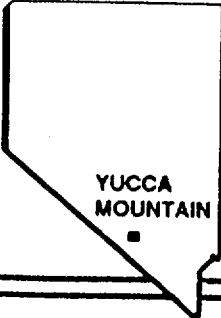


U.S. DEPARTMENT OF ENERGY

*Revised with Attachment 5/19/93*

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**YUCCA MOUNTAIN  
SITE CHARACTERIZATION  
PROJECT**

**PROJECT BASELINE DOCUMENT**

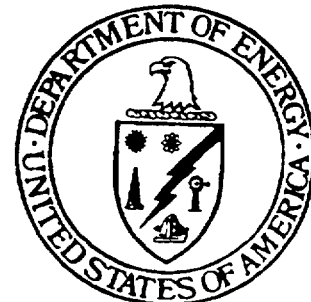
**EXPLORATORY STUDIES FACILITY  
TECHNICAL BASELINE**

**VOLUME 1**

Rev. 1 (Part 2)

**NOTE:** This is Part two (2) of previously distributed Design Package 1A

**CHANGES TO THIS DOCUMENT REQUIRE PREPARATION AND APPROVAL OF A CHANGE REQUEST IN ACCORDANCE WITH PROJECT AP-3.3Q**



*102-8*

UNITED STATES DEPARTMENT OF ENERGY  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE

**VOLUME 2  
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71.	YMP-025-1-ELEC-EL189	Rev. 0	Water Storage Tanks Electrical Site Plan
72.	YMP-025-1-ELEC-EL190	Rev. 0	Water Storage Tanks Area Power Plan, One Line Diagram & Details
73.	YMP-025-1-ELEC-EL191	Rev. 0	J-13 Pump Station Pumps No. 1 & 2 Control Diagram

YMP/CM-0016, Rev. 1

74.	YMP-025-1-7007-AR101	Rev. 0	Electrical Switchgear Building 7007 Floor Plan
75.	YMP-025-1-7007-AR103	Rev. 0	Electrical Switchgear Building 7007 Elevations & Sections
76.	YMP-025-1-7007-AR106	Rev. 0	Electrical Switchgear Building 7007 Reflected Ceiling Plan
77.	YMP-025-1-7007-AR107	Rev. 0	Electrical Switchgear Building 7007 Schedules
78.	YMP-025-1-7007-EL101	Rev. 0	Electrical Switchgear Building 7007 Equipment Layout Plan
79.	YMP-025-1-7007-EL102	Rev. 0	Electrical Switchgear Building 7007 Exposed Conduit, Power Plan Sht 1
80.	YMP-025-1-7007-EL103	Rev. 0	Electrical Switchgear Building 7007 Exposed Conduit, Power Plan Sht 2
81.	YMP-025-1-7007-EL104	Rev. 0	Electrical Switchgear Building 7007 Grounding Plan
82.	YMP-025-1-7007-EL105	Rev. 1	Electrical Switchgear Building 7007 Lightning Protection Plan & Details
83.	YMP-025-1-7007-EL107	Rev. 0	Electrical Switchgear Building 7007 Lighting Plan Sht 1
84.	YMP-025-1-7007-EL108	Rev. 0	Electrical Switchgear Building 7007 Lighting Plan Sht 2
85.	YMP-025-1-7007-EL109	Rev. 0	Electrical Switchgear Building 7007 Embedded Conduit Plan
86.	YMP-025-1-7007-EL112	Rev. 0	Electrical Switchgear Building 7007 One Line Diagram

YMP/CM-0016, Rev. 1

87.	YMP-025-1-7007-EL113	Rev. 0	Electrical Switchgear Building 7007 Schematic/Connection Diagrams Sht 1
88.	YMP-025-1-7007-EL114	Rev. 0	Electrical Switchgear Building 7007 Schematic/Connection Diagrams Sht 2
89.	YMP-025-1-7007-EL115	Rev. 0	Electrical Switchgear Building 7007 Schematic/Connection Diagrams Sht 3
90.	YMP-025-1-7007-EL120	Rev. 0	Electrical Switchgear Building 7007 Panel Schedules
91.	YMP-025-1-7007-EL124	Rev. 1	Electrical Switchgear Building 7007 Fire Alarm Plan/Details
92.	YMP-025-1-7007-EL125	Rev. 0	Electrical Switchgear Building 7007 Fire Alarm Diagrams/Details Sht 1
93.	YMP-025-1-7007-EL126	Rev. 0	Electrical Switchgear Building 7007 Fire Alarm Diagrams/Details Sht 2
94.	YMP-025-1-7007-HV101	Rev. 0	Electrical Switchgear Building 7007 Control Room HVAC Plan & Sections
95.	YMP-025-1-7007-HV102	Rev. 0	Electrical Switchgear Building 7007 Switchgear Room HVAC Plan & Sections
96.	YMP-025-1-7007-ST101	Rev. 1	Electrical Switchgear Building 7007 Foundation Plan & Sections
97.	YMP-025-1-7007-ST102	Rev. 0	Electrical Switchgear Building 7007 Slab Plan
98.	YMP-025-1-7007-ST103	Rev. 0	Electrical Switchgear Building 7007 Foundation Details
99.	YMP-025-1-7008-AR101	Rev. 0	Booster Pump Station Building 7008 Floor Plan

YMP/CM-0016, Rev. 1

100.	YMP-025-1-7008-AR102	Rev. 0	Booster Pump Station Building 7008 Elevations & Section
101.	YMP-025-1-7008-EL101	Rev. 1	Booster Pump Station Building 7008 Power & Grounding Plan
102.	YMP-025-1-7008-EL102	Rev. 0	Booster Pump Station Building 7008 Lighting Plan
103.	YMP-025-1-7008-EL103	Rev. 1	Booster Pump Station Building 7008 Lightning Protection Plan & Elevation
104.	YMP-025-1-7008-EL104	Rev. 0	Booster Pump Station Building 7008 Panel Schedule and Relay Panel Connection Diagram
105.	YMP-025-1-7008-EL105	Rev. 0	Booster Pump Station Building 7008 Fire Alarm Plan/Diagrams
106.	YMP-025-1-7008-EL106	Rev. 0	Booster Pump Station Building 7008 One Line Diagram
107.	YMP-025-1-7008-EL107	Rev. 0	Booster Pump Station Building 7008 Schematic/Connection Diagram Sht 1
108.	YMP-025-1-7008-EL108	Rev. 0	Booster Pump Station Building 7008 Schematic/Connection Diagram Sht 2
109.	YMP-025-1-7008-HV101	Rev. 0	Booster Pump Station Building 7008 HVAC Plan & Sections
110.	YMP-025-1-7008-ST101	Rev. 0	Booster Pump Station Building 7008, Foundation Plan & Sections

Title II Specifications

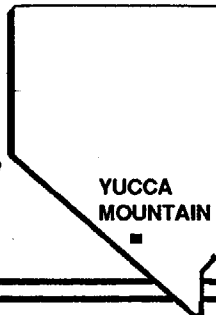
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|----|----------------|--------|---|
| 1. | YMP-025-1-SP01 | Rev. 2 | North Portal Pad,<br>Electrical Utilities &<br>Access Roads |
| 2. | YMP-025-1-SP02 | Rev. 2 | Electrical Switchgear<br>Building                           |
| 3. | YMP-025-1-SP03 | Rev. 2 | Booster Pump Station  |
| 4. | YMP-025-1-SP04 | Rev. 1 | Topsoil & Rock Storage<br>Area                              |

*See Church letter dated 5/19/93*

YMP/CM-0016  
Rev. 1 (Part 2)

U.S. DEPARTMENT OF ENERGY

**Y  
M  
C  
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B**



YUCCA  
MOUNTAIN

**YUCCA MOUNTAIN  
SITE CHARACTERIZATION  
PROJECT**

**PROJECT CCB BASELINE DOCUMENT**

NOTE: This is part two (2) of previously distributed Design Package 1A

**EXPLORATORY STUDIES FACILITY  
TECHNICAL BASELINE**

**VOLUME 2**

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**CHANGES TO THIS DOCUMENT REQUIRE PREPARATION  
AND APPROVAL OF A CHANGE REQUEST IN ACCORDANCE  
WITH PROJECT AP-3.3Q**

*102.8*

UNITED STATES DEPARTMENT OF ENERGY  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE

9305250071-01



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

EXPLORATORY STUDIES FACILITY

TECHNICAL BASELINE

VOLUME 2

SOUTH PORTAL

DESIGN DRAWINGS

Prepared by:

RAYTHEON SERVICES NEVADA

101 Convention Center Drive

Las Vegas, Nevada

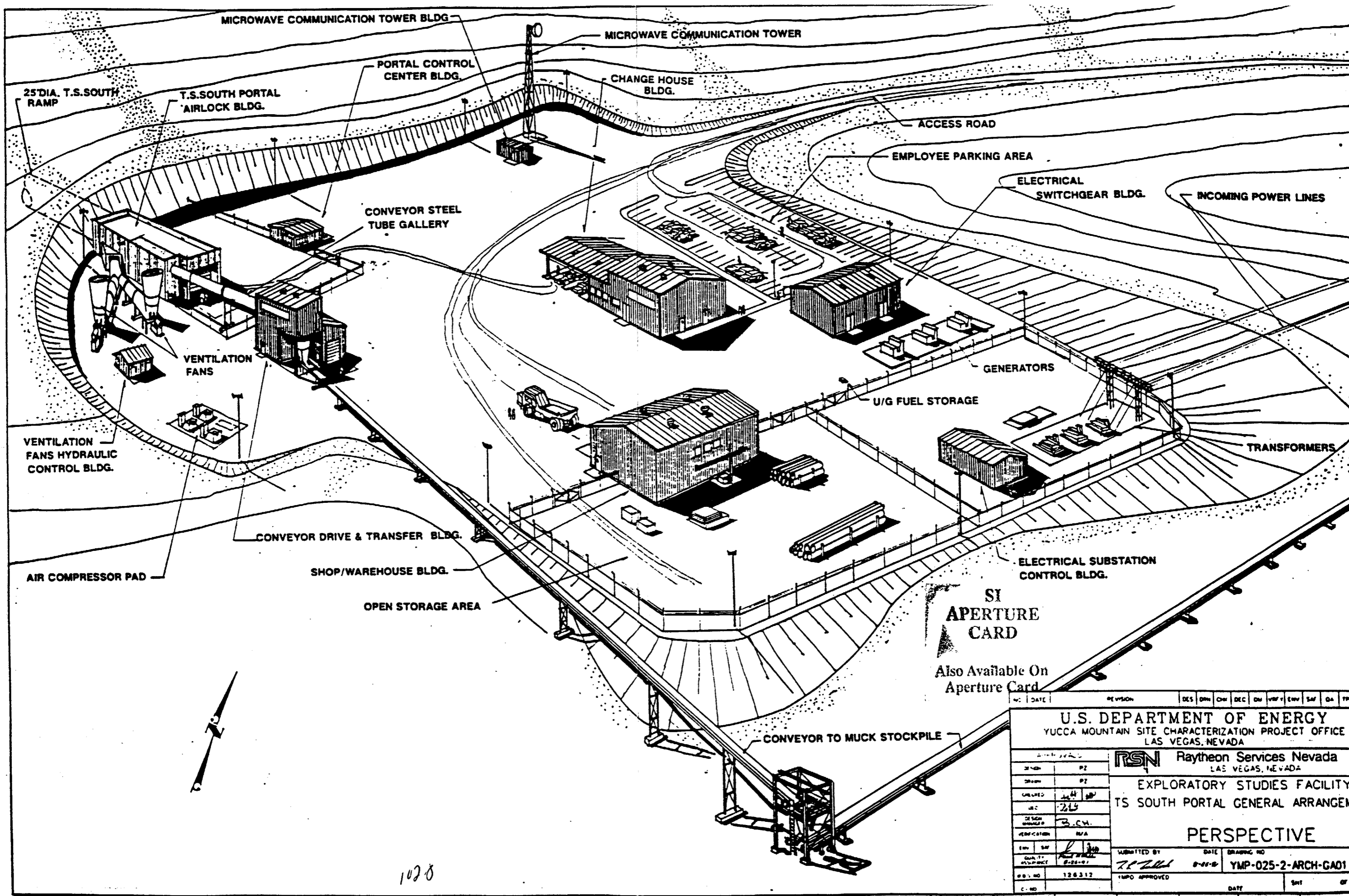
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102-8

9305250071 - 02





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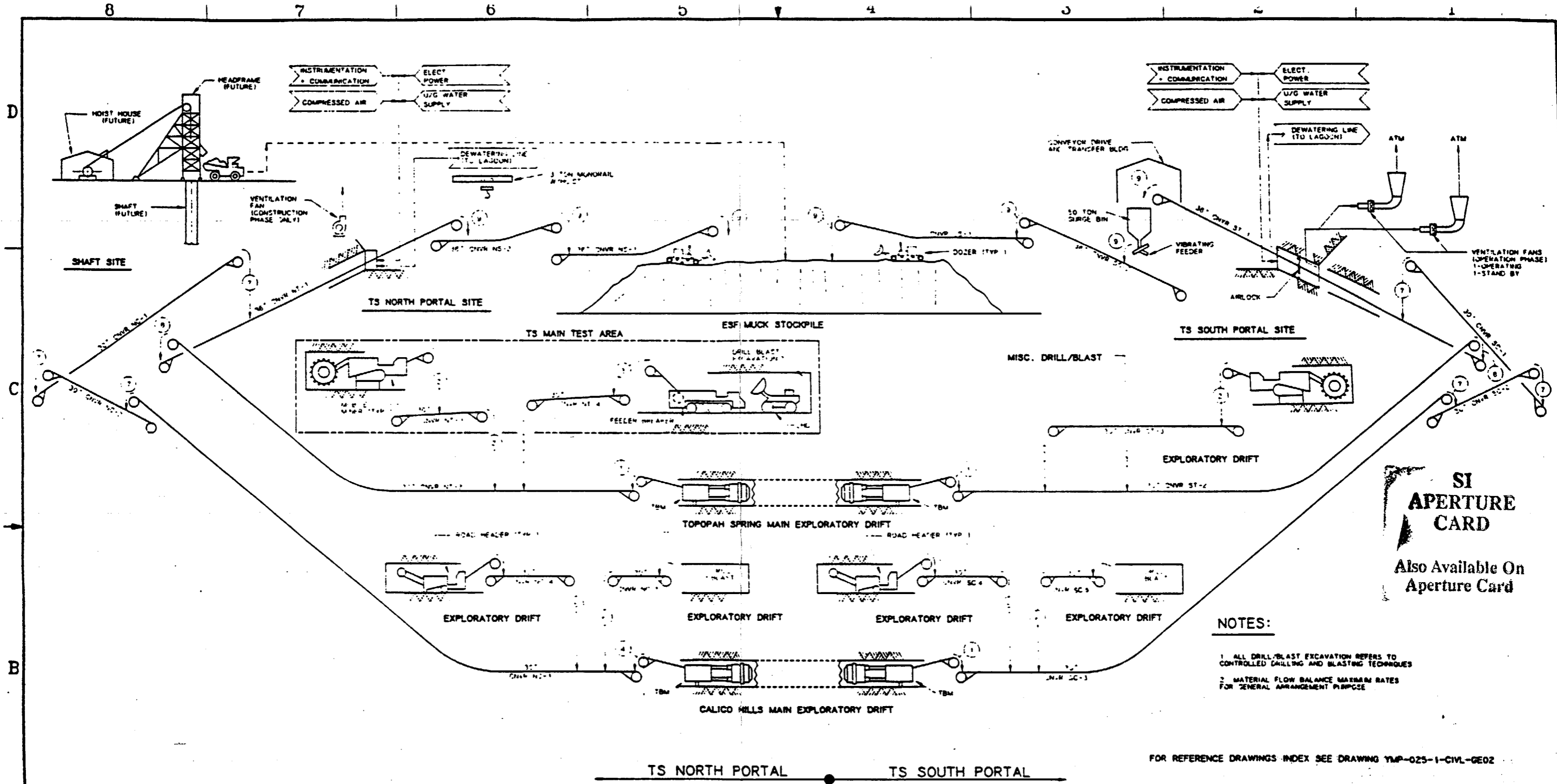
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DRAWN BY: PZ CHECKED BY: JAC IN CHARGE: JAC DESIGN APPROVAL: JAC VERIFICATION: N/A			<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA <b>EXPLORATORY STUDIES FACILITY</b> <b>TS SOUTH PORTAL GENERAL ARRANGEM</b>									
<b>PERSPECTIVE</b>												
SUBMITTED BY: [Signature] DATE: 8-28-91 DRAWING NO: YMP-025-2-ARCH-GA01												
U.S. NO: 126312 C. NO:												

1028

9305250071-03

11 10 9 8 7 6 5 4 3 2





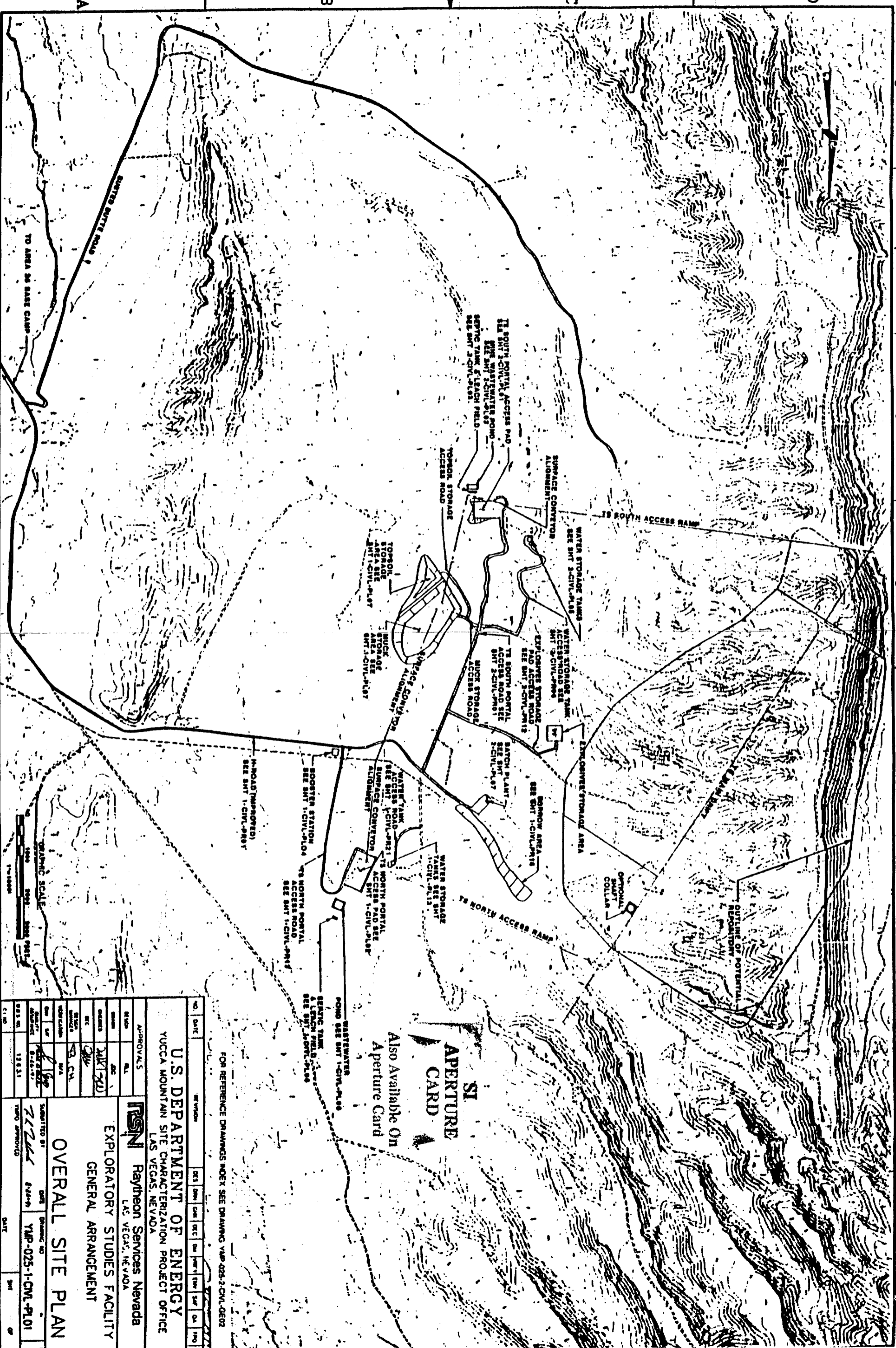
- NOTES:**
1. ALL DRILL/BLAST EXCAVATION REFERS TO CONTROLLED CHILLING AND BLASTING TECHNIQUES
  2. MATERIAL FLOW BALANCE MAXIMUM RATES FOR GENERAL ARRANGEMENT PURPOSE

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-1-CIVL-GE02

	MATERIAL FLOW BALANCE									
	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
TON/HR. (NOMINAL)	302	75	94	189	71	60	300	471	771	
TON/HR. (DESIGN)	332	83	103	188	78	66	330	518	848	
MAX. LUMP SIZE (INCHES)	-6"	-6"	-6"	-6"	-6"	-6"	-6"	-6"	-6"	
MATERIAL DENSITY (9/FT <sup>3</sup> ) (BROKEN)	98	98	98	98	98	98	98	98	98	
TEMPERATURE (°F)	AMB	AMB	AMB	AMB	AMB	AMB	AMB	AMB	AMB	

9305250071-05

NO.	DATE	REVISION	DES	DRN	CHK	DEC	DM	WRK	ENV	SAP	QA	TPD	TRV
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APPROVALS		<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA											
DESIGN	NO. 1												
DRN	TAN												
CHKD	<i>[Signature]</i>												
SEC	<i>[Signature]</i>												
GEN. MANAGER	<i>[Signature]</i>												
VERIFICATION	N/A												
ENV. SAF.	<i>[Signature]</i>												
QUALITY ASSURANCE	<i>[Signature]</i>												
SUBMITTED BY		DATE	DRAWING NO.										
<i>[Signature]</i>		04-09	YMP-025-1-ARCH-GA02										
YMPD APPROVED		DATE	REV										
<i>[Signature]</i>			01										



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FOR REFERENCE DRAWINGS INDEX SEE DRAWING YAP-025-2-CIVL-0502

NO.	DATE	REVISION	BY	CHK'D	DATE	BY	CHK'D	DATE	BY	CHK'D

APPROVALS		
DESIGNED BY	DATE	
CHECKED BY	DATE	
DATE	DATE	

PROJECT	U.S. DEPARTMENT OF ENERGY
SUBMITTED BY	Raytheon Services Nevada
DRAWING NO.	YAP-025-1-CIVL-PL01
DATE	1983

**OVERALL SITE PLAN**  
EXPLORATORY STUDIES FACILITY  
GENERAL ARRANGEMENT

9305250071-06

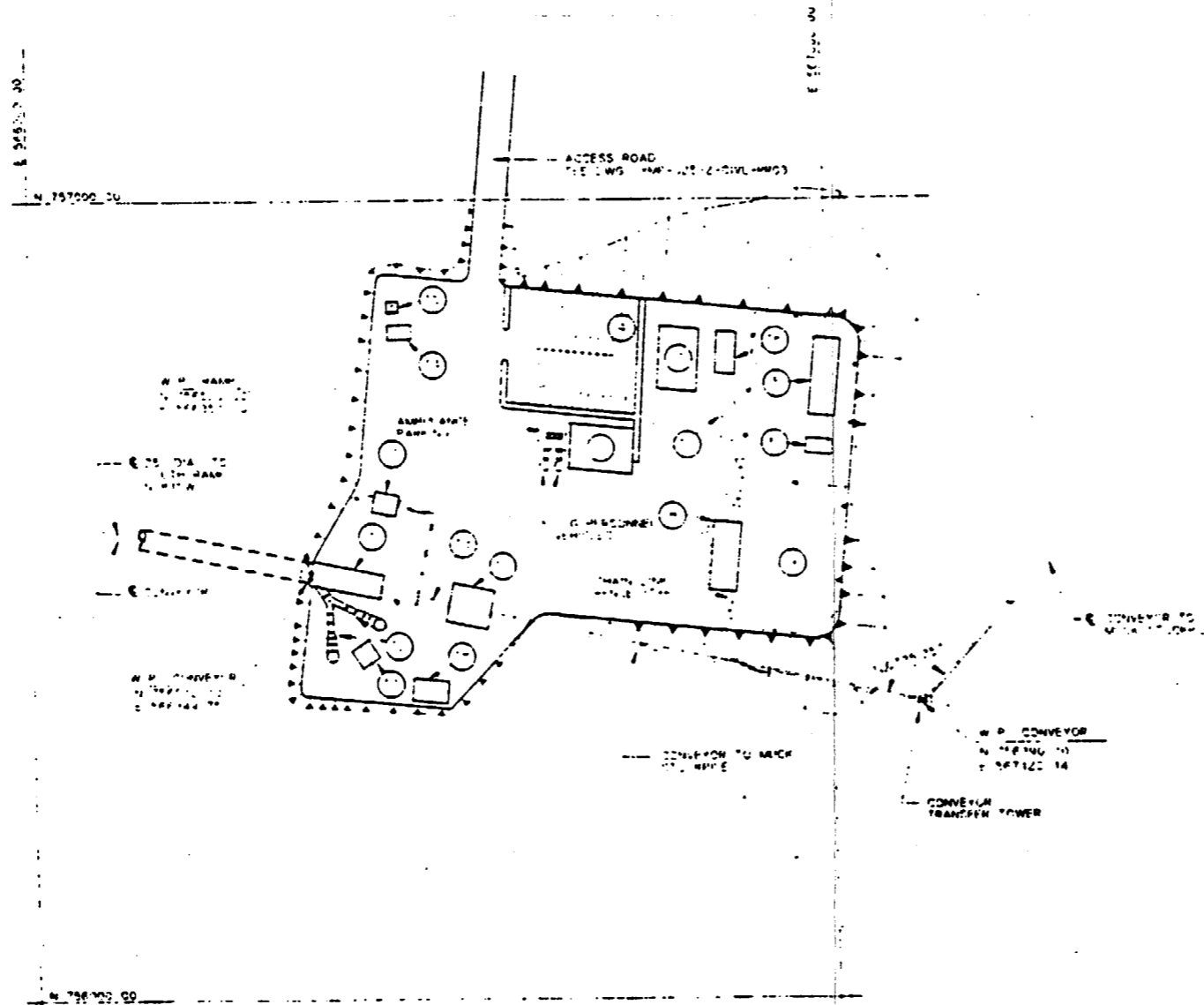
LEGEND

- ① SOUTH PORTAL AIRLOCK BLDG
- ② PORTAL CONTROL CENTER BLDG.
- ③ CHANGE HOUSE BLDG
- ④ EMPL. PARKING AREA (50 CARS)
- ⑤ TRANSFORMER PAD
- ⑥ ELECTRICAL SUBSTATION CONTROL BLDG
- ⑦ ELECTRICAL SWITCHGEAR BLDG
- ⑧ SHOP / WAREHOUSE BLDG
- ⑨ OPEN STORAGE AREA
- ⑩ CONVEYOR DRIVE AND TRANSFER BLDG
- ⑪ VENT FANS HYDRAULIC CONTROL BLDG.
- ⑫ VENTILATION FAN
- ⑬ BELT CONVEYOR STEEL TUBE GALLERY
- ⑭ MICROWAVE COMMUNICATION BLDG
- ⑮ MICROWAVE COMMUNICATION TOWER
- ⑯ GENERATOR PAD
- ⑰ FRIERWALL FUEL STORAGE TANK
- ⑱ AIR COMPRESSION PAD

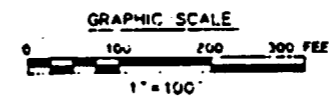
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FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVIL-GE02

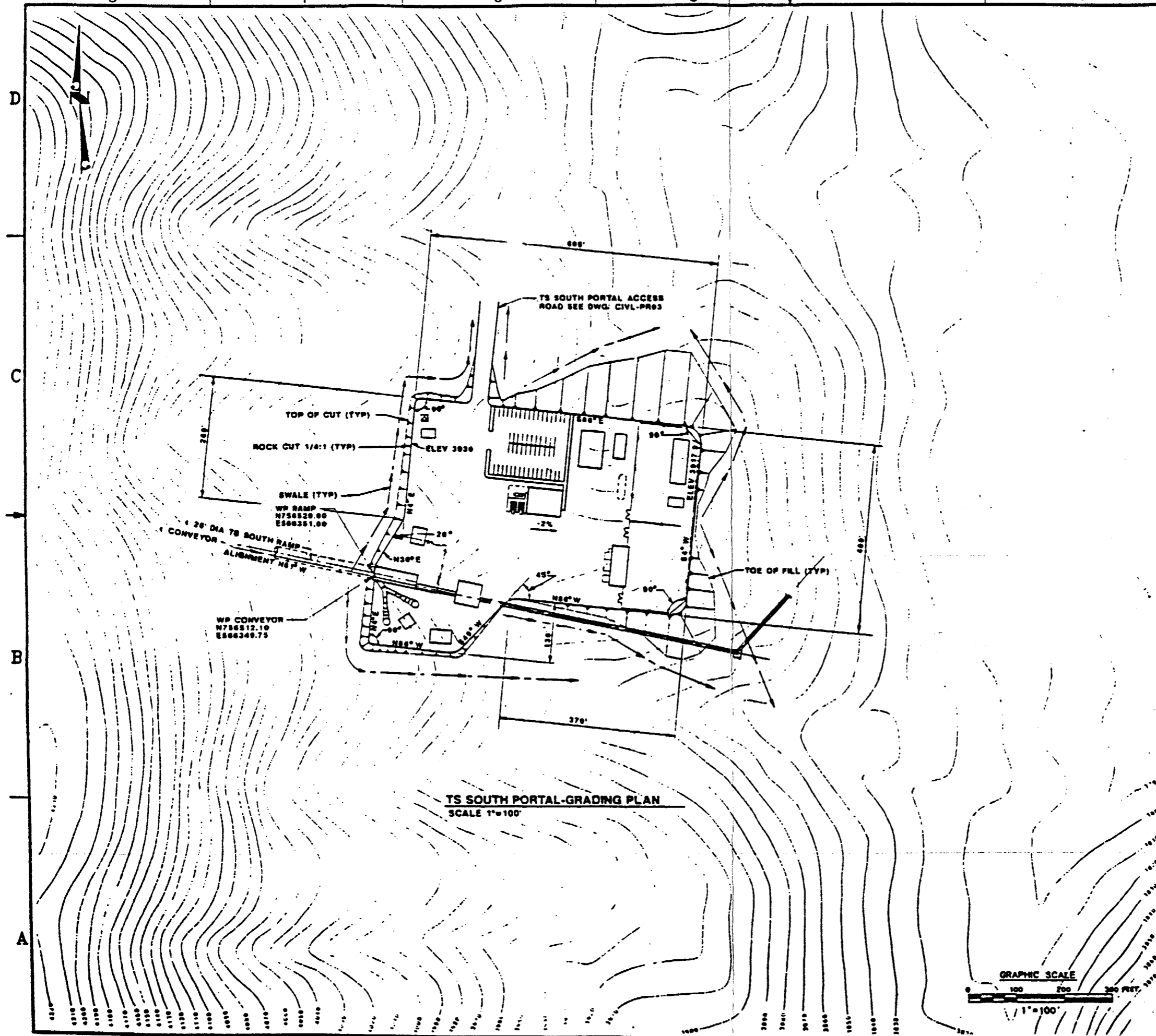


SITE PLAN



NO	DATE	REVISION	DESIGN	CHK	DEC	DM	ENV	SAF	GA	ITPD	TL
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA											
APPROVALS			<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA								
DESIGN	WTM		EXPLORATORY STUDIES FACILITY TS SOUTH PORTAL GENERAL ARRANGEMENT SURFACE <b>SITE PLAN</b>								
DRAWN	TAN										
CHECKED	<i>[Signature]</i>										
SEC	<i>[Signature]</i>										
DESIGN REVISIONS	N/A										
VERIFICATION	N/A		SUBMITTED BY			DATE			DRAWING NO.		
CHK	SAF	<i>[Signature]</i>	<i>[Signature]</i>			7/17/81			YMP-025-2-CIVIL-FLO1		
QUALITY ASSURANCE	E-16-91		YMP-O APPROVED			DATE			SHT		
NO. OF SHEETS	1, 2, 3, 1, 2										
DATE											

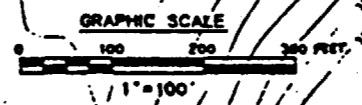
9305250071-07



**TS SOUTH PORTAL-GRADING PLAN**  
SCALE 1"=100'

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CARD  
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FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0202

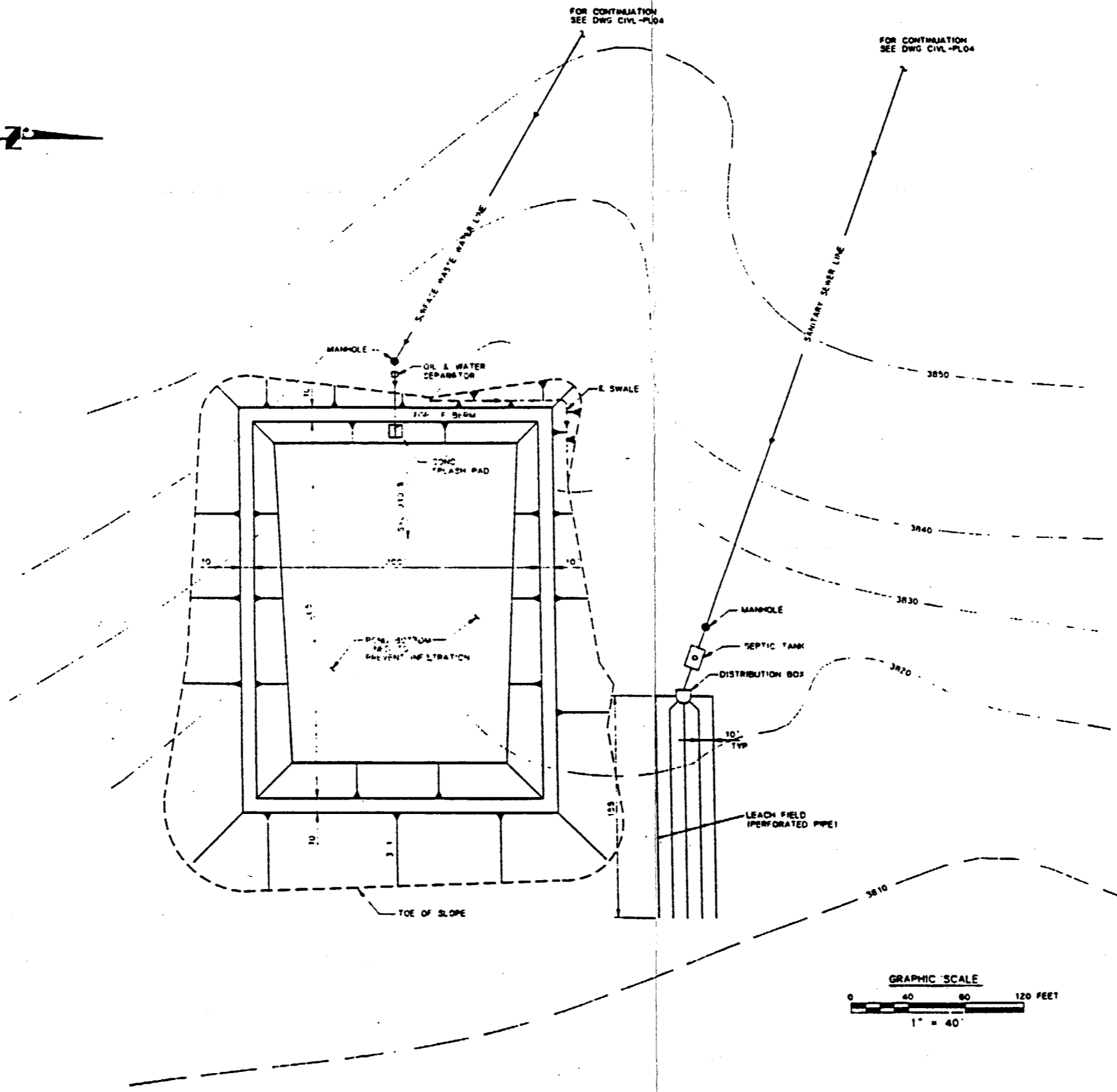


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<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
APPROVALS DESIGN: WFM CHECKED: J. F. W. DEC: W. J. H. DESIGN ORIGINATOR: B. C. H. VERIFICATION: N/A ENV: WFM SUP: WFM DRAWN BY: WFM WBS NO: 1202.12 CI NO:			<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA EXPLORATORY STUDIES FACILITY TS SOUTH PORTAL GENERAL ARRANGEMENT <b>GRADING PLAN</b> SUBMITTED BY: WFM DATE: 8-26-97 DRAWING NO: YMP-025-2-CIVL-GP01 YMP APPROVED:										
											DATE	SHT	OF

9305250071-08

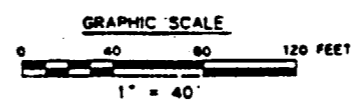
8 7 6 5 4 3 2 1

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CARD**  
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FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-GE02



**WASTE WATER FACILITIES SITE & GRADING PLAN**

SCALE 1"=40'

9305250071-09

NO	DATE	REVISION	DES	DRN	CHK	DEC	DM	WPT	ENV	SAP	GA	TPD	YMPD
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<b>APPROVALS</b>		<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA											
DESIGN	ROC	EXPLORATORY STUDIES FACILITY											
DRN	ROC	TS SOUTH PORTAL GENERAL ARRANGEMENT											
CHKD	ROC	WASTE WATER FACILITIES											
DESIGN	ROC	GRADING PLAN											
W. S. S. NO.	1, 2, 3, 1, 2	SUBMITTED BY: <i>[Signature]</i> DATE: 8-16-97 DRAWING NO.: YMP-025-2-CIVL-PL03 REV: 0											
YMPD APPROVED		DATE: _____ BY: _____ OF: _____											

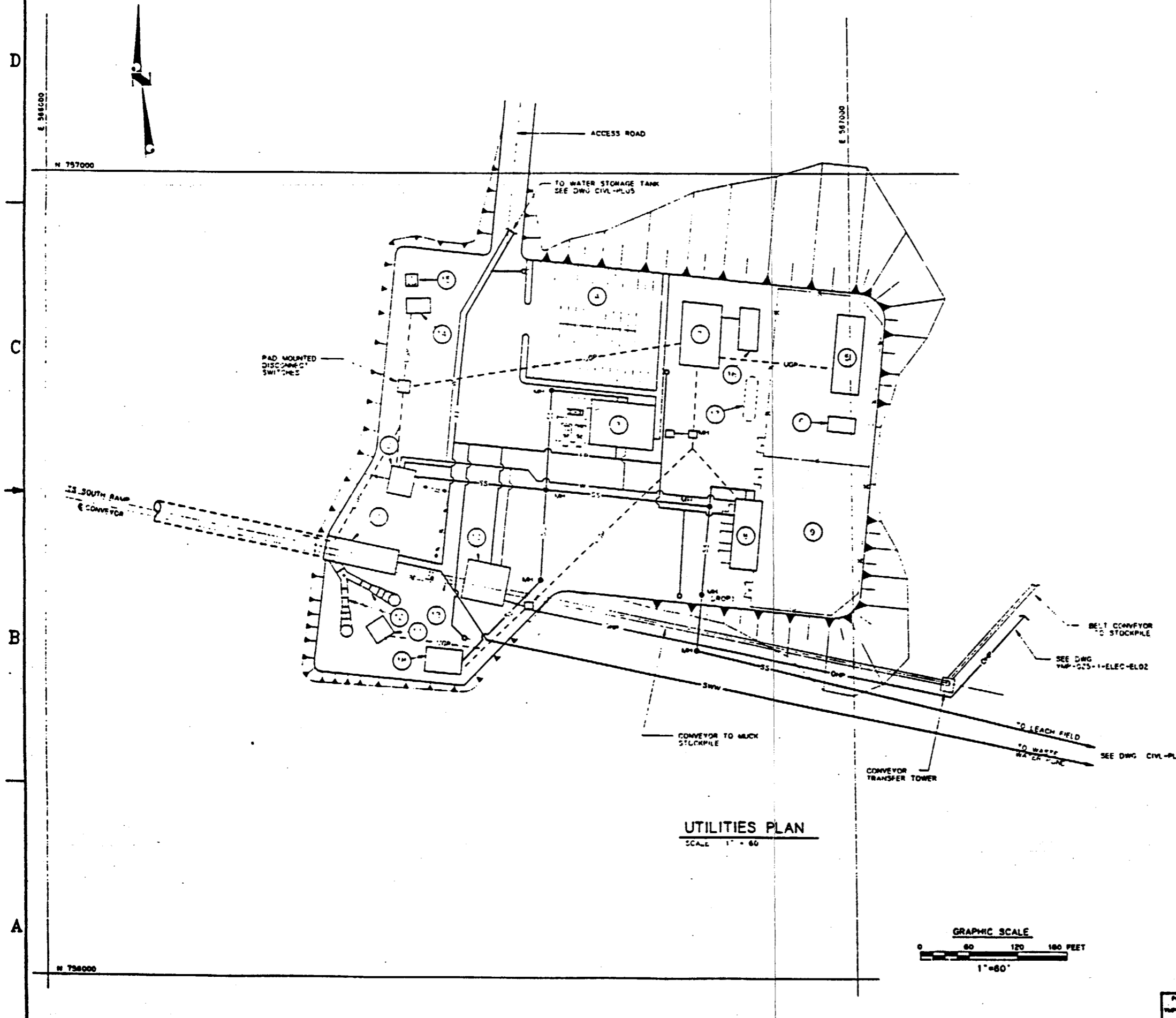
LEGEND

- ① SOUTH PORTAL AIRLOCK BLDG.
- ② PORTAL CONTROL CENTER BLDG.
- ③ CHANGE HOUSE BLDG.
- ④ EMPL PARKING AREA (50 CARS)
- ⑤ TRANSFORMER PAD
- ⑥ ELECTRICAL SUBSTATION CONTROL BLDG.
- ⑦ ELECTRICAL SWITCHGEAR BLDG.
- ⑧ SHOP / WAREHOUSE BLDG
- ⑨ OPEN STORAGE AREA
- ⑩ CONVEYOR DRIVE AND TRANSFER BLDG
- ⑪ VENT FANS HYDRAULIC CONTROL BLDG.
- ⑫ VENTILATION FANS
- ⑬ BELT CONVEYOR STEEL TUBE GALLERY
- ⑭ MICROWAVE COMMUNICATION BLDG.
- ⑮ MICROWAVE COMMUNICATION TOWER
- ⑯ GENERATOR PAD
- ⑰ UNDERGROUND FUEL STORAGE TANK
- ⑱ AIR COMPRESSOR PAD

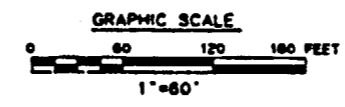
- FP — FIRE PROTECTION WATER LINE
- SWW — SURFACE WASTEWATER LINE
- SS — SANITARY SEWER LINE
- W — POTABLE WATER LINE
- SM — SANITARY SEWER MANHOLE
- FH — FIRE HYDRANT
- EM — ELECTRICAL MANHOLE
- PP — POWER POLE W/ GUY ANCHORS
- OP — OVERHEAD POWER LINE
- ULP — UNDERGROUND POWER LINE

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FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0E02



UTILITIES PLAN  
SCALE 1" = 60'



NO	DATE	REVISION	DES	DWG	CHK	DEC	DR	VPY	DW	SAP	QA	TPD	YMP
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
APPROVALS		<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA											
DESIGN	RC	EXPLORATORY STUDIES FACILITY TS SOUTH PORTAL GENERAL ARRANGEMENT SOUTH PORTAL <b>UTILITIES PLAN</b>											
DRAWN	TAM	SUBMITTED BY: <i>[Signature]</i> DATE: 9-28-91 DRAWING NO.: YMP-025-2-CIVL-PL04 REV: 0											
CHECKED	<i>[Signature]</i>	TYPED APPROVED: <i>[Signature]</i> DATE: 9-28-91											
DE SIGN	3, CV	YMP-025-2-CIVL-0E02											
VERIFICATION	N/A	DATE: _____ BY: _____											

