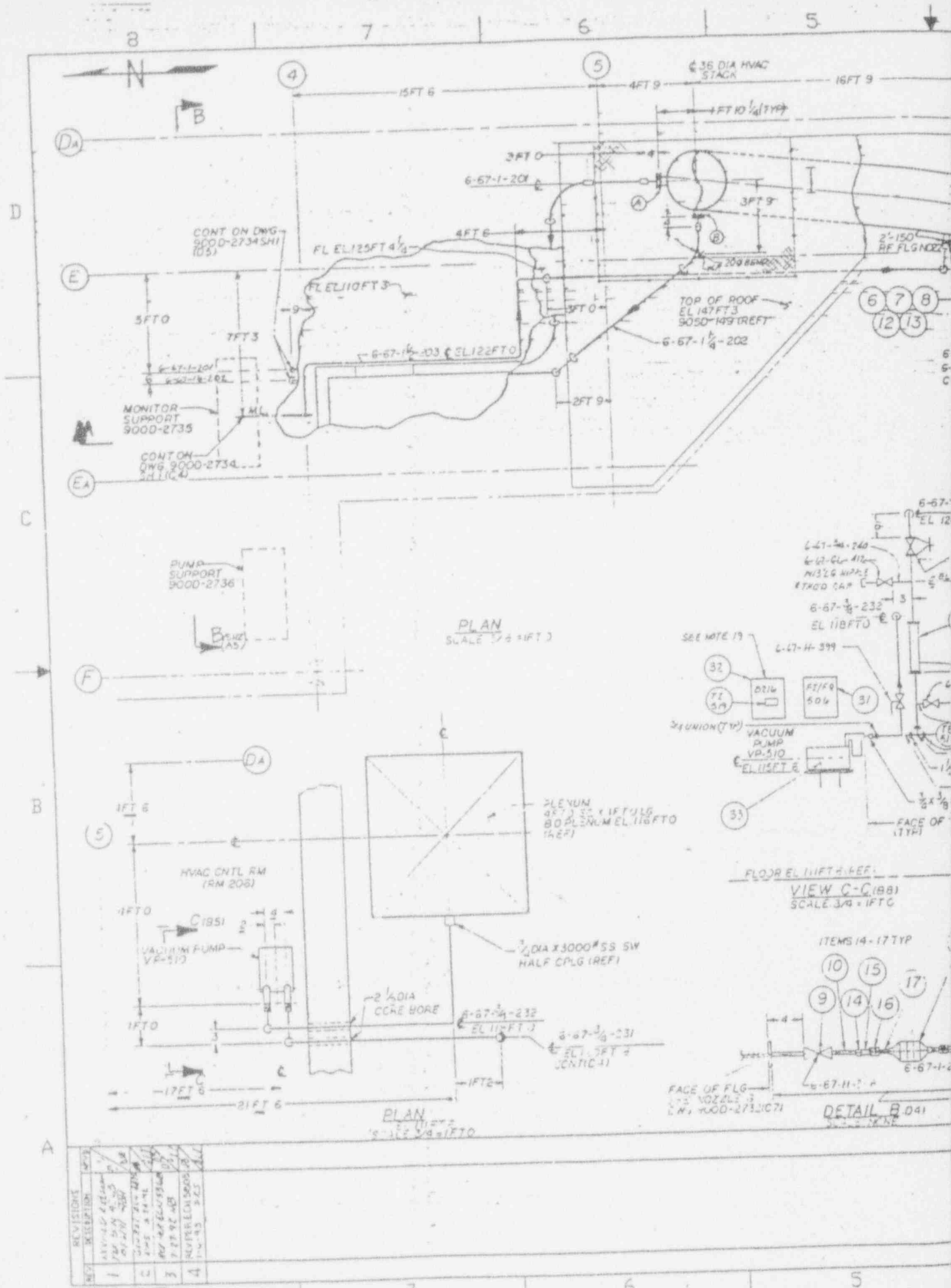
TUBE WYE G03
SCALE 1/2
LINE NOS: 6-57-1-201
6-57-1-233
6-57-1-234

CAUTION
PATENT AS OF
FEB 19 1993
CHECK DOCUMENT CONTROL
FOR LATEST REVISION.

QTY	ITEM	DESCRIPTION	PART OR IDENTIFYING NO.	MATERIAL OR SPEC
4	14	HILTI KWIK BOLT 1/2" x 2 1/2"		
13	1	1.0 D X 0.65 TH X A/R TUBING	A 269-TP304	
12	1	1.0 D X 0.63 TH X A/R TUBING	A 269-TP304	
16	11	3/8" X 1" LB HEX HD BOLT/NUT	A 325	
4	10	HILTI KWIK BOLTS	KB 15-334	
4	9	1/2" x 3/8" x 3/8"	ASTM A 36	
8	8	1/2" x 3/8" x 3/8"		
4	7	L 2 1/2" x 2 1/2" x 1-7		
4	6	L 2" x 2 1/4" x 1-11/2		
2	5	L 2" x 2 1/4" x 1-11/2		
2	4	L 2 1/2" x 2 1/2" x 4-5/8		
3	3	L 3 1/2" x 2 1/2" x 4-5/8		
1	2	1/4 GA SHT 2 1/2" x 4-5/8		
1	1	1/4 GA SHT 2 1/2" x 4-5/8		

UNLESS OTHERWISE SPECIFIED		DATE	BY	SCALE
DIMENSIONS IN FT & IN		7/25/93	R.B. HOOPER	AS NOTED
TELEPHONE-80 MET SCALE		DATE	BY	SCALE
P. PL. REC. S. PL. REC. ANGLES		1-22-93	David L. Sprague	1-22-93
NEXT ASSEMBLY		DATE	BY	SCALE
9000-2734		1-22-93	David L. Sprague	1-22-93
V F STACK SAMPLING SYSTEM DETAILS		DATE	BY	SCALE
9000-2736		7/25/93	R.B. HOOPER	AS NOTED

9403110314-37

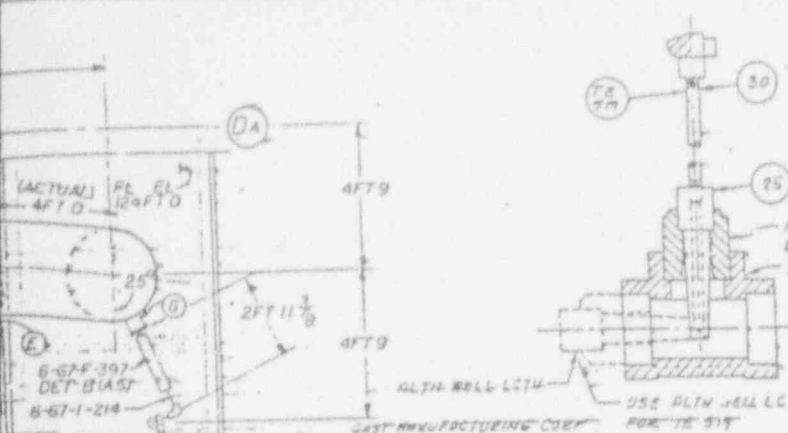


REV	DESCRIPTION	DATE
1	ISSUED FOR CONSTRUCTION	10/15/54
2	REVISED FOR FIELD CONDITIONS	11/15/54
3	REVISED FOR FIELD CONDITIONS	12/15/54
4	REVISED FOR FIELD CONDITIONS	1/15/55

B-92-0100

ANSTEC APERTURE CARD

Also Available on Aperture Card



REFERENCE DRAWING

WF STACK SAMPLING SYSTEM PLAN	900D-2731
WF SECONDARY HEPA FILTER ROOM PLAN EL. 100 FT. 0	905D-403
WF VENTILATION SYSTEM PLAN & SECTION	905D-405
WF STACK SAMPLING SYS. PLAN & SECTION	905D-2730
WF STACK SAMPLING SYS. ASSY. & DETAILS	900D-2732
WF STACK SAMPLING SYSTEM DETAILS	900D-2731, 2735, 2734
WF WALL PENETRATIONS	905D-160
WF ARCH RESEC. SECTION & DETAILS	905D-737
WF EMBEDMENTS AND PENETRATION PLAN	905D-744
WF PIPING LINE LIST	WVRS-UPL-008
WF VALVE & SPECIALTY LIST	WVRS-VSL-009
INSTR INSTR DETAILS	905D-571, 577
INSTR INSTL DETAILS	905D-574, 575, 576

- CAST MANUFACTURING COEF
 P.O. BOX 97
 BENTON HARBOR, MI. 49022
- KURY INSTRUMENTS INC
 2411 GARDEN RD
 MONTEREY, CA 95340
- OMEGA TECHNOLOGICS CO
 ONE OMEGA DR BOX 4047
 STANFORD, CT. 06407
- FOR SUPPORT LOCATIONS AND DETAILS SEE 905D-184, SHEETS 1 THRU 4.
 - UNLESS OTHERWISE NOTED PIPING & WELD PREPARATION ARE TO CONFORM TO THE PIPE SPECIFICATION WVRS-CS-139.
 - TO FACILITATE INSTALLATION OF LINES 6-67-1-201 AND 6-67-1-1/4-202 SWAGelok FITTING ITEMS 27, 28 AND 29 TO BE USED AS REQUIRED.
 - INSULATION TO BE THERMAZIP TYPE 458 OR 2000 AS INDICATED, MANUFACTURED BY "ASSESSIBLE PRODUCTS" OR APPROVED EQUAL, INSTALLATION PER MANUFACTURERS RECOMMENDATION, TERMINATION AT WALL/FLOOR PENETRATION.
 - LINES 6-67-1-201 AND 6-67-1-1/4-202 ARE TO BE ELECTRICALLY HEAT TRACED OUTSIDE OF BUILDING, TERMINATIONS WITH ITEM 24 INSIDE.
 - MAXIMUM TUBING BENDS FOR THE FOLLOWING LINES SHALL BE:
 6-67-1-201, 6-67-1-1/4-202... 20 DIAMETERS
 6-67-1-1/2-203... 5 DIAMETERS
 - FOR ALL WALL/FLOOR PENETRATION SLEEVED OR CORE DRILLED, ANNAUS TO BE FILLED WITH NON-SHRINK GROUT UNLESS OTHERWISE NOTED.
 - CONTRACTOR TO VERIFY DIMENSIONS & QUANTITIES ON PARTS LIST.
 - HT-0 ENVIRONMENTAL PRODUCTS CO.
 PO BOX 2847, LA JOLLA, CA 92038-2847
 - PARKER HAMMIFER CORP.
 8345 LEXIS RD., MIRM, NH 05427
 - CHAMFORD FITTING CO. 29500 SOLOR RD.
 SOLOR, OHIO 44139
 - WHITTEY CO., 318 BISHOP ROAD
 HIGHLAND HEIGHTS, OHIO 44143
 - RAYCHER CORP. PROCESS DIVISION
 300 CONSTITUTION DRIVE
 MEMO PARK, CALIFORNIA 94025
 - ASSESSIBLE PRODUCTS CO.,
 2122 WEST 5TH PLACE
 TEMPE, ARIZONA 85281