9305250071-10

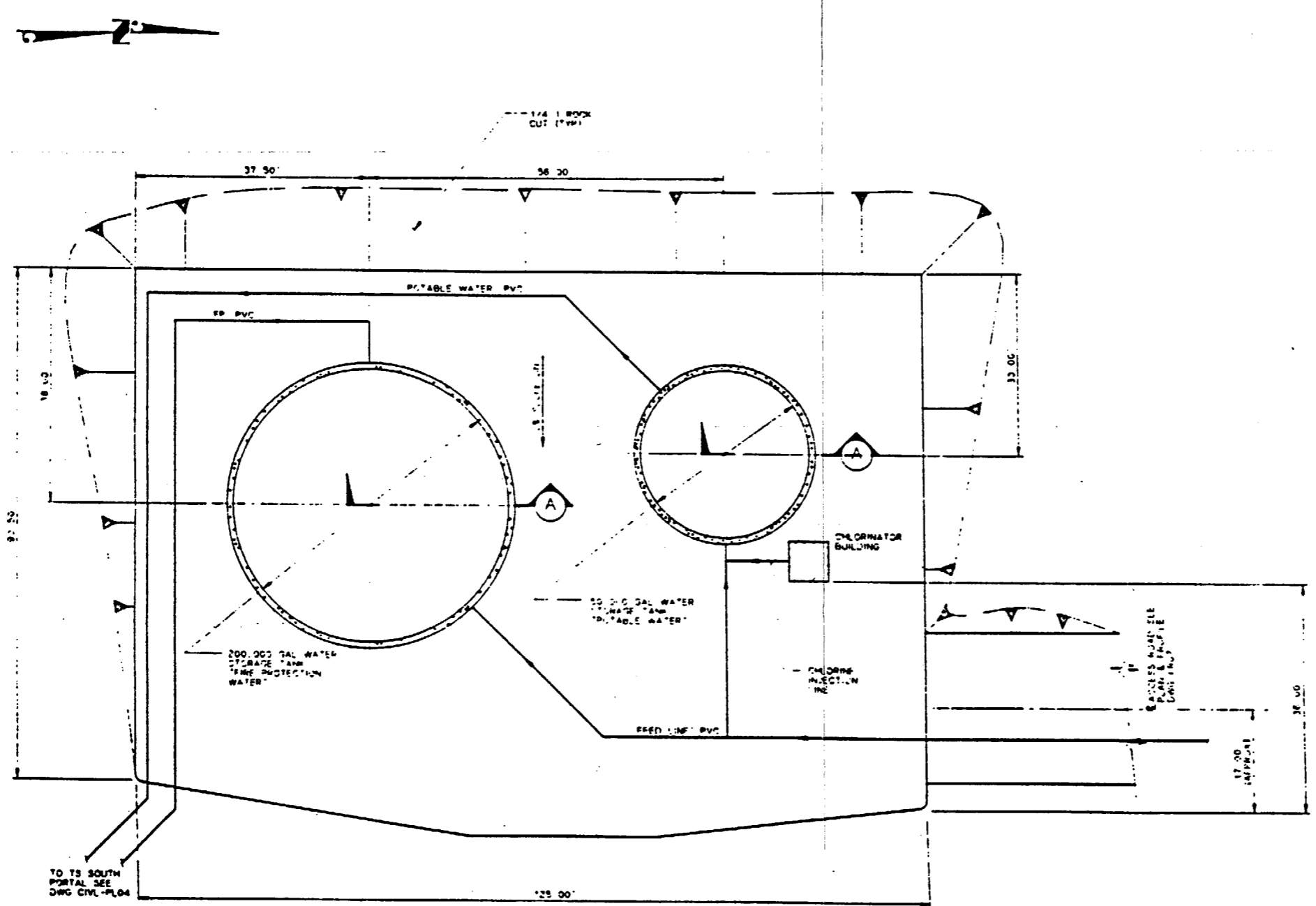


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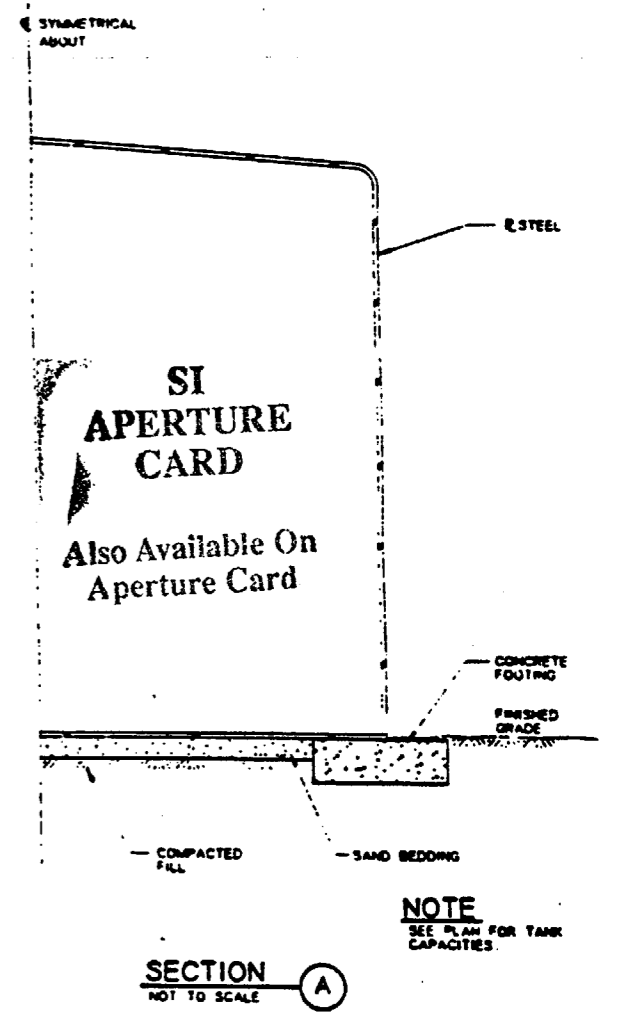
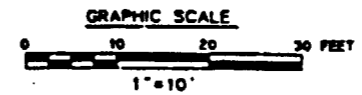
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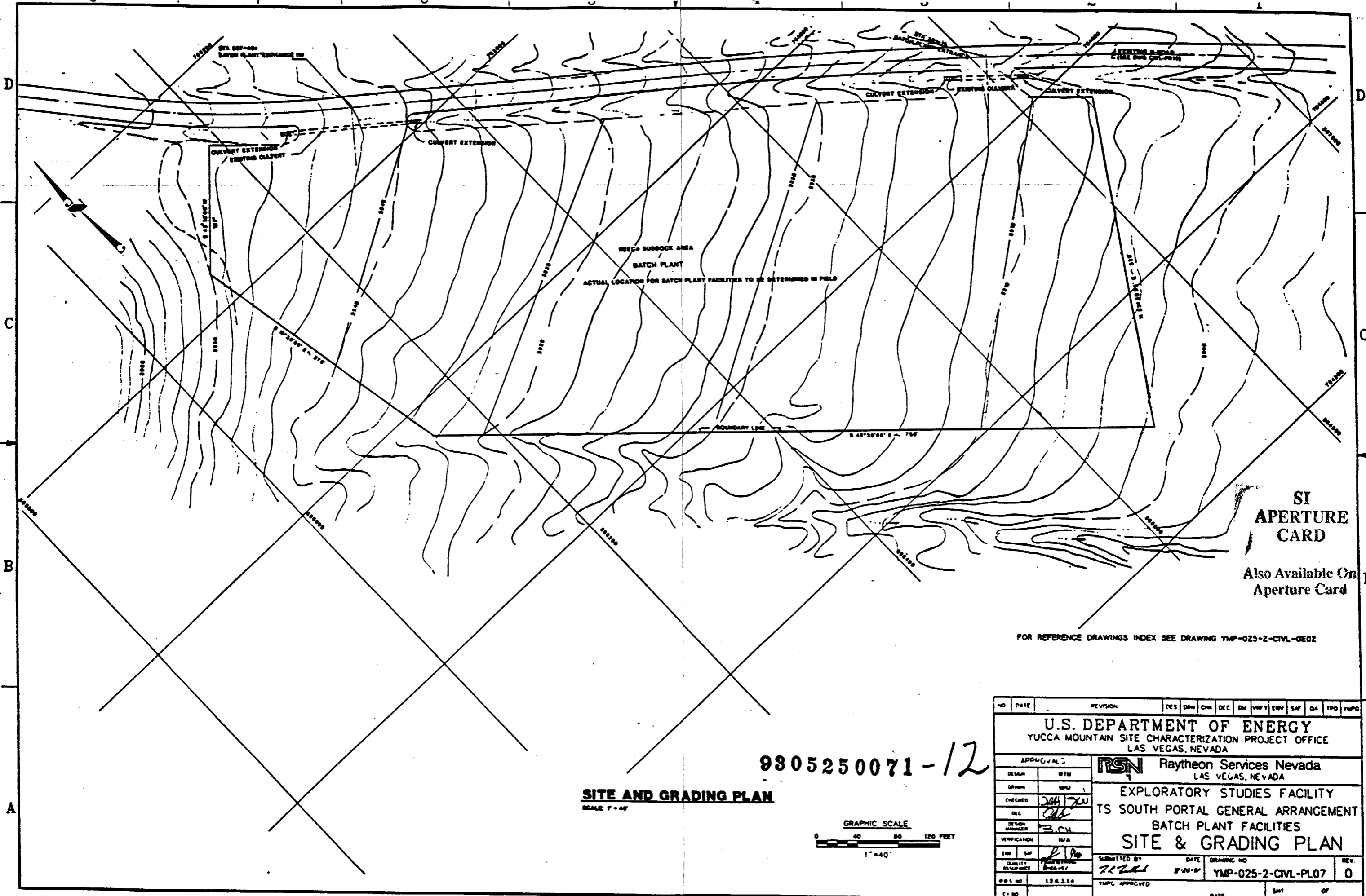
**WATER STORAGE TANK SITE & GRADING PLAN**  
SCALE 1" = 10'

9805250071-11



FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-GE02

NO	DATE	REVISION	DES	DRW	CHK	DEC	DM	VPY	EMV	SAP	GA	TPD	YMP
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APPROVALS			<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA										
DESIGN	ILL												
DRWN	CLG												
CHECKED	<i>[Signature]</i>												
SEC	<i>[Signature]</i>												
DESIGN MODIFIER	<i>[Signature]</i>												
VERIFICATION	N/A												
QNTY	SAF												
QUALITY ASSURANCE	<i>[Signature]</i>												
SUBMITTED BY		DATE	DRAWING NO.		REV								
<i>[Signature]</i>		8-24-91	YMP-025-2-CIVL-PL05		0								
YMPD APPROVED		DATE	SNT		OF								
<i>[Signature]</i>													



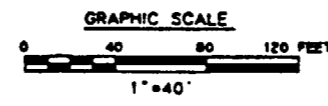
REC. SUBDOCK AREA  
 BATCH PLANT  
 ACTUAL LOCATION FOR BATCH PLANT FACILITIES TO BE DETERMINED IN FIELD

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 CARD  
 Also Available On  
 Aperture Card

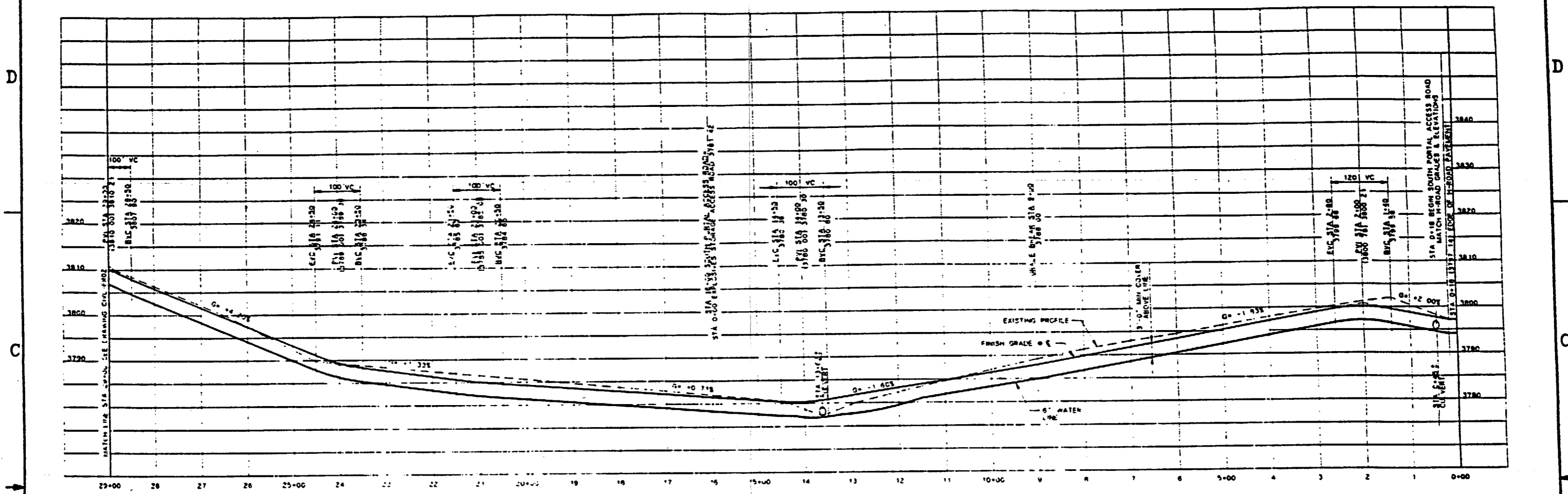
FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0E02

9805250071-12

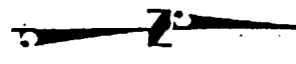
**SITE AND GRADING PLAN**  
 SCALE 1"=40'



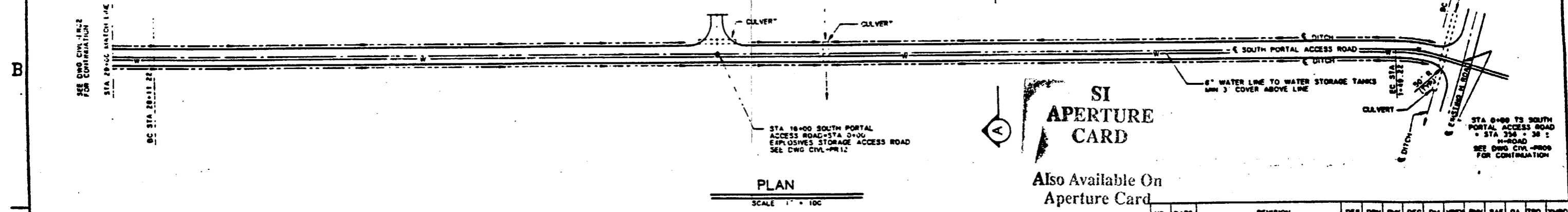
NO	DATE	REVISION	YES	DRN	CON	DEC	EN	WVY	ENV	SAF	QA	TPD	YMPD
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
APPROVALS		<b>RSN</b> Raytheon Services Nevada LAS VEGAS, NEVADA											
DESIGN	WTM	EXPLORATORY STUDIES FACILITY TS SOUTH PORTAL GENERAL ARRANGEMENT BATCH PLANT FACILITIES <b>SITE &amp; GRADING PLAN</b>											
DESIGN NUMBER	3.04												
VERIFICATION	N/A												
ENR	SAF												
QUALITY CONTROL	6-26-91	SUBMITTED BY <i>[Signature]</i>		DATE 8-26-91		DRAWING NO YMP-025-2-CIVL-PL07				REV 0			
WBS NO	1.2.6.3.1.4	YMP APPROVED											
CI NO		DATE											



P1 STA 1+00  
 Δ = 17° 30' 00" LT  
 P = 324.86  
 Y = 50.88  
 L = 98.22'

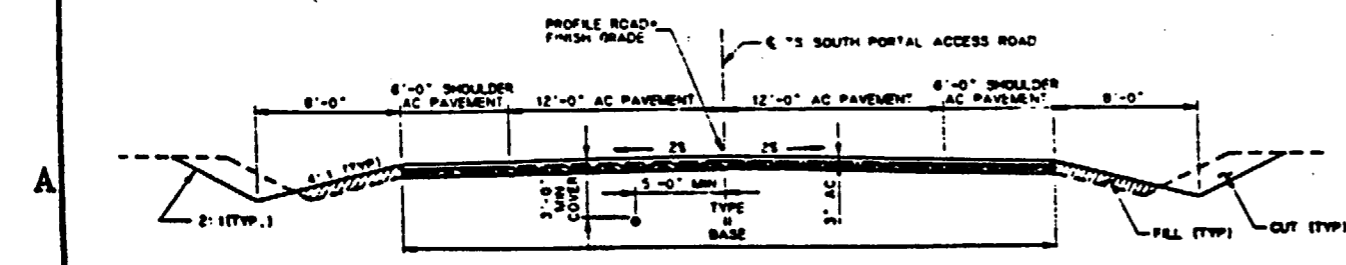


**PROFILE**  
 SCALE 1" = 100' HORIZ 1" = 10' VERT



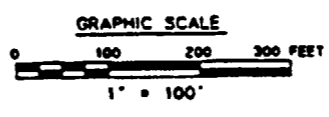
**PLAN**  
 SCALE 1" = 100'

Also Available On Aperture Card



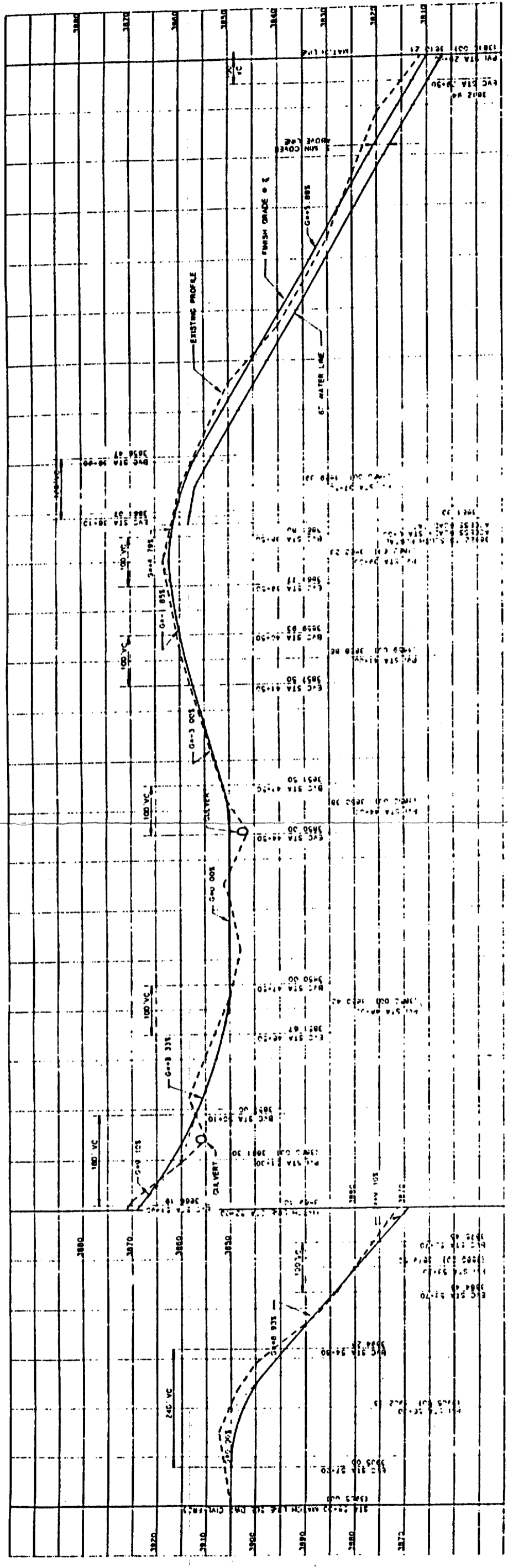
**TYPICAL ROAD SECTION A**  
 SCALE 1" = 5'

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-GE02

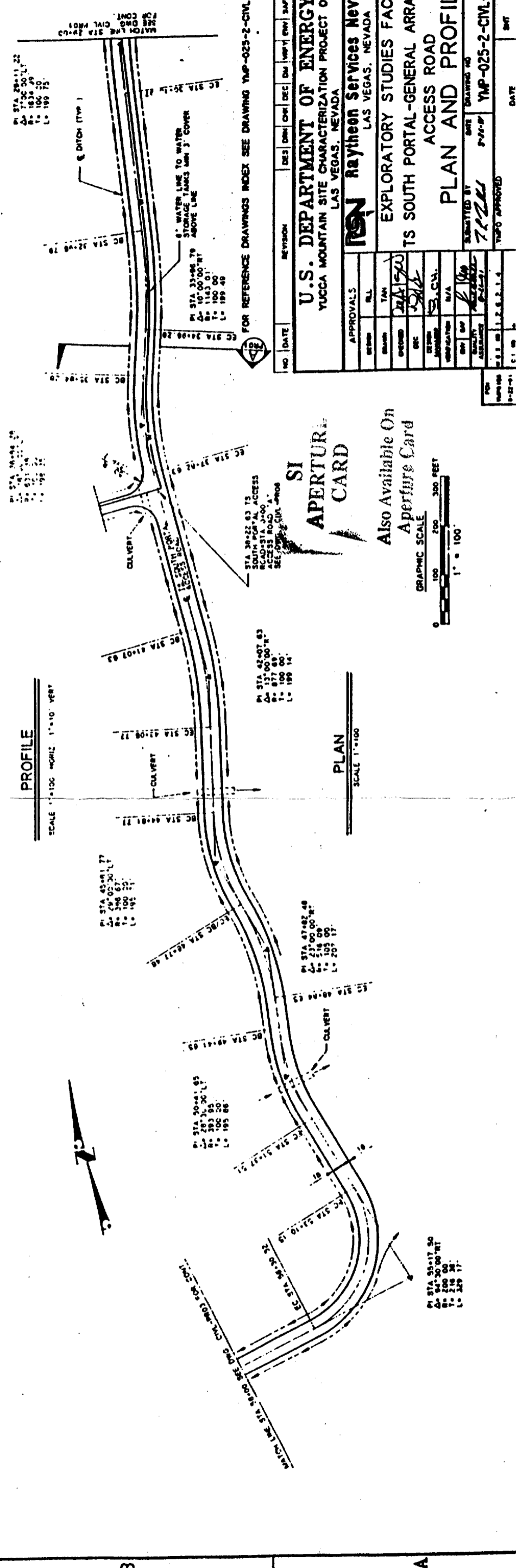


NO	DATE	REVISION	DES	DRN	CHK	DEC	DR	INSP	ENV	SAF	QA	TPD	YMP
<b>U.S. DEPARTMENT OF ENERGY</b>													
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
<b>APPROVALS</b>			<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA										
DESIGN	RL		<b>EXPLORATORY STUDIES FACILITY</b> TS SOUTH PORTAL-GENERAL ARRANGEMENT <b>ACCESS ROAD</b> <b>PLAN AND PROFILE</b>										
DRAWN	TAN												
CHECKED	JMK												
SEC	JMK												
DESIGN MANAGER	S. CH.												
VERIFICATION	N/A		SUBMITTED BY: <i>[Signature]</i> DATE: 7-26-99 DRAWING NO: YMP-025-2-CIVL-PR01 REV: 0										
ENV SAF	[Signature]		YMPD APPROVED										
QUALITY ASSURANCE	[Signature]		DATE: [ ] BY: [ ]										

9305250071-13



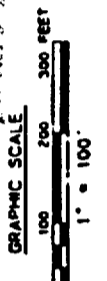
**PROFILE**  
SCALE 1"=100' HORIZ. 1"=10' VERT.



**PLAN**  
SCALE 1"=100'

**SI APERTURE CARD**

Also Available On  
**Aperture Card**



FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0602

NO.	DATE	REVISION	DES.	CHK.	DEC.	DR.	APP.	BY	DATE

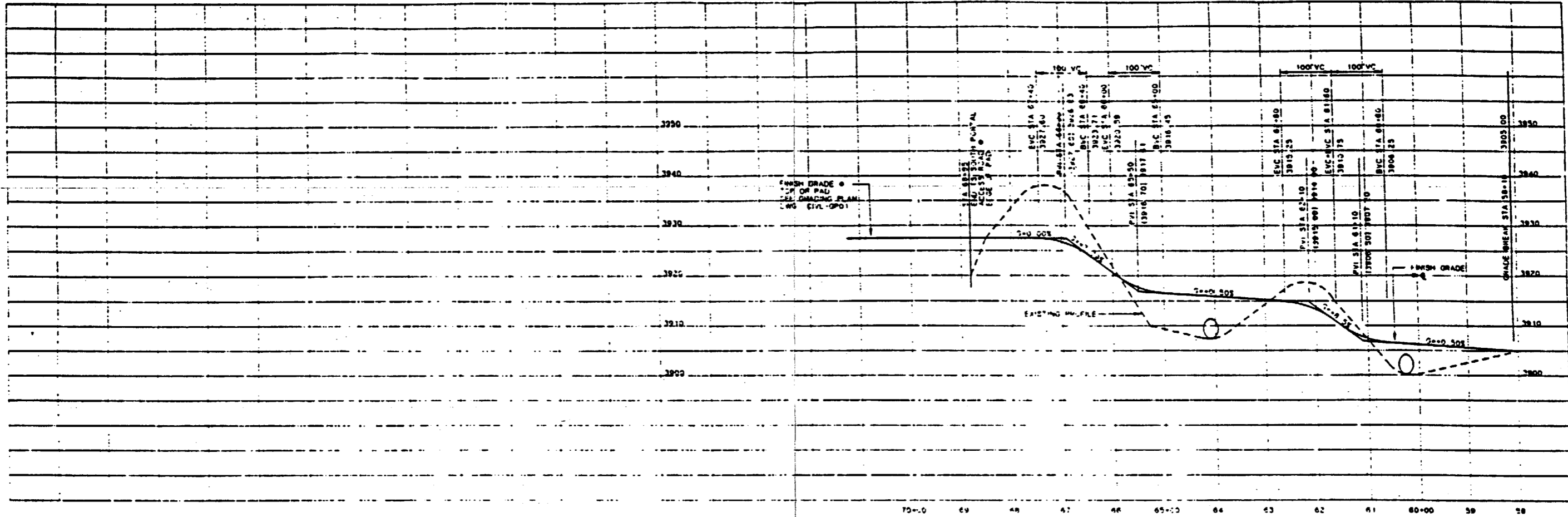
  

APPROVALS	
DESIGNED	BY: J.A.S.
CHECKED	BY: J.S.
DATE	
DESIGNED	BY: J.A.S.
CHECKED	BY: J.S.
DATE	
DESIGNED	BY: J.A.S.
CHECKED	BY: J.S.
DATE	

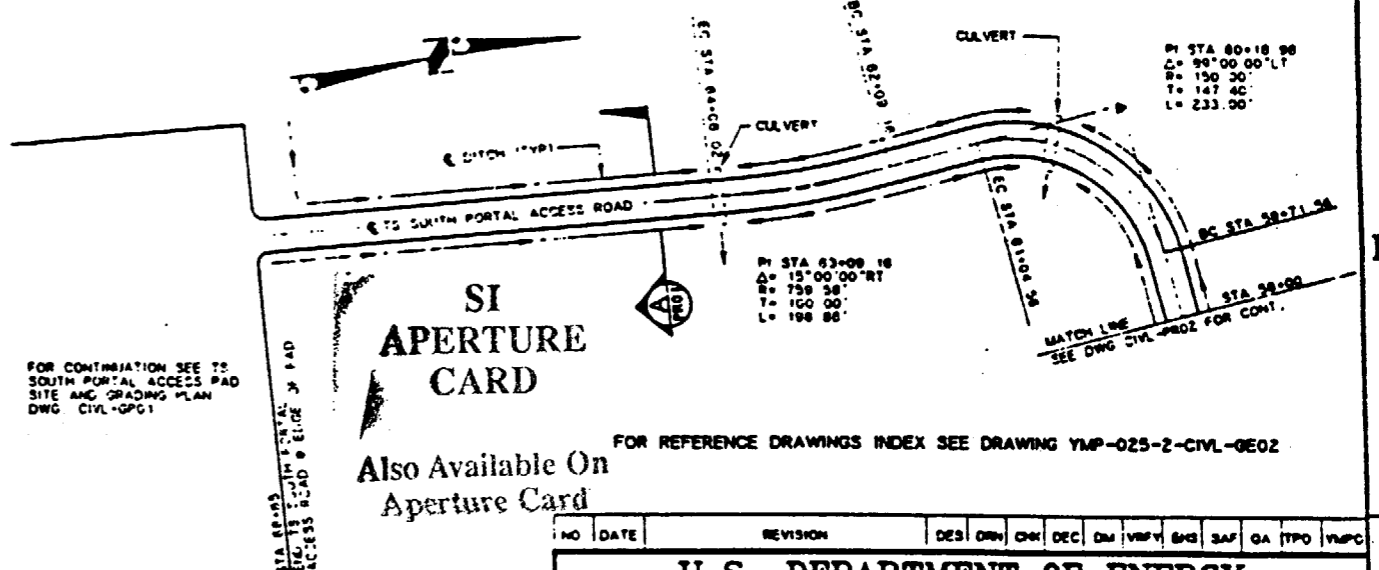
U.S. DEPARTMENT OF ENERGY	YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE
LAS VEGAS, NEVADA	
<b>Raytheon Services Nevada</b>	
LAS VEGAS, NEVADA	
EXPLORATORY STUDIES FACILITY	
TS SOUTH PORTAL-GENERAL ARRANGEMENT	
ACCESS ROAD	
<b>PLAN AND PROFILE</b>	
DATE	
BY	
CHKD	
APP'D	
DATE	

9305250071-14



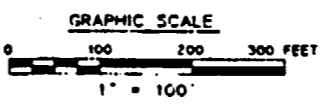
**PROFILE**

SCALE 1" = 100' HORIZ. 1" = 10' VERT.



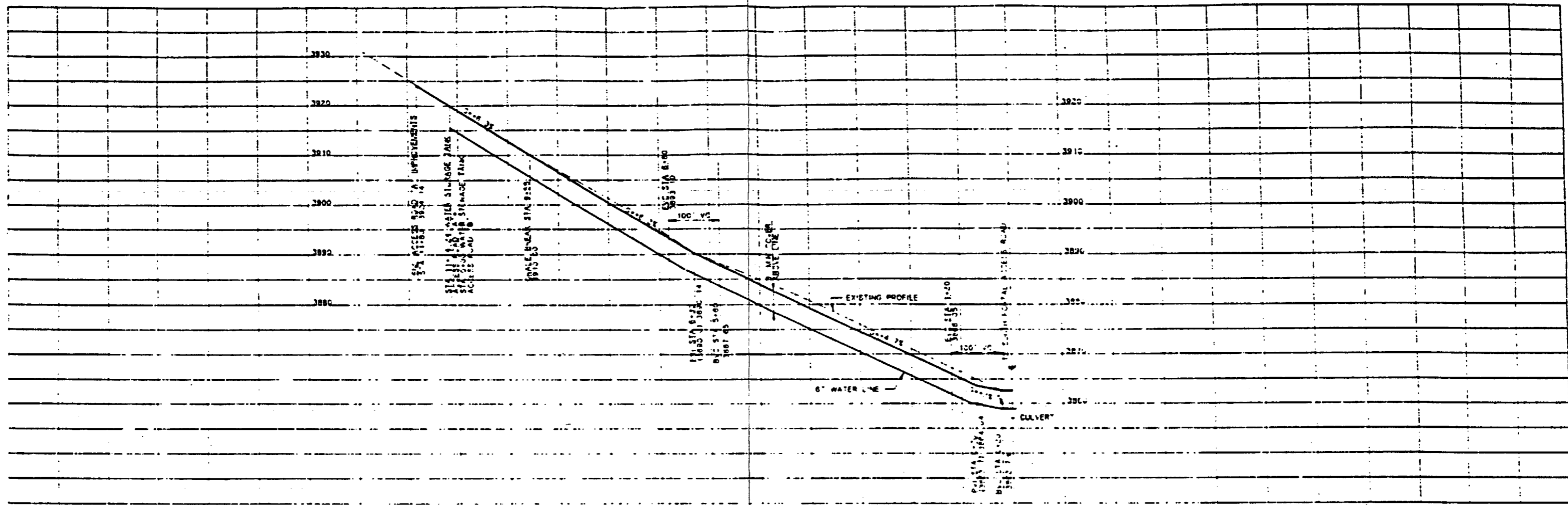
**PLAN**

SCALE 1" = 100'



9305250071-15

NO	DATE	REVISION	DES	DRN	CHK	DEC	DM	VER	ENG	SAF	QA	TPO	YMP/C
<b>U.S. DEPARTMENT OF ENERGY</b>													
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
APPROVALS			<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA										
DESIGN	REL	EXPLORATORY STUDIES FACILITY TS SOUTH PORTAL GENERAL ARRANGEMENT <b>PLAN AND PROFILE</b>											
DRAWN	TAM												
CHECKED	<i>[Signature]</i>												
DEC	<i>[Signature]</i>												
DESIGN MANAGER	<i>[Signature]</i>												
VERIFICATION	N/A	SUBMITTED BY		DATE		DRAWING NO		REV					
ENR	SAF	<i>[Signature]</i>		8-21-91		YMP-025-2-CIVL-PRO3		0					
QUALITY ASSURANCE	<i>[Signature]</i>	YMP/C APPROVED		DATE		BY		OF					
FOR YMP/C USE	DATE	DATE		BY		OF							
6-21-91													

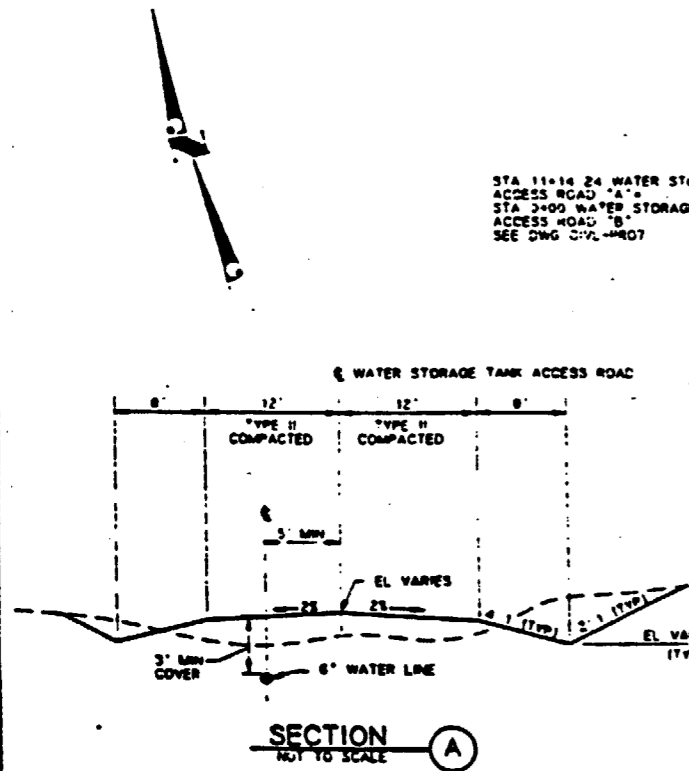


**PROFILE**  
SCALE 1"=100' HORIZ 1"=10' VERT

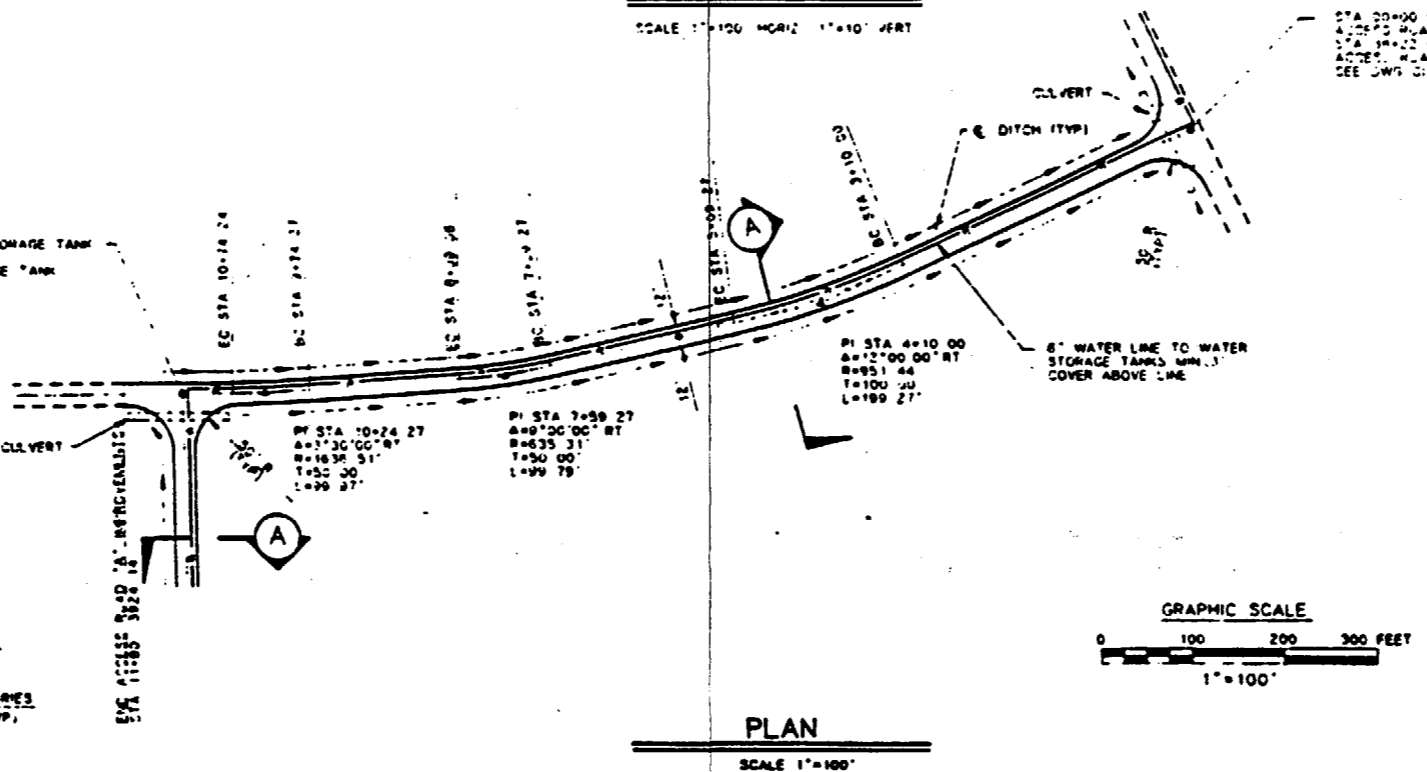
**SI APERTURE CARD**

Also Available On Aperture Card

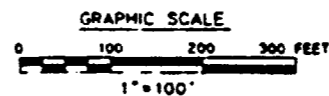
FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0E02



**SECTION A**  
NOT TO SCALE

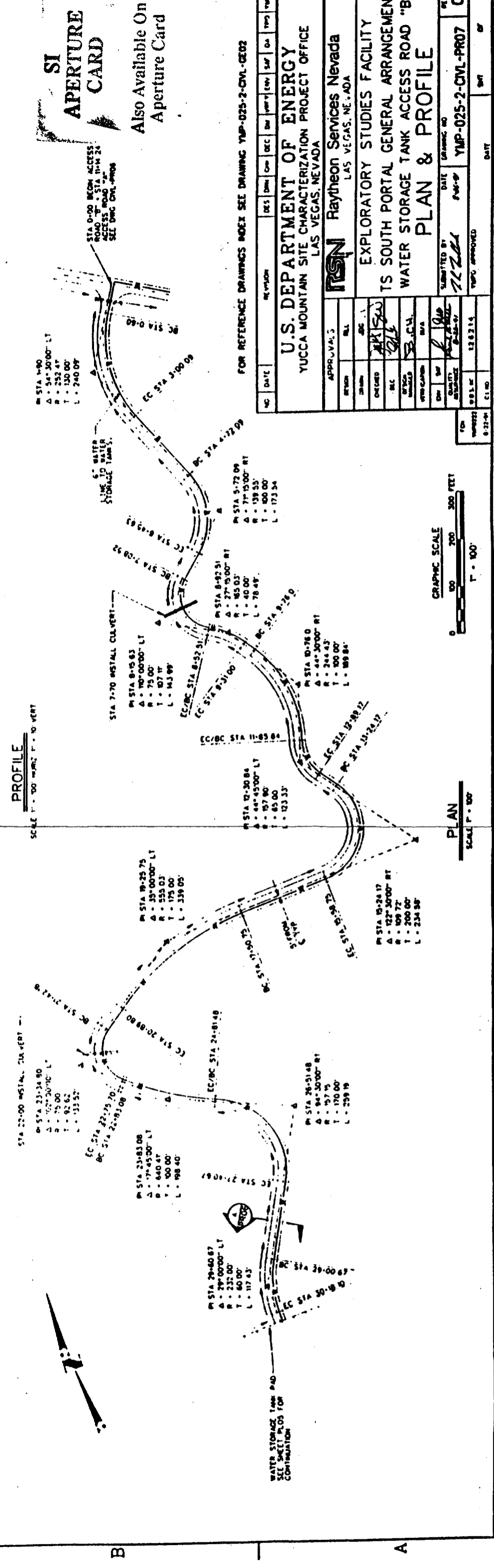
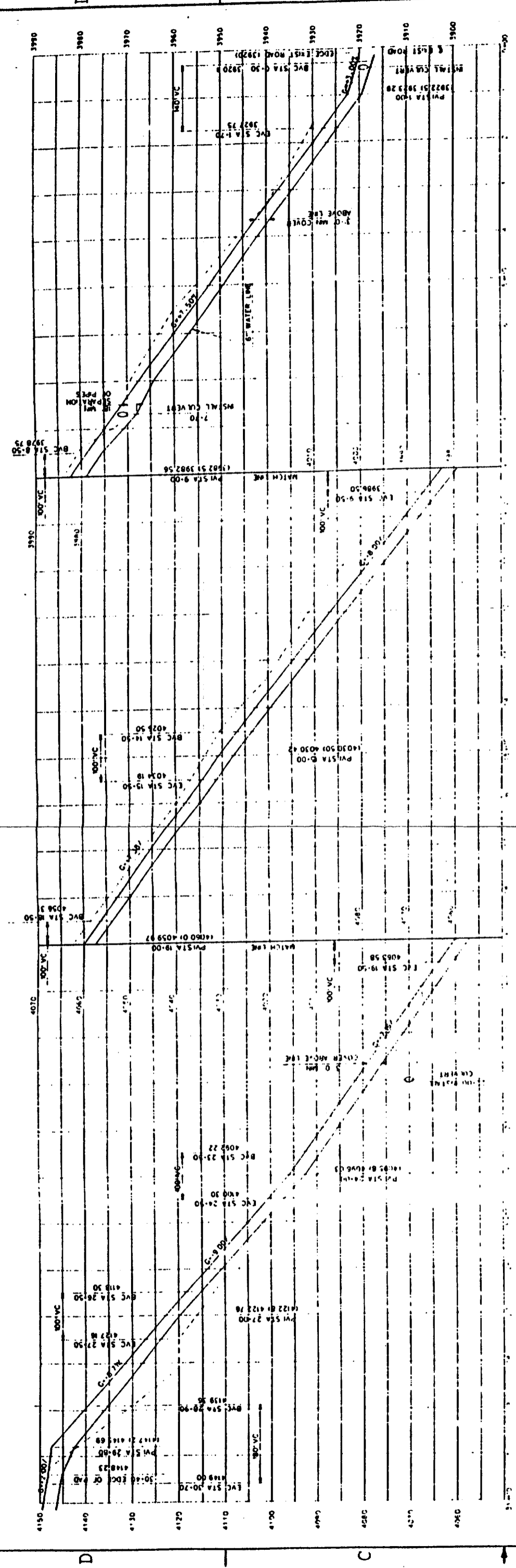


**PLAN**  
SCALE 1"=100'



NO	DATE	REVISION	DES	DRN	CHK	ENR	DM	VERF	ENV	SAP	QA	TPD	YMPD
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA													
<b>EXPLORATORY STUDIES FACILITY</b> TS SOUTH PORTAL GENERAL ARRANGEMENT WATER STORAGE TANK ACCESS ROAD 'A' <b>PLAN &amp; PROFILE</b>													
APPROVALS													
DESIGN	ILL												
DRAWN	MMH												
CHECKED	<i>[Signature]</i>												
ENR	<i>[Signature]</i>												
DESIGN MANAGER	S.C.W.												
VERIFICATION	N/A												
ENR	SAF												
QUALITY ASSURANCE	<i>[Signature]</i>												
SUBMITTED BY <i>[Signature]</i> DATE 7-22-91 DRAWING NO. YMP-025-2-CIVL-PR06 REV. 0													
YMPD APPROVED													
DATE													
SNT													