REV 1000

QTY	DESCRIPTION OR IDENTIFYING NO.	PART OR IDENTIFYING NO.	MATERIAL OR SPEC
1	34 VACUUM GAGE, 1/2, 0-30 IN Hg	ASHCROFT	
1	93 VACUUM PUMP 7AP653	BUCK	3047-V107-220X
1	32 TE INSTL DETAIL AND MATL	905D-576	SM 117
1	51 ELECTRONIC MASS FLOW METER	905D-576	SM 117
1	10 RTO PROBE	905D-576	SM 117
A/B	29 1 VCO COHN (SWAGELOK)	55-16-200	T-316
A/B	26 1 WCO COHN (SWAGELOK)	55-16-200	T-316
A/B	27 1 1/4 UNION (SWAGELOK)	55-2000-6	T-316
A/B	28 1 1/2 ELBOW (SWAGELOK)	55-1610-8-1/2	T-316
A/B	25 THERMOPRELL	9-260-2047	T-316
A/B	30 HIQ CARTRIDGE HOLDER	R/HZ5	
A/B	23 HIQ TANDEM CRTG HOLDER	CTH-50	
A/B	22 HIQ ADAPTOR JOCKE	RVA-15	
A/B	21 PWR CONN KIT, HEAT TRACE	FMK-JLP	
A/B	20 END SEAL KIT, HEAT TRACE	AM-E	
A/B	19 ELECTRICAL HEAT TRACE	10GTVI-CF	
A/B	18 KXT INSUL, 1/2 THK FOR 1/2 TBG		
A/B	17 PLUG, 1/2 DIA ST	50-T-N3M	T-316
A/B	16 COUPLING, 1/2 DIA ST	2-ST-316Y	T-316
A/B	15 COUPLING, 1/2 X 1/2 HEX AED	2-64-1-1-1	T-316
A/B	14 1/4 ELCOHN, 1 X 1/2 RED	55-210-1-8	T-316
A/B	13 BUSHING, 2 X 1/2 RED		F304L
A/B	12 MALE COHN, 1/2 DIA	55-2400-2-2	T-316
A/B	11 UNION BALL JT, 1/2 DIA	55-1208J	T-316
A/B	10 PORT CONN, 1/4	55-1211-FC	T-316
A/B	9 BALL VALVE, 1/2 - (SWAGELOK)	55-65716	T-316
A/B	8 HEX HD BOLT, 1/2-11 UNC X 1/2 WITH NUT		18-8
A/B	7 SACKET, 1/2 - CNR		4-62572
A/B	6 P. 4032, 1/2 DIA X 1/2 L, 1/2		T-304L
A/B	5 INSUL JKT, 1/2 THK FOR 1 TBG TYPE 450		
A/B	4 INSUL JKT, 1/2 THK FOR 1/2 TBG		
A/B	3 TUBING, 1/2 O.D X 1/2, ANNEALED		A269 T-304
A/B	2 TUBING, 1/2 O.D X 1/2, ANNEALED		A269 T-304
A/B	1 TUBING, 1/2 O.D X 1/2, ANNEALED		A269 T-304

NOTES:
 A FOR SEISMIC MOUNTING OF ITBY 51 (F1/R290) SEE DETAIL SB-5 ON 905D-125

1	2	REV	REV STATUS	BY	DATE	DESCRIPTION OR IDENTIFYING NO.	PART OR IDENTIFYING NO.	MATERIAL OR SPEC
2	1	SHEET	OF SHEETS					
UNLESS OTHERWISE SPECIFIED		DRAWN		DATE		PART OR IDENTIFYING NO.		
ALL DIM IN FIFTHS		CHECKER		DATE		FOR		
TELEPHONES DO NOT SCALE		ENGR		DATE		West Valley Nuclear Services Co. Inc.		
P. PL. DEC 3 PL. DEC		ANGLS		DATE		West Valley, New York		
N/A		N/A		DATE		V F		
FACTORS		N/A		DATE		STACK SAMPLING SYSTEM		
SYSTEMS 1310		N/A		DATE		ARRANGEMENT		
NEXT ASSAULT		N/A		DATE		REV 1		
		N/A		DATE		900D-2737		
		N/A		DATE		SHEET 1 OF 2		

9403110314-38



FOR STACK PROBE INSTALLATION
SEE DWG 9000-2732(C7)

6-67-1-201
EL 159FT 8 5/8

NOZZLE A
EL 159FT 6

PLATE EL 155FT 0

STACK
3FT Ø
DPA

TOP OF ROOF
HP EL 147FT 11 1/2

EL 140FT 4

EL 138FT 4 1/2
NOZZLE E

EL 135FT 0

18 INSULATION

EXTG SLEEVE
2 1/2 Ø DIA
SEE DWG
9050-160

6-67-11/2-203
EL 132FT 0

EL 128FT 8 5/8

EXTG-
FL LxN
CING 9050-
708

FL EL 125FT 4 1/8

FL EL 124FT 0

5 INSULATION

WP EL 124FT 0 (REF)

6-67-34-231
EL 120FT 8

6-67-34-232
EL 116FT 0

VP 510
VACUUM
PUMP
EL 115FT 6

FL EL 111FT 6

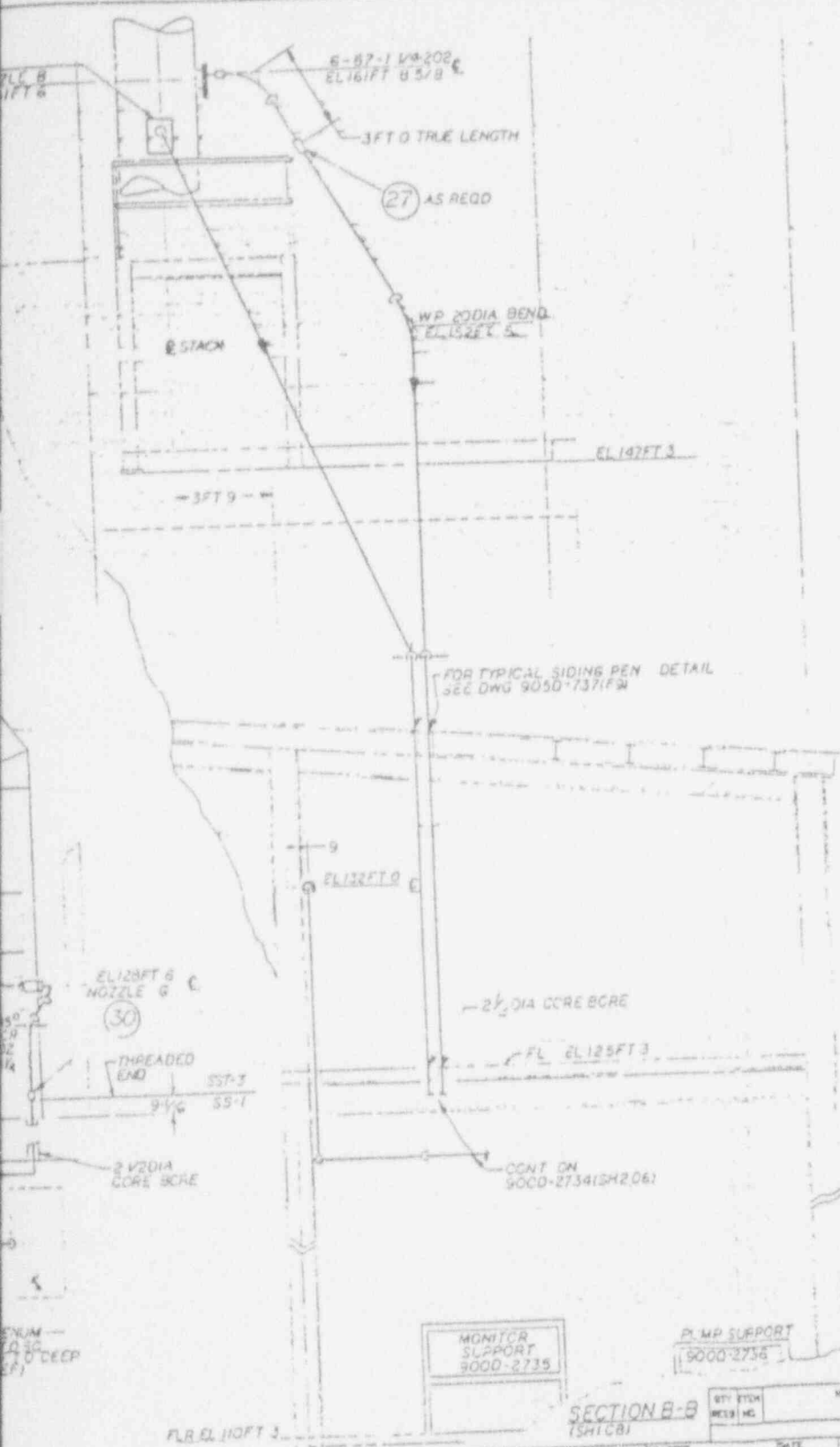
SECTION A-A (SH1, C4)

NO.	REVISIONS	DESCRIPTION	DATE
1	REVISION KEY	PER ECH 4265	10/20/46

RC:92:0106

ANSTEC APERTURE CARD

Also Available on Aperture Card



CAUTION
 FEB 09 1993
 CHECK DOCUMENT CONTROL FOR LATEST REVISION.