9305250071-16

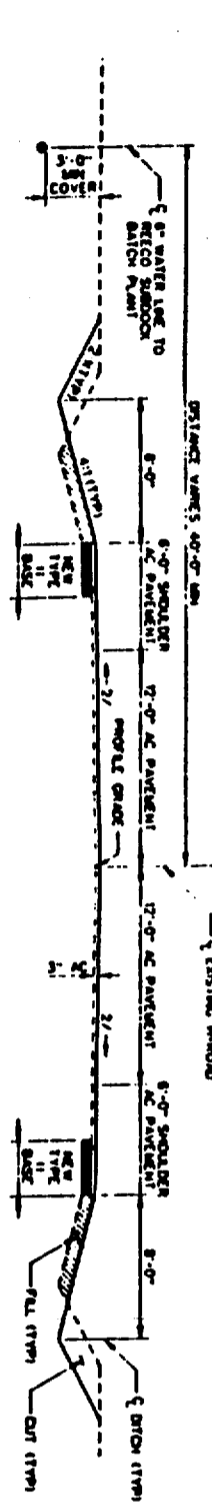
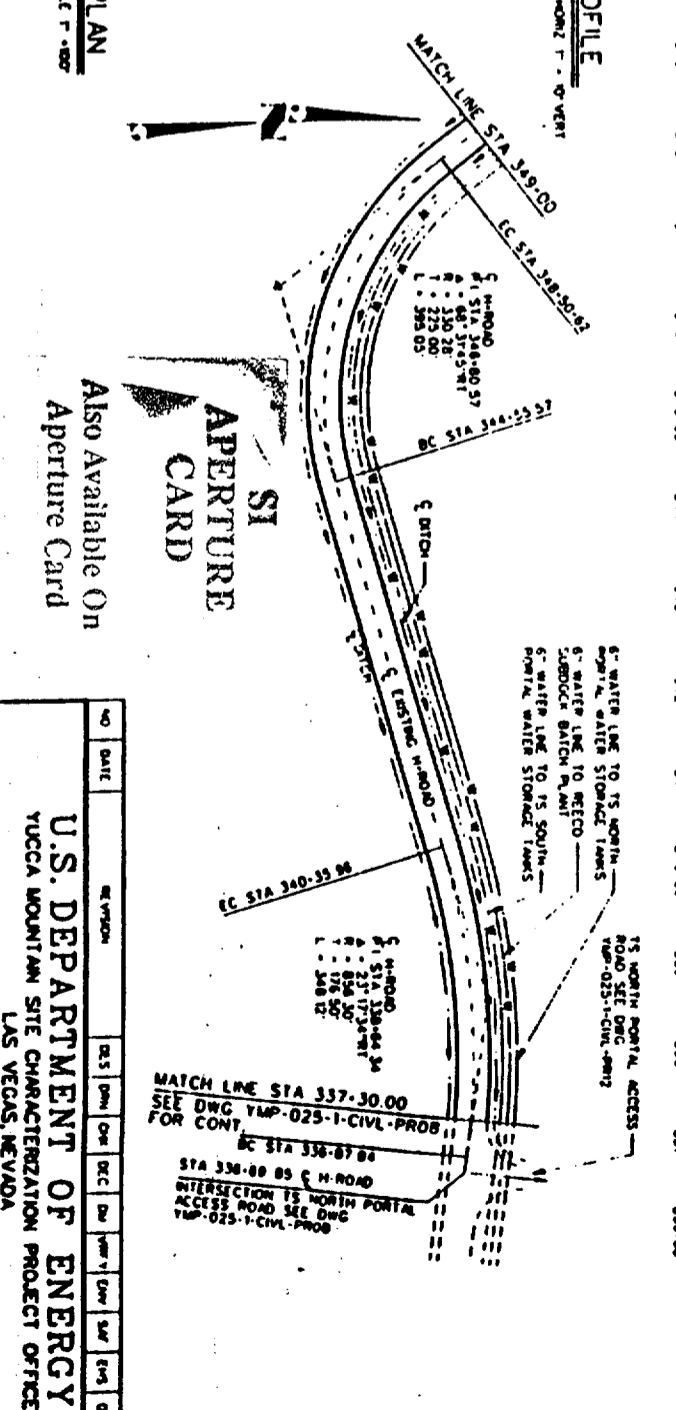
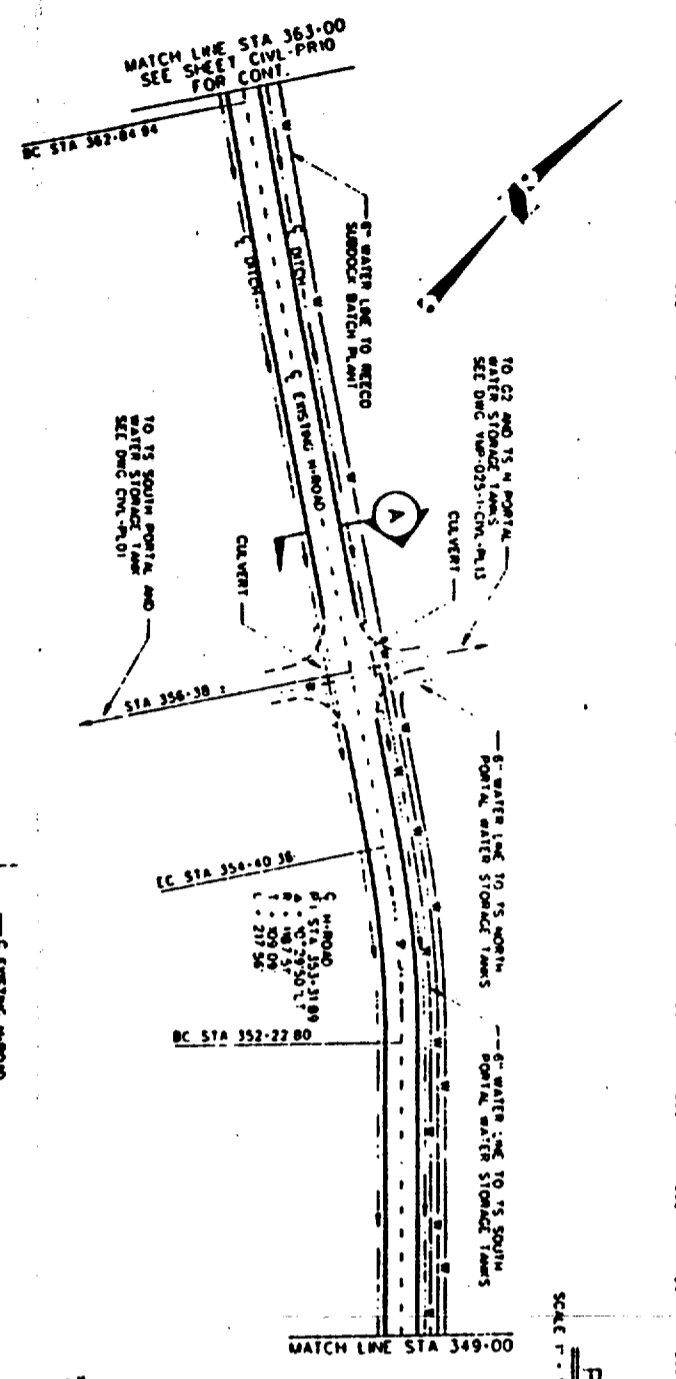
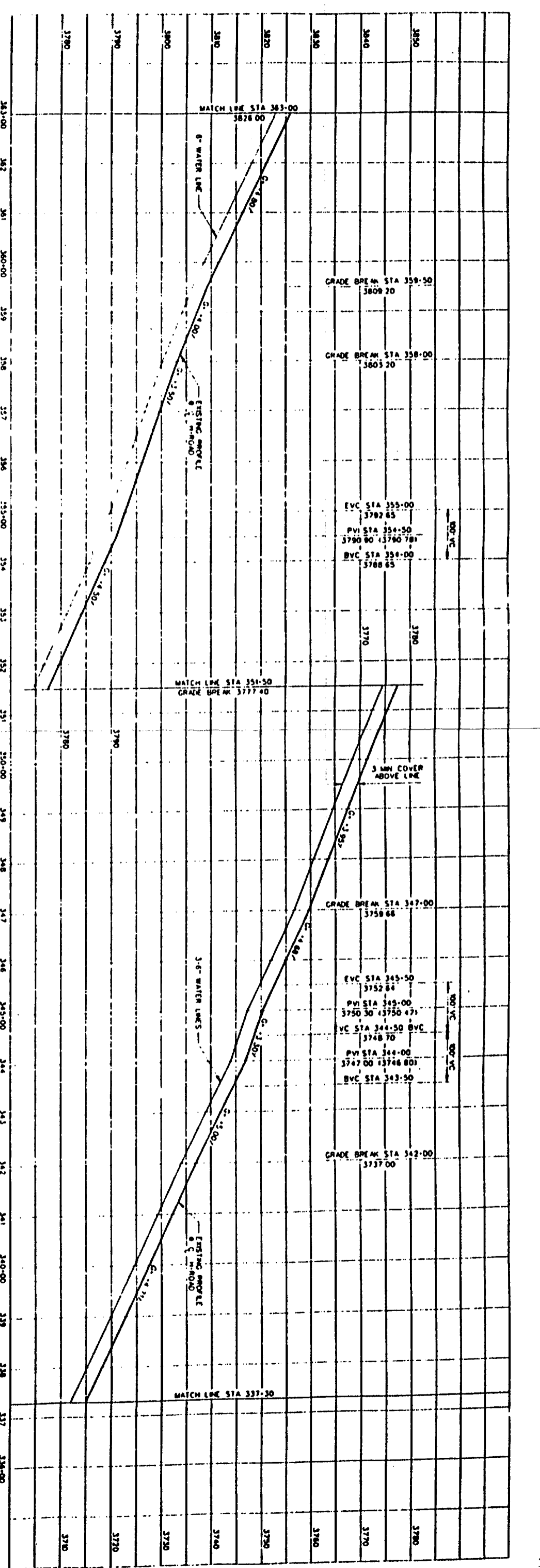


**SI APERTURE CARD**  
Also Available On Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CVL-GE02

U.S. DEPARTMENT OF ENERGY YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA		RAYTHEON SERVICES NEVADA LAS VEGAS, NEVADA	
APPROVALS	DESIGN	DATE	DATE
DESIGNED BY: <i>[Signature]</i>	DATE: 12/21/97	APPROVED BY: <i>[Signature]</i>	DATE: 12/21/97
CHECKED BY: <i>[Signature]</i>		DATE: 12/21/97	
SCALE			
PROJECT NO.			
DRAWN BY: <i>[Signature]</i>			
DATE: 12/21/97			
SCALE: 1" = 100'			
PROJECT NO.: YMP-025-2-CVL-PR07			
DATE: 12/21/97			
SCALE: 1" = 100'			

9305250071 - 17



9805250071-18

FOR REFERENCE DRAWING BOX SEE YMP-025-2-CIVL-CE02

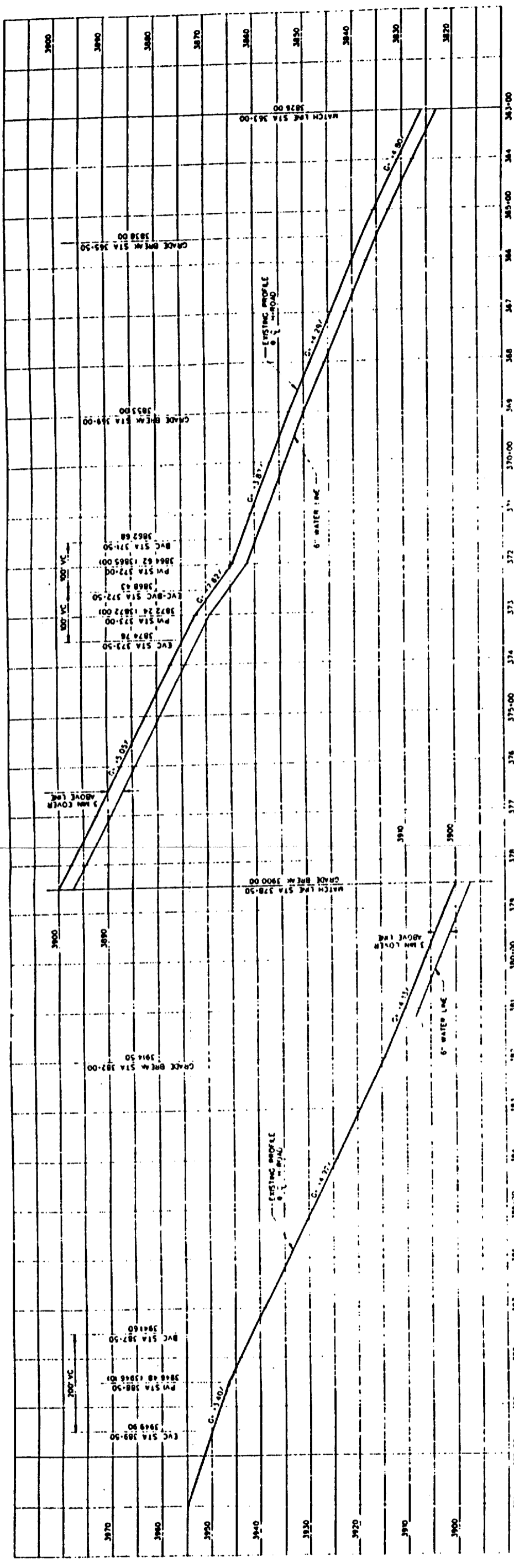
GRAPHIC SCALE  
0 100 200 300 FEET  
1" = 100'

APPROVALS		DESIGNED BY		CHECKED BY		DATE	
NO.	DATE	REVISED	BY	DATE	BY	DATE	BY

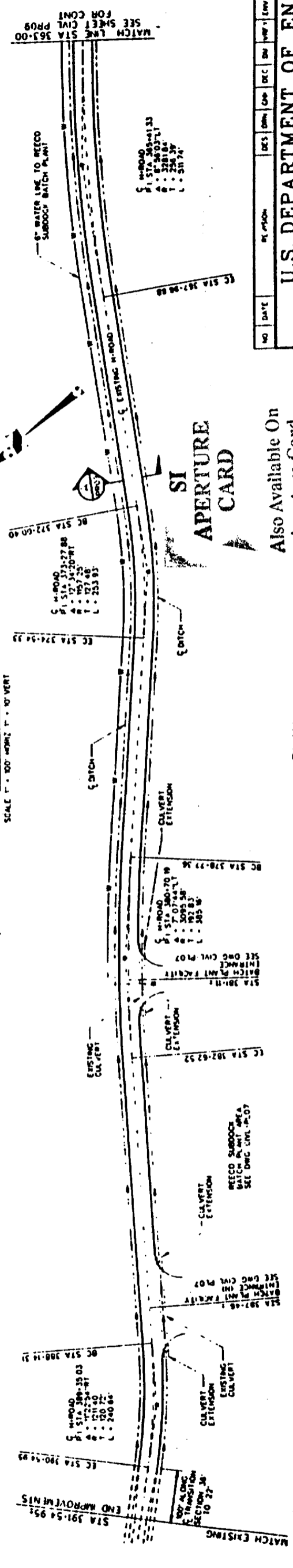
  

U.S. DEPARTMENT OF ENERGY YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA	<b>RSN</b> Raytheon Services Nevada LAS VEGAS, NEVADA
EXPLORATORY STUDIES FACILITY TS SOUTH PORTAL-GENERAL ARRANGEMENTS H-ROAD IMPROVEMENTS PLAN AND PROFILE	SUBMITTED BY: [Signature] DATE: 9-25-97 DRAWING NO: YMP-025-2-CIVL-PR09 TPO APPROVED: [Signature] DATE: 10-27-97





**PROFILE**  
SCALE 1" = 100' HORIZ. 1" = 10' VERT.

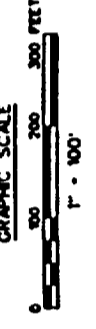


**PLAN**  
SCALE 1" = 100'

Also Available On Aperture Card

9805250071-19

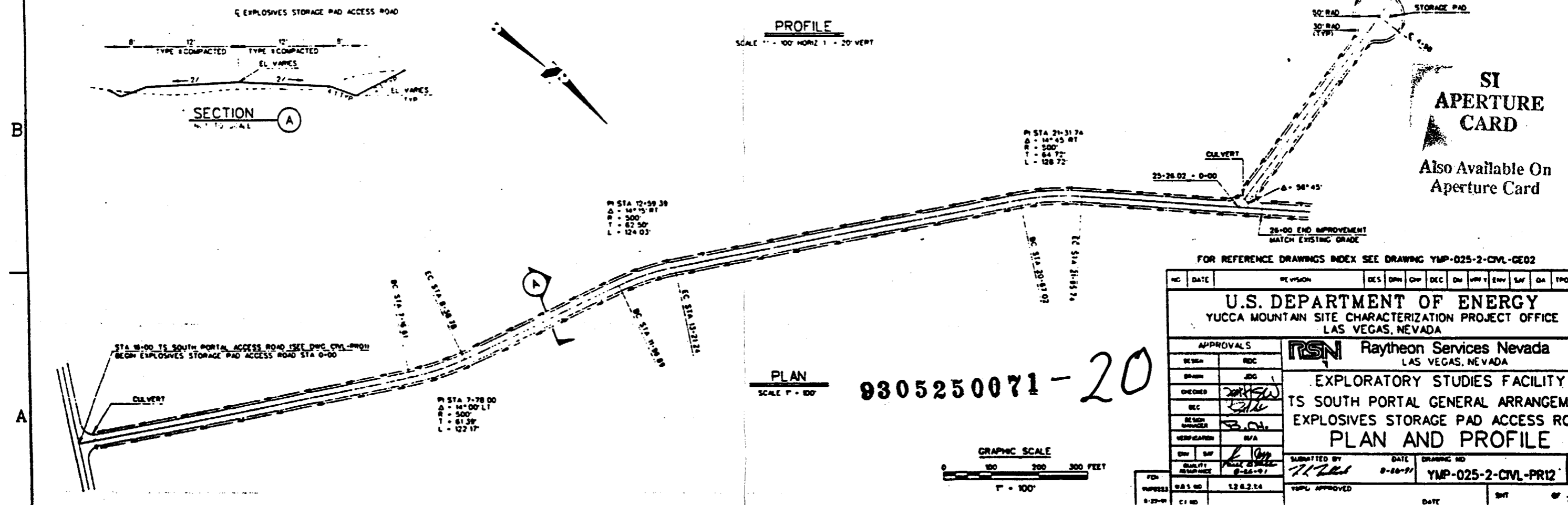
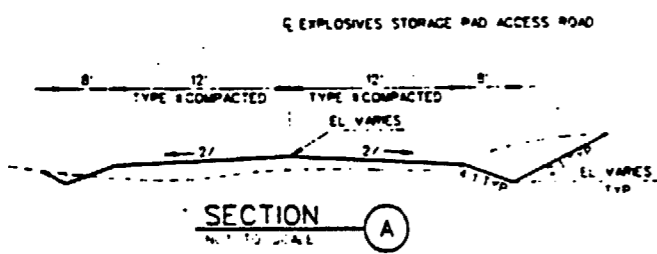
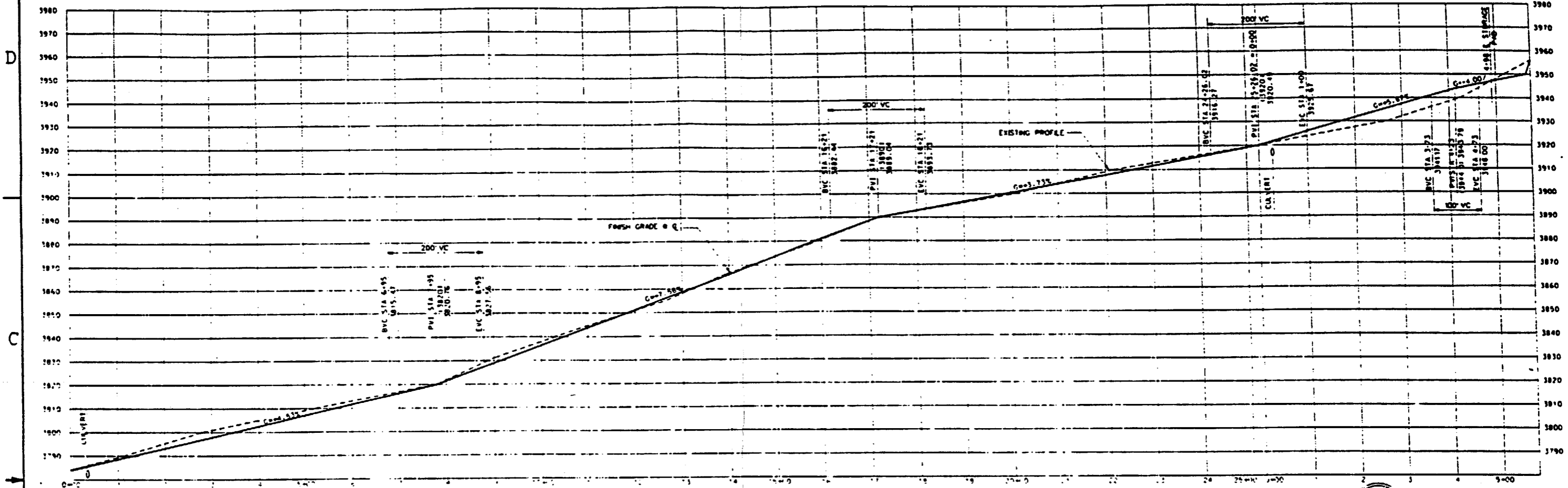
FOR REFERENCE DRAWING INDEX SEE YMP-025-2-CIVL-GE02



NO.	DATE	REVISION	DES.	CHK.	APP.	INSP.	CON.	CA.	TRK.

<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA		<b>RSN</b> Raytheon Services Nevada LAS VEGAS, NEVADA	
EXPLORATORY STUDIES FACILITY H-ROAD IMPROVEMENTS <b>PLAN AND PROFILE</b>			
APPROVALS	DATE	DATE	DATE
DESIGNER	DATE	DATE	DATE
CHECKED	DATE	DATE	DATE
DESIGNED	DATE	DATE	DATE
REVISIONS	DATE	DATE	DATE
NO.	DATE	DESCRIPTION	BY
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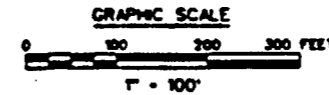
**SI APERTURE CARD**

Also Available On Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CVL-GE02

NO.	DATE	REVISION	DES.	DRN.	CHK.	DEC.	DR.	APP.	ENR.	SAF.	QA	TRD.
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA												
APPROVALS			<b>RSN</b> Raytheon Services Nevada LAS VEGAS, NEVADA									
DESIGN	DOC		<b>EXPLORATORY STUDIES FACILITY</b> <b>TS SOUTH PORTAL GENERAL ARRANGEMENT</b> <b>EXPLOSIVES STORAGE PAD ACCESS ROAD</b> <b>PLAN AND PROFILE</b>									
DRN.	JDC											
CHECKED	[Signature]											
DEC.	[Signature]											
DESIGN MANAGER	[Signature]											
VERIFICATION	N/A											
CHK.	SAF.	SUBMITTED BY: [Signature] DATE: 8-26-91 DRAWING NO: YMP-025-2-CVL-PR12										
QUALITY ASSURANCE	YMP APPROVED											
DATE	DATE											

9305250071-20



**LEGEND**

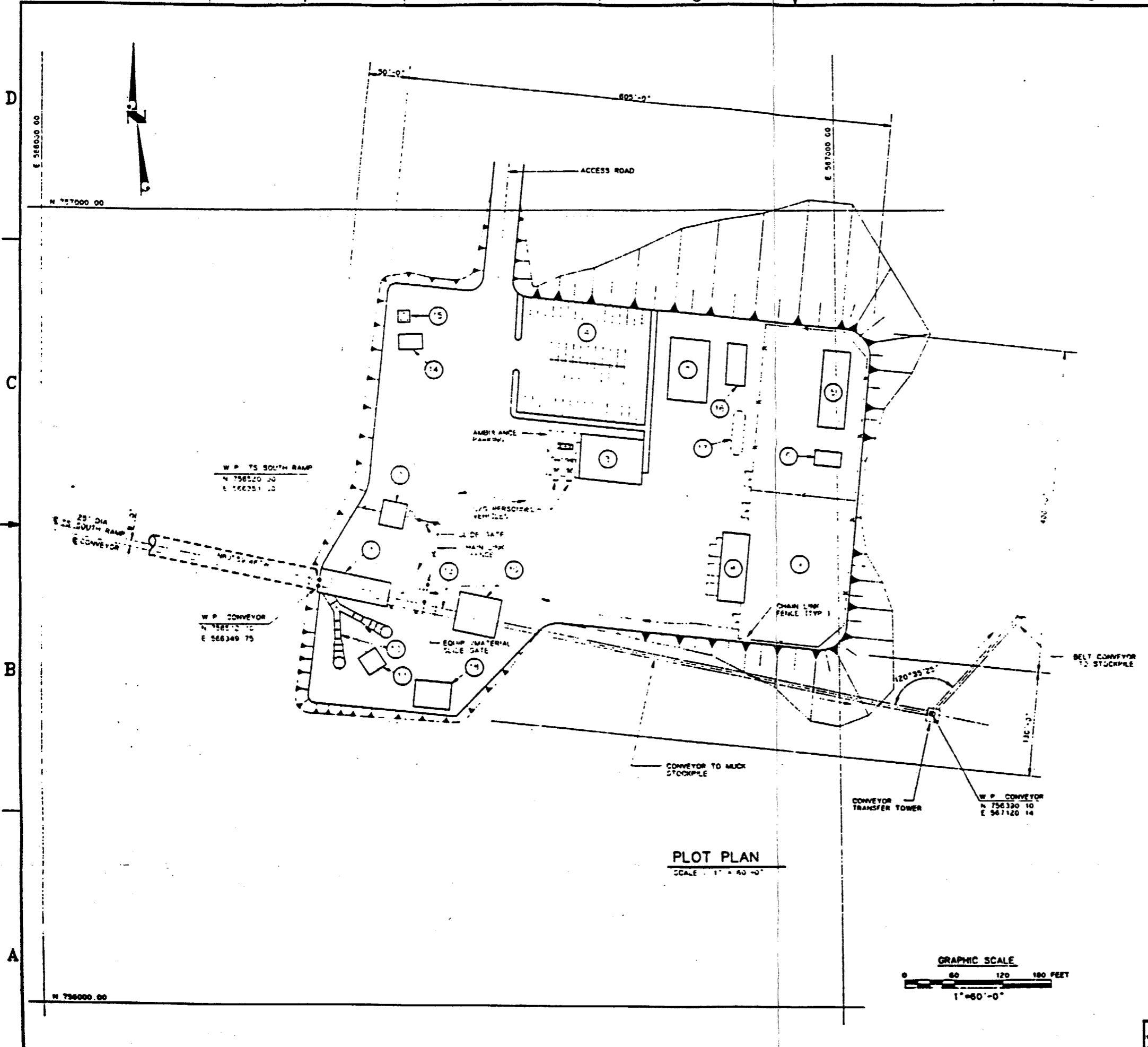
- ① SOUTH PORTAL AIRLOCK BLDG.
- ② PORTAL CONTROL CENTER BLDG.
- ③ CHANGE HOUSE BLDG
- ④ EMPL. PARKING AREA (50 CARS)
- ⑤ TRANSFORMER PAD
- ⑥ ELECTRICAL SUBSTATION CONTROL BLDG.
- ⑦ ELECTRICAL SWITCHGEAR BLDG.
- ⑧ SHOP / WAREHOUSE BLDG.
- ⑨ OPEN STORAGE AREA
- ⑩ CONVEYOR DRIVE AND TRANSFER BLDG.
- ⑪ VENT FANS HYDRAULIC CONTROL BLDG.
- ⑫ VENTILATION FANS
- ⑬ BELT CONVEYOR STEEL TUBE GALLERY
- ⑭ MICROWAVE COMMUNICATION BLDG.
- ⑮ MICROWAVE COMMUNICATION TOWER
- ⑯ GENERATOR PAD
- ⑰ UNDERGROUND FUEL STORAGE TANK
- ⑱ AIR COMPRESSOR PAD

**SI  
APERTURE  
CARD**

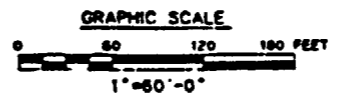
Also Available On  
Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-GE02

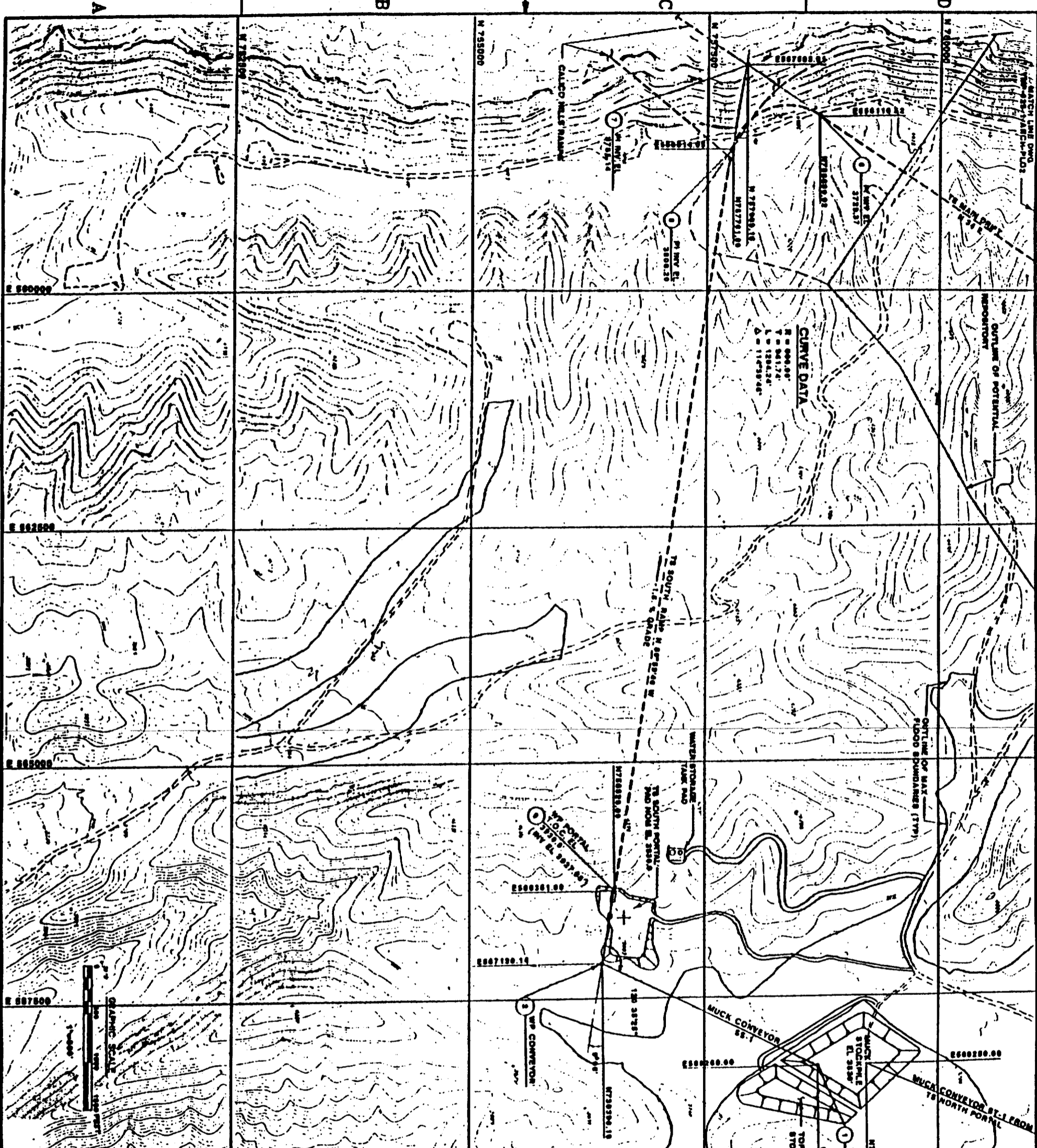
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<b>U.S. DEPARTMENT OF ENERGY</b>													
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
APPROVALS			<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA										
DESIGN	PZ		<b>EXPLORATORY STUDIES FACILITY</b> <b>TS SOUTH PORTAL GENERAL ARRANGEMENT</b> <b>SURFACE</b> <b>PLOT PLAN</b>										
DRWN	TAN / R/C												
CHECKED	<i>[Signature]</i>												
SEC	<i>[Signature]</i>												
DESIGN MANAGER	B.C.H.												
VERIFICATION	N/A												
ENR	<i>[Signature]</i>												
QUALITY ASSURANCE	P-2-97												
SUBMITTED BY			DATE	DRAWING NO.									
<i>[Signature]</i>			8-22-97	YMP-025-2-ARCH-PLO1									
TPO APPROVED			DATE	REV.									
<i>[Signature]</i>				0									



**PLOT PLAN**  
SCALE: 1" = 60'-0"



9305250071-21



SI  
 APERTURE  
 CARD  
 Also Available  
 Aperture C...

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CVTL-0802

NO.	DATE	REVISION	DES.	DRAWN	CHECKED	IN CHARGE	DATE

**U.S. DEPARTMENT OF ENERGY**  
 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE  
 LAS VEGAS, NEVADA

**RSN** Raytheon Services Nevada  
 LAS VEGAS, NEVADA

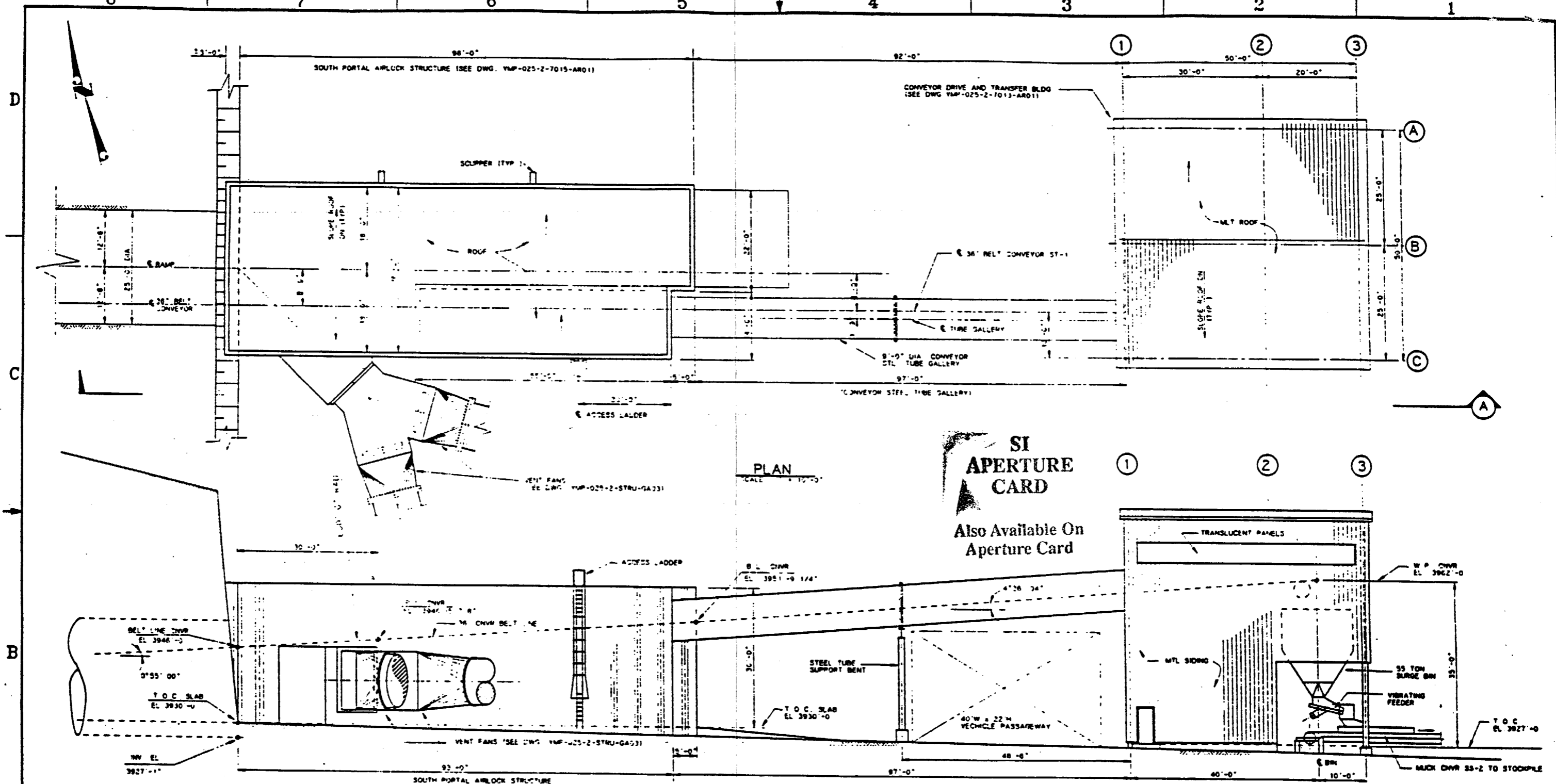
EXPLORATORY STUDIES FACILITY  
 TS SOUTH PORTAL GENERAL ARRANGEMENT

**OVERALL PLOT PLAN**

APPROVED BY: [Signature]  
 DATE: 03-11-82

YMP-025-2-ARCH-PL02

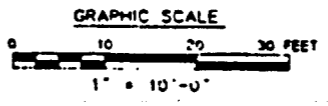
9305250071-22



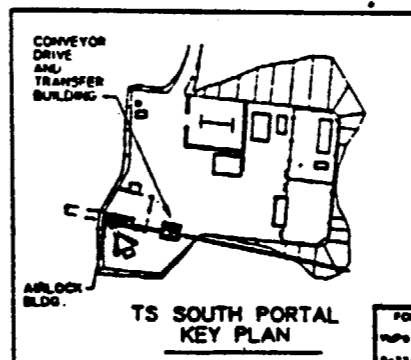
PLAN  
SCALE 1" = 10'-0"

SI  
APERTURE  
CARD  
Also Available On  
Aperture Card

ELEVATION (A) (LOOKING NORTH)  
SCALE 1" = 10'-0"

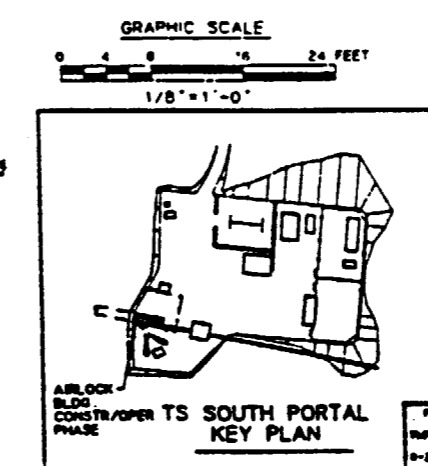
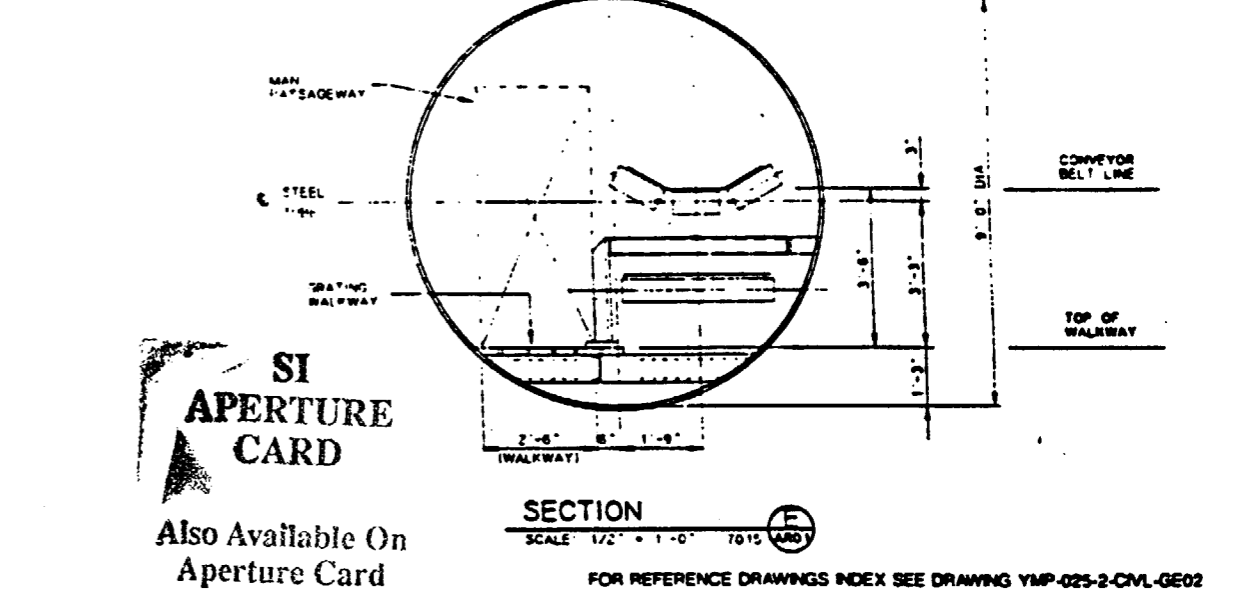
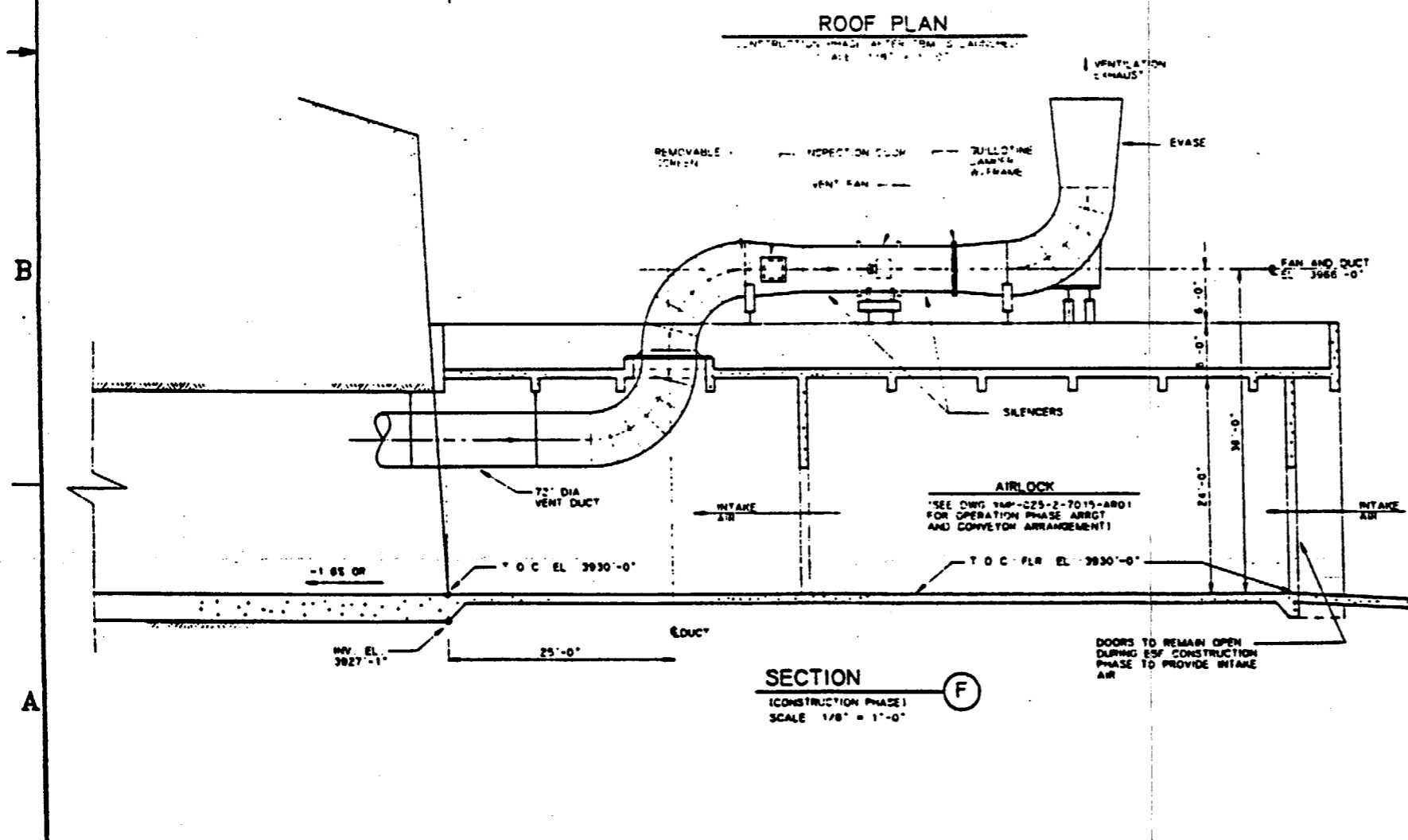
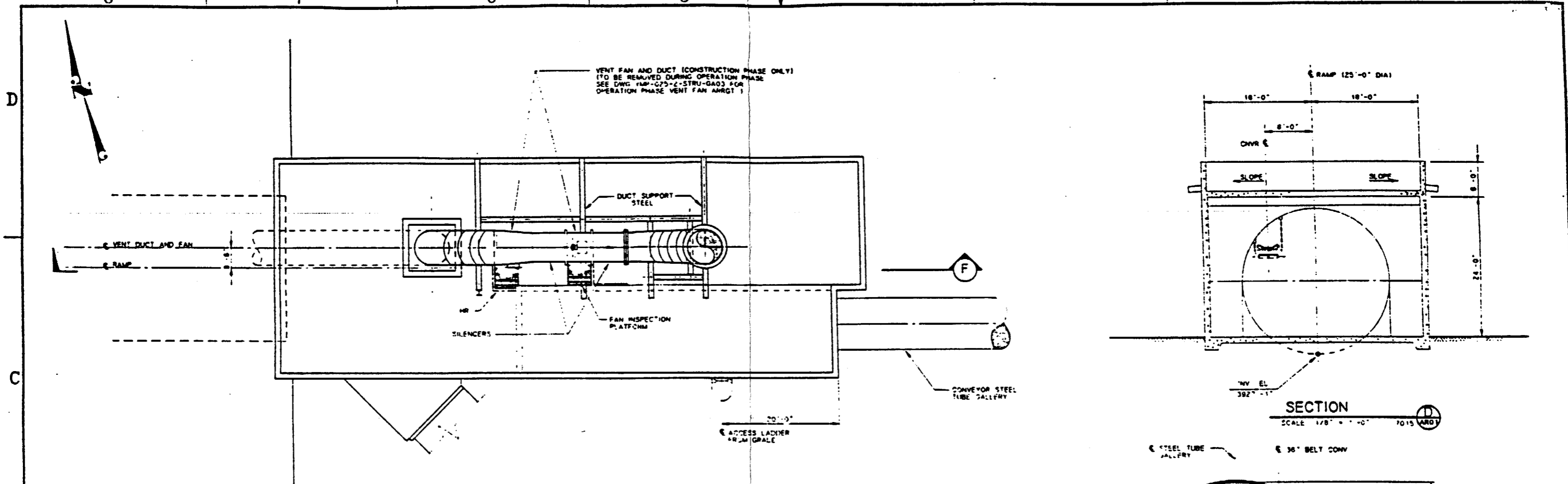


FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CVL-GE02



NO	DATE	REVISION	DES	DWG	CHK	DEC	DR	VERIFY	ENR	SAP	SA	TPD	YMP
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
APPROVALS			<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA										
DESIGN	NBT		<b>EXPLORATORY STUDIES FACILITY</b> <b>TS SOUTH PORTAL GENERAL ARRANGEMENT</b> <b>PORTAL-CONVEYOR</b> <b>PLAN AND ELEVATION</b>										
DRAWN	TAN		SUBMITTED BY: <i>[Signature]</i> DATE: 8-24-91 DRAWING NO.: YMP-025-2-STRU-GA01 0										
CHECKED	<i>[Signature]</i>		YMPD APPROVED: <i>[Signature]</i> DATE: 8-24-91										
SEC	<i>[Signature]</i>		VMPD APPROVED: <i>[Signature]</i> DATE: 8-24-91										
DESIGN MANAGER	S.B. CH.		DATE: _____ BY: _____ OF: _____										
VERIFICATION	N/A												
DWG. SAP	<i>[Signature]</i>												
QUALITY ASSURANCE	8-24-91												
S.B. CH.	1, 2, 3, 1, 2												
C.I. NO.													

9805250071-23



NO	DATE	REVISION	DES	DRN	CHK	DEC	DM	VEPR	ENV	SAP	SA	TPD	YMP
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA													
<b>EXPLORATORY STUDIES FACILITY</b> TS SOUTH PORTAL GENERAL ARRANGEMENT PORTAL CONSTR/OPER. PHASE PLAN AND SECTIONS													
APPROVALS													
DESIGN	NOT												
DRAWN	TAN												
CHECKED	[Signature]												
DEC	[Signature]												
DESIGN MODIFIED	B.C.H.												
VERIFICATION	N/A												
BY	SNP												
QUALITY ASSURANCE	[Signature]												
DATE	8-22-91												
SUBMITTED BY: [Signature] DATE: 8-22-91 DRAWING NO.: YMP-025-2-STRU-GA02 REV: 0													
TPO APPROVED: [Signature] DATE: [ ] BY: [ ]													

9305250071-24

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W.P. CONVEYOR  
N 758512 TO  
E 568348 75

RAMP DN  
-1.85 GR  
RAMP WORK POINT  
T.O.C. FLR  
EL 3930'-0"

AIR LOCK STRUCTURE  
SEE DWG. YMP-025-2-7015-ARD1

E 75 SOUTH RAMP  
N 81 W

E 36" BELT CONVEYOR  
TO CONVEYOR DRIVE AND  
TRANSFER BLDG DWG.  
YMP-025-2-7013-ARD11

REMOVABLE  
WIRE SCREEN GUARD

GULLOTINE DAMPER  
WITH FRAME (TYP.)

INSPECTION DOOR (TYP.)

FLEXIBLE CONNECTION (TYP.)

SILENCERS (TYP.)

REMOVABLE  
MOTOR  
ENCLOSURE

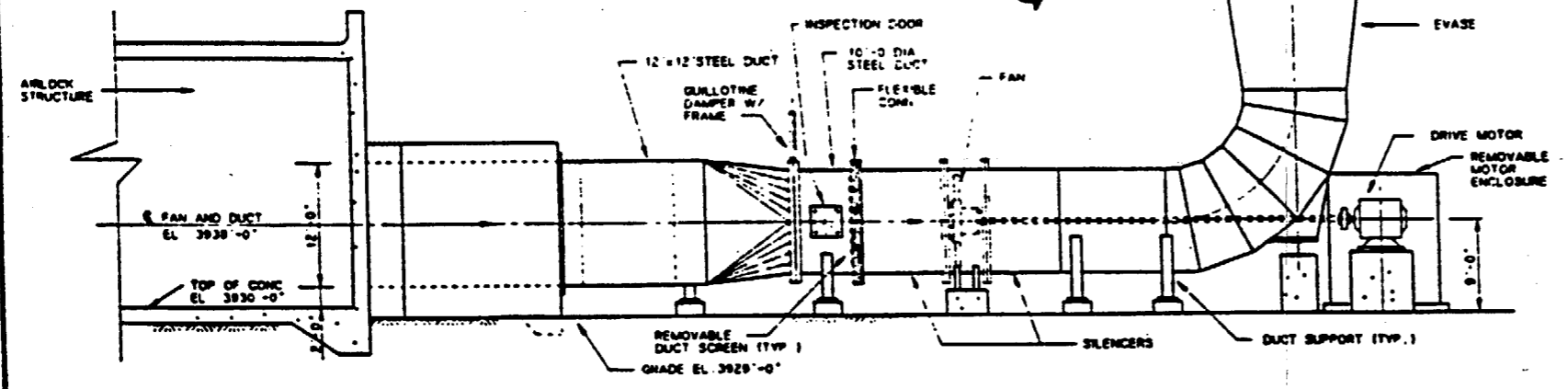
FANS  
ONE OPERATIONAL  
ONE STANDBY

REMOVABLE  
MOTOR  
ENCLOSURE

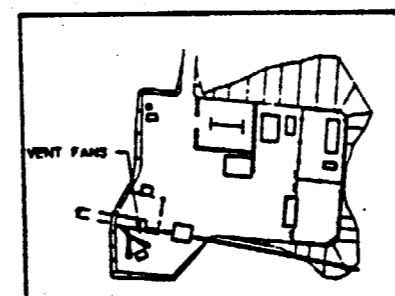
VENTILATION FAN  
SEE DWG. YMP-025-2-7016-ARD1

**SI  
APERTURE  
CARD**  
Also Available On  
Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-GE02



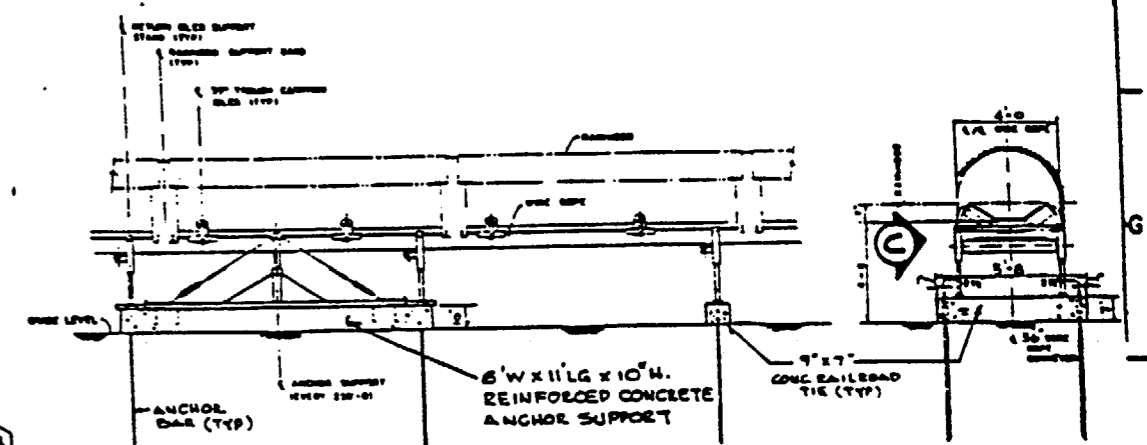
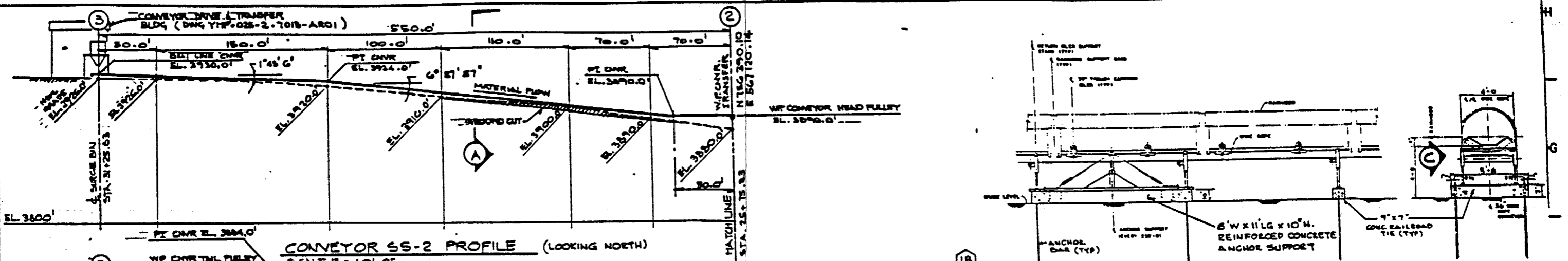
**SECTION A**  
SCALE: 1/8"=1'-0"



TS SOUTH PORTAL  
KEY PLAN

NO.	DATE	REVISION	DES	DRN	CHK	DEC	DM	WRKY	ENR	SAP	QA	TPO	YMP
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION-PROJECT-OFFICE LAS VEGAS, NEVADA													
<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA													
<b>EXPLORATORY STUDIES FACILITY</b> TS SOUTH PORTAL GENERAL ARRANGEMENT VENTILATION FANS <b>PLAN AND SECTION</b>													
APPROVALS													
DESIGN	NET												
DRAWN	TAN												
CHECKED	<i>[Signature]</i>												
SEC	<i>[Signature]</i>												
DESIGN MANAGER	B.C.H.												
VERIFICATION	N/A												
BY	BY												
QUALITY ASSURANCE	<i>[Signature]</i>												
SUBMITTED BY		DATE	DRAWING NO.		REV.								
7.22.01		8-24-01	YMP-025-2-STRU-GA03		0								
YMP APPROVED		DATE	BY		OF								

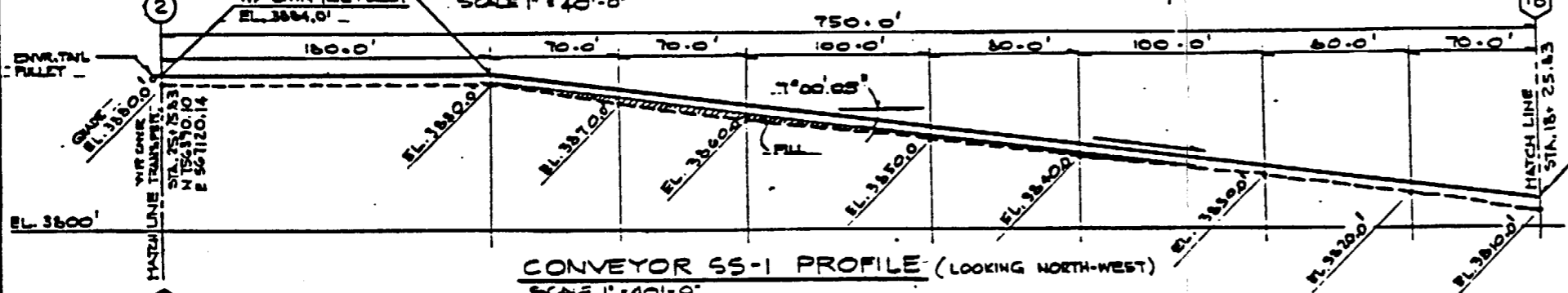
9305250071-25



ELEVATION  
SCALE 1/4"=1'-0"

SECTION A  
SCALE 1/4"=1'-0"

CONVEYOR SS-2 PROFILE (LOOKING NORTH)  
SCALE 1"=40'-0"

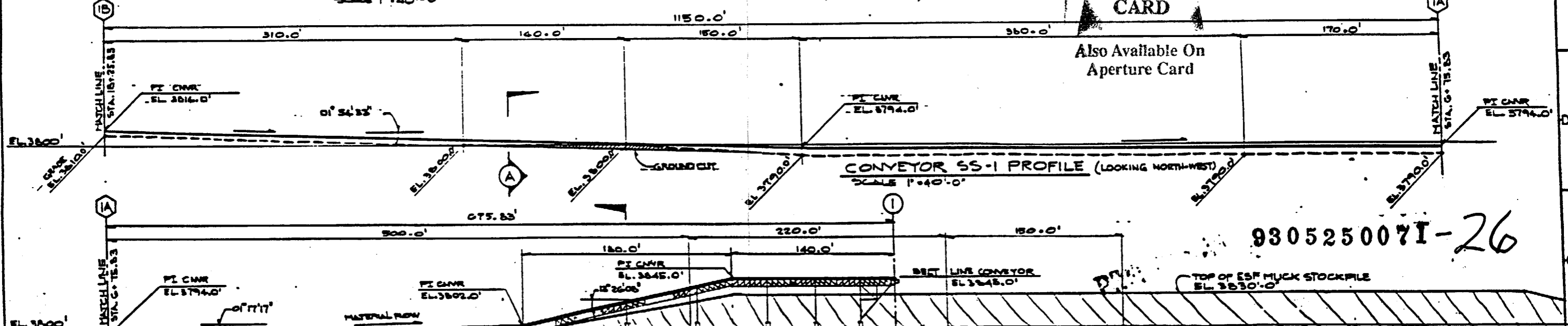


CONVEYOR SS-1 PROFILE (LOOKING NORTH-WEST)  
SCALE 1"=40'-0"

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-GE02

SI APERTURE CARD

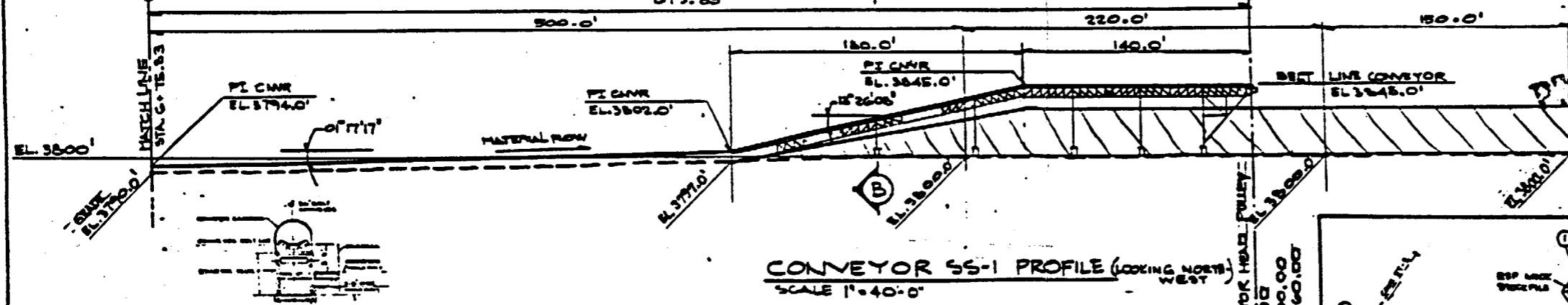
Also Available On Aperture Card



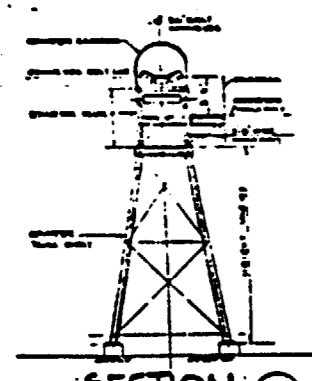
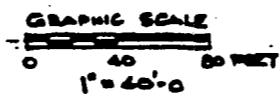
CONVEYOR SS-1 PROFILE (LOOKING NORTH-WEST)  
SCALE 1"=40'-0"

930525007I-26

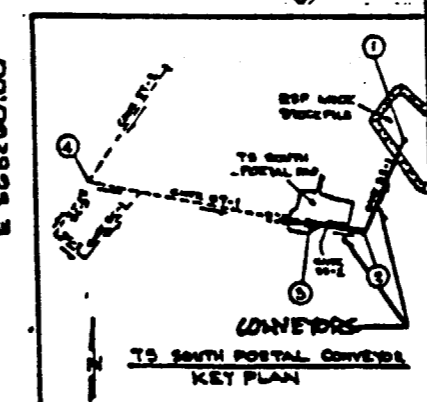
TOP OF ESF MUCK STOCKPILE  
EL. 3830.0'



CONVEYOR SS-1 PROFILE (LOOKING NORTH-WEST)  
SCALE 1"=40'-0"



SECTION B  
SCALE 1/4"=1'-0"

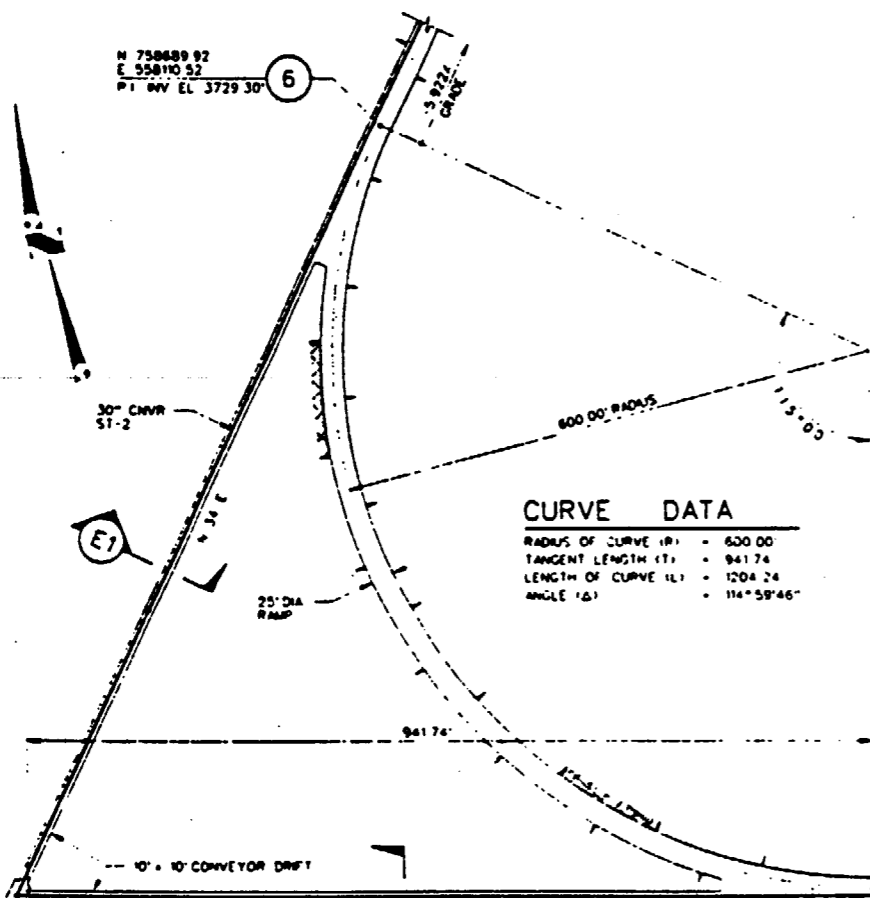


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<p align="center"><b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA</p>											
APPROVALS		<p align="center"><b>RSN</b> Raytheon Services Nevada LAS VEGAS, NEVADA</p>									
DESIGN	NET	<p align="center">EXPLORATORY STUDIES FACILITY TS SOUTH PORTAL GENERAL ARRANGEMENT SURFACE CONVEYORS PROFILE SHEET #1</p>									
CHECKED	DATE	<p>DESIGNED BY: B. CH. REVISED BY: N/A</p>									
DESIGN	DATE	<p>DESIGNED BY: B. CH. REVISED BY: N/A</p>									
DRY	DATE	<p>DRY: [Signature] DATE: 8-26-91</p>									
QUALITY	DATE	<p>QUALITY CONTROL: [Signature] DATE: 8-26-91</p>									
ISSUE	NO.	<p>ISSUE NO.: 126312</p>									
CHECKED	DATE	<p>YUCCA APPROVED: [Signature] DATE: [Blank]</p>									
DATE	REV.	<p>DATE: [Blank] REV.: 0</p>									

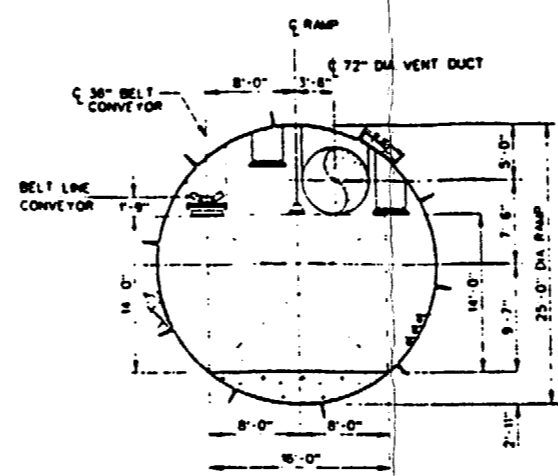
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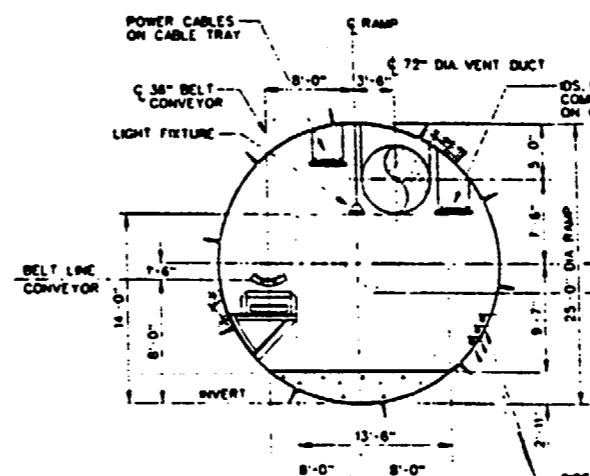
N 758889.92  
E 558110.52  
P1 INV EL 3729.30'



**CURVE DATA**  
 RADIUS OF CURVE (R) = 600.00'  
 TANGENT LENGTH (T) = 941.74'  
 LENGTH OF CURVE (L) = 1204.24'  
 ANGLE (A) = 114°59'46"



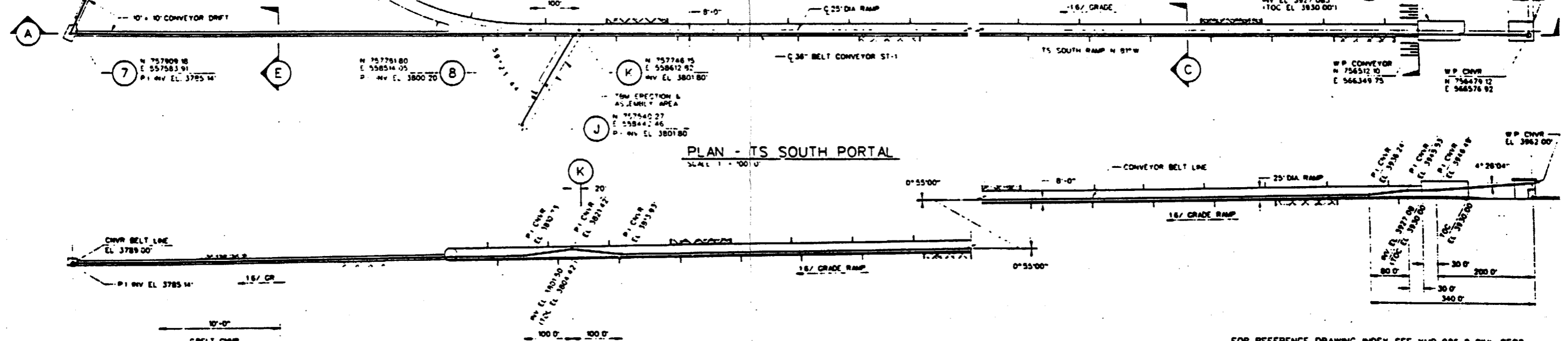
**SECTION B**  
SCALE 1/4" = 1'-0"



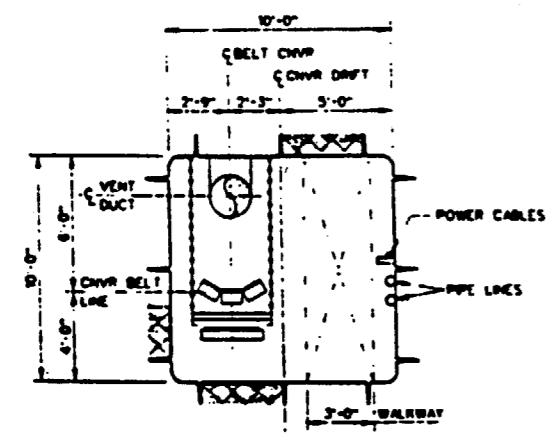
**SECTION C/D**  
SCALE 1/4" = 1'-0"

NOTE SECTION (B) & (C) REPRESENT A RAMP CROSS-SECTION DURING OPERATION PHASE THESE SECTIONS DO NOT APPLY TO AREA 250 FT BEHIND TBM TRAILING GEAR, WHERE GEOLOGIC MAPPING IS REQUIRED

**SI APERTURE CARD**  
Also Available On Aperture Card

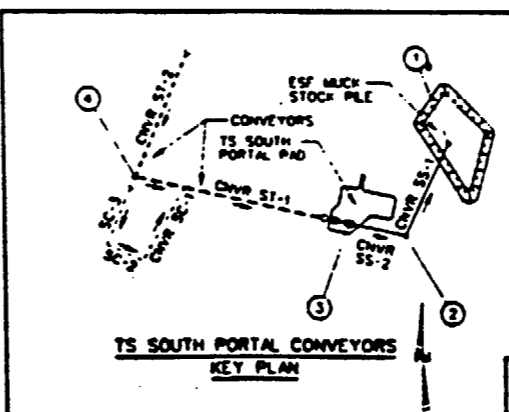
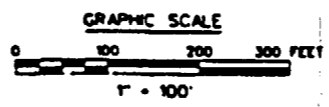


**PLAN - TS SOUTH PORTAL**  
SCALE 1" = 100'



**SECTION E/E1** NOTE: SECTION (E1) DOES NOT CONTAIN CONVEYOR  
SCALE 1/4" = 1'-0"

**SECTION A**  
SCALE 1" = 100'-0"



FOR REFERENCE DRAWING INDEX SEE YMP-025-2-CIVL-GE02

NO	DATE	REVISION	DES	CHK	APP	DEC	DR	APPV	ENVY	SUP	ENR	QA	TRD	YMP
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA														
APPROVALS			<b>RSN</b> Raytheon Services Nevada LAS VEGAS, NEVADA											
DESIGN	HBT		<b>EXPLORATORY STUDIES FACILITY</b> <b>TS SOUTH PORTAL GENERAL ARRANGEMENT</b> <b>UNDERGROUND CONVEYORS</b> <b>PROFILE SHEET • 2</b>											
CHECKED	<i>[Signature]</i>													
BY	<i>[Signature]</i>													
DESIGN APPROVED	B.C.H.													
APPROVED	RVA													
DATE	12/21/91	DATE	12/21/91	DRAWING NO.	YMP-025-2-STRU-GA05									
REV	0													
YUPO APPROVED														

9305250071-27



N 750082 55  
E 557706 85  
PI INV EL 3133 85

N 757781 80  
E 558814 05  
PI INV EL 3800 20

N 757746 15  
E 558812 82  
INV EL 3801 80

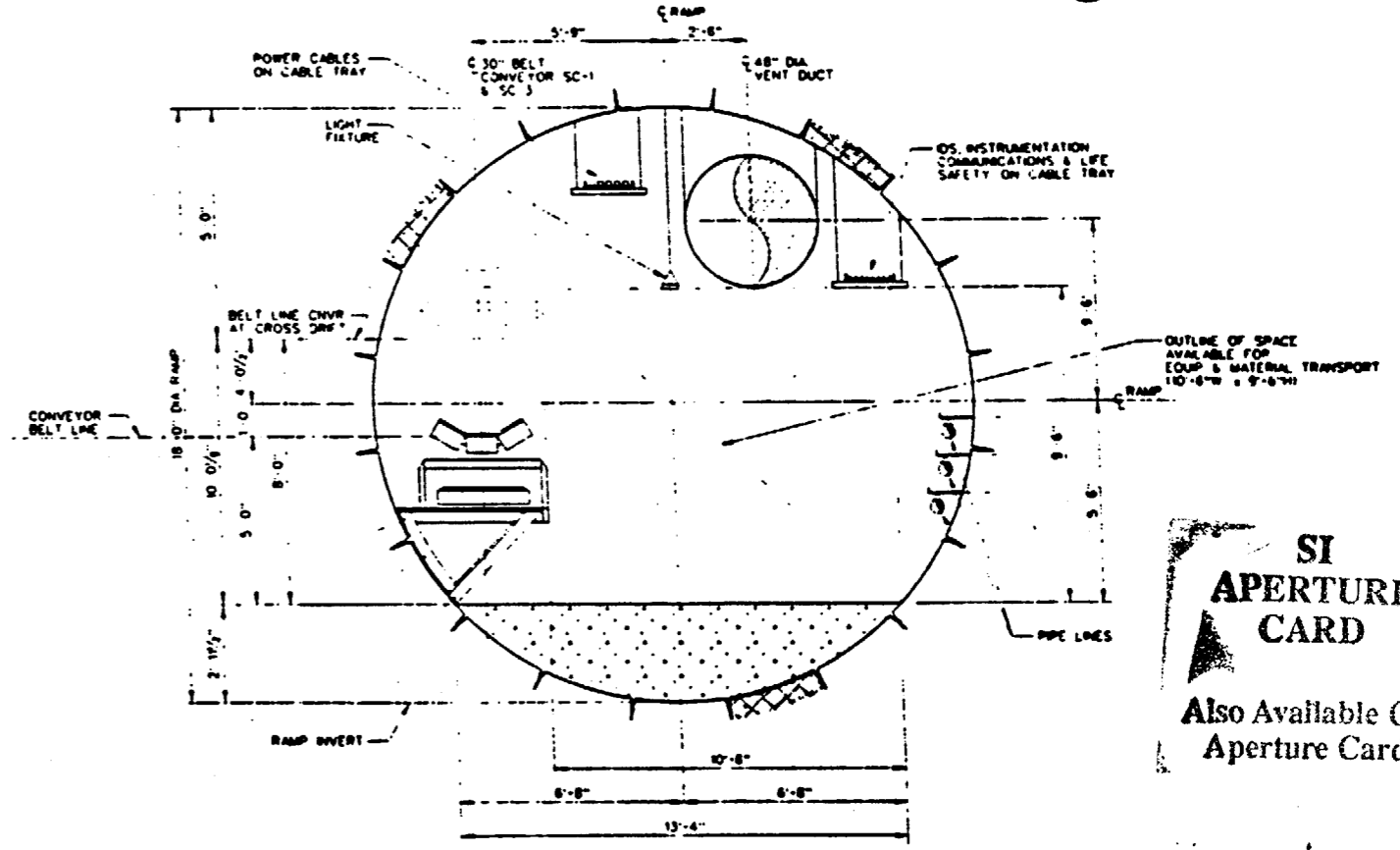
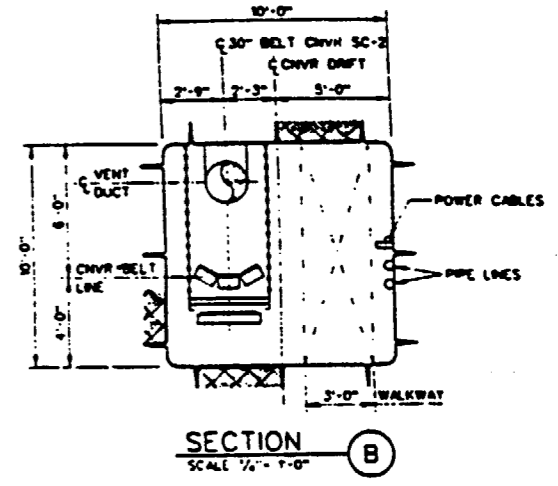
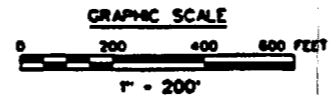
N 757540 27  
E 558442 46  
PI INV EL 3801 80

N 755489 23  
E 559951 63  
PI INV EL 3433 08

N 755152 84  
E 558450 34  
INV EL 3490 88

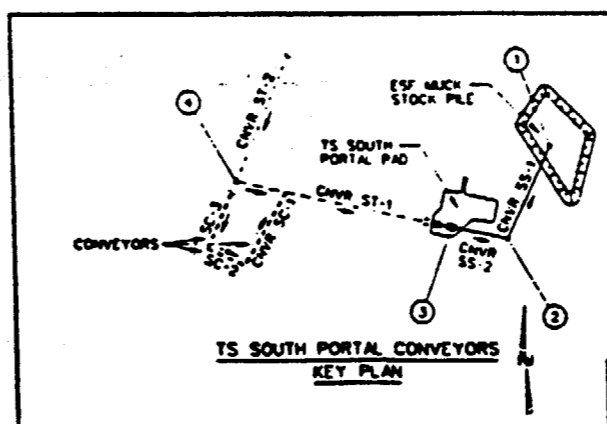
N 755129 34  
E 558430 79  
PI INV EL 3487 80

PLAN - CALICO HILLS - SOUTH RAMP  
SCALE 1" = 200'



SI  
APERTURE  
CARD  
Also Available On  
Aperture Card

FOR REFERENCE DRAWING INDEX SEE YMP-025-2-CIVL-GE02



NO	DATE	REVISED	DES	DRN	CON	DEC	DI	INV	ENV	SUP	EPS	QA	TRD	YMPD
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA														
APPROVALS		<b>RSN</b> Raytheon Services Nevada LAS VEGAS, NEVADA												
DESIGN	HBT	EXPLORATORY STUDIES FACILITY TS SOUTH PORTAL GENERAL ARRANGEMENT UNDERGROUND CONVEYORS <b>PROFILE SHEET • 3</b>												
CHECKED	<i>[Signature]</i>	SUBMITTED BY: <i>[Signature]</i> DATE: 1-26-99 DRAWING NO: YMP-025-2-STRU-GA06 REV: 0												
DEC	<i>[Signature]</i>	YMPD APPROVED: <i>[Signature]</i> DATE:												
DESIGN MANAGER	<i>[Signature]</i>	YMPD APPROVED:												
VERIFICATION	MVA	YMPD APPROVED:												
FOR	DATE	YMPD APPROVED:												
YMPD	DATE	YMPD APPROVED:												

9305250071-28





8

7

6

5

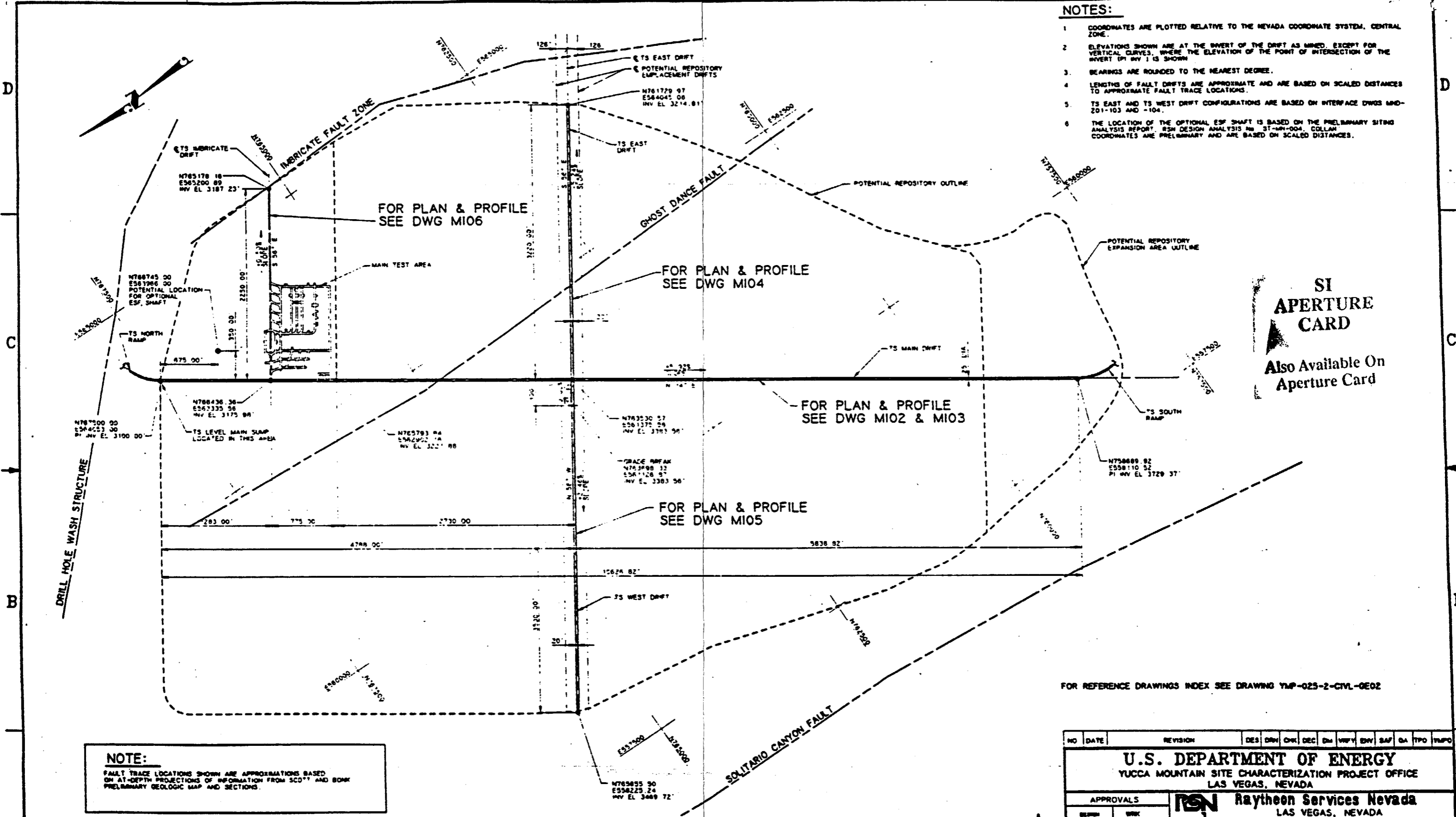
4

3

NOTES:

- 1. COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE.
- 2. ELEVATIONS SHOWN ARE AT THE INVERT OF THE DRIFT AS MINED, EXCEPT FOR VERTICAL CURVES, WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE INVERT (PI INV) IS SHOWN.
- 3. BEARINGS ARE ROUNDED TO THE NEAREST DEGREE.
- 4. LENGTHS OF FAULT DRIFTS ARE APPROXIMATE AND ARE BASED ON SCALED DISTANCES TO APPROXIMATE FAULT TRACE LOCATIONS.
- 5. TS EAST AND TS WEST DRIFT CONFIGURATIONS ARE BASED ON INTERFACE DWGS MND-201-103 AND -104.
- 6. THE LOCATION OF THE OPTIONAL ESP SHAFT IS BASED ON THE PRELIMINARY SITING ANALYSIS REPORT, RSN DESIGN ANALYSIS NO. ST-MN-004, COLLAR COORDINATES ARE PRELIMINARY AND ARE BASED ON SCALED DISTANCES.

SI  
APERTURE  
CARD  
Also Available On  
Aperture Card



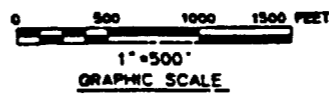
**NOTE:**  
FAULT TRACE LOCATIONS SHOWN ARE APPROXIMATIONS BASED ON AT-DEPTH PROJECTIONS OF INFORMATION FROM SCOT AND BOMK PRELIMINARY GEOLOGIC MAP AND SECTIONS.

**NOTE:**  
COORDINATES AND DIMENSIONS ARE PRELIMINARY

TS LEVEL EXPLORATORY DRIFTS PLAN  
SCALE 1"=500'

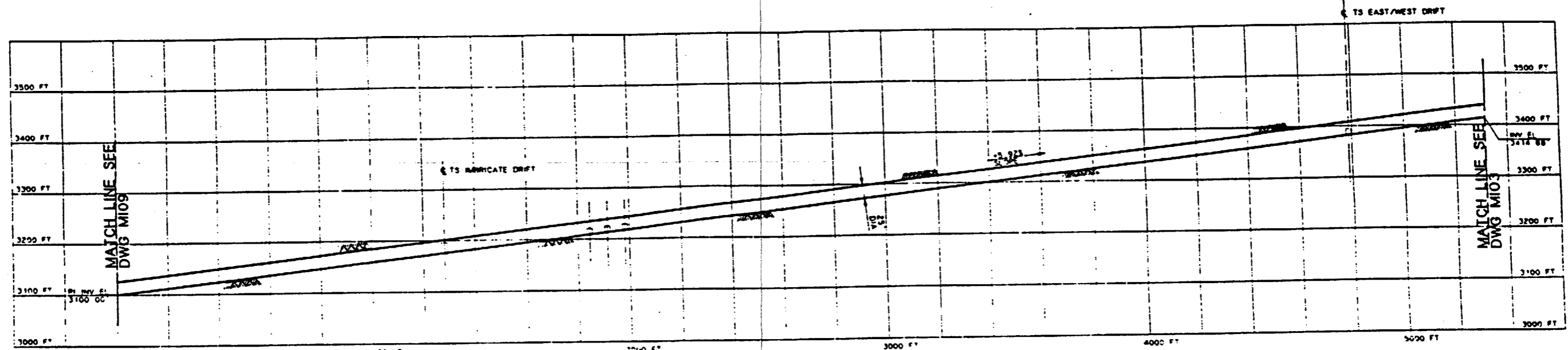
FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-GE02

9305250071-31



NO	DATE	REVISION	DES	DRW	CHK	DEC	ENR	WFT	ENV	SAP	QA	TPO	YMP
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
APPROVALS DESIGNER: [Signature] CHECKED: [Signature] SUPERVISOR: [Signature] QUALITY ASSURANCE: [Signature]										<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA <b>EXPLORATORY STUDIES FACILITY</b> GENERAL ARRANGEMENT <b>TS LEVEL EXPLORATORY DRIFTS PLAN</b>			
SUBMITTED BY: [Signature] DATE: 8-24-99										DRAWING NO.: <b>YMP-025-2-MING-MIO1</b>		REV.: <b>0</b>	
YUCCA MOUNTAIN PROJECT 8-24-99 DATE: [ ] [ ] [ ]													

8 7 6 5 4 3 2 1

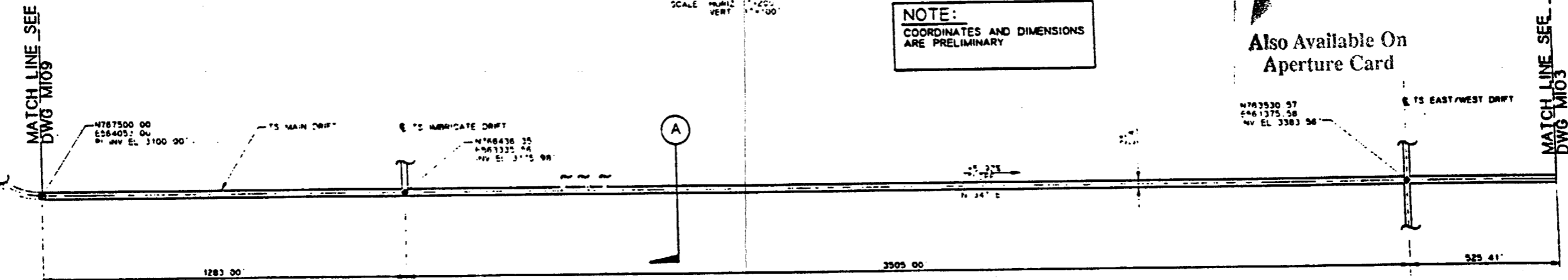


**PROFILE**  
SCALE HORIZ 1"=200'  
VERT 1"=100'

**NOTE:**  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY

**SI  
APERTURE  
CARD**

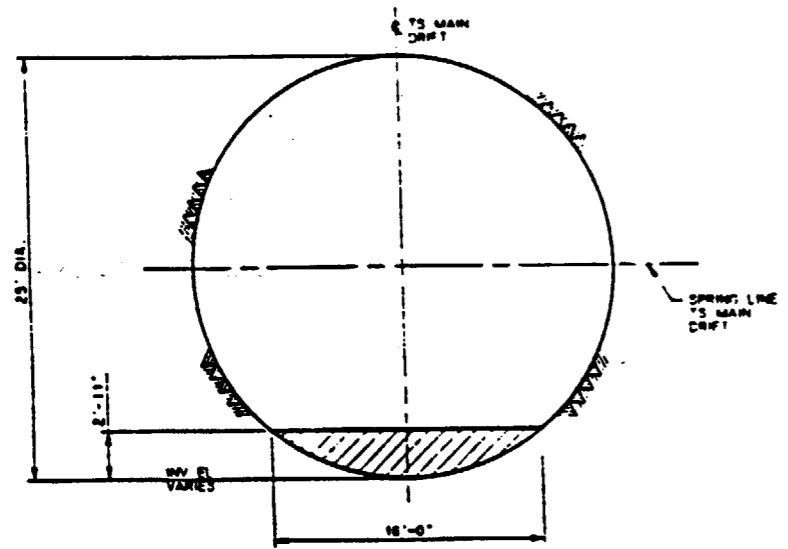
Also Available On  
Aperture Card



**PLAN**  
SCALE 1"=200'

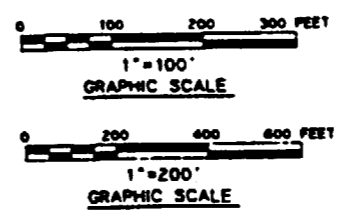
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FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0E02

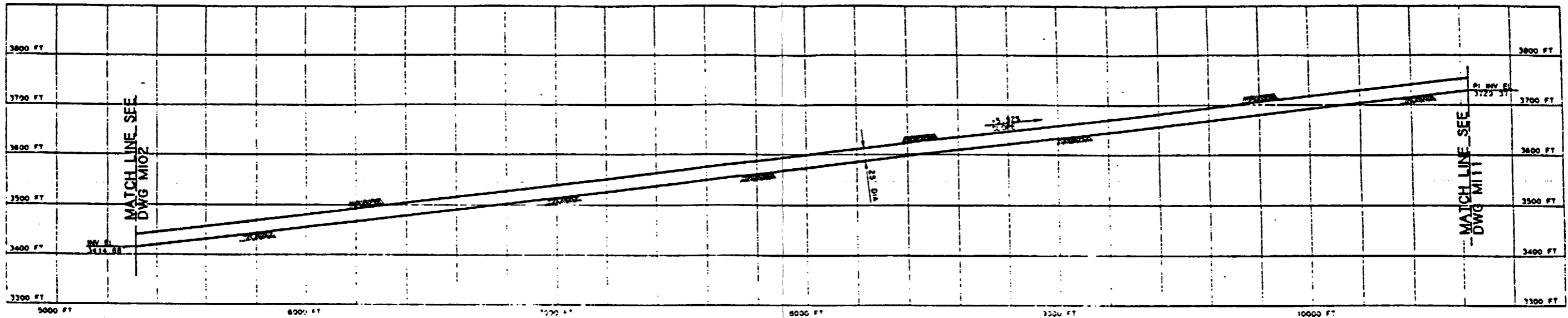


**SECTION A**  
SCALE 3/16"=1'-0"

- NOTES:**
- COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE
  - ELEVATIONS SHOWN ARE AT THE INVERT OF THE DRIFT AS MAPPED, EXCEPT FOR VERTICAL CURVES, WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE INVERT (PI) (PV) IS SHOWN
  - BEARINGS ARE ROUNDED TO THE NEAREST DEGREE.
  - BY-PASSES AND TURN-AROUNDS WILL BE PROVIDED AT REGULAR INTERVALS



NO	DATE	REVISION	DES	DRW	CHK	DEC	DN	VRFY	ENR	SAP	QA	TRPO	TRPO																																																																																																																
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA																																																																																																																													
<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA																																																																																																																													
<b>EXPLORATORY STUDIES FACILITY</b> GENERAL ARRANGEMENT TS MAIN DRIFT <b>PLAN &amp; PROFILE, SECTION</b>																																																																																																																													
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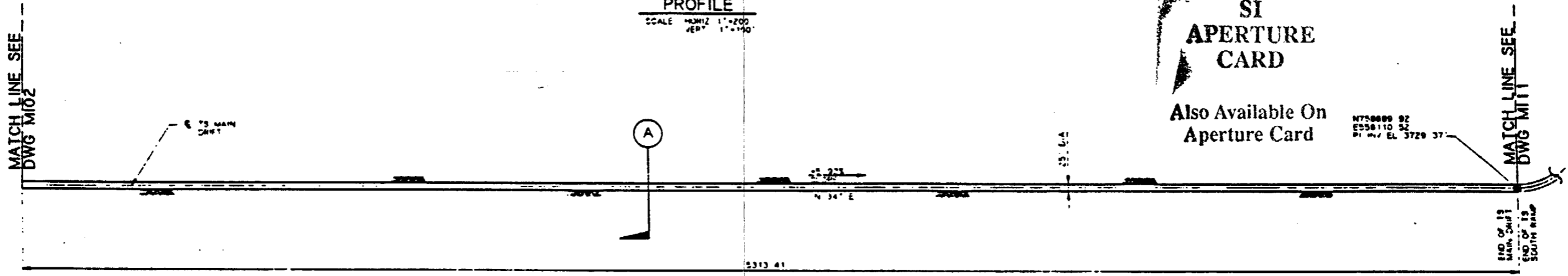
**PROFILE**

SCALE HORIZ 1"=200'  
VERT 1"=100'

**SI APERTURE CARD**

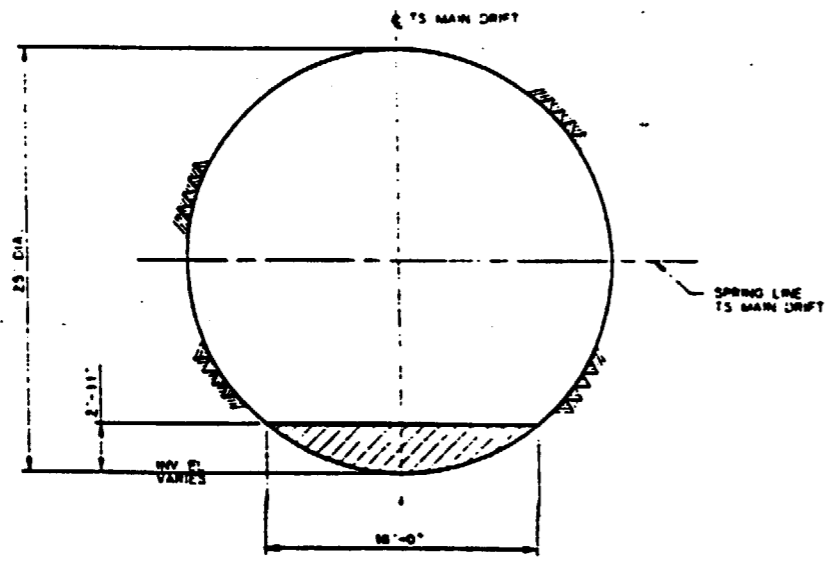
Also Available On Aperture Card

N758800 92  
E558110 52  
PI BY EL 3729 37



**PLAN**

SCALE 1"=200'



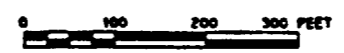
**SECTION A**

SCALE 3/16"=1'-0"

**NOTE:**  
COORDINATES AND DIMENSIONS ARE PRELIMINARY

**NOTES:**

- COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE.
- ELEVATIONS SHOWN ARE AT THE INVERT OF THE DRIFT AS MINED, EXCEPT FOR VERTICAL CURVES, WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE INVERT (PI BY EL) IS SHOWN.
- BEARINGS ARE ROUNDED TO THE NEAREST DEGREE.
- BY-PASSES AND TURN-AROUNDS WILL BE PROVIDED AT REGULAR INTERVALS.