MONITOR SUPPORT
 9000-2735

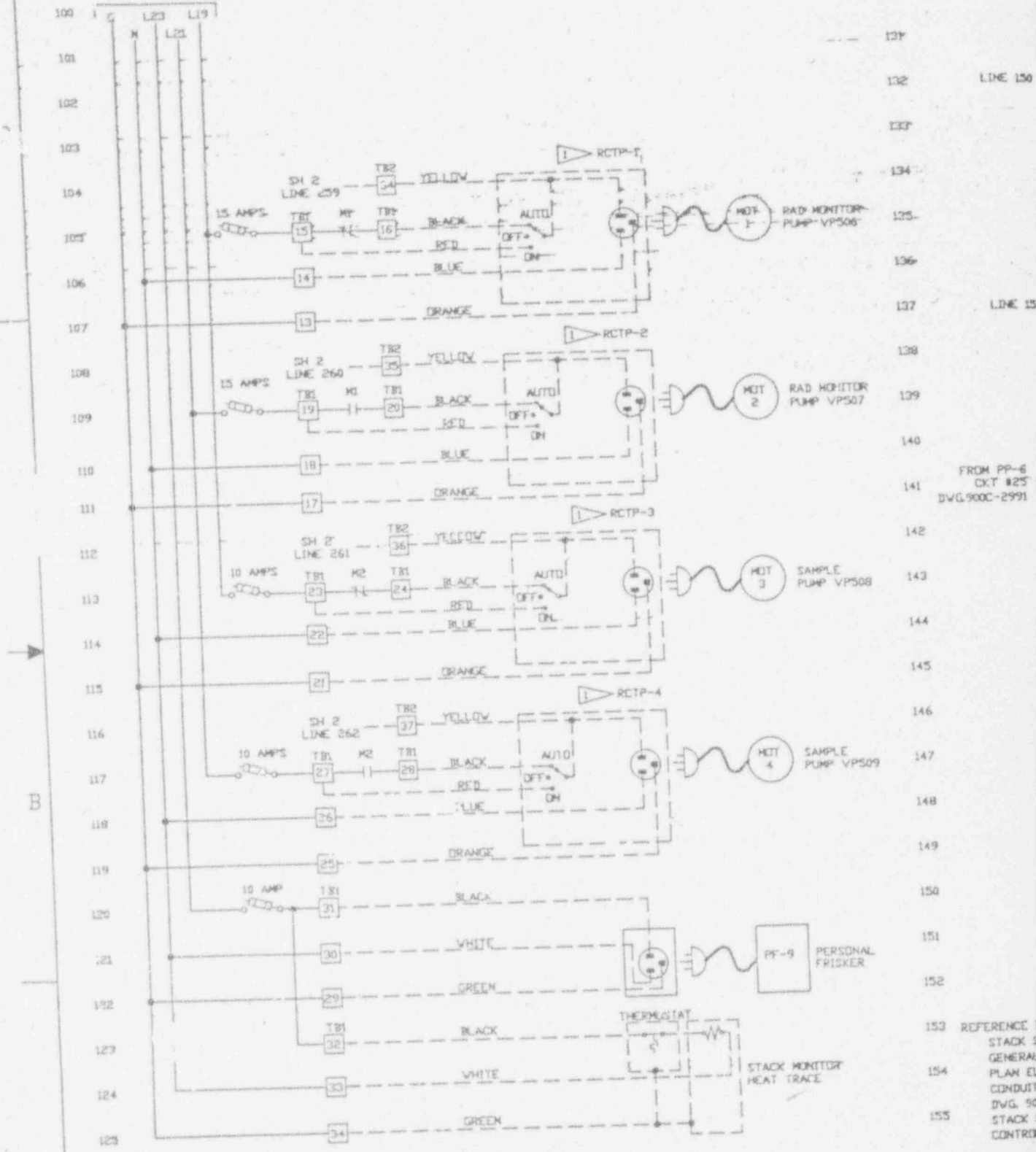
PUMP SUPPORT
 9000-2735

SECTION B-B
 (SH1C8)

UNLESS OTHERWISE SPECIFIED	DRAWN BY R. B. HOOPER	DATE 5/25/85	REV. CONTRACT NO.	SCALE
ALL DIM IN FT & INCHES	CHECKED BY MARK LAGNEW	DATE 5/26/85	FOR West Valley Nuclear Services Co., Inc. West Valley, New York	
TOLERANCES-SEE MET SCALE	ENG. BY MARK LAGNEW	DATE 5/26/85	PARTS LIST	
PL. DEC. 3 PL. DEC. INCHES	DESIGNED BY V. F. DESSAMP	DATE 5/26/85	V F STACK SAMPLING SYSTEM SECTIONS	
N/A N/A N/A	DATE APPROVED BY G. H. ANTZLER	DATE 12/20/85	DWG. NO.	REV.
REVISIONS	DATE APPROVED BY G. H. ANTZLER	DATE 1/11/86	9000-2737	1
SPEC. NO. 1510	DATE APPROVED BY G. H. ANTZLER	DATE 1/11/86	SCALE 3-3 = 1 FT 0	DWG. NO.
MET ASS'Y	DATE APPROVED BY G. H. ANTZLER	DATE 1/11/86	9000-2737	1
	DATE APPROVED BY G. H. ANTZLER	DATE 1/11/86	REV. NO.	1
	DATE APPROVED BY G. H. ANTZLER	DATE 1/11/86	DATE DWG. NO.	9000-2737
	DATE APPROVED BY G. H. ANTZLER	DATE 1/11/86	SHEET 2 OF	

9403 110314-39

FROM PP-5 CKT# 19, 21 AND 23
DWG#900C-2990



REV	REVISIONS	DATE
1	ECN 4875	3/10/91
2	ECN 5550	3/10/91
3	ECN 5551	3/10/91
4	ECN 5552	3/10/91
5	ECN 5553	3/10/91

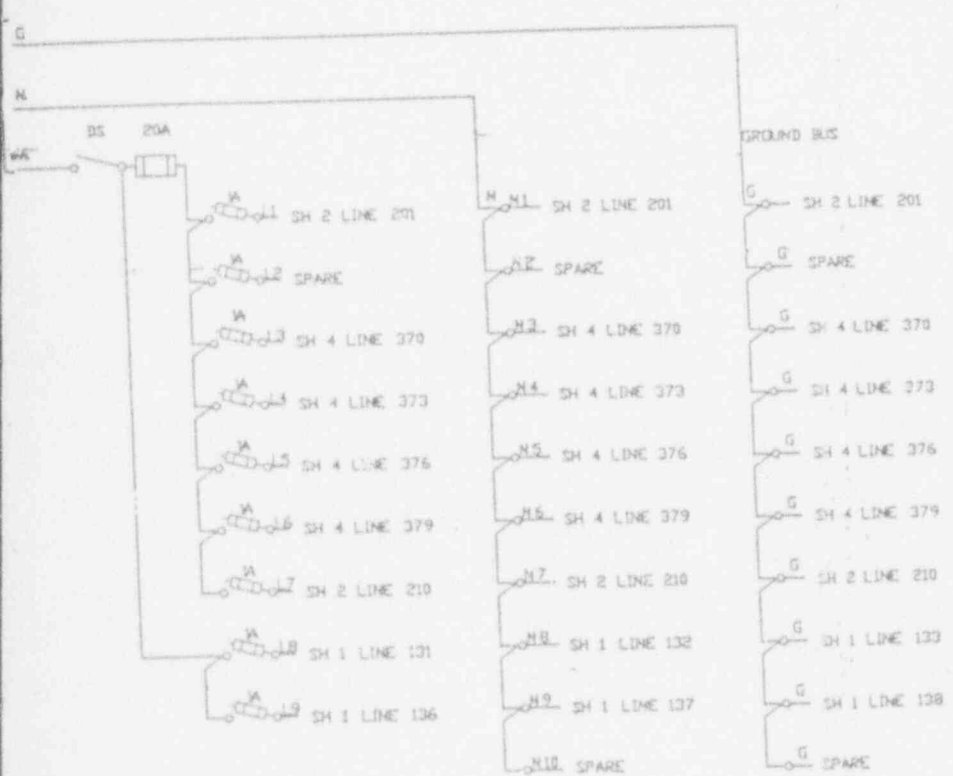
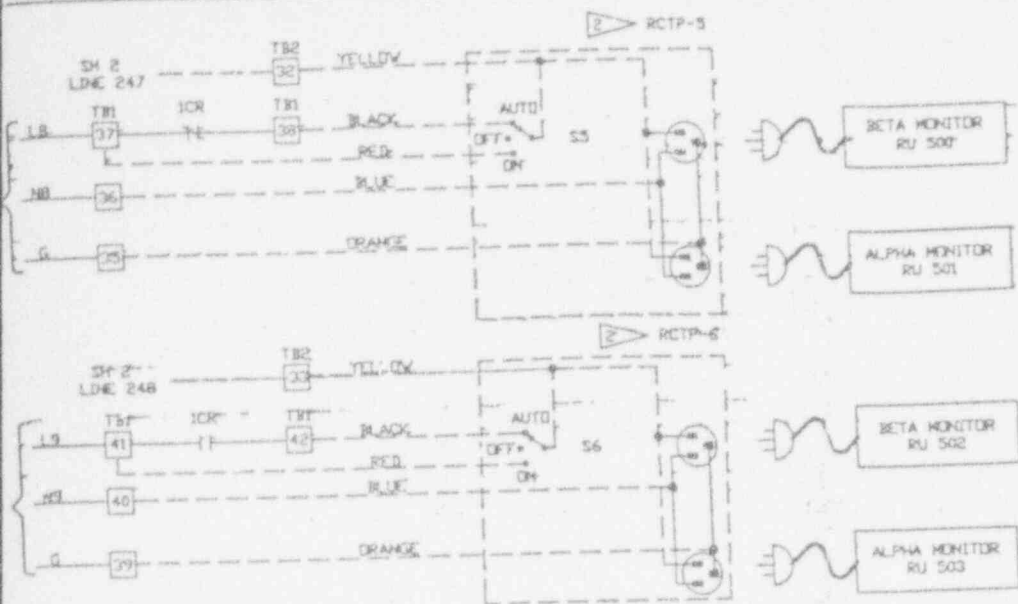
BC:93:0102