1"=100'  
GRAPHIC SCALE

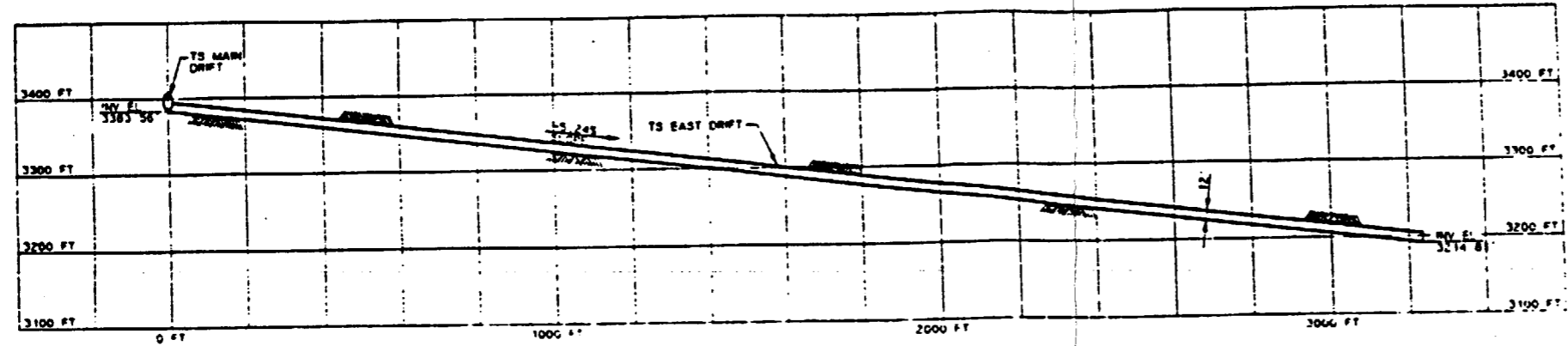


1"=200'  
GRAPHIC SCALE

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0E02

9305250071-33

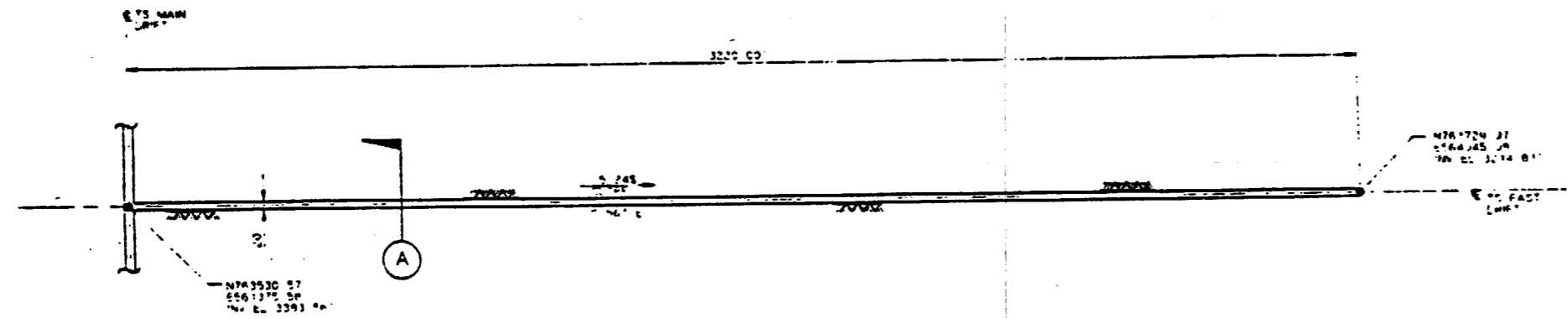
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<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA																																																																																																																					
<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA																																																																																																																					
<b>EXPLORATORY STUDIES FACILITY</b> GENERAL ARRANGEMENT <b>PLAN &amp; PROFILE, SECTION</b>																																																																																																																					
APPROVALS		<table border="1"> <tr> <td>DESIGN</td> <td>WIK</td> <td colspan="11"></td> </tr> <tr> <td>DRAWN</td> <td>CLP</td> <td colspan="11"></td> </tr> <tr> <td>CHECKED</td> <td><i>[Signature]</i></td> <td colspan="11"></td> </tr> <tr> <td>SEC</td> <td><i>[Signature]</i></td> <td colspan="11"></td> </tr> <tr> <td>DESIGN APPROVED</td> <td><i>[Signature]</i></td> <td colspan="11"></td> </tr> <tr> <td>VERIFICATION</td> <td>N/A</td> <td colspan="11"></td> </tr> <tr> <td>ENV SAF</td> <td><i>[Signature]</i></td> <td colspan="11"></td> </tr> <tr> <td>QUALITY ASSURANCE</td> <td><i>[Signature]</i></td> <td colspan="11"></td> </tr> </table>												DESIGN	WIK												DRAWN	CLP												CHECKED	<i>[Signature]</i>												SEC	<i>[Signature]</i>												DESIGN APPROVED	<i>[Signature]</i>												VERIFICATION	N/A												ENV SAF	<i>[Signature]</i>												QUALITY ASSURANCE	<i>[Signature]</i>											
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SEC	<i>[Signature]</i>																																																																																																																				
DESIGN APPROVED	<i>[Signature]</i>																																																																																																																				
VERIFICATION	N/A																																																																																																																				
ENV SAF	<i>[Signature]</i>																																																																																																																				
QUALITY ASSURANCE	<i>[Signature]</i>																																																																																																																				
SUBMITTED BY		DATE		DRAWING NO.		REV.																																																																																																															
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DATE																																																																																																																					



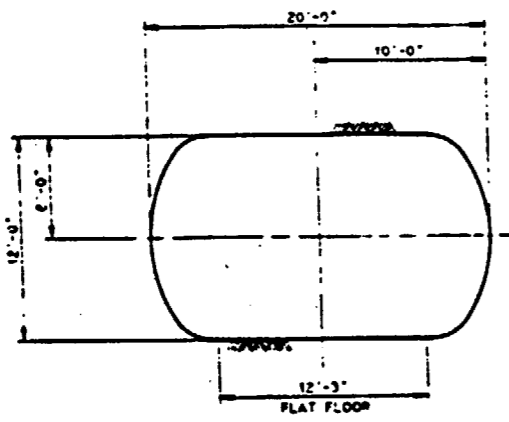
**PROFILE**  
SCALE: HORIZ. DIST. 1"=100'

**NOTE:**  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY

**SI  
APERTURE  
CARD**  
Also Available On  
Aperture Card

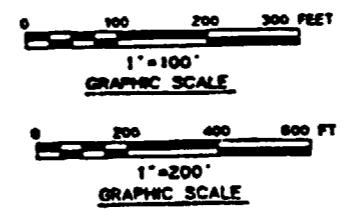


**PLAN**  
SCALE: 1"=100'



**SECTION A-A**  
SCALE: 3/16"=1'-0"

- NOTES:**
- COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE.
  - ELEVATIONS SHOWN ARE AT THE INVERT OF THE DRIFT AS MINED, EXCEPT FOR VERTICAL CURVES, WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE INVERT (PI) INVERT IS SHOWN.
  - BEARINGS ARE ROUNDED TO THE NEAREST DEGREE.
  - LENGTHS OF FAULT DRIFTS ARE APPROXIMATE AND ARE BASED ON SCALED DISTANCES TO APPROXIMATE FAULT TRACE LOCATIONS.
  - TS EAST AND TS WEST DRIFT CONFIGURATIONS ARE BASED ON INTERFACE DWGS MND-201-103 AND -104.



FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0202

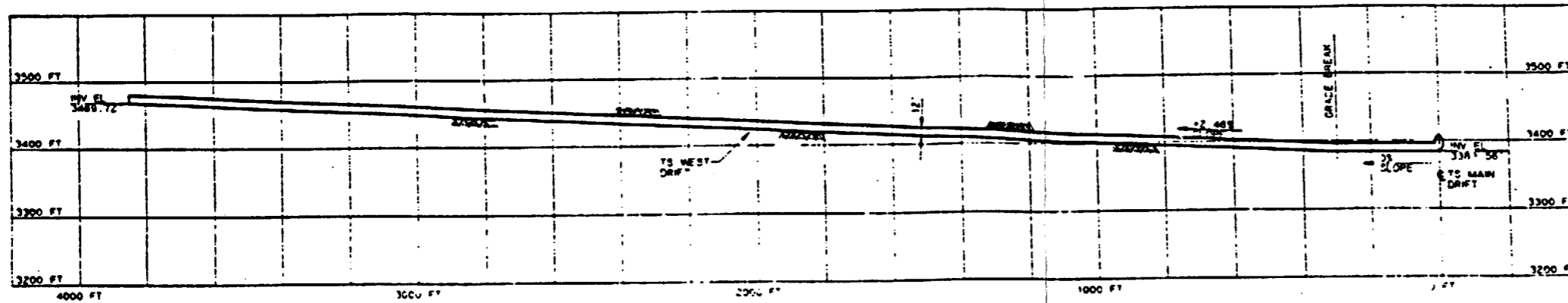
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APPROVALS			<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA										
DESIGN	CHKD	CLP	EXPLORATORY STUDIES FACILITY GENERAL ARRANGEMENT TS EAST DRIFT <b>PLAN &amp; PROFILE, SECTION</b>										
DRN	CHKD	CLP	SUBMITTED BY: <i>[Signature]</i> DATE: 8-28-91 DRAWING NO.: YMP-025-2-MING-M104 REV. 0										
ENR	CHKD	CLP	YUCCA APPROVED: <i>[Signature]</i> DATE: _____ BY: _____										
VP/PL	CHKD	CLP	PCH: 8-28-91										
ENR	CHKD	CLP	PCH: 8-28-91										



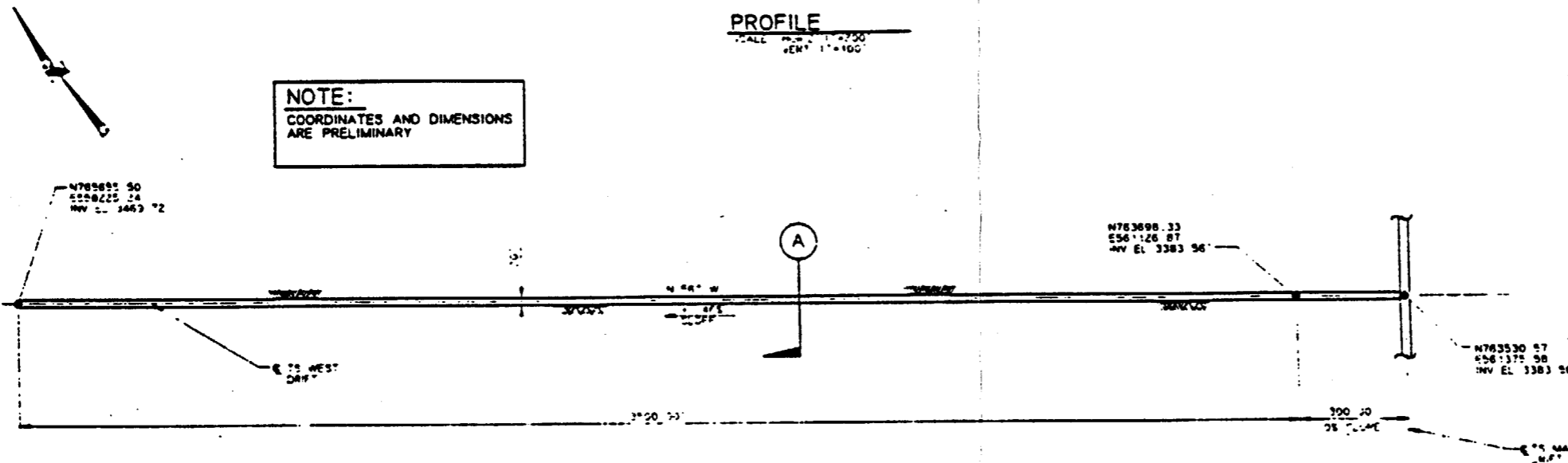
**NOTES:**

1. COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE.
2. ELEVATIONS SHOWN ARE AT THE INVERT OF THE DRIFT AS MINED, EXCEPT FOR VERTICAL CURVES, WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE INVERT SP. INV. IS SHOWN.
3. BEARINGS ARE ROUNDED TO THE NEAREST DEGREE.
4. LENGTHS OF FAULT DRIFTS ARE APPROXIMATE AND ARE BASED ON SCALED DISTANCES TO APPROXIMATE FAULT TRACE LOCATIONS.
5. TS EAST AND TS WEST DRIFT CONFIGURATIONS ARE BASED ON INTERFACE DRWG. NOS. YMP-025-103 AND -104.

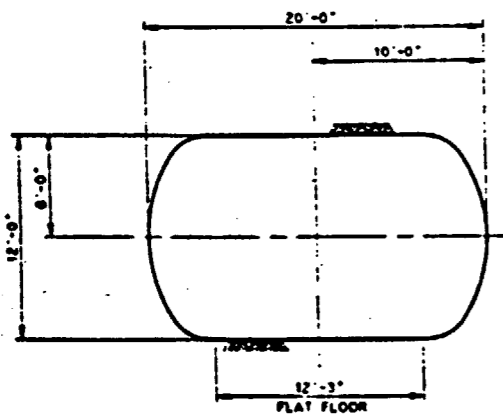


**PROFILE**  
SCALE: HORIZ. 1"=200'  
VERT. 1"=100'

**NOTE:**  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY



**PLAN**  
SCALE: 1"=200'

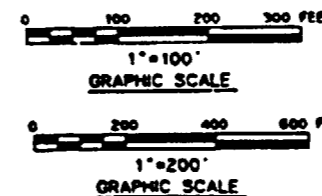


**SECTION A**  
SCALE: 3/16"=1'-0"

**SI  
APERTURE  
CARD**

Also Available On  
Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0202

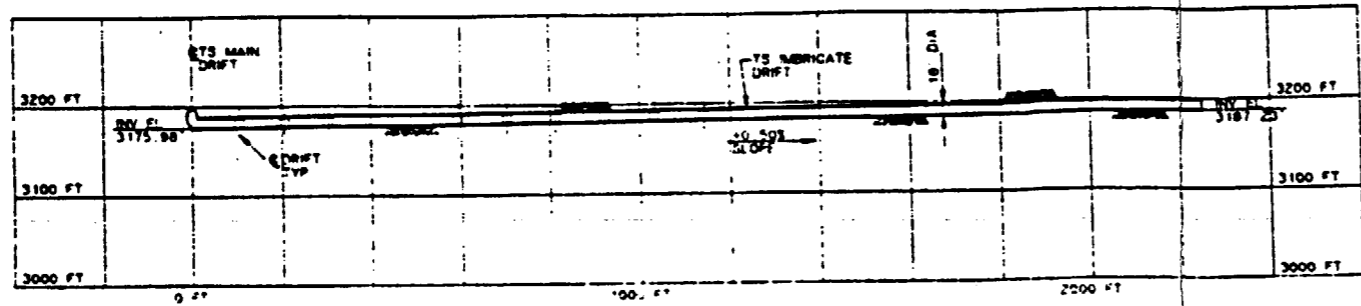


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APPROVALS			<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA										
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DEC.	[Signature]												
REVISION	B.C.H.												
VERIFICATION	N/A												
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QUALITY ASSURANCE	[Signature]												
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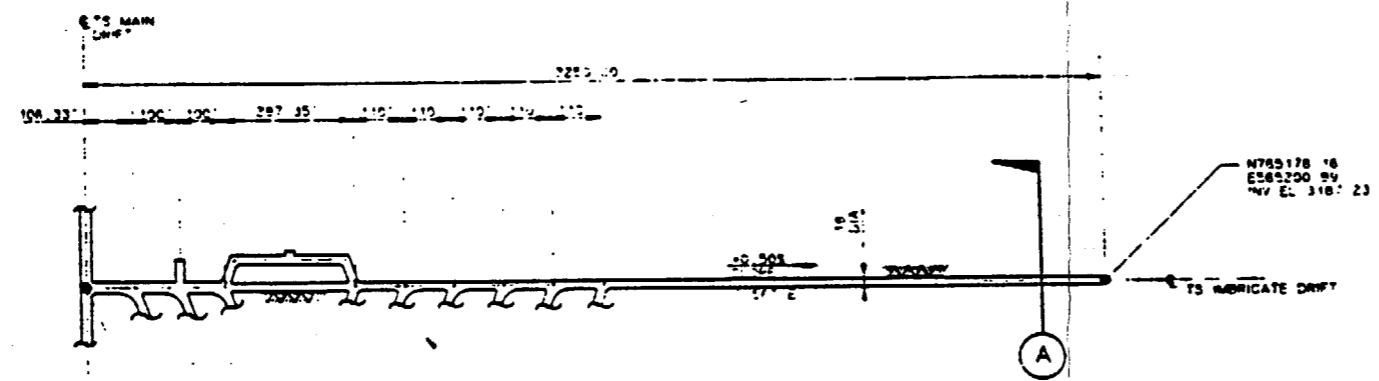
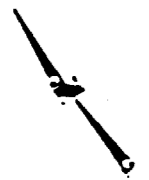
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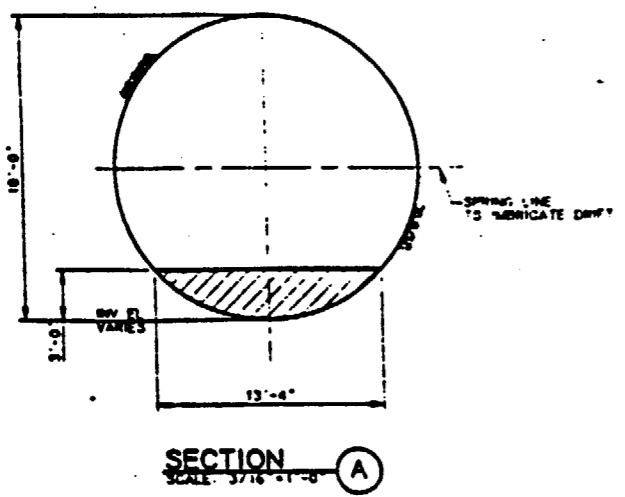
D  
C  
B  
A



**PROFILE**  
SCALE: 1"=100'

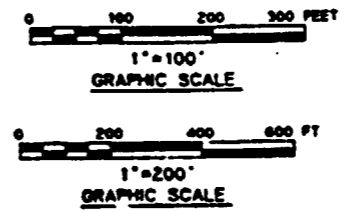


**PLAN**  
SCALE: 1"=100'



**SECTION A**  
SCALE: 3/16"=1'-0"

**NOTE:**  
COORDINATES AND DIMENSIONS ARE PRELIMINARY



**NOTES:**

1. COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE.
2. ELEVATIONS SHOWN ARE AT THE INVERT OF THE DRIFT AS MINED, EXCEPT FOR VERTICAL CURVES, WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE INVERT (PI INV 1) IS SHOWN.
3. BEARINGS ARE ROUNDED TO THE NEAREST DEGREE.
4. LENGTHS OF FAULT DRIFTS ARE APPROXIMATE AND ARE BASED ON SCALED DISTANCES TO APPROXIMATE FAULT TRACE LOCATIONS.

**SI APERTURE CARD**

Also Available On Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVIL-0602

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<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA													
<b>EXPLORATORY STUDIES FACILITY</b> GENERAL ARRANGEMENT TS IMBRICATE DRIFT <b>PLAN &amp; PROFILE, SECTION</b>													
APPROVALS													
DESIGN	CHK												
DRN	CLP												
CHECKED	<i>[Signature]</i>												
SEC	<i>[Signature]</i>												
DESIGN MANAGER	<i>[Signature]</i>												
VERIFICATION	N/A												
ENV	SAP												
QUALITY ASSURANCE	<i>[Signature]</i>												
SUBMITTED BY		DATE	DRAWING NO.		REV.								
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YUPO APPROVED		DATE	BY										
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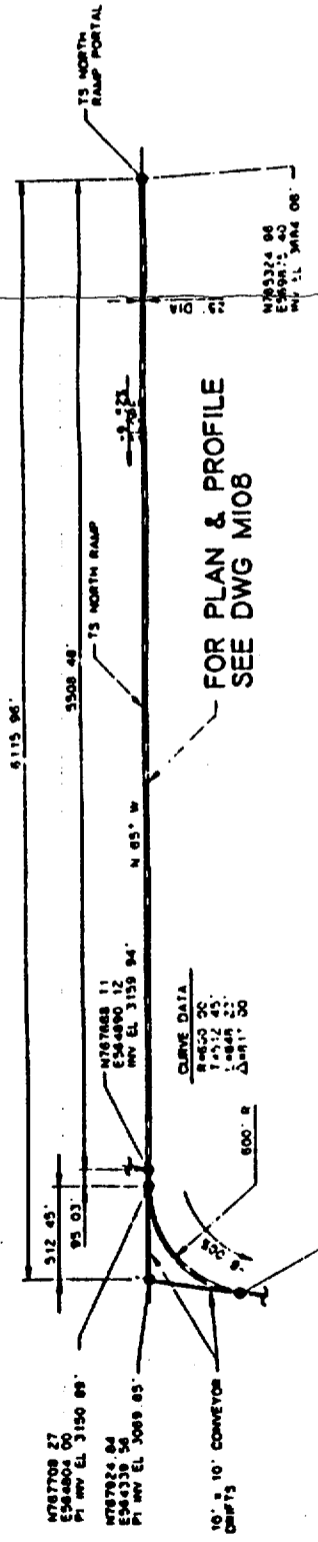
9305250071-36

**NOTES:**

1. COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE.
2. ELEVATIONS SHOWN ARE AT THE INVERT OF THE DWPT AS LINED, EXCEPT FOR CERTAIN CLIMBS WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE INVERT (PI INV.) IS SHOWN.
3. BEARINGS ARE ROUNDED TO THE NEAREST DEGREE.
4. TS NORTH AND TS SOUTH RAMP PORTAL LOCATIONS ARE BASED ON THE PRELIMINARY SITING ANALYSIS REPORT, RSM DESIGN ANALYSIS NO. 37-88-004. PORTAL COORDINATES ARE PRELIMINARY AND ARE BASED ON SCALED DISTANCES.

**SI  
APERTURE  
CARD**  
Also Available On  
Aperture Card

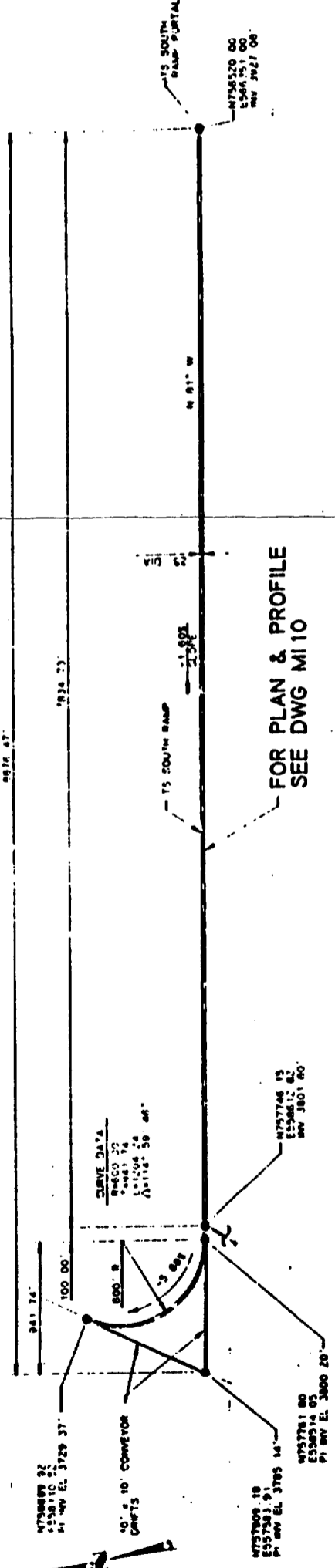
FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0502



FOR PLAN & PROFILE  
SEE DWG M108

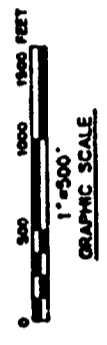
**TS NORTH RAMP PLAN**

NOTE:  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY



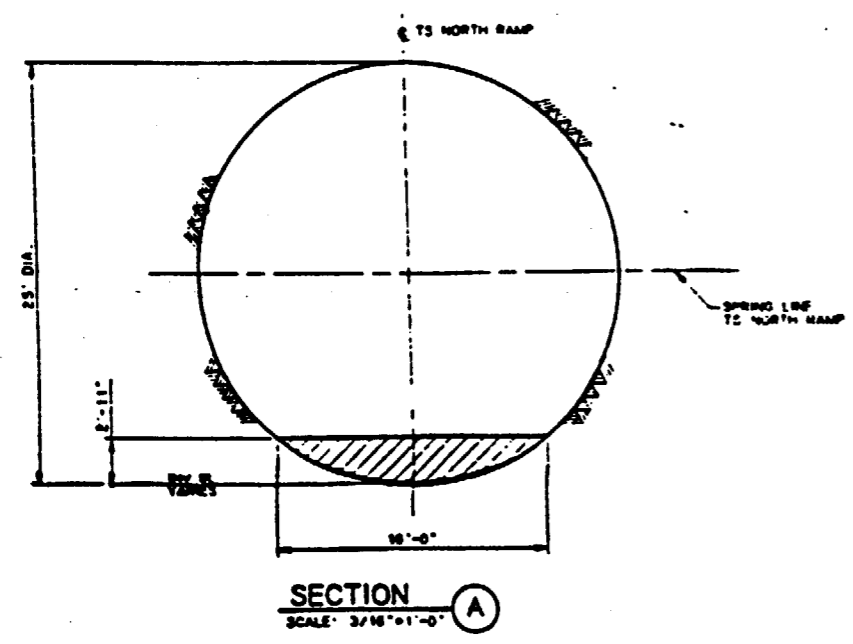
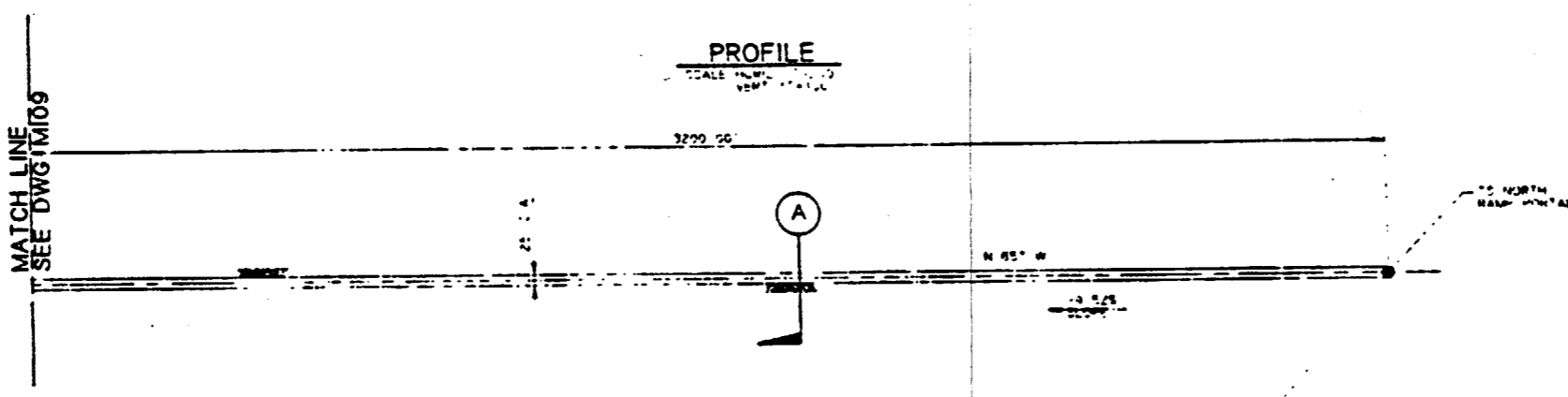
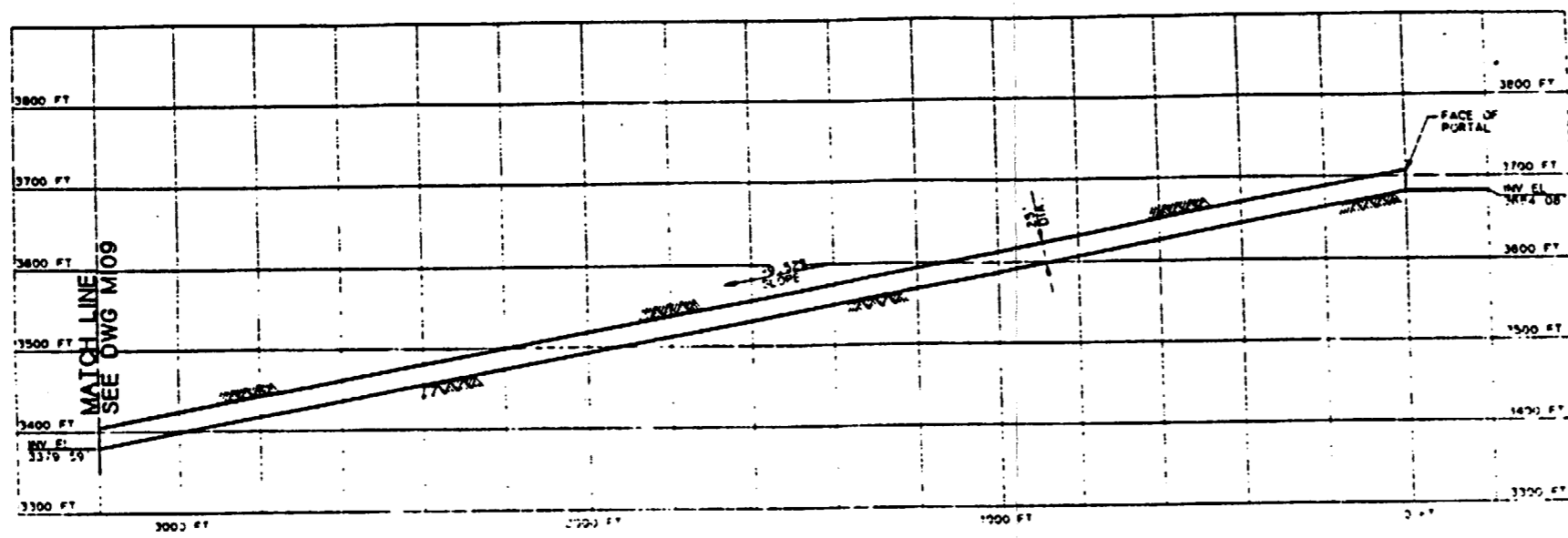
FOR PLAN & PROFILE  
SEE DWG M110

**TS SOUTH RAMP PLAN**



9305250071-37

NO.	DATE	REVISION	DES	CHK	CHK	CHK	CHK	CHK	CHK	CHK	CHK	CHK	CHK	CHK	CHK	CHK															
<p><b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA</p>																															
<p><b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA</p>																															
<p><b>EXPLORATORY STUDIES FACILITY</b> GENERAL ARRANGEMENT TS NORTH &amp; TS SOUTH RAMP PLAN</p>																															
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DESIGNER	CHKD	APP'D	DATE																												
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W. J. K. / WJK	W. J. K. / WJK	W. J. K. / WJK	8-25-88																												
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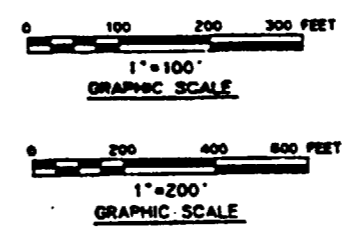
**NOTE:**  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY

- NOTES:**
- COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE
  - ELEVATIONS SHOWN ARE AT THE INVERT OF THE DRIFT AS MINED, EXCEPT FOR VERTICAL CURVES, WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE INVERT (PI) INV 1 IS SHOWN
  - BEARINGS ARE ROUNDED TO THE NEAREST DEGREE.
  - TS NORTH AND TS SOUTH RAMP PORTAL LOCATIONS ARE BASED ON THE PRELIMINARY SITING ANALYSIS REPORT RSM DESIGN ANALYSIS NO. ST-89-004. PORTAL COORDINATES ARE PRELIMINARY AND ARE BASED ON SCALED DISTANCES
  - BY-PASSES AND TURN-AROUNDS WILL BE PROVIDED AT REGULAR INTERVALS

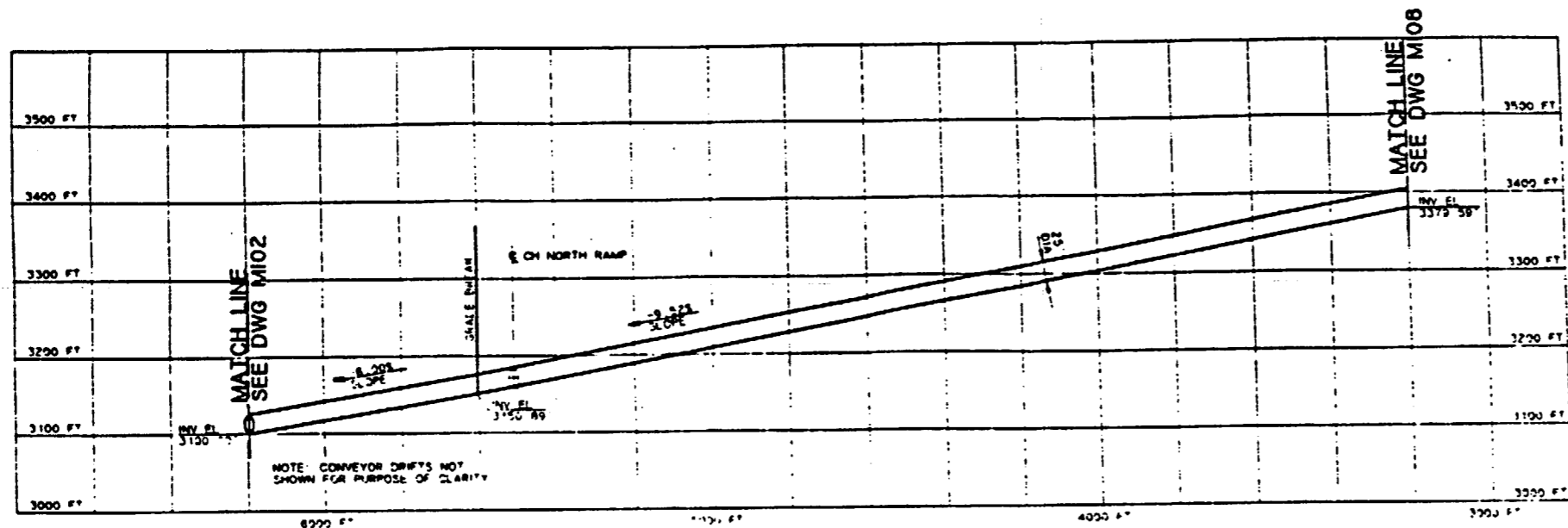
SI  
APERTURE  
CARD  
Also Available On  
Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0E02

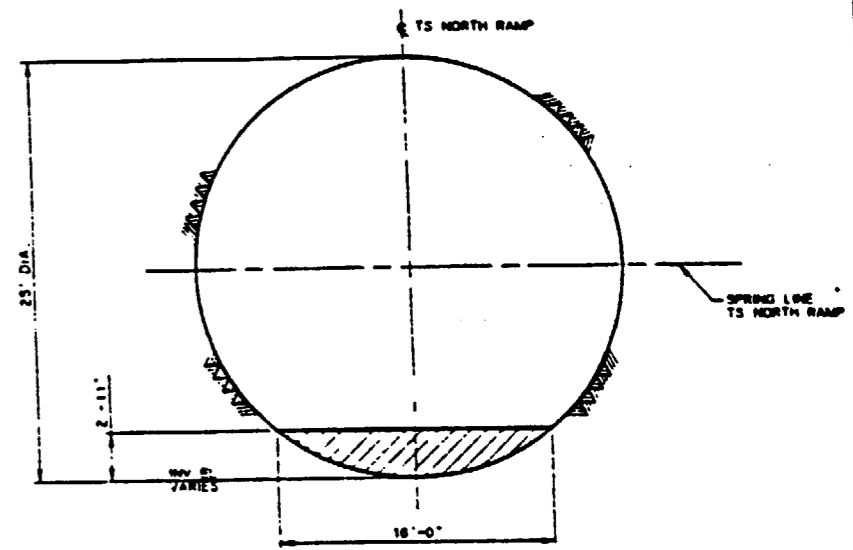
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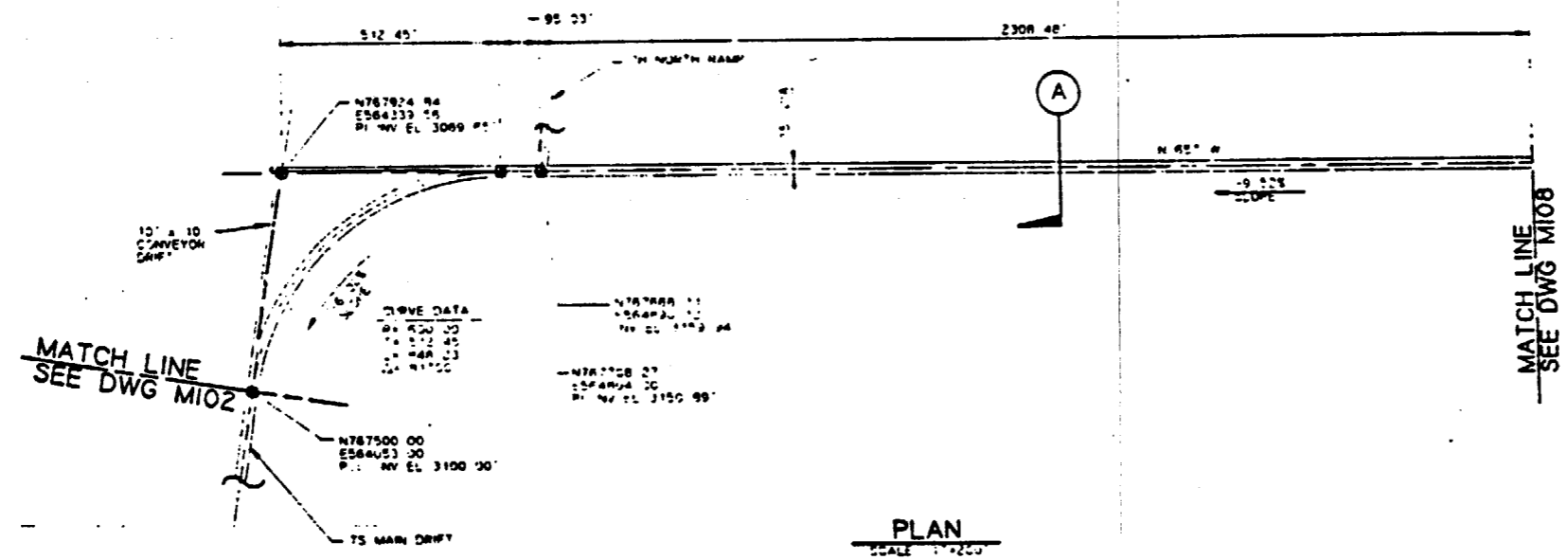
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<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA													
<b>EXPLORATORY STUDIES FACILITY</b> <b>GENERAL ARRANGEMENT</b> <b>TS NORTH RAMP</b> <b>PLAN &amp; PROFILE, SECTION</b>													
APPROVALS													
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VERIFICATION	N/A												
DATE	DATE												
QUALITY ASSURANCE	DATE												
SUBMITTED BY: <i>RL Z...</i> DATE: 8-29-91 DRAWING NO.: YMP-025-2-MING-M108													
YUCCA APPROVED: _____ DATE: _____													



**PROFILE**  
SCALE: HORIZ. 1"=200'  
VERT. 1"=100'



**SECTION A**  
SCALE: 3/16"=1'-0"



**PLAN**  
SCALE: 1"=200'

**NOTE:**  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY

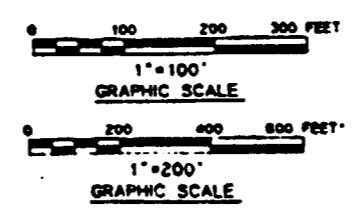
**NOTES:**

- COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE
- ELEVATIONS SHOWN ARE AT THE INVERT OF THE DRIFT AS MINED, EXCEPT FOR VERTICAL CURVES WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE INVERT IS SHOWN
- BEARINGS ARE ROUNDED TO THE NEAREST DEGREE
- BY-PASSES AND TURN-AROUNDS WILL BE PROVIDED AT REGULAR INTERVALS

**SI APERTURE CARD**  
Also Available On Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-GE02

9305250071-39



NO	DATE	REVISION	DES	DRN	CHK	DEC	DM	WSP	ENV	SAF	QA	TRPO
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APPROVALS			<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA <b>EXPLORATORY STUDIES FACILITY</b> <b>GENERAL ARRANGEMENT</b> <b>TS NORTH RAMP</b> <b>PLAN &amp; PROFILE, SECTION</b>									
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DESIGN	CLP											
CHECKED	DATE											
SEC												
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8

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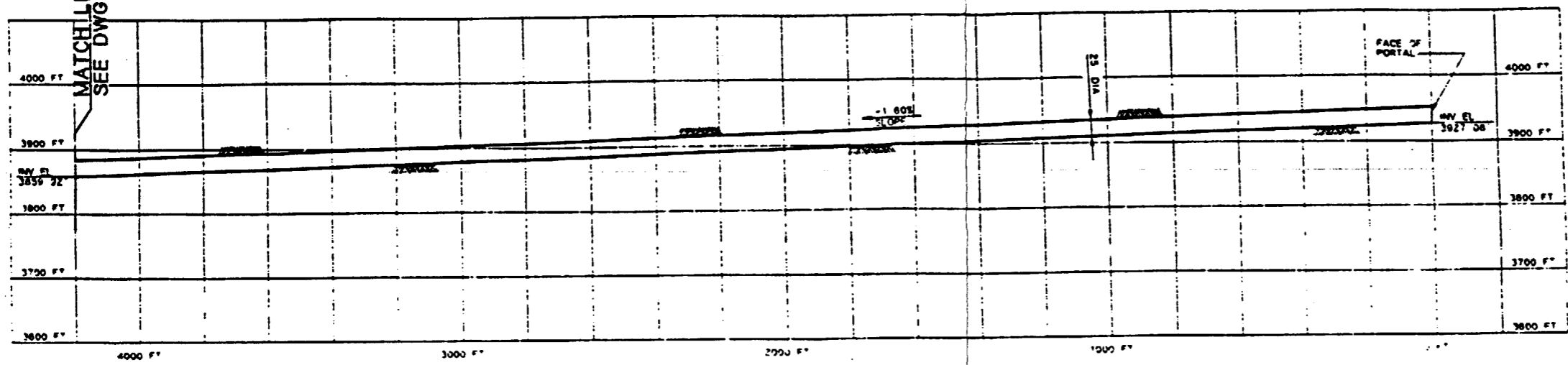
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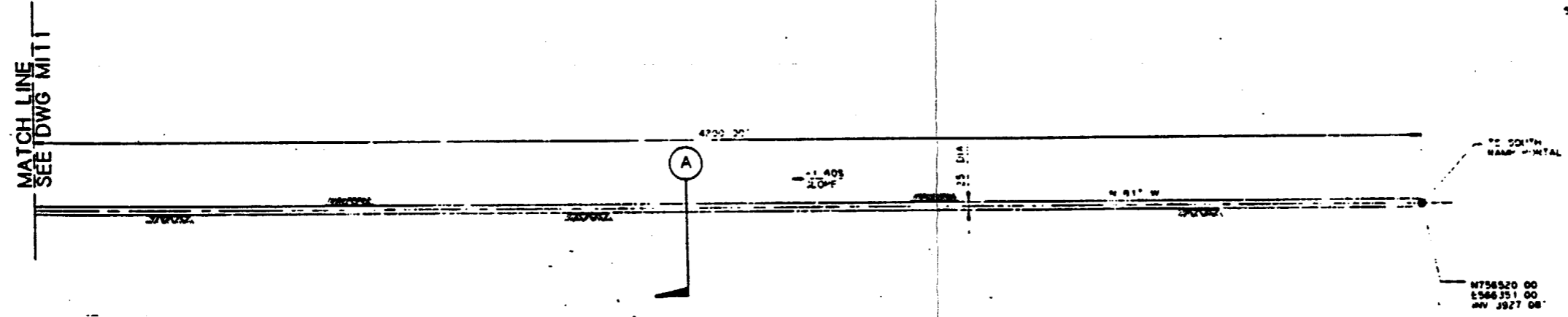
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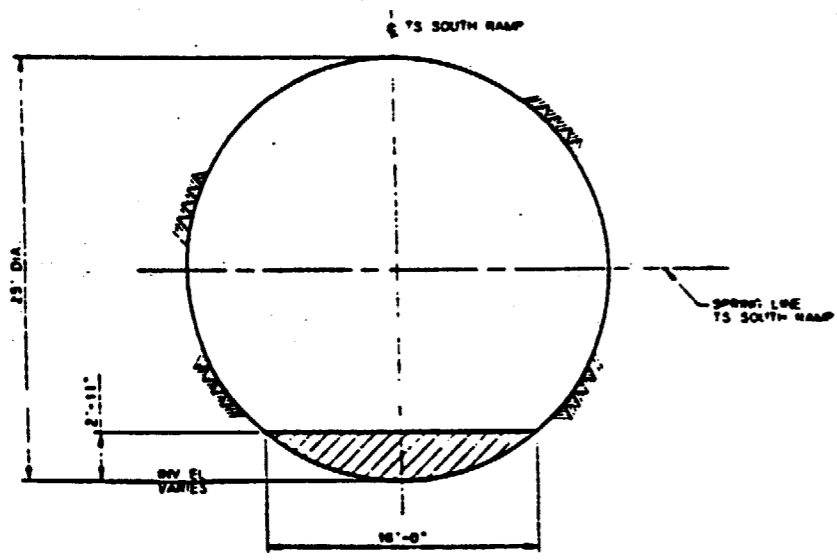
A



**PROFILE**  
SCALE: 1/4" = 100'



**PLAN**  
SCALE: 1/4" = 100'



**SECTION A**  
SCALE: 3/16" = 1'-0"

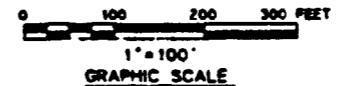
- NOTES:**
- COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE
  - ELEVATIONS SHOWN ARE AT THE INVERT OF THE DIRT AS WHEED EXCEPT FOR VERTICAL CURVES, WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE INVERT (PI) IS SHOWN
  - BEARINGS ARE ROUNDED TO THE NEAREST DEGREE.
  - TS NORTH AND TS SOUTH RAMP PORTAL LOCATIONS ARE BASED ON THE PRELIMINARY SITING ANALYSIS REPORT, NSM DESIGN ANALYSIS NO. 31-MN-004. PORTAL COORDINATES ARE PRELIMINARY AND ARE BASED ON SCALED DISTANCES.
  - BY-PASSES AND TURN-AROUNDS WILL BE PROVIDED AT REGULAR INTERVALS.