FROM PP-6
CKT #25
DWG#900C-2991

REFERENCE B
STACK S
GENERAL
PLAN EL
CONDUIT
DWG. 505
STACK S
CONTROL

ANSTEC APERTURE CARD

Also Available on Aperture Card



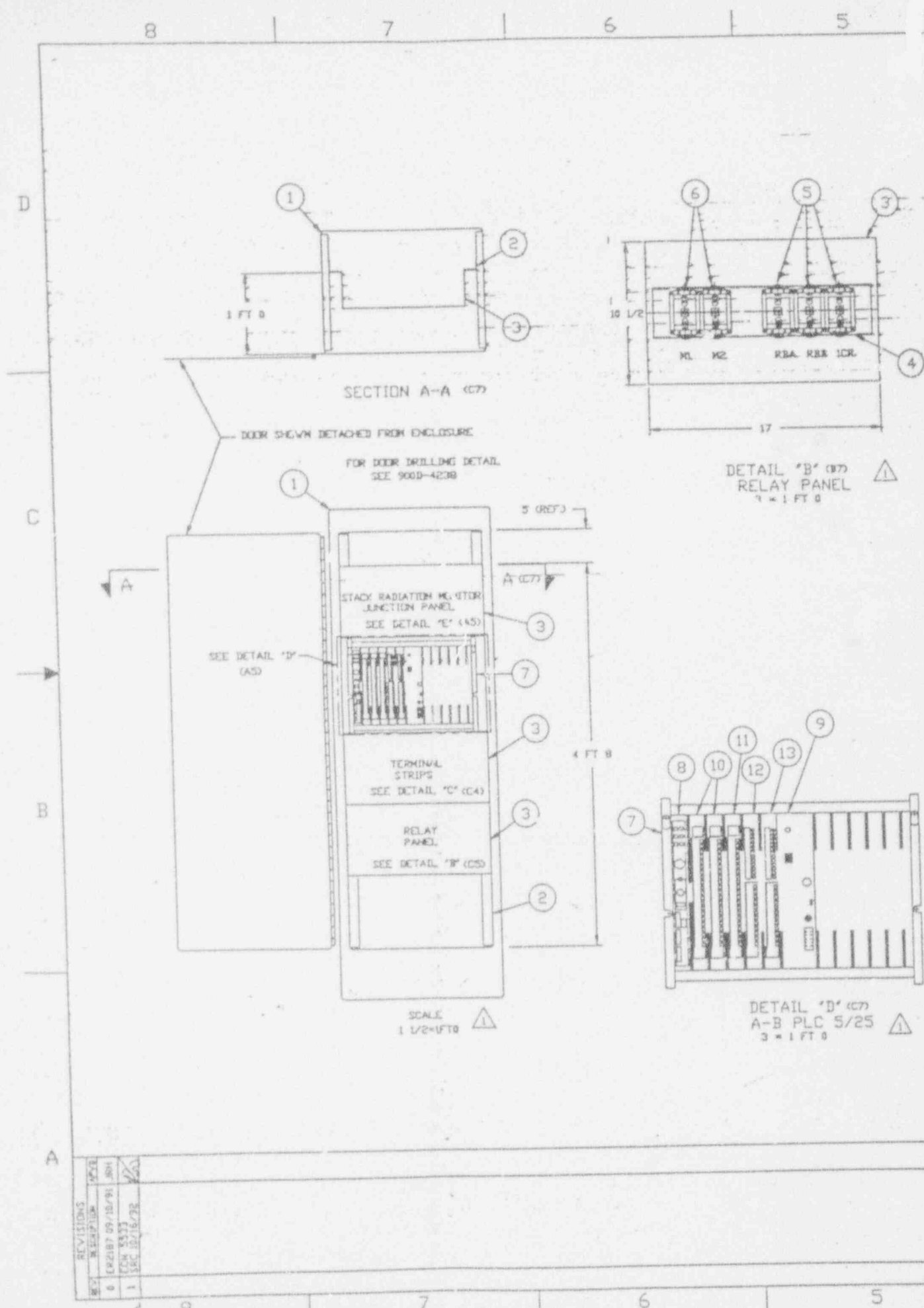
REVISION
 10000400
 FEB 09 1993
 FOR LATEST REVISION

- NOTES:
- 6 --- FIELD WIRING
 - 5 KEY-OPERATED 3-POSITION ROTARY SWITCH
 - 4 RECEPTACLE FOR PF-9 HUBBELL 5251 & PLUG FOR PF-9 HUBBELL 5266.
 - 3 ALL PLUGS HUBBELL TWIST-LOCK.
 - 2 HUBBELL TWIST-LOCK.
 - 1 HUBBELL TWIST TYPE, 4700.