**SI APERTURE CARD**  
Also Available On Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-GE02

9305250071-40

**NOTE:**  
COORDINATES AND DIMENSIONS ARE PRELIMINARY



NO	DATE	REVISION	DES	DRN	CHK	DEC	DR	VRFY	ENR	SAP	QA	TRD	TR																												
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA																																									
<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA																																									
<b>EXPLORATORY STUDIES FACILITY</b> <b>GENERAL ARRANGEMENT</b> <b>TS SOUTH RAMP</b> <b>PLAN &amp; PROFILE, SECTION</b>																																									
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DESIGNED BY	CHKD BY	DATE	DRAWING NO.																																						
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VERIFICATION	N/A																																								
ENR																																									
QUALITY ASSURANCE																																									
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DATE																																									

U.S. DEPARTMENT OF ENERGY  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE  
LAS VEGAS, NEVADA

APPROVALS

DESIGNER	WJK
CHECKED	WJK
APPROVED	WJK
DATE	

EXPLOATORY STUDIES FACILITY  
GENERAL ARRANGEMENT  
TS SOUTH RAMP

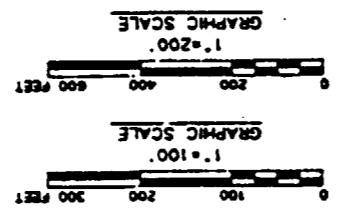
PLANNING & PROFILE SECTION

DRAWING NO. YMP-025-2-MING-M111

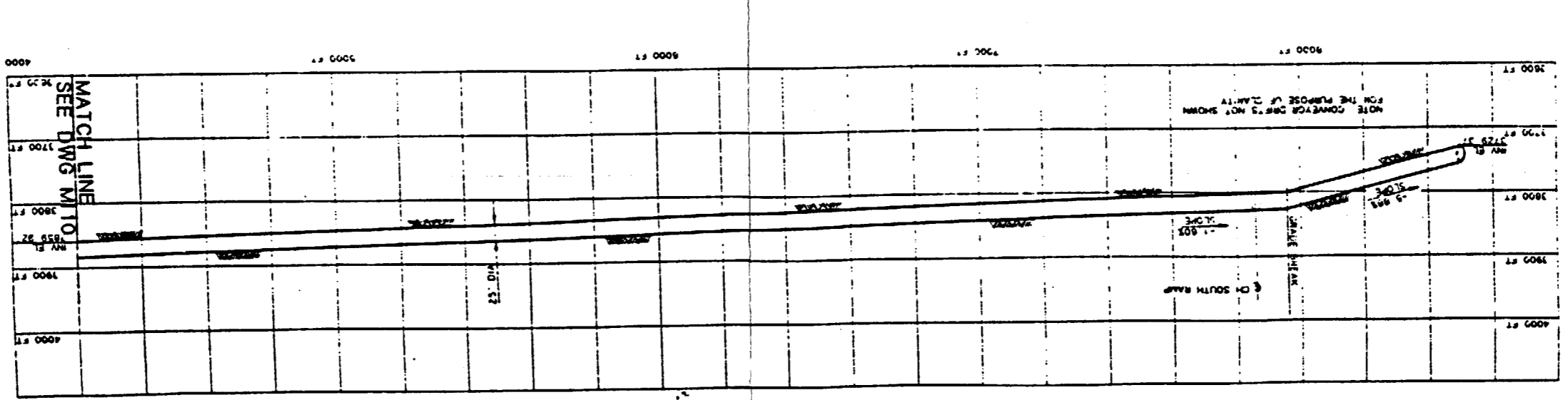
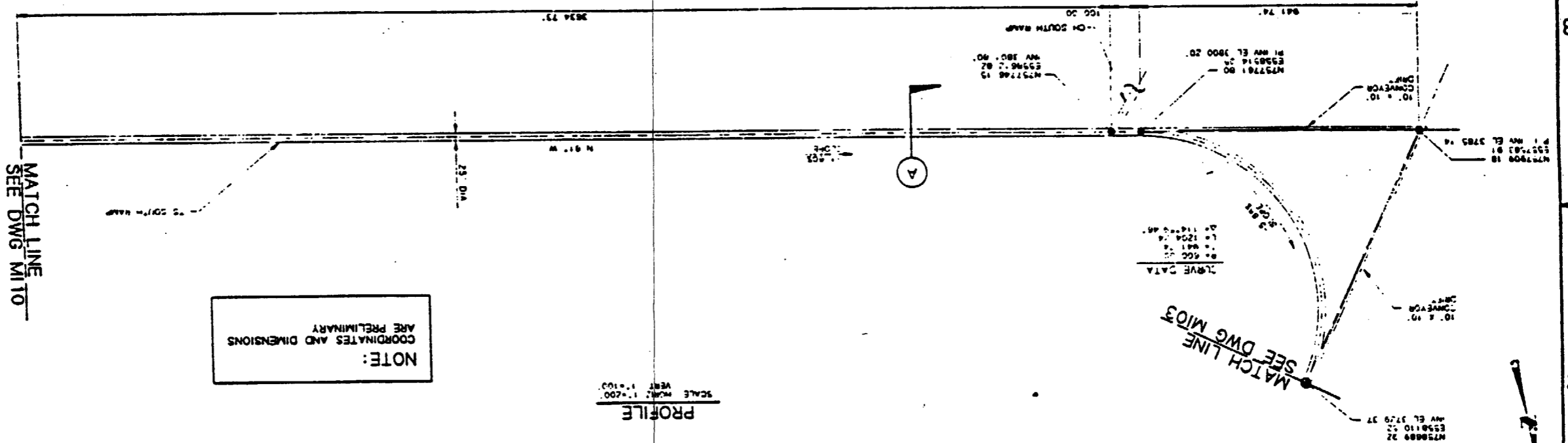
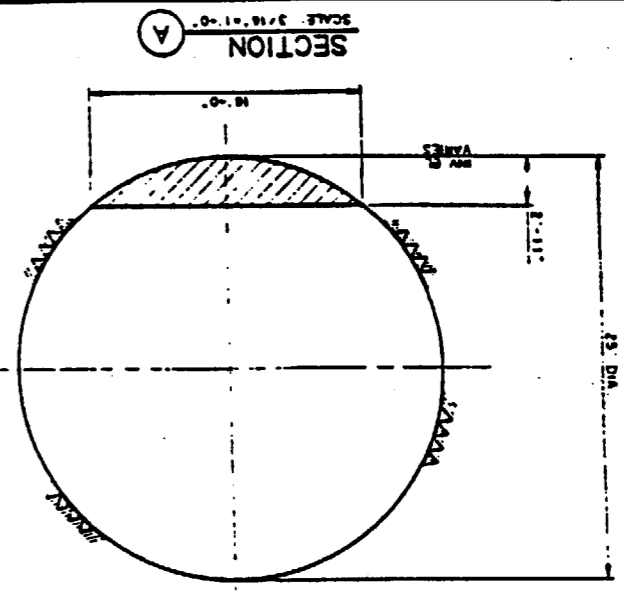
DATE

9305250071-41

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0202



- NOTES:
- COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE.
  - ELEVATIONS SHOWN ARE AT THE INVERT OF THE DRAIN AS LINED, EXCEPT FOR VERTICAL CURVES WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE WENT IN IN IN 1'S SHOWN.
  - BEARINGS ARE ROUNDED TO THE NEAREST DEGREE.
  - ST-PASSES AND TURN-AROUNDS WILL BE PROVIDED AT REGULAR INTERVALS.

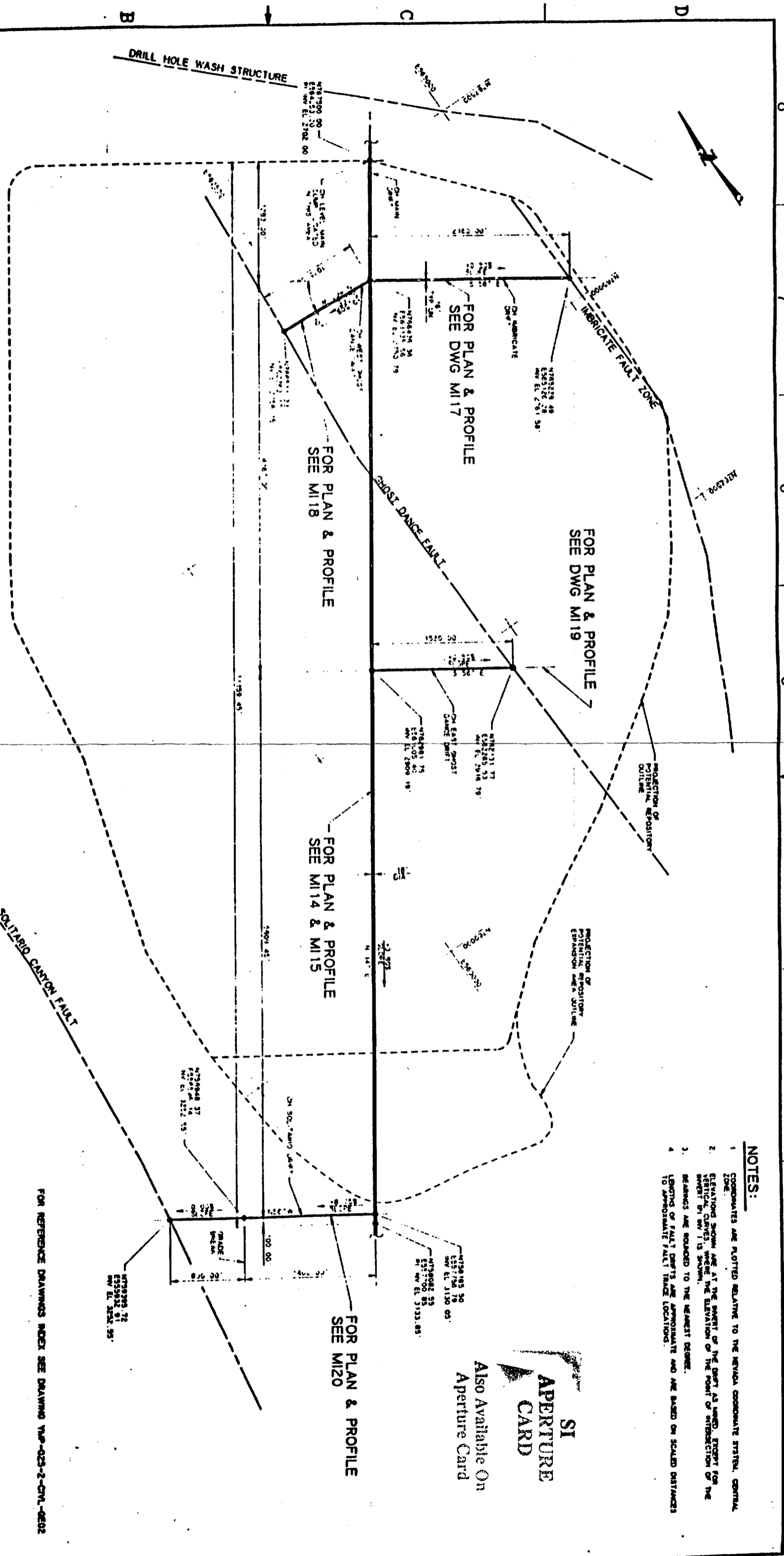


SI  
APERTURE  
CARD  
Also Available On  
Aperture Card

- NOTES:**
- COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE.
  - ELEVATIONS SHOWN ARE AT THE MOUTH OF THE DRIFT AS MEAS. EXCEPT FOR THE VERTICAL DRIFTS WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE DRIFT BY THE 1:5000 MAP IS SHOWN.
  - BEARINGS ARE RELATED TO THE NEAREST DEGREE.
  - LOCATIONS OF FAULT DRIFTS ARE APPROXIMATE AND ARE BASED ON SCALED DISTANCES TO APPROXIMATE FAULT TRACE LOCATIONS.

SI  
APERTURE  
CARD

Also Available On  
Aperture Card

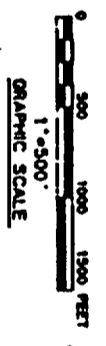


**CH LEVEL EXPLORATORY DRIFTS PLAN**

**NOTES:**  
FAULT TRACE LOCATIONS SHOWN ARE APPROXIMATIONS BASED ON A 1:5000 PROJECTION OF INFORMATION FROM SCOTT AND BOWEN REGIONAL GEOLOGIC MAP AND SECTIONS

**NOTE:**  
COORDINATES AND DIMENSIONS ARE PRELIMINARY

9805250071-42



FOR REFERENCE DRAWINGS INDEX SEE DRAWING YAP-023-2-CIVL-0202

NO.	DATE	REVISION	DES	DRW	CHK	DM	WRY	SW	SA	PRO

**U.S. DEPARTMENT OF ENERGY**  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE  
LAS VEGAS, NEVADA

**APPROVALS**

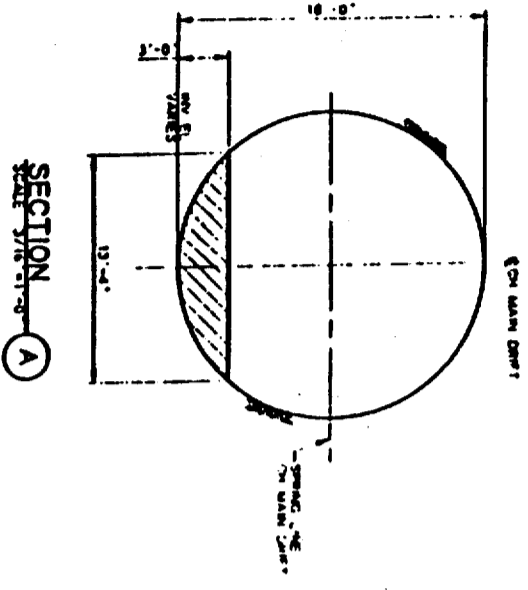
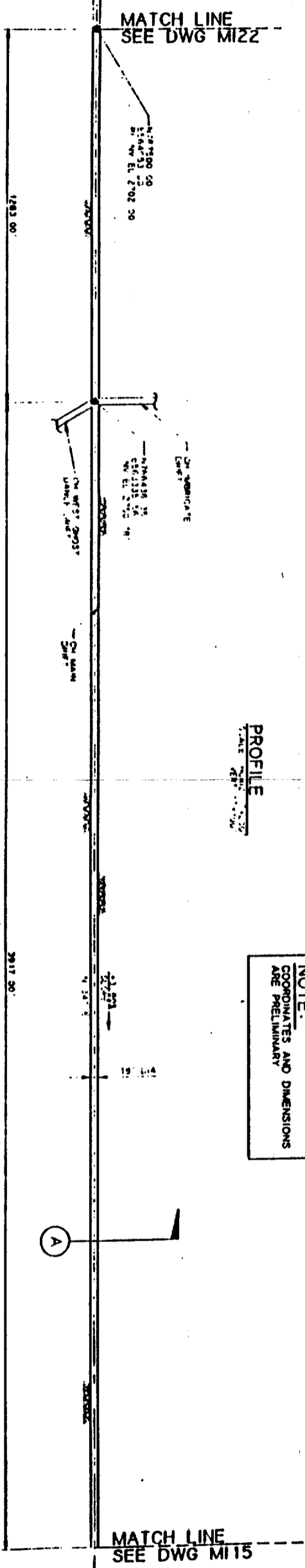
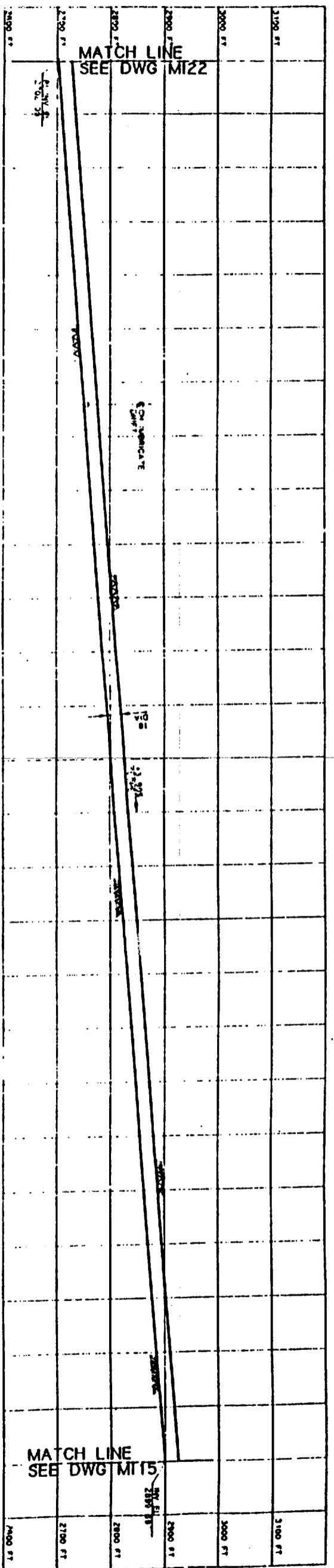
DESIGNER	DATE	APPROVED
3.C.M.	11/22/81	[Signature]

**Raytheon Services Nevada**  
LAS VEGAS, NEVADA

EXPLORATORY STUDIES FACILITY  
GENERAL ARRANGEMENT  
CH LEVEL EXPLORATORY DRIFTS  
PLAN

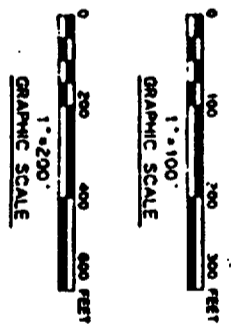
11/22/81 8-30-81 YAP-023-2-MING-M113





- NOTES:**
- 1 COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, GENERAL ZONE.
  - 2 ELEVATIONS SHOWN ARE AT THE POINT OF THE POINT AS SHOWN, EXCEPT FOR THE POINTS SHOWN WITH THE ELEVATION OF THE POINT OF INTERSECTION OF THE SECTION TO THE 1:200 SCALE.
  - 3 DIMENSIONS ARE ROUNDED TO THE NEAREST DECIMAL.
  - 4 DIMENSIONS AND DIMENSIONS WILL BE PROVIDED AT REGULAR INTERVALS.

9805250071-43



**NOTE:**  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY

**SI**  
**APERTURE**  
**CARD**  
Also Available On  
Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING MAP-025-2-CIVL-0202

NO	DATE	REVISION	DES	DRW	CHK	APP	BY	DATE

**U.S. DEPARTMENT OF ENERGY**  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE  
LAS VEGAS, NEVADA

**NSN** Raytheon Services Nevada  
LAS VEGAS, NEVADA

EXPLORATORY STUDIES FACILITY  
GENERAL ARRANGEMENT  
CH MAIN DRIFT  
PLAN & PROFILE, SECTION

APPROVALS

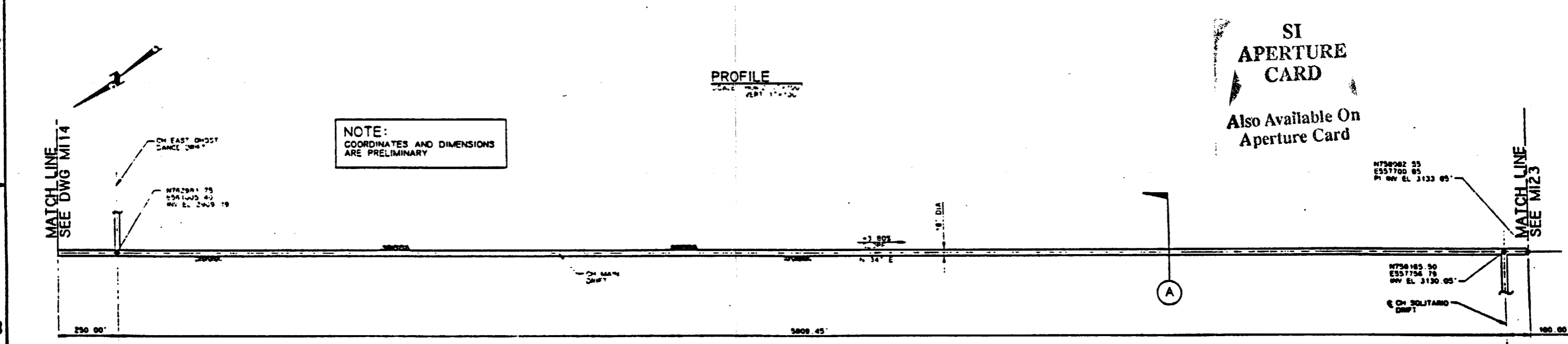
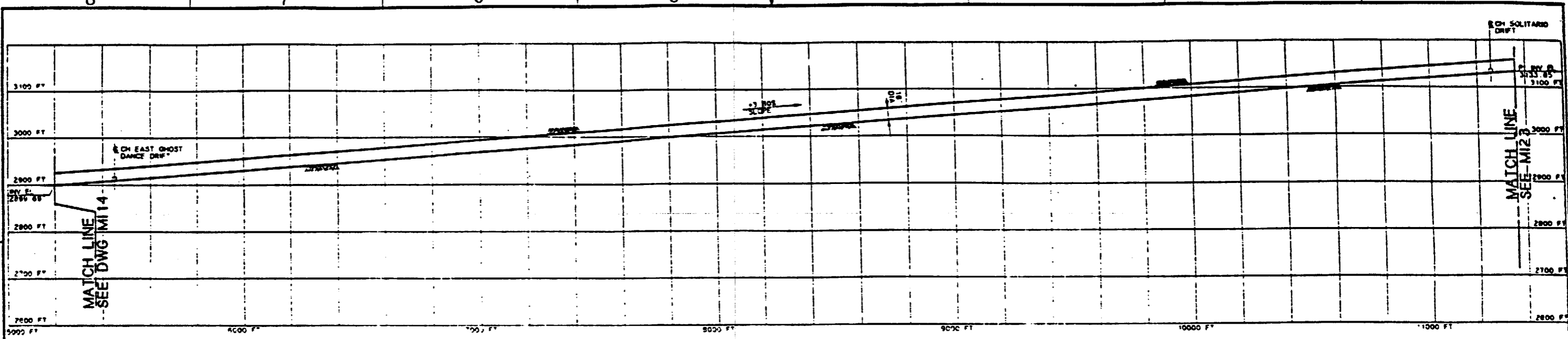
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CHECKED BY: *[Signature]*  
DATE: *[Date]*

PREPARED BY: *[Signature]*  
DATE: *[Date]*

REVISIONS

NO. 1  
DATE: 12-28-83  
BY: *[Signature]*

DATE: *[Date]*



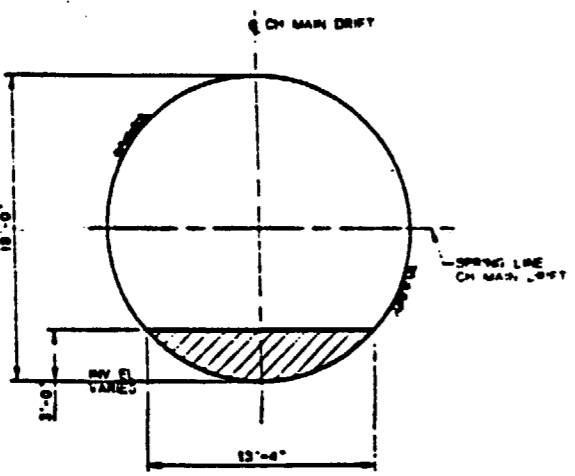
NOTE:  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY

SI  
APERTURE  
CARD  
Also Available On  
Aperture Card

PROFILE  
SCALE: HORIZ. 1"=100'  
VERT. 1"=20'

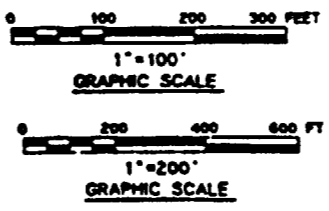
PLAN  
SCALE: 1"=200'

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CYL-0E02



- NOTES:**
- COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE.
  - ELEVATIONS SHOWN ARE AT THE INVERT OF THE DRIFT AS MINED, EXCEPT FOR VERTICAL CURVES, WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE INVERT (PI) INV. IS SHOWN.
  - BEARINGS ARE ROUNDED TO THE NEAREST DEGREE.
  - BY-PASSES AND TURN-AROUNDS WILL BE PROVIDED AT REGULAR INTERVALS.

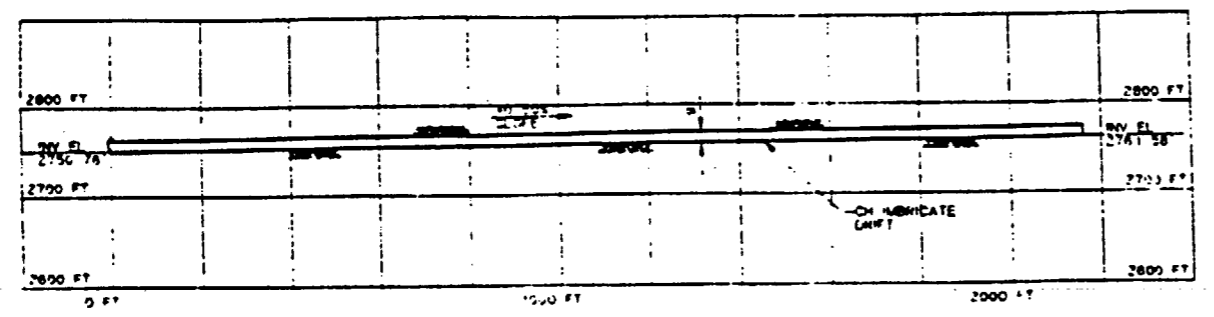
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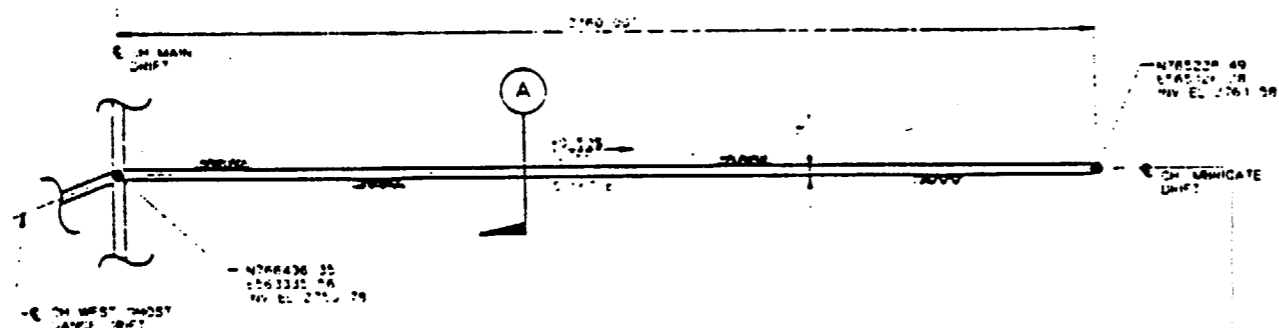
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<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA												
APPROVALS			<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA									
DESIGN	CHK	DATE										
DRWN	CLP											
ENGR												
SEC												
VERIFY												
VERIFIED	N/A											
CHK	SAP											
QUALTY												
ASSIGNED												
SUBMITTED BY			DATE			DRAWING NO.			REV			
7/22/81			5-11-81			YMP-025-2-MING-MI15			C			
YMPD APPROVED			DATE			BY			OF			
C. J. [Signature]												

**NOTES:**

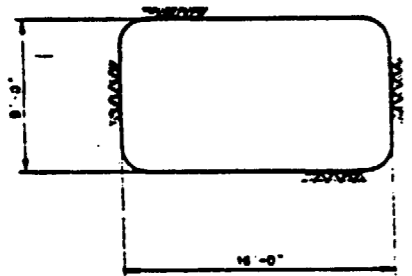
1. COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE.
2. ELEVATIONS SHOWN ARE AT THE INVERT OF THE DRIFT AS MINED, EXCEPT FOR VERTICAL CURVES, WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE INVERT (PI INV) IS SHOWN.
3. BEARINGS ARE ROUNDED TO THE NEAREST DEGREE.
4. LENGTHS OF FAULT DRIFTS ARE APPROXIMATE AND ARE BASED ON SCALED DISTANCES TO APPROXIMATE FAULT TRACE LOCATIONS.



**PROFILE**



**PLAN**



**SECTION A**  
SCALE 3/4"=1'-0"

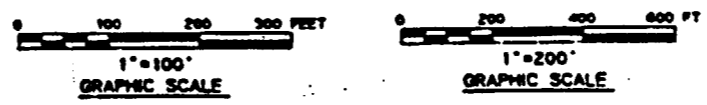
**NOTE:**  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY

**SI  
APERTURE  
CARD**

Also Available On  
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FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0202

9305250071-45



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APPROVALS			<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA									
DESIGN	CHK	CLP	<b>EXPLORATORY STUDIES FACILITY</b> <b>GENERAL ARRANGEMENT</b> <b>CH IMBRICATE DRIFT</b> <b>PLAN &amp; PROFILE SECTION</b>									
DRAWN	CLP											
CHECKED												
SEC												
VERIFICATION												
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DATE	DATE	DATE										

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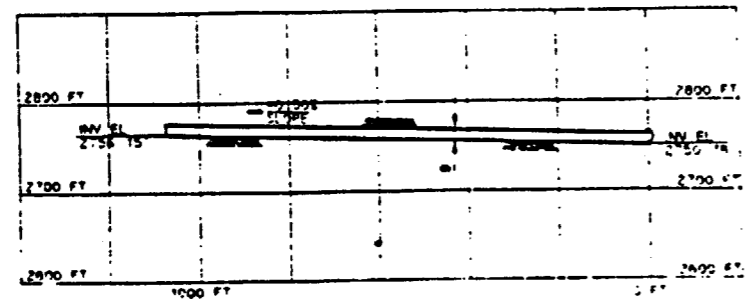
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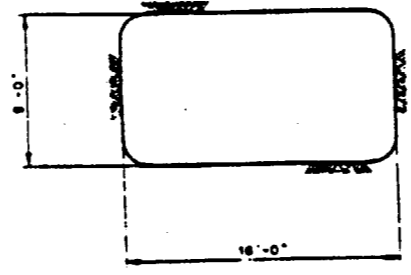
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NOTES:

- 1. COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE.
- 2. ELEVATIONS SHOWN ARE AT THE INVERT OF THE DRIFT AS MINED, EXCEPT FOR VERTICAL CURVES, WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE INVERT (PI) IS SHOWN.
- 3. BEARINGS ARE ROUNDED TO THE NEAREST DEGREE.
- 4. LENGTHS OF FAULT DRIFTS ARE APPROXIMATE AND ARE BASED ON SCALED DISTANCES TO APPROXIMATE FAULT TRACE LOCATIONS.



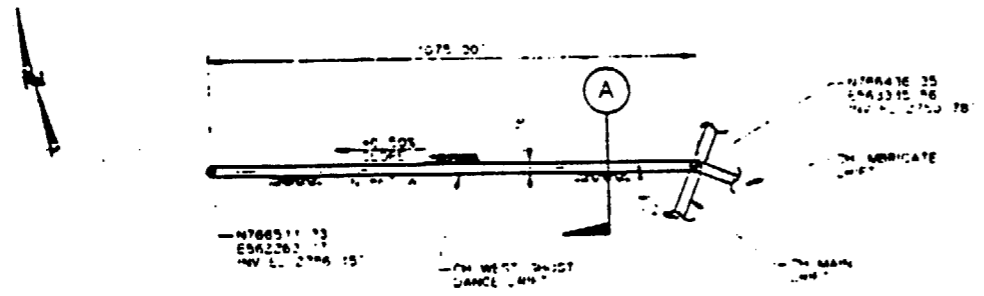
PROFILE  
SCALE 1/4"=100'



SECTION A  
SCALE 1/4"=100'

NOTE:  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY

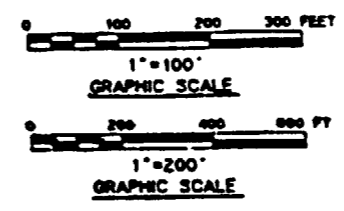
SI  
APERTURE  
CARD  
Also Available On  
Aperture Card



PLAN  
SCALE 1/4"=200'

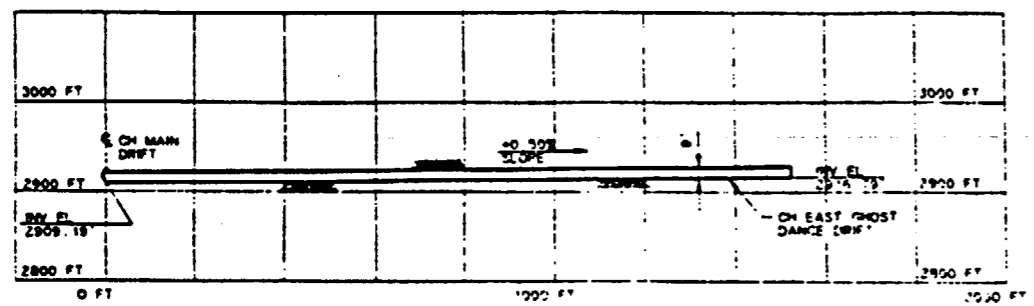
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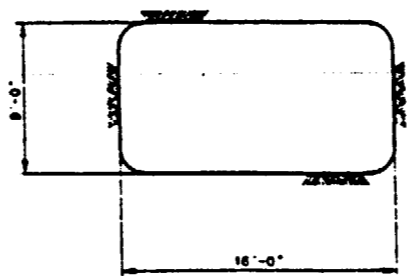


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<b>APPROVALS</b>										<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA			
DESIGN	CHK												
DRN	CLP												
ENGR	<i>[Signature]</i>												
SEC	<i>[Signature]</i>												
CHIEF ENGINEER	<i>[Signature]</i>												
VERIFIED	N/A												
BY	DATE												
BY	DATE												
										<b>EXPLORATORY STUDIES FACILITY</b> <b>GENERAL ARRANGEMENT</b> <b>CH WEST GHOST DANCE DRIFT</b> <b>PLAN &amp; PROFILE, SECTION</b>			
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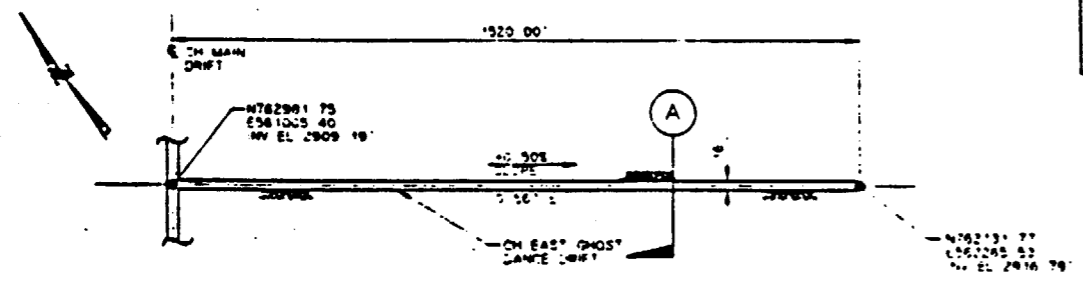
D  
C  
B  
A



**PROFILE**  
SCALE: HORIZ. 1"=100' VERT. 1"=100'



**SECTION A**  
SCALE: 1/16"=1'-0"



**PLAN**  
SCALE: 1"=200'

**NOTE:**  
COORDINATES AND DIMENSIONS ARE PRELIMINARY

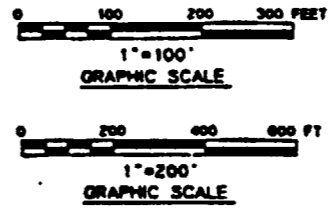
**NOTES:**

- COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE.
- ELEVATIONS SHOWN ARE AT THE INVERT OF THE DRIFT AS MINED, EXCEPT FOR VERTICAL CURVES, WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE INVERT SPIN INV 1 IS SHOWN.
- BEARINGS ARE ROUNDED TO THE NEAREST DEGREE.
- LENGTHS OF FAULT DRIFTS ARE APPROXIMATE AND ARE BASED ON SCALED DISTANCES TO APPROXIMATE FAULT TRACE LOCATIONS.

**SI APERTURE CARD**  
Also Available On Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0E02

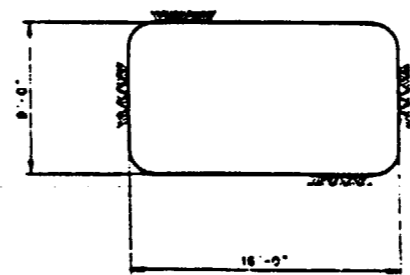
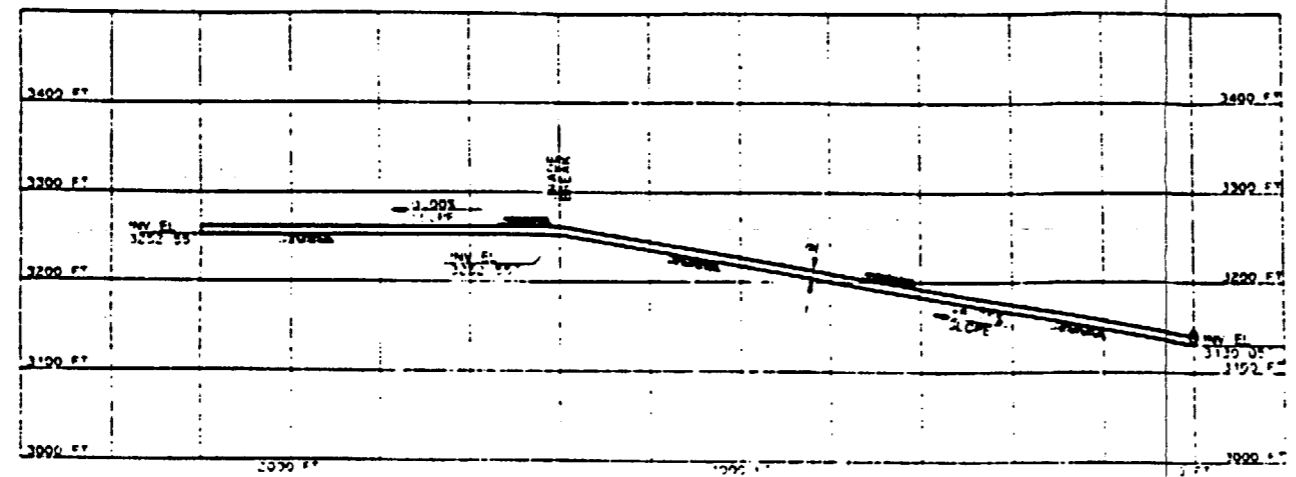
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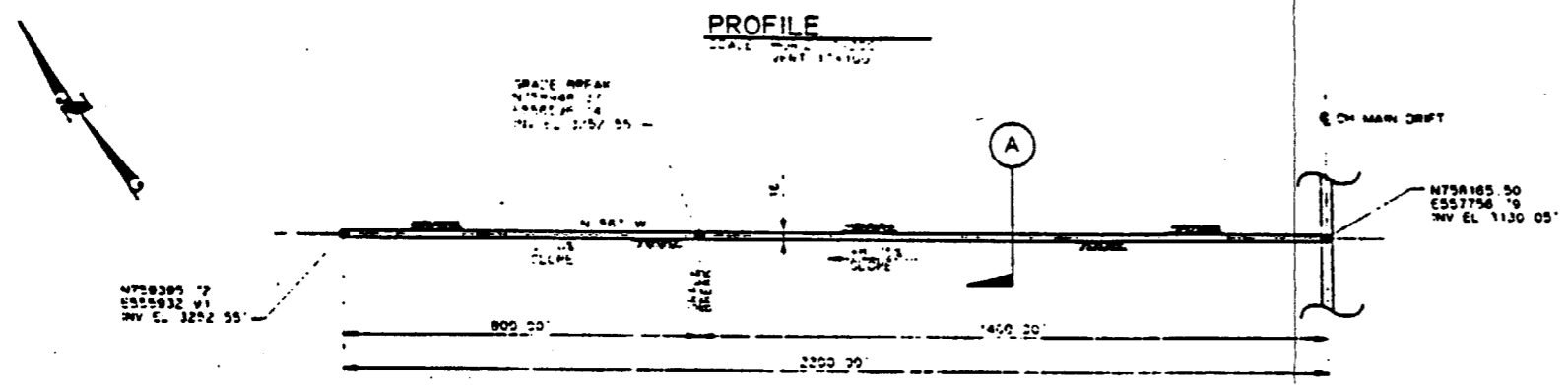
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APPROVALS			<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA									
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ENV	ENV											
QUALITY	QA											
APPROVED	DATE	DRAWN NO.										
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FOR	DATE	DATE										
YMP-025-2	8-21-01											

**NOTES:**

1. COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE.
2. ELEVATIONS SHOWN ARE AT THE INVERT OF THE DRIFT AS MINED, EXCEPT FOR VERTICAL CURVES, WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE INVERT (PI INV) IS SHOWN.
3. BEARINGS ARE ROUNDED TO THE NEAREST DEGREE.
4. LENGTHS OF FAULT DRIFTS ARE APPROXIMATE AND ARE BASED ON SCALED DISTANCES TO APPROXIMATE FAULT TRACE LOCATIONS.