DRAWINGS
 SAMPLING SYSTEM DVG 900D-2734
 ARRANGEMENT VITRIFICATION FACILITY
 11025 DVG 905D-032
 AND CABLE TRAY LAYOUT EL. 11025
 D-266 SH 112.
 SAMPLING PLID DVG N1 900D-273L
 WIRING DIAGRAMS DVG #905B-305 SH'S #651 THRU 66L

QTY	ITEM	DESCRIPTION	PART OR IDENTIFYING NO.	NATIONAL OR SPEC.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED				
DRAWN BY		DATE		
S.R. CHRALLO		10/24/90		
CHECKED BY		DATE		
E.H. BUNCH		9/4/91		
ENGR.		DATE		
L. SHANNON		9/4/91		
DESIGNED BY		DATE		
D.J. DONOHROVSKI		9/5/91		
CHECKED BY		DATE		
V. DESCAMP		9/4/91		
SCALE APPLIC.		DATE		
PAUL A. SZALINSKI		9/10/91		
CHECKED BY		DATE		
D.L. SHAWARS		9/10/91		
DESIGNED BY		DATE		
JOHN HORTON		9/10/91		

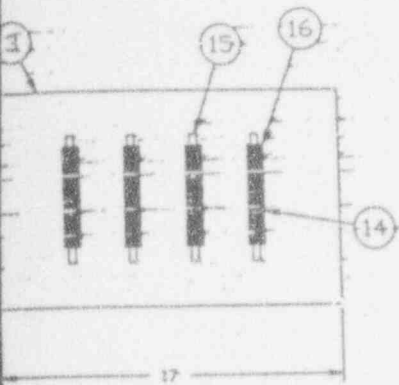
VIT STACK RAD MONITOR
 CONTROL PANEL
 ELECTRICAL SCHEMATIC
 DVG NO. 900D-2739 2
 SHEET 1 OF 2



Revised

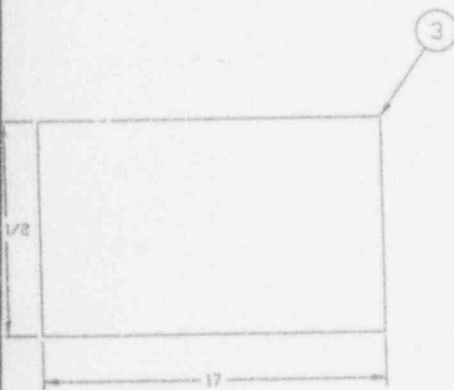
ANSTEC APERTURE CARD

Also Available on Aperture Card



DETAIL 'C' (17)
TERMINAL STRIPS
NOT TO SCALE

REF DVG 900D-5027 INTERNAL WIRING
900D-2739 ELECTRICAL SCHEMATIC



DETAIL 'E' (17)
STACK RAD MONITOR JUNCTION PANEL
NOT TO SCALE

ALLEN-BRADLEY
747 ALPHA DRIVE
CLEVELAND, OH 44143

NEVAPY ELECTRONICS
3435 HARLEM ROAD
CHEKTOWAGA, NY 14225

HEFFMAN CO.
900 EHLEN DRIVE
ANN ARBOR, MI 48103

NOTES:

QTY	ITEM NO.	DESCRIPTION	MANUFACTURER OR IDENTIFYING NO.	NATURAL OR SPEC.
1	1	NEHA TYPE 12 CAS ENCLOSURE	A-722418F'S	12 GA. STL
1	2	MOUNTING RAILS	72R19TH	12 GA. STL
3	2	PANEL CHASSIS	CB1375	.050 ALUM.
1	4	MOUNTING STRIP W/SCREWS	700-HPB	
3	5	INDUSTRIAL RELAY	700-P200A1	
2	6	INDUSTRIAL RELAY	700-PK200A1	
1	7	L/O CHASSIS	1771A3B	
1	8	PLC 5/25	1785-LT2	
1	9	POWER SUPPLY	1771P4	
2	10	INPUT MODULE	1771-1A0	
1	11	OUTPUT MODULE		
1	12	OUTPUT MODULE		
1	13	RELAY OUTPUT MODULE		
1	14	TERMINAL BLOCK		
1	15	MOUNTING CHANNEL		
1	16	END BARRIER FOR ITEM 14		

UNLESS OTHERWISE SPECIFIED		DRAWN BY	DATE	REV. CONTROL NO.	CORE DRG. NO.
ALL DIM. IN INCHES		S.R. CORRALLO	12/04/90		
TOLERANCES-SEE NOT SCALE		CH BUNCH	8/30/91		
F. A. DEC 3 PL. DEC ANGLES 8/1		L SHANNON	9/04/91		
D N/A F N/A S N/A M		DAVID J. DONOVAN	9/05/91		
FUNCTIONS		DELMAR RAPPAL	9/04/91		
1 N/A		V. DESCHAMP	9/10/91		
SPECIFIC 1766		PAUL A SZALINSKI	9/10/91		
NEXT ASSY		DAVE L. SHUGARS	9/10/91		
		JOHN HORTON	9/12/91		

FOR
West Valley Nuclear Services Co., Inc.
West Valley, New York

VIT STACK RAD MONITOR
CONTROL PANEL
GENERAL ARRANGEMENT

SCALE AS NOTED
DVG NO. 900D-4214
REV 1

DWG NO. SHEET 1 OF 1

9403110314-41