**SECTION A**  
SCALE 3/16" = 1'-0"



**PLAN**  
SCALE 1/4" = 100'

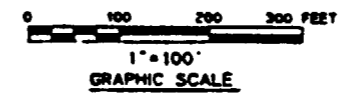
**NOTE:**  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY

**SI  
APERTURE  
CARD**

Also Available On  
Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CVL-0202

9305250071-48



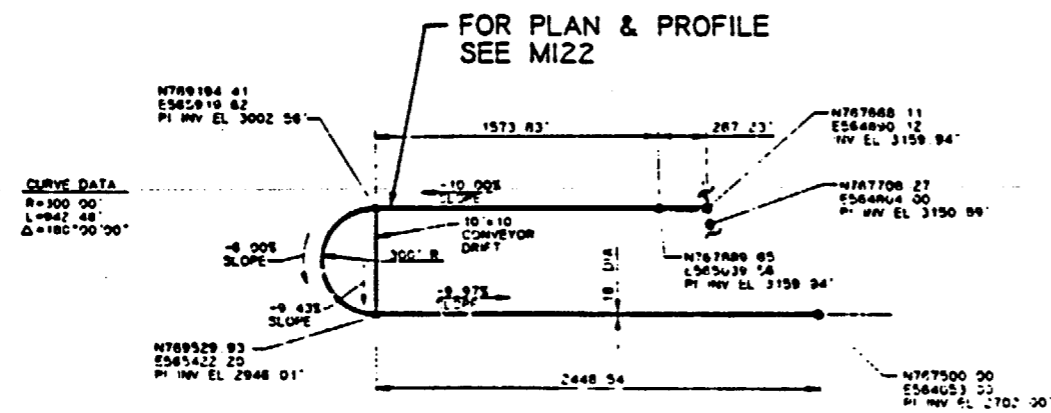
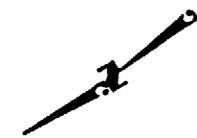
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<b>APPROVALS</b>			<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA  <b>EXPLORATORY STUDIES FACILITY</b> <b>GENERAL ARRANGEMENT</b> <b>CH SOLITARIO DRIFT</b> <b>PLAN &amp; PROFILE SECTION</b>									
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DRAWN	CLP											
CHECKED	<i>[Signature]</i>											
SEC	<i>[Signature]</i>											
DESIGN MANAGER	B.C.H.											
VERIFIED	N/A											
ENR	SAF	<i>[Signature]</i>										
QUALITY ASSURANCE	<i>[Signature]</i>											
SUBMITTED BY <i>[Signature]</i> DATE <i>[Date]</i>			DRAWING NO. <b>YMP-025-2-MING-M120</b>									
YUCCA APPROVED			DATE									

D

C

B

A



CH NORTH RAMP PLAN  
SCALE 1"=500'

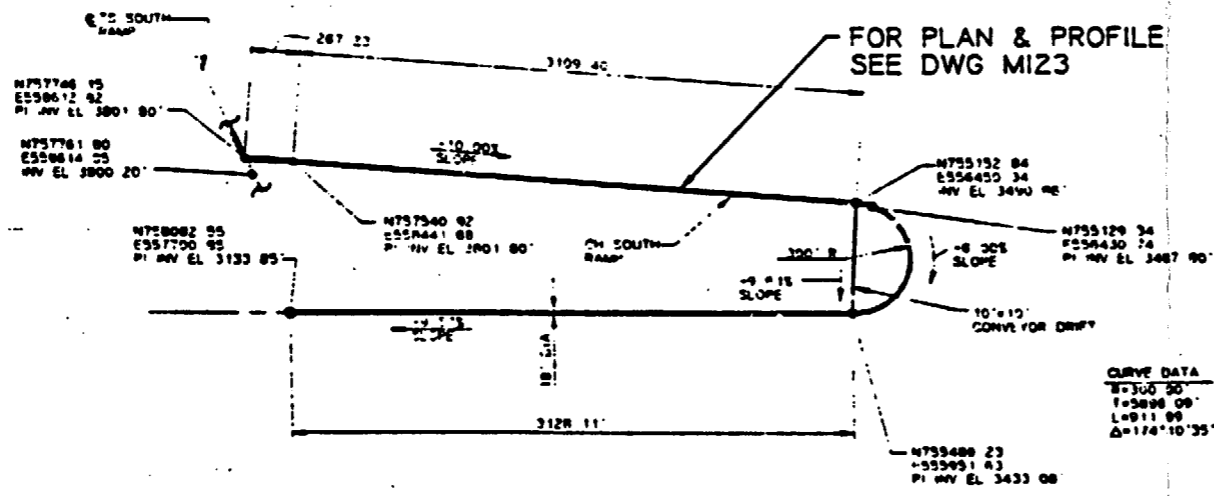
NOTE:  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY

NOTES:

- COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE
- ELEVATIONS SHOWN ARE AT THE INVERT OF THE DRIFT AS LINED, EXCEPT FOR VERTICAL CURVES, WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE INVERT (PI INV) IS SHOWN
- BEARINGS ARE ROUNDED TO THE NEAREST DEGREE.

SI  
APERTURE  
CARD

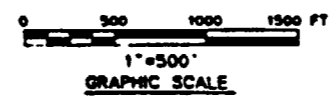
Also Available On  
Aperture Card



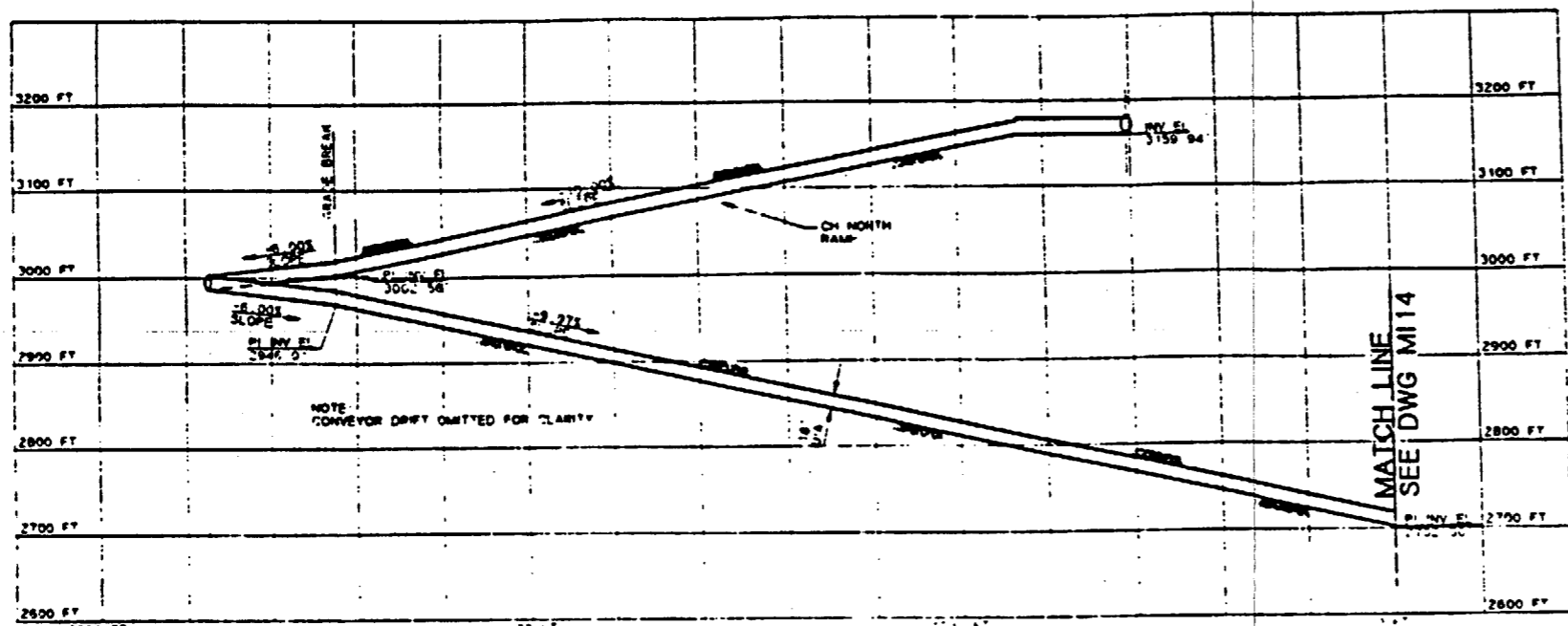
CH SOUTH RAMP PLAN  
SCALE 1"=500'

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0202

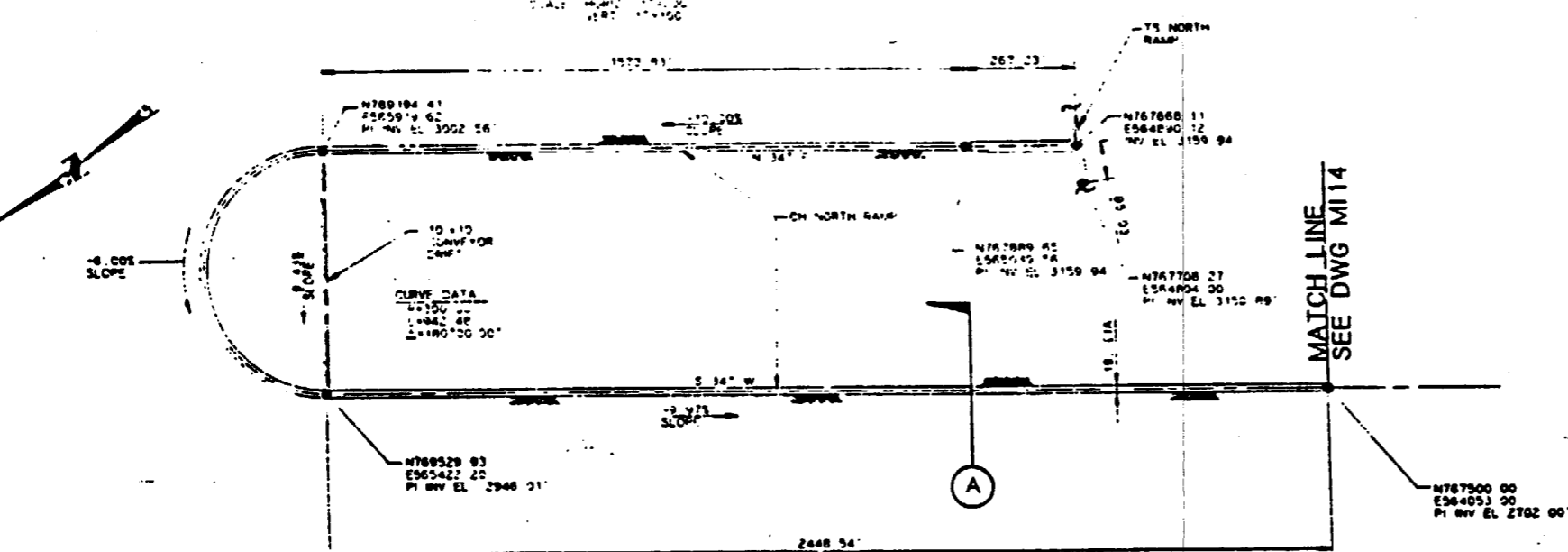
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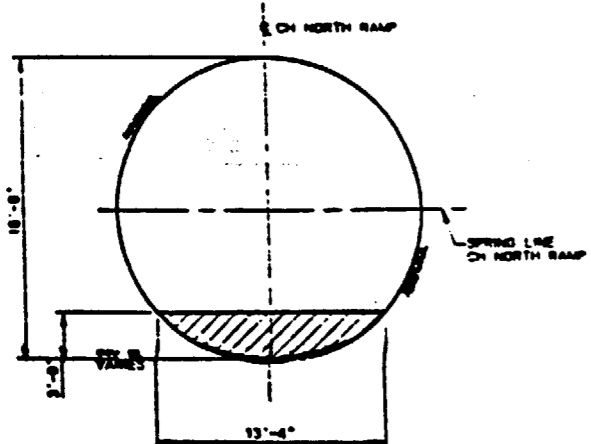
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APPROVALS		<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA										
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DRWN	CLP	GENERAL ARRANGEMENT										
ENGR	<i>[Signature]</i>	CH NORTH & CH SOUTH RAMPS										
SEC	<i>[Signature]</i>	PLAN										
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WARRANTY	<i>[Signature]</i>											
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FOR	YMP0157											
DATE	9-21-91											
BY	W.P.											
DATE	9-21-91											
BY	W.P.											
DATE	9-21-91											



**PROFILE**



**PLAN**  
SCALE 1"=200'



**SECTION A**  
SCALE 3/16"=1'-0"

**NOTE:**  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY

**NOTES:**

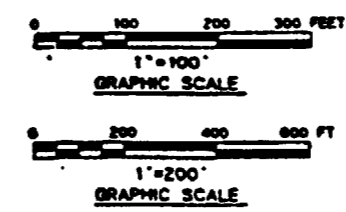
1. COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE.
2. ELEVATIONS SHOWN ARE AT THE INVERT OF THE DRIFT AS MINED, EXCEPT FOR VERTICAL CURVES, WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE INVERT (PI INV) IS SHOWN.
3. BEARINGS ARE ROUNDED TO THE NEAREST DEGREE.
4. BY-PASSES AND TURN-AROUNDS WILL BE PROVIDED AT REGULAR INTERVALS.

**SI  
APERTURE  
CARD**

Also Available On  
Aperture Card

FOR REFERENCE DRAWINGS INDEX, SEE DRAWING YMP-025-2-CIVL-0202

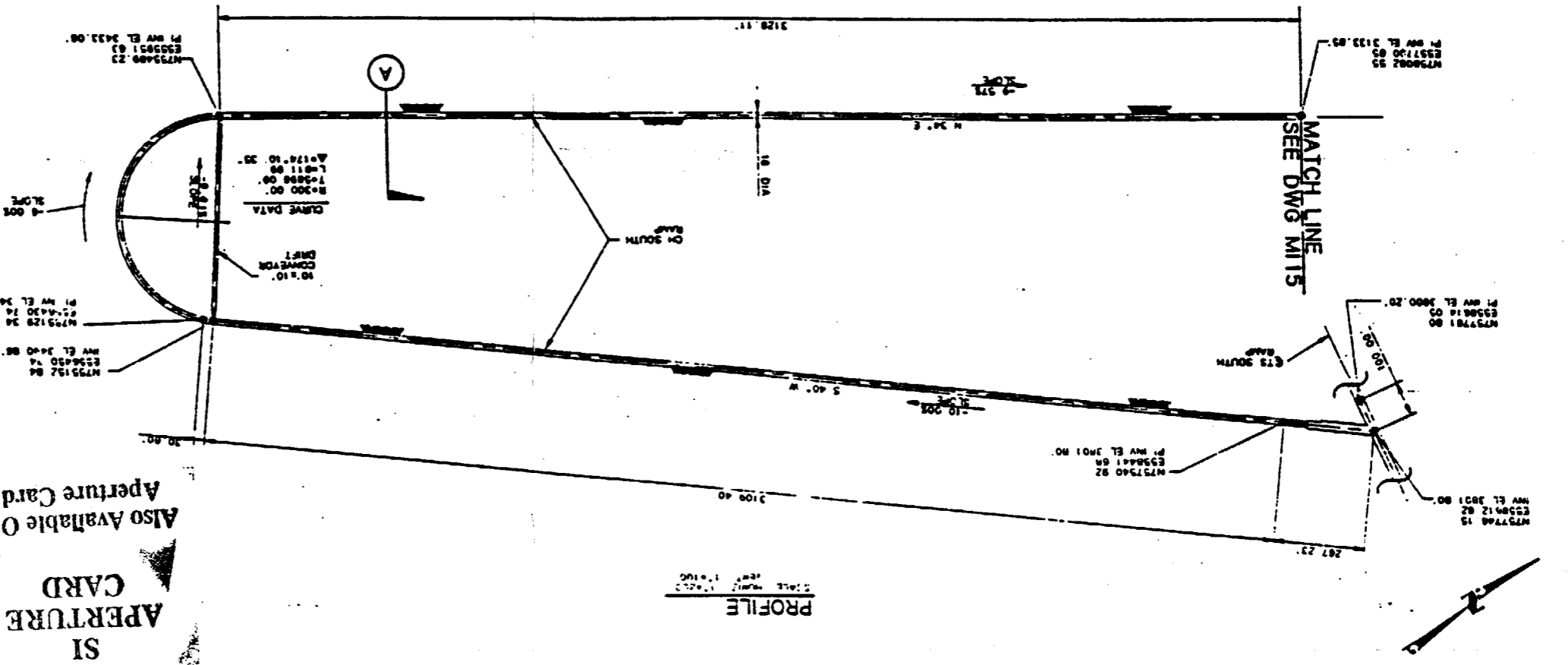
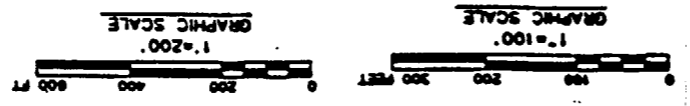
9305250071-50



NO	DATE	REVISION	DES	DRN	CHK	DEC	ENR	INSP	BRN	SAF	QA	TRD
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA												
<b>APPROVALS</b>			<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA									
DESIGN	CHK	DATE	<b>EXPLORATORY STUDIES FACILITY</b> <b>GENERAL ARRANGEMENT</b> <b>CH NORTH RAMP</b> <b>PLAN &amp; PROFILE, SECTION A</b>									
DRN	CHK	DATE										
ENR	CHK	DATE										
INSP	CHK	DATE										
BRN	CHK	DATE										
SAF	CHK	DATE	SUBMITTED BY		DATE		DRAWING NO.			DATE		
			7/22/91		7-22-91		YMP-025-2-MING-M122					
			YUPO APPROVED		DATE							

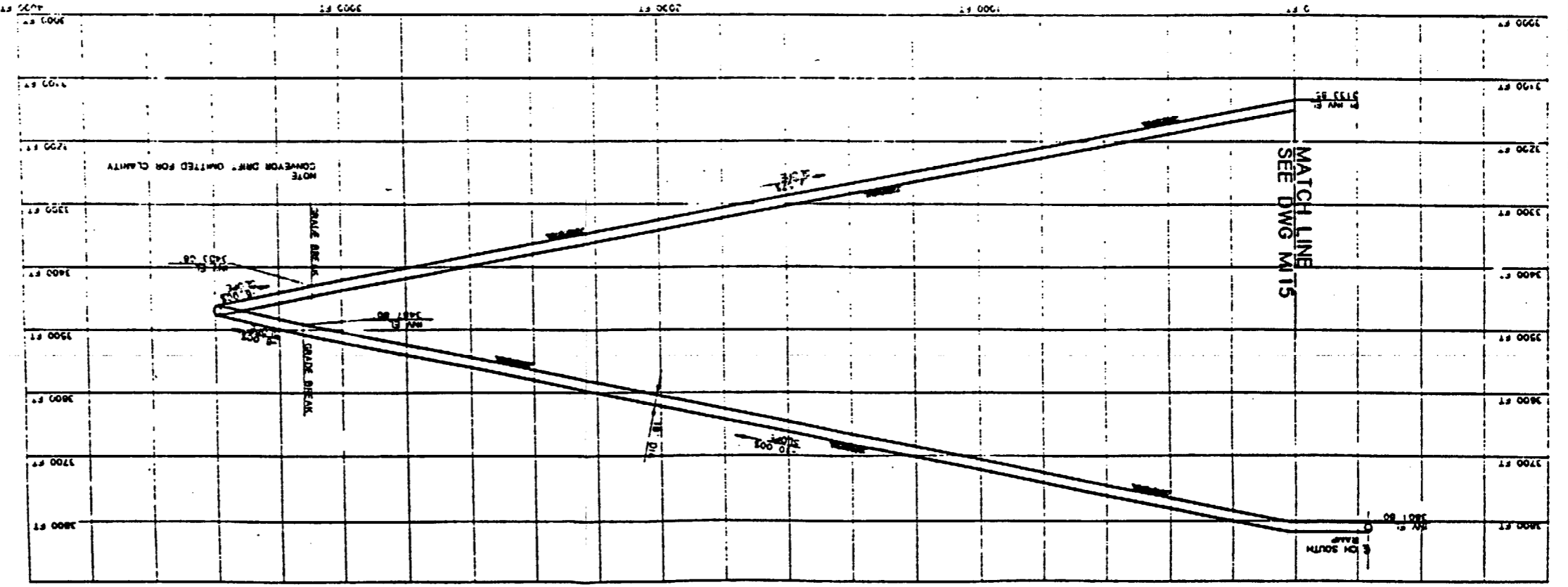


U.S. DEPARTMENT OF ENERGY YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA		NO. DATE	REVISION
NSN Raytheon Services Nevada LAS VEGAS, NEVADA		DES. DRW. CHK. DEC. DIM. WRT. DIM. SHT. QA. TYP. PMA.	
EXPLORATORY STUDIES FACILITY GENERAL ARRANGEMENT CH SOUTH RAMP PLAN & PROFILE, SECTION		APPROVALS	
DATE	DRAWN BY	CHECKED BY	DESIGNED BY
	MP-025-2-MING-M23		



**SI**  
**APERTURE CARD**  
Also Available On  
Aperture Card

**PROFILE**  
SCALE 1"=200'



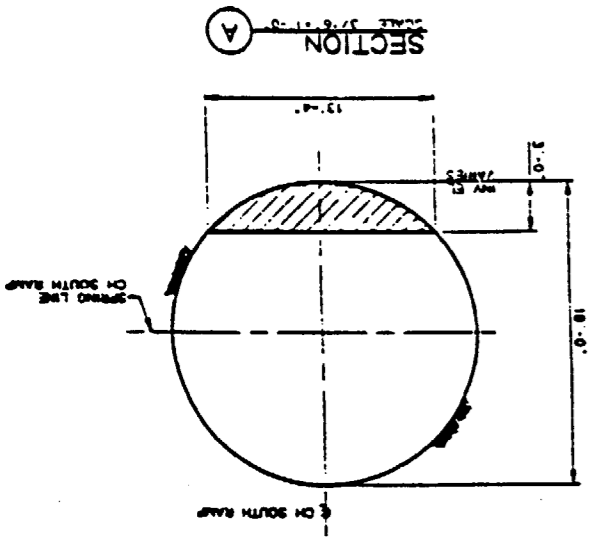
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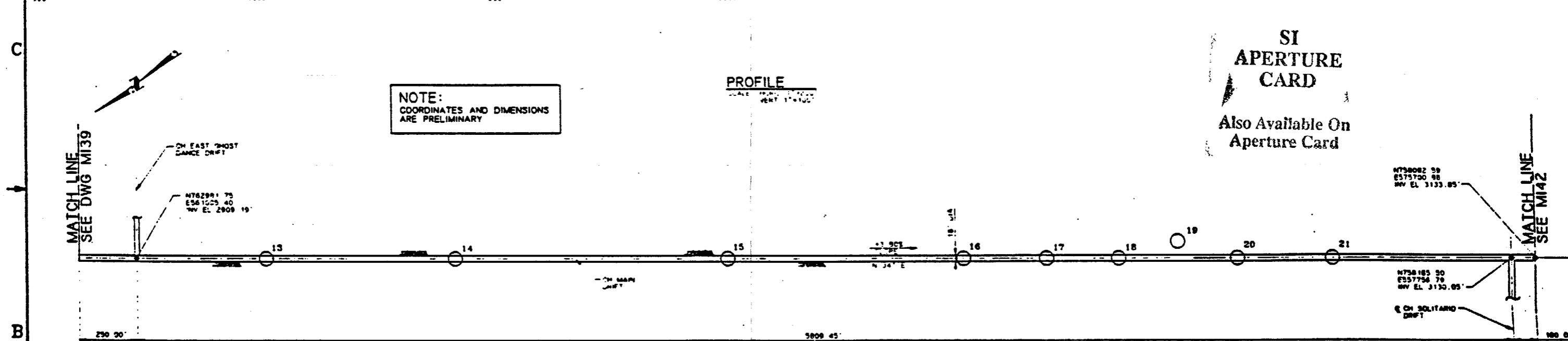
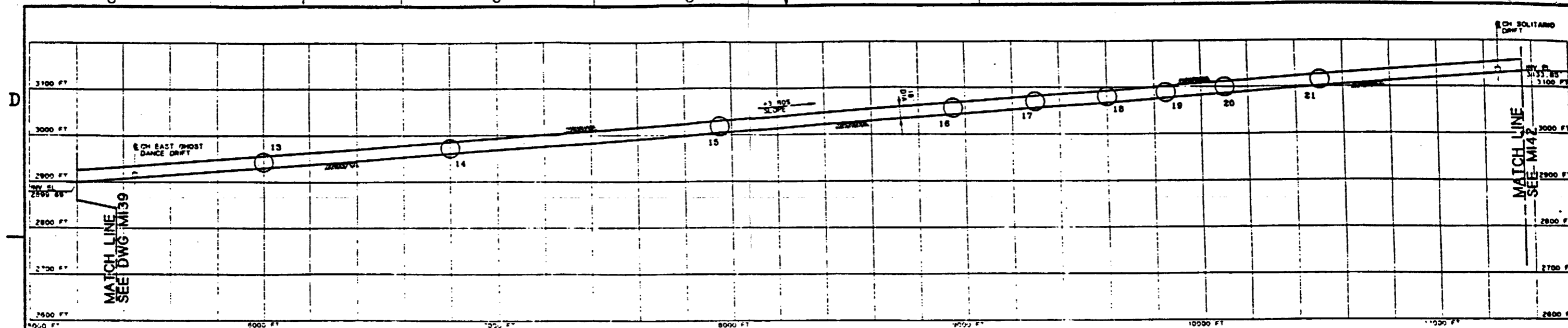
- COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE
- ELEVATIONS SHOWN ARE AT THE INVERT OF THE DIRT AS SHOWN, EXCEPT FOR THE INVERT (PI) WHICH IS SHOWN
- GRADES ARE ROUNDED TO THE NEAREST DEGREE
- SWAGES AND TURN-AROUNDS WILL BE PROVIDED AT REGULAR INTERVALS

9305250071-5/

FOR REFERENCE DRAWINGS INDEX SEE DRAWING MP-025-2-CIVL-0202

NOTE:  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY





NOTE:  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY

PROFILE  
SCALE: 1"=100'

SI  
APERTURE  
CARD  
Also Available On  
Aperture Card

PLAN  
SCALE: 1"=200'

9305250071-52

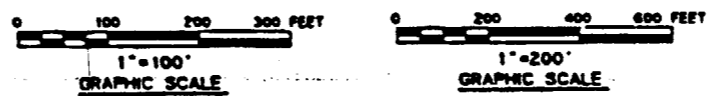
FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0202

CALICO HILLS MAIN DRIFT		
TEST/ALCOVE LOCATION	TEST(S) TO BE LOCATED IN ALCOVE	EXCAVATION SIZE REQUIRED
13	OVERCORE STRESS	15' W x 30' L x 12' H
14	DIFFUSION (HYDRIC)	20' W x 20' L x 12' H
15	RADIAL BORE HOLE (ANISOTROPY DRIFT) HYDROCHEMISTRY	24' W x 20' L x 22' H SAME ALCOVE AS RADIAL BORE HOLE TEST
16	RADIAL BORE HOLE (1/2 CONTACT) HYDROCHEMISTRY	24' W x 20' L x 20' H SAME ALCOVE AS RADIAL BORE HOLE
17	DIFFUSION (ZEOLITIC)	20' W x 20' L x 12' H
18	OVERCORE STRESS	15' W x 30' L x 12' H
19	RADIONUCLIDE MIGRATION (ZEOLITIC/WELDED PROW PASS)	2 ROOMS 33' W x 33' L x 9' H
20	PERCOLATION (ZEOLITIC)	2 DRIFTS 12' W x 23' L x 14' H
21	RADIAL BORE HOLE (ANISOTROPY DRIFT) HYDROCHEMISTRY	24' W x 20' L x 22' H SAME ALCOVE AS RADIAL BORE HOLE TEST

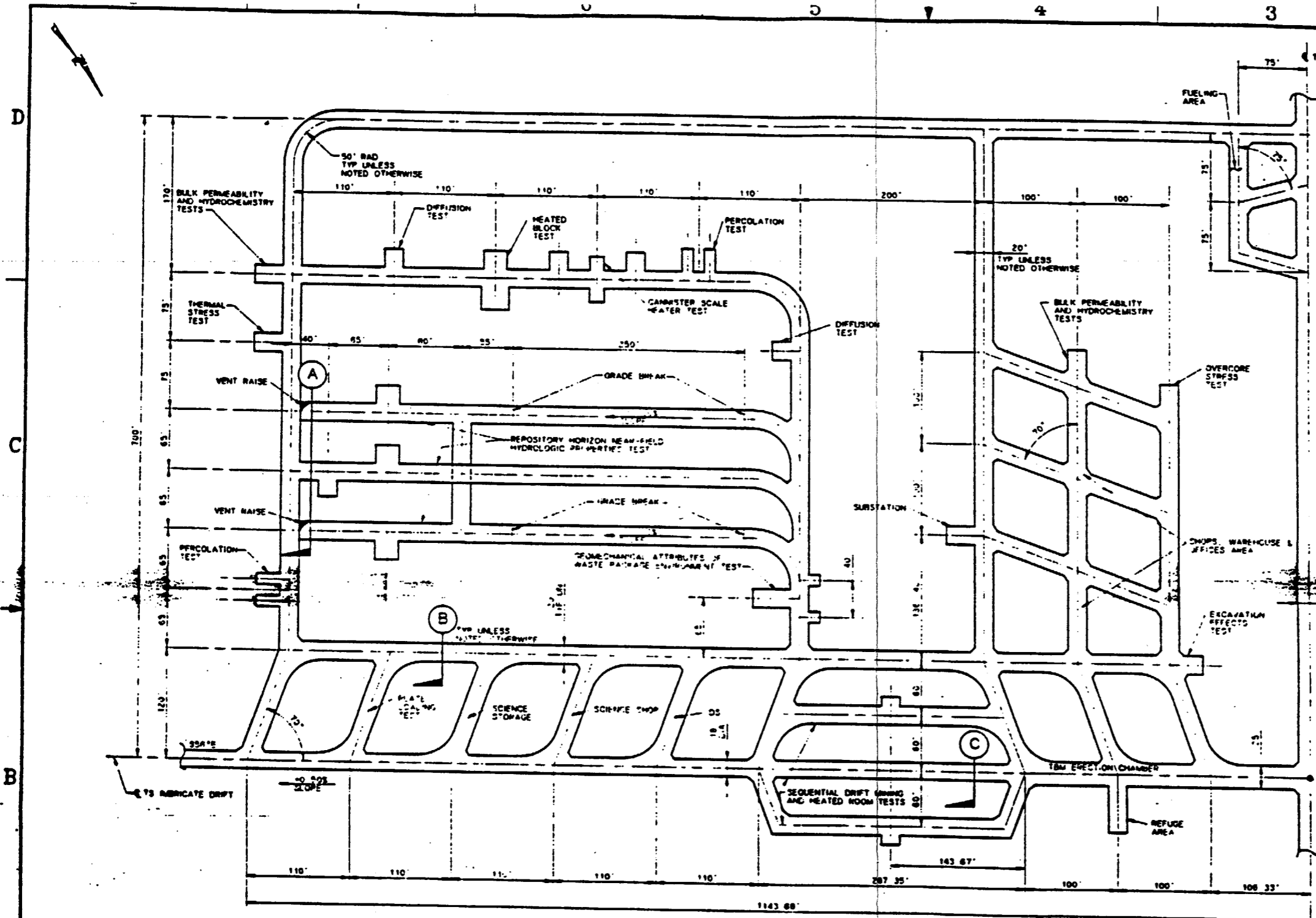
NOTES:

- THE TEST LOCATIONS ARE CLOSELY DEPENDENT UPON THE HYDROLITHOLOGIC AND THERMAL MECHANICAL CONTACTS. THE CURRENT GEOLOGIC INFORMATION SUPPLIED BY SA, SAIC, AND RSN IS PRELIMINARY AND UNCERTAIN. THEREFORE, THE FINAL LOCATIONS OF TESTS AND TEST ACCESS DRIFTS AND TESTING JUNCTIONS WILL BE DEPENDENT UPON OBSERVED GEOLOGY AS EXCAVATION AND TESTING PROCEED.
- REFER TO YMP/CC 0013 REV 7/29/91 VOL 2 ESDR FOR TEST DESCRIPTIONS.
- REFER TO YMP-025-2-MING-M148, M150 FOR TYPICAL ALCOVE EXCAVATION SEQUENCE IN MAINS.
- THREE ADDITIONAL TESTS WHICH MAY REQUIRE ALCOVES CANNOT PRESENTLY BE LOCATED DUE TO CURRENT STATUS OF TEST PLANNING OR DEPENDENCE ON SITE-SPECIFIC GEOLOGY. THESE TESTS ARE: 1) BULK PERMEABILITY, 2) ROCK MASS STRENGTH, AND 3) IN SITU TESTING OF SEAL COMPONENTS. ALCOVE LOCATIONS FOR THESE TESTS WILL BE DETERMINED AS PLANNING IS COMPLETED OR UPON EXAMINATION OF GEOLOGIC FEATURES FOLLOWING EXCAVATION.

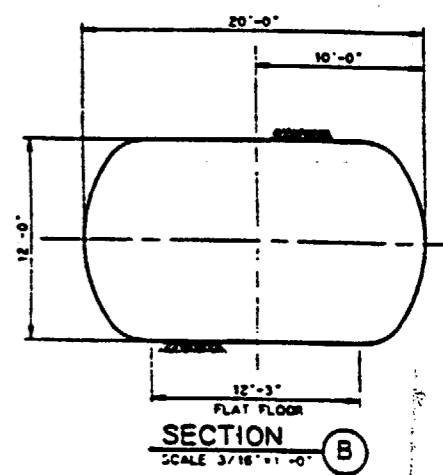
LEGEND ○ INDICATES PRELIMINARY TEST ALCOVE LOCATION BASED UPON AVAILABLE GEOLOGIC INFORMATION



NO	DATE	REVISION	DES	DRN	CHK	DEC	ENR	VEP	SHV	SAF	GA	TRD	TRM
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
APPROVALS			<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA <b>EXPLORATORY STUDIES FACILITY</b> GENERAL ARRANGEMENT <b>CH MAIN DRIFT PRELIMINARY TEST LOCATION</b> <b>PLAN AND PROFILE</b>										
DESIGN	ELC												
DRAWN	CLP												
CHECKED	J.K. [Signature]												
SEC	[Signature]												
REVISION	S.C.H.												
VERIFICATION	N/A												
CHK	SAF												
QUALITY ASSURANCE	[Signature]												
DATE	7/22/91	DATE	8-28-91										
YMP/CC	025-02	1, 2, 3, 4	YMP-025-2-MING-M140										
DATE	8-21-91	DATE											

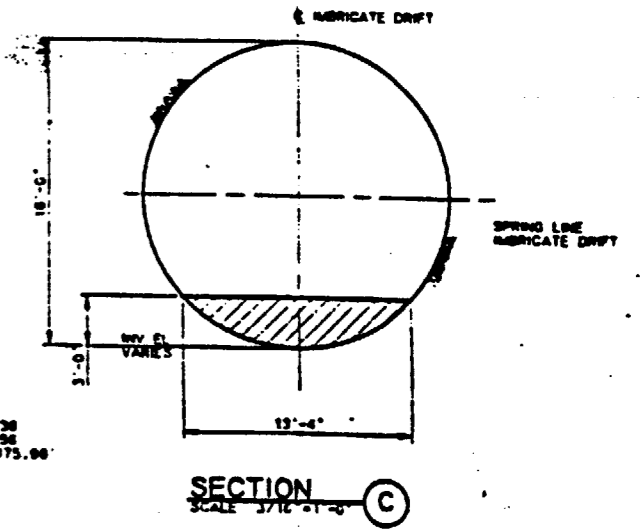


**NOTE:**  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY



**SI APERTURE CARD**

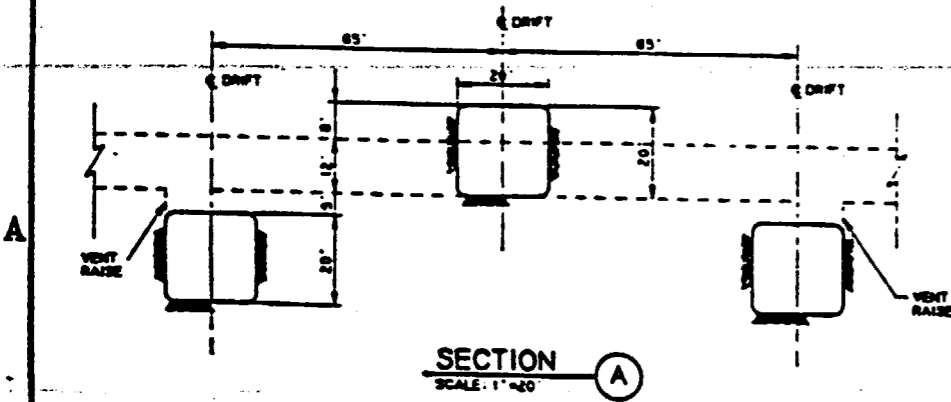
Also Available On Aperture Card



**TS MAIN TEST AREA PLAN**  
SCALE 1"=40'

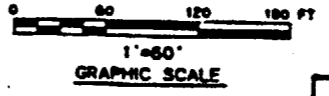
9305250071-53

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0202



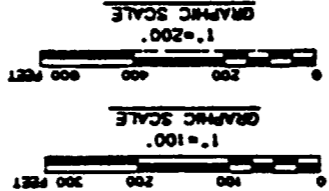
**NOTES:**

- COORDINATES ARE PLOTTED RELATIVE TO THE NEVADA COORDINATE SYSTEM, CENTRAL ZONE.
- ELEVATIONS SHOWN ARE AT THE INVERT OF THE DRIFT AS MINED, EXCEPT FOR VERTICAL CURVES, WHERE THE ELEVATION OF THE POINT OF INTERSECTION OF THE INVERT OF HWY 1 IS SHOWN.
- BEARINGS ARE ROUNDED TO THE NEAREST DEGREE.
- THE MAIN TEST AREA LAYOUT IS BASED ON EXCAVATION BY MOBILE MINER ACTUAL EXCAVATION METHODS/SEQUENCE TO BE EMPLOYED IN THIS AREA TBD. THE TS SUBSTRATE DRIFT IS TO BE EXCAVATED BY TBM.
- TEST AREA LAYOUT GEOMETRY IS BASED ON PRELIMINARY TESTING REQUIREMENTS DESCRIBED IN YMP/CC-0013, REV 7/29/91 VOL. 2 ESPDR.
- TEST LOCATIONS AND ORIENTATIONS AS SHOWN ARE PRELIMINARY AND CANNOT BE FINALLY DETERMINED UNTIL INITIAL DRIFTING AND GEOLOGICAL MAPPING ARE COMPLETED.



NO	DATE	REVISION	DES	DRN	CHK	DEC	CM	VEP	ENV	SAF	QA	TPO	YMP
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
<b>APPROVALS</b>			<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA										
DESIGN	CHK	APP	<b>EXPLORATORY STUDIES FACILITY</b> <b>GENERAL ARRANGEMENT</b> <b>TS MAIN TEST AREA</b> <b>PLAN AND SECTIONS</b>										
DRN	CLP												
APP													
MEM													
VER													
DATE	BY	DATE	DATE	NO.	<b>YMP-025-2-MING-M125</b>								
SUBMITTED BY: <b>7/22/91</b> DATE: <b>7-22-91</b> DRAWING NO.: <b>YMP-025-2-MING-M125</b> REV: <b>0</b>													
TACO APPROVED: _____ DATE: _____ BY: _____													

U.S. DEPARTMENT OF ENERGY YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA		APPROVALS
NSN Raytheon Services Nevada LAS VEGAS, NEVADA		DESIGNED BY <i>[Signature]</i>
EXPLORATORY STUDIES FACILITY GENERAL ARRANGEMENT		CHECKED BY <i>[Signature]</i>
TS SOUTH RAMP PRELIMINARY TEST LOCATION PLAN AND PROFILE		DATE 12/13/91
PROJECT NO. WMP-025-2-MING-M126	ISSUED BY <i>[Signature]</i>	SCALE 1"=200'
DATE	REVISED BY	REVISION

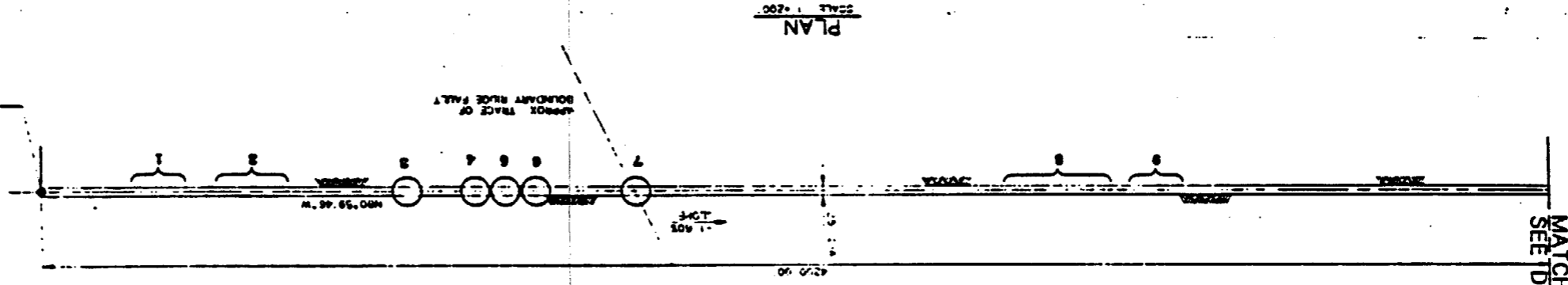


NOTE:  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY

TEST/ALCOVE LOCATION	TEST(S) TO BE LOCATED IN ALCOVE	EXCAVATION SIZE REQUIRED
1	RADIAL BORE HOLE (ANISOTROPY) HYDROPERMEABILITY	24" W x 20" L x 22" H SAME AS ANISOTROPY TEST
2	PLATE LOADS	15" W x 80" L x 180" H
3	RADIAL BORE HOLE (ANISOTROPY) HYDROPERMEABILITY	24" W x 20" L x 22" H USE SAME ALCOVE
4	RADIAL BORE HOLE (CONTACT) HYDROPERMEABILITY	24" W x 20" L x 180" H 2 CMPTS 12" W x 23" L x 14" H SAME ALCOVE AS RADIAL BORE HOLE CONTACT
5	RADIAL BORE HOLE (ANISOTROPY) HYDROPERMEABILITY	24" W x 20" L x 22" H USE SAME ALCOVE
6	RADIAL BORE HOLE (CONTACT) HYDROPERMEABILITY	24" W x 20" L x 180" H 2 CMPTS 12" W x 23" L x 14" H SAME ALCOVE AS RADIAL BORE HOLE CONTACT
7	HYDROLOGIC PROPERTIES OF MAJOR FAULTS SEAM BOUNDARY	15" W x 80" L x 12" H
8	RADIAL BORE HOLE (ANISOTROPY) HYDROPERMEABILITY	24" W x 20" L x 22" H USE SAME ALCOVE
9	HYDROLOGIC PROPERTIES OF MAJOR FAULTS AND BOUNDARY BETWEEN GHOST DANCE AND BOUNDARY BETWEEN GHOST DANCE AND BOUNDARY BETWEEN GHOST DANCE AND BOUNDARY	15" W x 80" L x 12" H USE SAME ALCOVE

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FOR REFERENCE DRAWINGS BOX SEE DRAWING WMP-025-2-CIV-0202



NOTES:

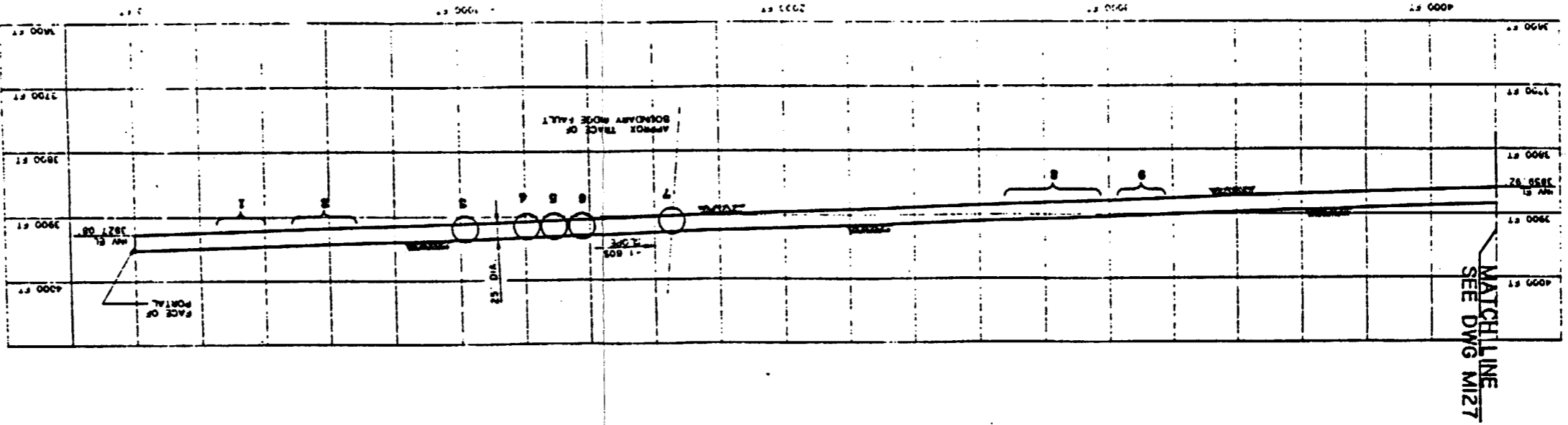
- 1 THE TEST LOCATIONS ARE CLOSELY RELATED TO THE HYDROLOGIC AND THERMAL/MECHANICAL CHARACTERIZATION OF THE FACILITY. THE PRELIMINARY AND UNCERTAIN TEST LOCATIONS OF 11-15 AND 16-18 ARE SUBJECT TO CHANGE. THE TEST LOCATIONS WILL BE DEPENDENT UPON OBSERVATIONS OF THE FACILITY AND TESTING PROCEED.
- 2 REFER TO WMP/CC 0013 REV 7/28/91 VOL 2 SECTION FOR TEST DESCRIPTIONS.
- 3 REFER TO WMP-025-2-MING-M126 FOR TYPICAL ALCOVE EXCAVATION SEQUENCE IN RAMP.
- 4 IN SITU TESTS WILL REQUIRE ALCOVES. THESE ALCOVES AND THEIR LOCATIONS CANNOT BE IDENTIFIED AT THIS TIME.

LEGEND

○ INDICATES PRELIMINARY TEST ALCOVE LOCATION BASED UPON AVAILABLE GEOLOGICAL INFORMATION.

○ INDICATES UNCERTAINTY OF TEST ALCOVE LOCATION.

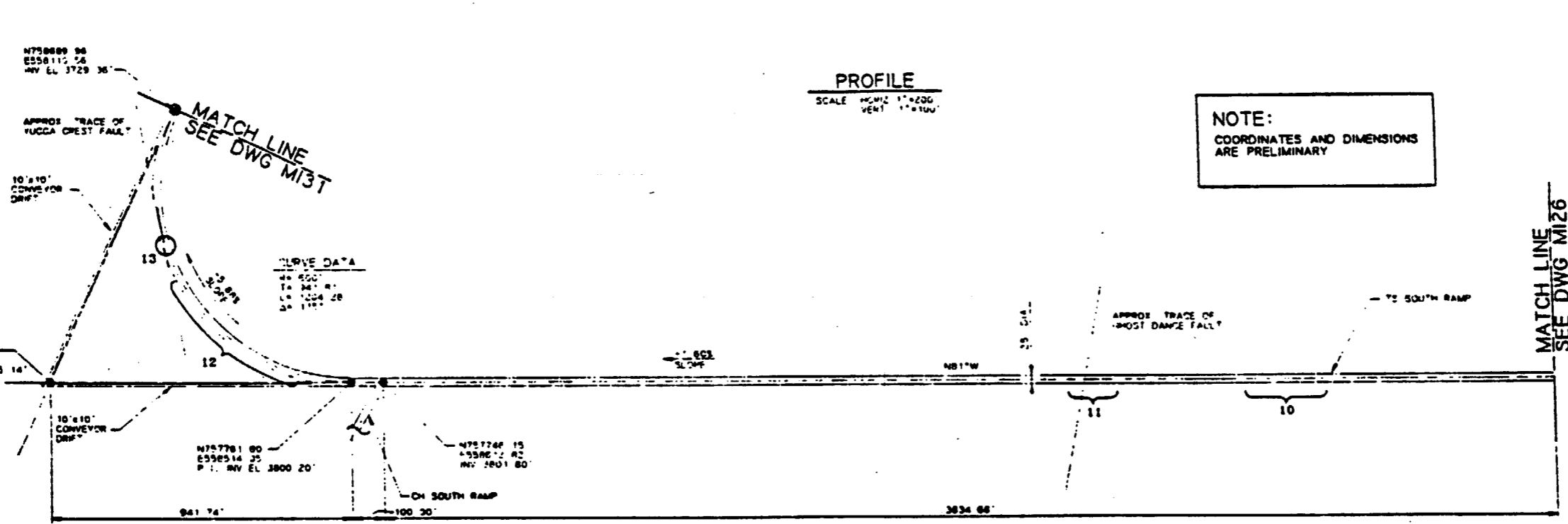
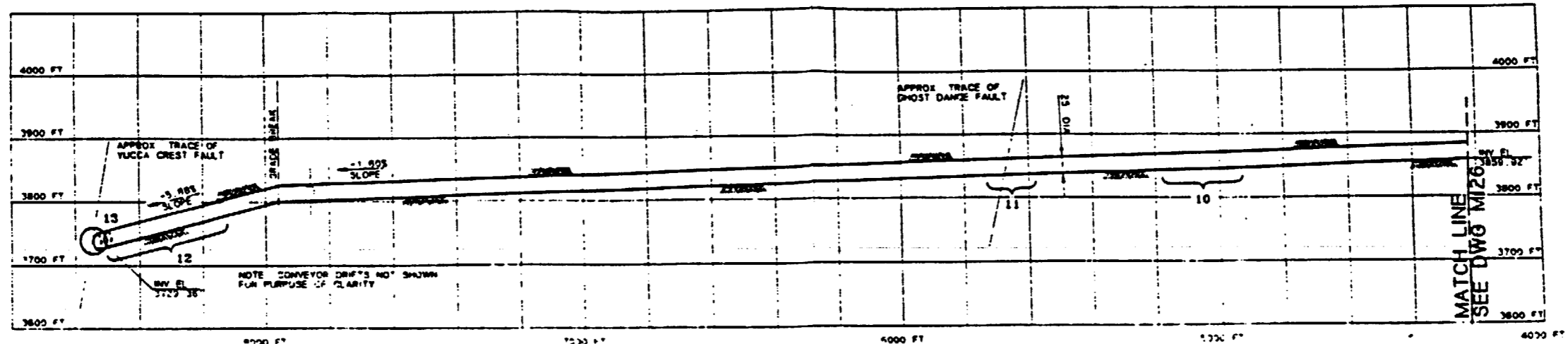
PROFILE  
SCALE 1"=200'



SI  
APERTURE  
CARD  
Also Available On  
Aperture Card

MATCHLINE  
SEE DWG M127

MATCHLINE  
SEE DWG M127



**PLAN**  
SCALE 1"=200'

**NOTES:**

1. THE TEST LOCATIONS ARE CLOSELY DEPENDENT UPON THE HYDROLITHOLOGIC AND THE THERMAL/MECHANICAL CONTACTS. THE CURRENT GEOLOGIC INFORMATION SUPPLIED BY SMC, SAIC, AND RSN IS PRELIMINARY AND UNCERTAIN, THEREFORE THE FINAL LOCATIONS OF TESTS AND ACCESS DRIFTS AND THEIR ORIENTATIONS WILL BE DEPENDENT UPON OBSERVED GEOLOGY AS EXCAVATION AND TESTING PROCEED.
2. REFER TO YMP/JCC 0013 REV 7/28/91 VOL. 2 ESRDR FOR TEST DESCRIPTIONS.
3. REFER TO YMP-025-2-MING-M27, M30 FOR TYPICAL ALCOVE EXCAVATION SEQUENCE IN RAMP.
4. IN SITU SEALS TESTING WILL REQUIRE ALCOVES. THESE ALCOVES AND THEIR LOCATIONS CANNOT BE IDENTIFIED AT THIS TIME.

**LEGEND:**  
 [Bracket] INDICATES UNCERTAINTY OF TEST ALCOVE LOCATION  
 [Circle] INDICATES PRELIMINARY TEST ALCOVE LOCATION BASED UPON AVAILABLE GEOLOGIC INFORMATION



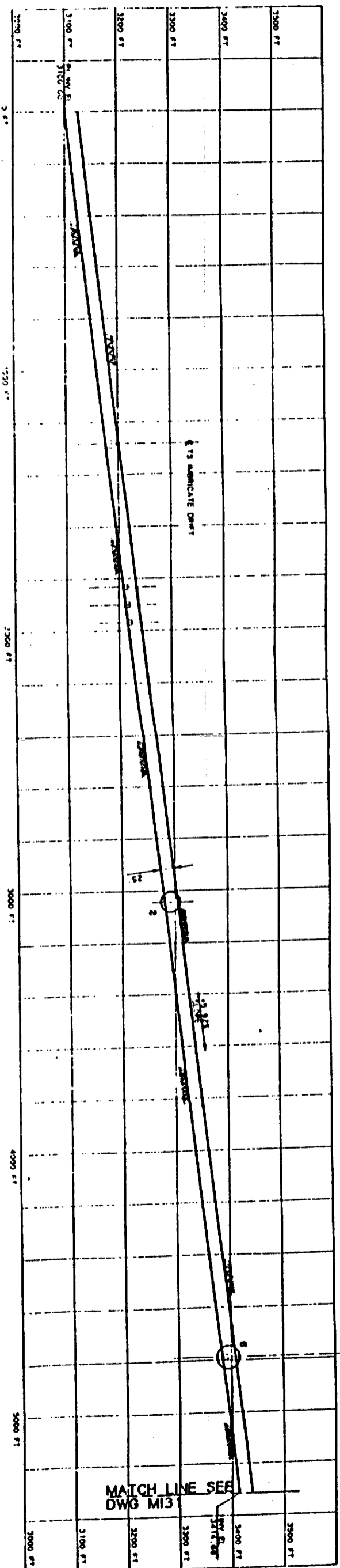
TS SOUTH RAMP		
TEST/ALCOVE LOCATION	TEST(S) TO BE LOCATED IN ALCOVE	EXCAVATION SIZE REQUIRED
10	OVERCORE STRESS TEST	15' W x 30' L x 12' H
11	HYDROLOGIC PROPERTIES OF MAJOR FAULTS (MOST DANCE) HYDROCHEMISTRY	30' W x 60' L x 28' H USE SAME ALCOVE
12	RADIAL BOREHOLE (ANISOTROPY) HYDROCHEMISTRY PLATE LOADING	24' W x 20' L x 22' H SAME ALCOVE AS ANISOTROPY
13	HYDROLOGIC PROPERTIES OF MAJOR FAULTS (NEAR YUCCA CREST)	TBD

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0022

9805250071-55

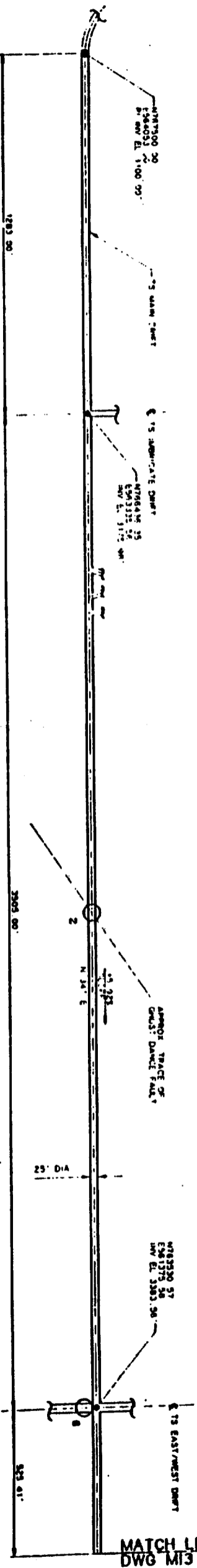
NO.	DATE	REVISION	DES	DRW	CHK	DEC	CM	VRFY	ENR	SAP	QA	TRD	YVR
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA													
<b>EXPLORATORY STUDIES FACILITY</b> GENERAL ARRANGEMENT TS SOUTH RAMP PRELIMINARY TEST LOCATION PLAN AND PROFILE													
APPROVALS													
DESIGN	ELC												
DESIGN	CLP												
CHECKED	[Signature]												
BY	[Signature]												
DESIGN MANAGER	[Signature]												
VERIFICATION	N/A												
BY	[Signature]												
QUALITY ASSURANCE	[Signature]												
FOR	YMP-025-2-MING-M27												
DATE	1.2.95												
DATE	1.2.95												

**SI APERTURE CARD**  
 Also Available On Aperture Card



**NOTE:**  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY

**PROFILE**  
SCALE: HORIZ. 1"=400'  
VERT. 1"=150'



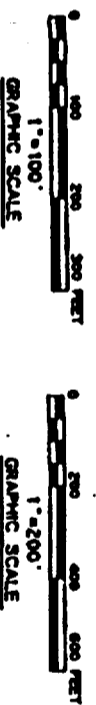
**PLAN**  
SCALE: 1"=400'

TS MAIN DRIFT		
TEST/ALCOVE LOCATION	TEST(S) TO BE LOCATED IN ALCOVE	EXCAVATION SIZE REQUIRED
2	HYDROLOGIC PROPERTIES OF MAJOR FAULTS (OULST DANCE FAULT) INTER-OCCASIONALITY	TWO SAME ALCOVE
6	EXCAVATION EFFECTS TEST	22' w x 20' l x 12' h (small)

**NOTES:**

1. THE TEST LOCATIONS ARE CLOSELY PROXIMATE TO THE HYDROLOGIC TEST AND THE THERMAL/NEUTRONIC DRIFTS. THE GRADING, EXCAVATION, AND TESTING OF THE TEST LOCATIONS OF TESTS 2 AND ACCESS DRIFTS AND THEIR ORIENTATIONS WILL BE DEPENDENT UPON OBSERVED RECORD AS EXCAVATION AND TESTING PROCEED.
2. REFER TO WAP/CE 0013 REV 1/28/91 VOL. 2 SEPRM FOR TEST DESCRIPTIONS.
3. REFER TO WAP-025-2-AMG-4189, WSDO FOR TYPICAL ALCOVE EXCAVATION SEQUENCE IN DRIFT.
4. IN SITU SEALS TESTING AND ROCK MASS STRENGTH WILL BE DONE ALONGS THESE ALCOVES AND THEIR LOCATIONS CANNOT BE IDENTIFIED AT THIS TIME.

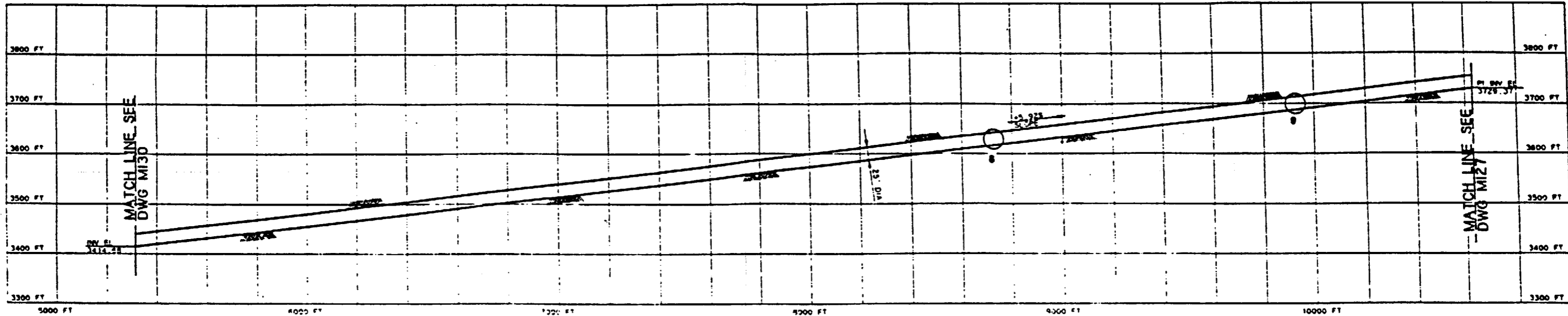
○ INDICATES PRELIMINARY TEST ALCOVE LOCATION BASED UPON AVAILABLE GEOLOGICAL INFORMATION



9305250071-56

FOR REFERENCE DRAWINGS INDEX SEE DRAWING WAP-025-2-CM1-0502

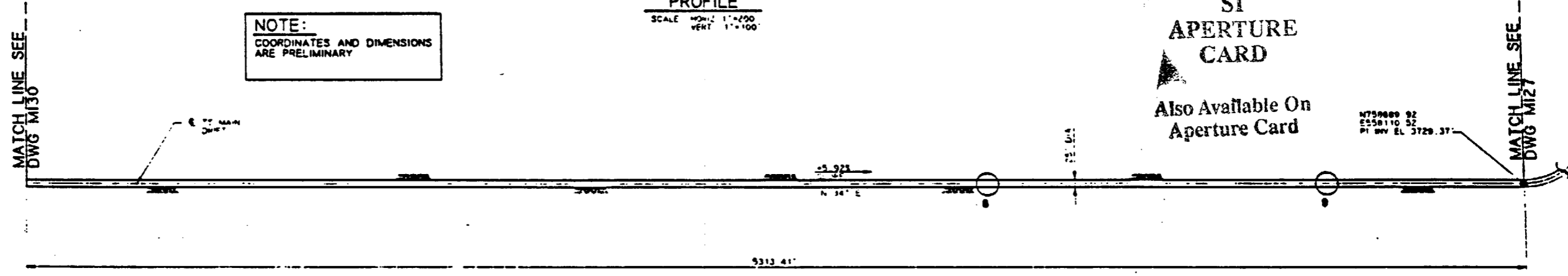
NO		DATE		REVISION		DES	DRW	CHK	SEC	DA	WPR	DRW	SA	TRD
<p align="center"><b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA</p> <p align="center"><b>NSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA</p> <p align="center"><b>EXPLORATORY STUDIES FACILITY</b> GENERAL ARRANGEMENT TS MAIN DRIFT PRELIMINARY TEST LOCATION PLAN AND PROFILE</p>														
APPROVALS					<p>APPROVED: <i>[Signature]</i> S.C.H.</p> <p>DESIGNED: <i>[Signature]</i> S.C.H.</p> <p>DRAWN: <i>[Signature]</i> S.C.H.</p> <p>CHECKED: <i>[Signature]</i> S.C.H.</p> <p>DATE: 11/28/91</p>									
SUBMITTED BY: <i>[Signature]</i>					DRAWING NO.: WAP-025-2-AMG-M130					DATE: 11/28/91				



**PROFILE**  
SCALE HORIZ 1"=200'  
VERT 1"=100'

SI  
APERTURE  
CARD  
Also Available On  
Aperture Card  
N759889 92  
E558110 32  
PT INV EL 3729.37'

**NOTE:**  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY



**PLAN**  
SCALE 1"=200'

TS MAIN DRIFT		
TEST/ALCOVE LOCATION	TEST(S) TO BE LOCATED IN ALCOVE	EXCAVATION SIZE REQUIRED
8	OVERCORE STRESS TEST	15' W x 30' L x 12' H (ALLOW FOR ANY ORIENTATION)
9	BULK PERMEABILITY HYDROCHEMISTRY	12' W x 15' L x TBD H USE SAME ALCOVE

**NOTES:**

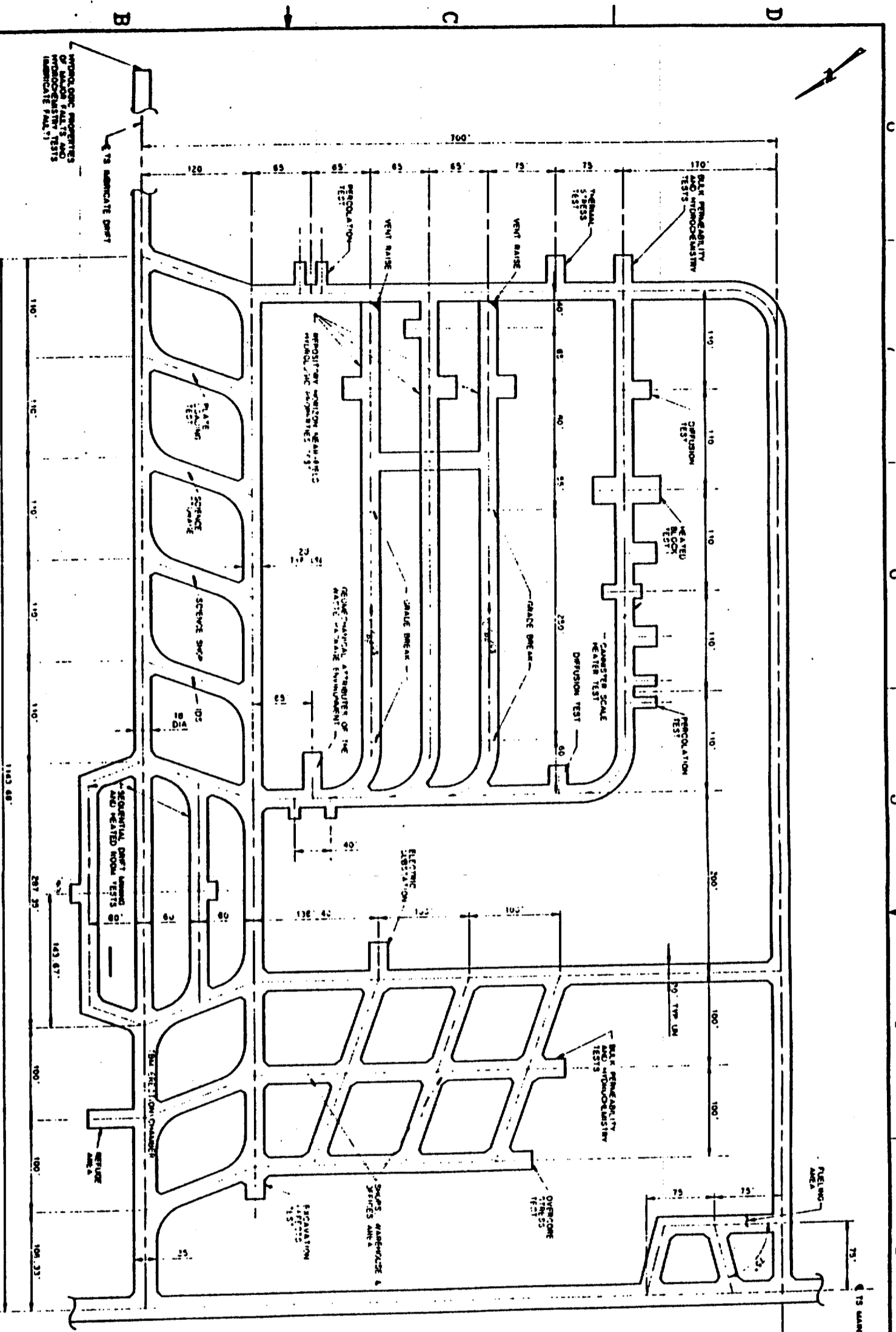
1. THE TEST LOCATIONS ARE CLOSELY DEPENDENT UPON THE HYDROLITHOLOGIC AND THE THERMAL/MECHANICAL CONTACTS. THE CURRENT GEOLOGIC INFORMATION SUPPLIED BY SR, SAIC, AND RSN IS PRELIMINARY AND UNCERTAIN. THEREFORE THE FINAL LOCATIONS OF TESTS AND ACCESS DRIFTS AND THEIR ORIENTATIONS WILL BE DEPENDENT UPON OBSERVED GEOLOGY AS EXCAVATION AND TESTING PROCEED.
  2. REFER TO YMP/DC 0013 REV 7/29/91 VOL. 2 ES/DR FOR TEST DESCRIPTIONS.
  3. REFER TO YMP-025-2-MNG-M149.M130 FOR TYPICAL ALCOVE EXCAVATION SEQUENCE IN DRIFT.
  4. IN SITU SEALS TESTING MAY REQUIRE ALCOVES. THESE ALCOVES AND THEIR LOCATIONS CANNOT BE IDENTIFIED AT THIS TIME.
  5. ROCK MASS STRENGTH TESTS MAY REQUIRE ALCOVES. THESE ALCOVES LOCATIONS CAN NOT BE IDENTIFIED AT THIS TIME.
- LEGEND: ○ INDICATES PRELIMINARY TEST ALCOVE LOCATION BASED UPON AVAILABLE GEOLOGIC INFORMATION

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0202

9305250071-57

NO.	DATE	REVISION	DES	DRN	CHK	DEC	DM	VPY	ENV	SAF	SA	TPG
<b>U.S. DEPARTMENT OF ENERGY</b>												
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA												
APPROVALS			<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA									
DESIGN	ELC	EXPLORATORY STUDIES FACILITY										
DRN	CLP	GENERAL ARRANGEMENT										
CHKD	<i>[Signature]</i>	TS MAIN DRIFT PRELIMINARY TEST LOCATIONS										
ISS	<i>[Signature]</i>	PLAN AND PROFILE										
DESIGN MANAGER	B.C.H.	SUBMITTED BY <i>[Signature]</i> DATE <i>[Date]</i> DRAWING NO. <b>YMP-025-2-MNG-M131</b>										
VERIFICATION	N/A	YMPD APPROVED <i>[Signature]</i> DATE <i>[Date]</i>										
ENV	SWP	U.S. DEPT. OF ENERGY										
SAFETY	AGREEMENT	DATE										
FILE	NO.	DATE										





**NOTE :**  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY

**TS MAIN TEST AREA PRELIMINARY TEST LOCATIONS PLAN**  
SCALE 1"=40'

9905250071-58

- NOTES:**
1. THIS DRAWING AS SHOWN WAS DEVELOPED USING TITLE 1 AND EARLY ALTERNATIVES STUDY RESULTS FOR THE PURPOSE OF ESTABLISHING AN INITIAL TEST PROGRAM BASIS.
  2. THE CURRENT GEOLOGIC INFORMATION SUPPLIED BY SM, SAC, AND BSM IS PRELIMINARY AND UNCERTAIN. THEREFORE THE FINAL LOCATIONS OF TESTS AND ACCESS DRIFTS AND THEIR ORIENTATIONS WILL BE DETERMINED UPON OBSERVED GEOLOGY AS EXCAVATION AND TESTING PROCEED.
  3. MANY INTERFERENCE STANDBY ZONES MAY OCCUR AS A RESULT OF DRILLING PERFORMANCE EVALUATIONS ESPECIALLY FOR HEATED ROOMS. ALL STANDBY ZONES WILL BE IDENTIFIED AND REPORTED TO THE STANDBY ZONE MANAGEMENT TEAM WITH CORRECTED DATA.
  4. ROOM LOADS STRENGTH AND IN SITU STRESS TESTS MAY REQUIRE ACCESS. BUT CHANGING BE PRESENTLY LOCATED.
  5. REFER TO WMP/JC 0013 REV 7/29/93 VOL. 2 ERROR FOR TEST DESCRIPTIONS.
  6. TEST LOCATIONS AND ORIENTATIONS ARE PRELIMINARY AND SHOULD BE FINALLY DETERMINED UNTIL INITIAL DRIFTING AND GEOLOGICAL SURVEYS ARE COMPLETED.

**LEGEND:**  
TM: TUNNEL BOUNDARY  
CS: INTEGRATED DATA SYSTEM

SI  
APERTURE  
CARD  
Also Available On  
Aperture Card

FOR REFERENCE DRAWINGS BOX SEE DRAWING WMP-003-2-CM1-0202

NO	DATE	REVISION	DES	CHK	APP	BY	CHK	BY	SA	PRO
<p align="center"><b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA</p> <p><b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA</p> <p><b>EXPLORATORY STUDIES FACILITY</b> GENERAL ARRANGEMENT TS MAIN TEST AREA PRELIMINARY TEST LOCATION PLAN</p> <p>DESIGNED BY: <i>[Signature]</i> DATE: <i>[Date]</i> CHECKED BY: <i>[Signature]</i> DATE: <i>[Date]</i> DRAWN BY: <i>[Signature]</i> DATE: <i>[Date]</i> SCALE: 1"=40'</p>										
NO	DATE	REVISION	DES	CHK	APP	BY	CHK	BY	SA	PRO
1	11/13/93									

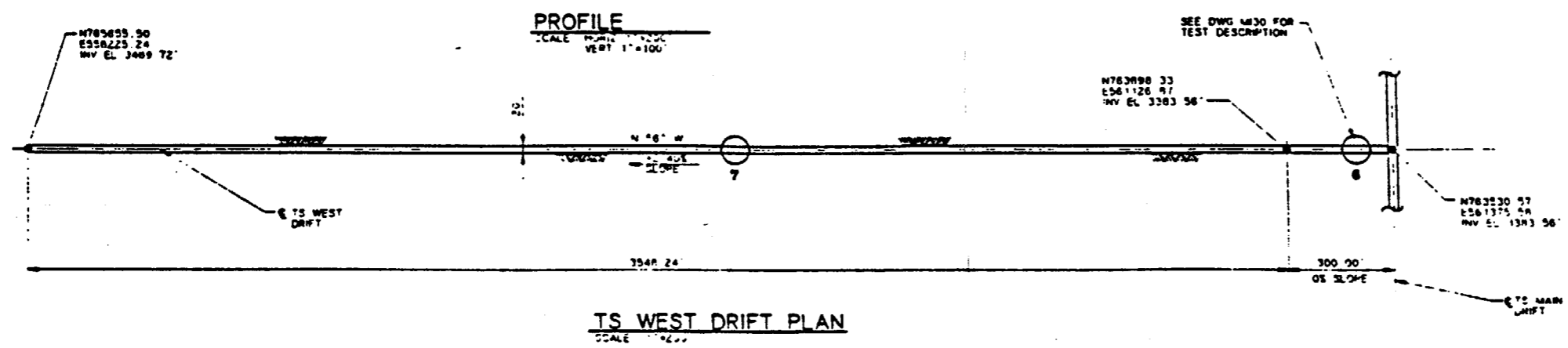
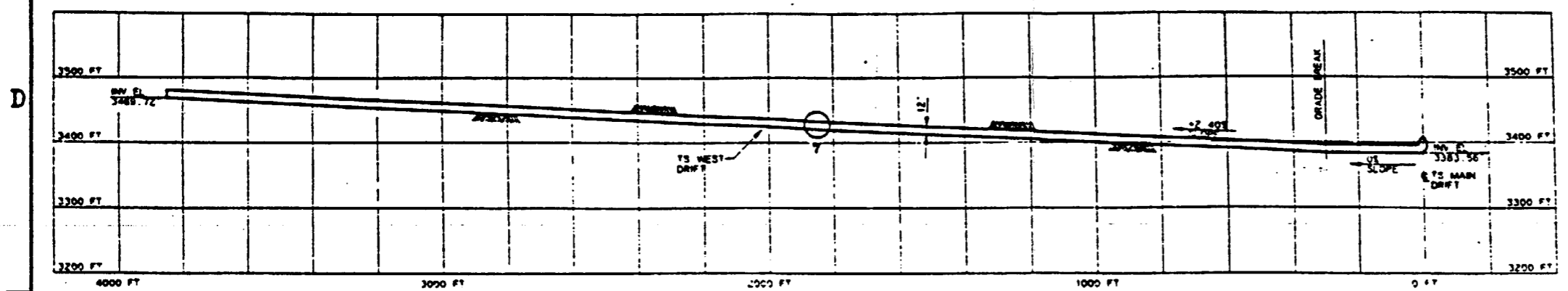


**NOTES:**

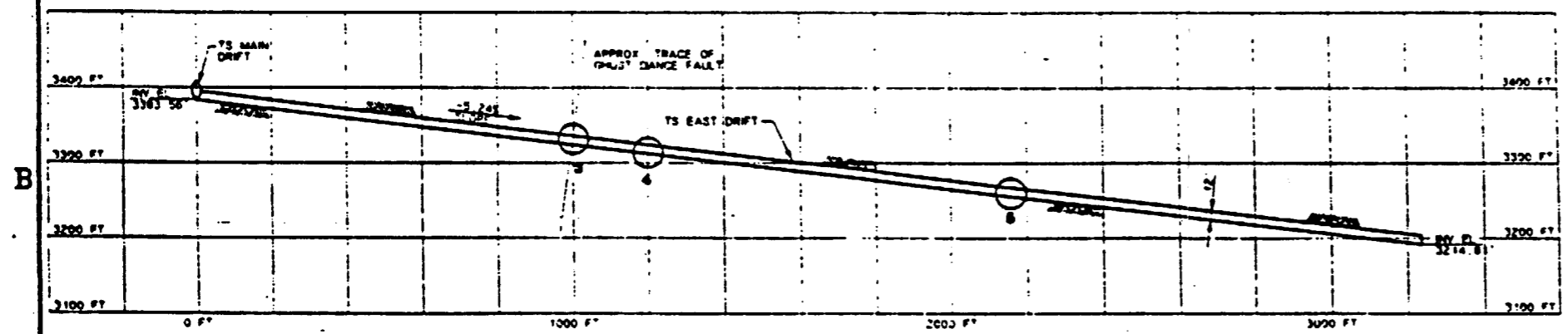
- 1 THE TEST LOCATIONS ARE CLOSELY DEPENDENT UPON THE HYDROLITHOLOGIC AND THE THERMAL/MECHANICAL CONTACTS. THE CURRENT GEOLOGIC INFORMATION SUPPLIED BY SAL, SAIC, AND ESH IS PRELIMINARY AND UNCERTAIN. THEREFORE THE FINAL LOCATIONS OF TESTS AND ACCESS DRIFTS AND THEIR ORIENTATIONS WILL BE DEPENDENT UPON OBSERVED GEOLOGY AS EXCAVATION AND TESTING PROCEED.
- 2 REFER TO YMP/CC 0013 REV 7/29/91 VOL. 2 ESPDR FOR TEST DESCRIPTIONS.
- 3 REFER TO YMP-025-2-MING-M149.M350 FOR TYPICAL ALCOVE EXCAVATION SEQUENCE IN DRIFTS.
- 4 IN SITU SEALS TESTING AND ROCK MASS STRENGTH TESTS MAY REQUIRE ALCOVES. THESE ALCOVES AND THEIR LOCATIONS CANNOT BE IDENTIFIED AT THIS TIME.

LEGEND: ○ INDICATES PRELIMINARY TEST ALCOVE LOCATION BASED UPON AVAILABLE GEOLOGICAL INFORMATION

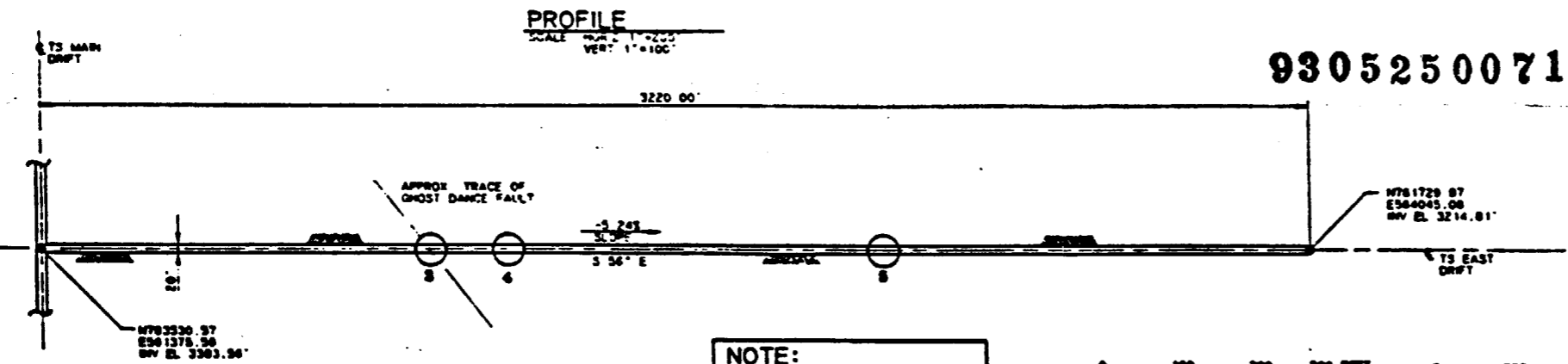
**SI APERTURE CARD**  
Also Available On Aperture Card



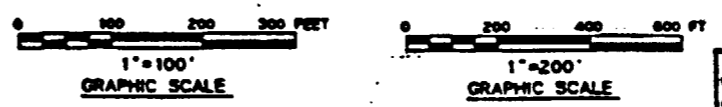
TS WEST DRIFT		
TEST/ALCOVE LOCATION	TEST(S) TO BE LOCATED IN ALCOVE	EXCAVATION SIZE REQUIRED
7	BLK PERMEABILITY HYDROCHEMISTRY	12' W x 15' L x TBD H USE SAME ALCOVE



TS EAST DRIFT		
TEST/ALCOVE LOCATION	TEST(S) TO BE LOCATED IN ALCOVE	EXCAVATION SIZE REQUIRED
3	HYDROLOGIC PROPERTIES OF MAJOR FAULTS (NEAR GHOST DANCE FAULT)	TBD USE SAME ALCOVE
4	PLATE LOADING	15' W x 60' L x TBD H
5	BLK PERMEABILITY HYDROCHEMISTRY	12' W x 15' L x TBD H USE SAME ALCOVE



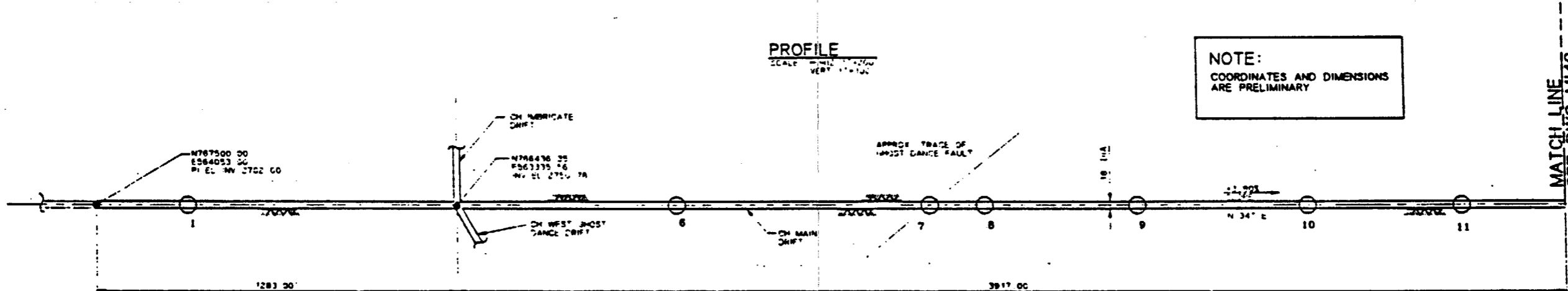
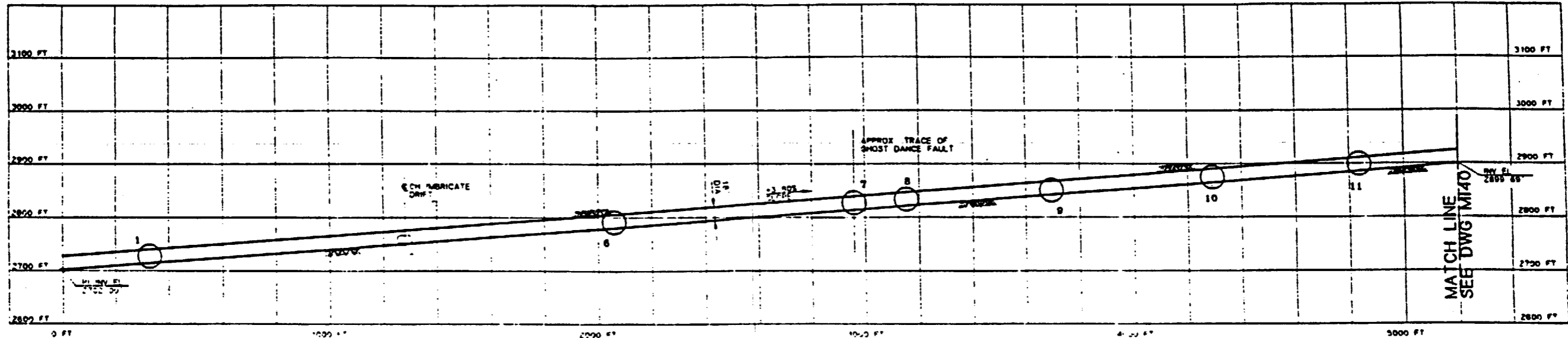
**NOTE:**  
COORDINATES AND DIMENSIONS ARE PRELIMINARY



9305250071-59

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-GE02

NO	DATE	REVISION	DES	DRN	CHK	DEC	DM	VP/VE	ENR	SAF	GA	TPD
<p align="center"><b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA</p>												
<p align="center"><b>APPROVALS</b></p>			<p align="center"><b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA</p>									
DRN	RLC	CLP	<p align="center"><b>EXPLORATORY STUDIES FACILITY</b> GENERAL ARRANGEMENT TS EAST &amp; WEST DRIFTS PRELIMINARY TEST LOCATI PLAN AND PROFILE</p>									
CHK	SAIC	SAIC	<p align="center">SUBMITTED BY: [Signature] DATE: [Date] DRAWING NO.: YMP-025-2-MING-M137</p>									
DES	SAIC	SAIC	<p align="center">TPD APPROVED: [Signature] DATE: [Date]</p>									



**PROFILE**  
SCALE: HORIZ. 1"=200' VERT. 1"=100'

**PLAN**  
SCALE: 1"=200'

**NOTE:**  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY

**SI APERTURE CARD**  
Also Available On Aperture Card

9305250071-60

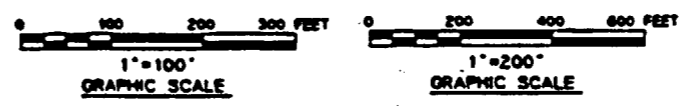
FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-002

CALICO HILLS MAIN DRIFT		
TEST/ALCOVE LOCATION	TEST(S) TO BE LOCATED IN ALCOVE	EXCAVATION SIZE REQUIRED
1	RADIAL BORE HOLE (1/2 CONTACT) HYDROCHEMISTRY	24' W x 20' L x TBD H SAME ALCOVE AS RADIAL BORE HOLE TEST
6	PLATE LOADING (NYTRIC)	15' W x 60' L x TBD H
7	HYDROLOGIC PROPERTIES OF MAJOR FAULT'S (GHOST DANCE MIDDLE) HYDROCHEMISTRY	TBD SAME ALCOVE AS HYDROLOGIC PROPERTIES
8	PLATE LOADING FAULT CONTACT	15' W x 60' L x TBD H
9	DIFFUSION (NYTRIC)	20' W x 20' L x 12' H
10	PERCOLATION (NYTRIC)	2 DRIFTS 12' W x 23' L x 14' H
11	RADIAL BORE HOLE (ANISOTROPY CH1) HYDROCHEMISTRY	24' W x 20' L x 22' H SAME ALCOVE AS RADIAL BORE HOLE

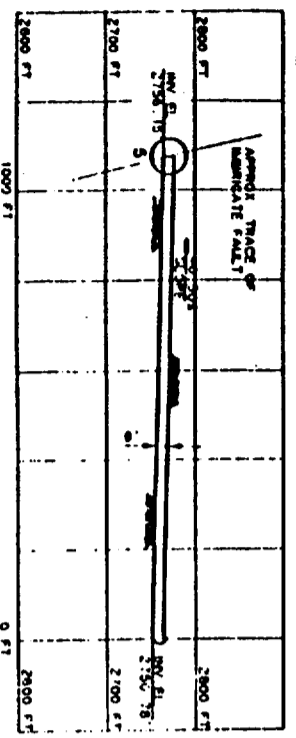
**NOTES:**

- THE TEST LOCATIONS ARE CLOSELY DEPENDENT UPON THE HYDROLITHOLOGIC AND THE THERMAL/MECHANICAL CONTACTS. THE CURRENT GEOLOGIC INFORMATION SUPPLIED BY SAJ, SAIC, AND RSN IS PRELIMINARY AND UNCERTAIN. THEREFORE THE FINAL LOCATIONS OF TESTS AND TEST ACCESS DRIFTS AND THEIR ORIENTATIONS WILL BE DEPENDENT UPON OBSERVED GEOLOGY AS EXCAVATION AND TESTING PROCEED.
- REFER TO YMP/CC 0013 REV 7/29/91 VOL 2 ESRDR FOR TEST DESCRIPTIONS.
- REFER TO YMP-025-2-MING-M140, M150 FOR TYPICAL ALCOVE EXCAVATION SEQUENCE IN MARKS.
- THREE ADDITIONAL TESTS WHICH MAY REQUIRE ALCOVES CANNOT PRESENTLY BE LOCATED DUE TO CURRENT STATUS OF TEST PLANNING OR DEPENDENCE ON SITE-SPECIFIC GEOLOGY. THESE TESTS ARE 11 BULK PERMEABILITY, 21 ROCK MASS STRENGTH, AND 31 IN SITU TESTING OF SEAL COMPONENTS. ALCOVE LOCATIONS FOR THESE TESTS WILL BE DETERMINED AS PLANNING IS COMPLETED OR UPON EXAMINATION OF GEOLOGIC FEATURES FOLLOWING EXCAVATION.

**LEGEND:**  
○ INDICATES PRELIMINARY TEST ALCOVE LOCATION BASED UPON AVAILABLE GEOLOGIC INFORMATION



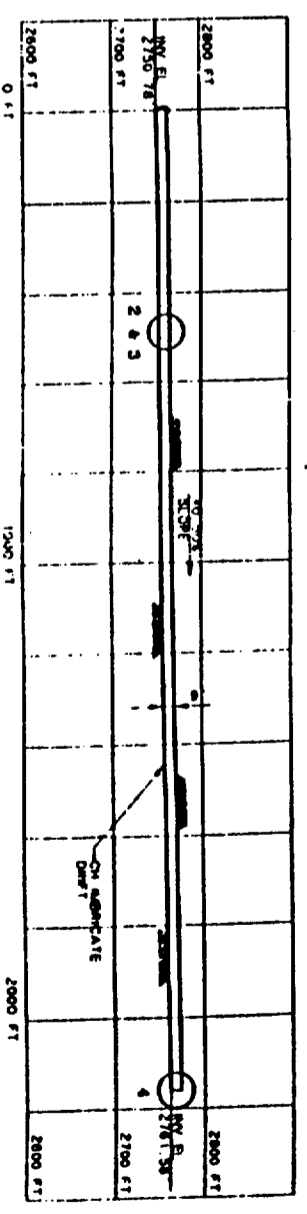
NO	DATE	REVISION	DES	DRN	CHK	DEC	DM	WRVY	ENR	SNP	GA	TPD	IN
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA													
<b>EXPLORATORY STUDIES FACILITY</b> GENERAL ARRANGEMENT CH MAIN DRIFT PRELIMINARY TEST LOCATION <b>PLAN AND PROFILE</b>													
SUBMITTED BY: <i>[Signature]</i> DATE: 8-26-91 DRAWING NO.: YMP-025-2-MING-M139													
YMP/O APPROVED: <i>[Signature]</i> DATE: 8-26-91													
DATE: _____ BY: _____													



NOTE:  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY

CH WEST GHOST DANCE DRIFT PLAN

CH WEST GHOST DANCE DRIFT		
TEST/ALCOVE LOCATION	TEST(S) TO BE LOCATED IN ALCOVE	EXCAVATION SIZE REQUIRED
5	HYDROLOGIC PROPERTIES OF MAJOR FAULT'S IMPOST DANCE! HYDRODIVERSITY	750' X 20' SAME ALCOVE



CH IMBRICATE DRIFT PLAN

CH IMBRICATE DRIFT		
TEST/ALCOVE LOCATION	TEST(S) TO BE LOCATED IN ALCOVE	EXCAVATION SIZE REQUIRED
2	SAULT SURVEY (S/CH CONTACT) HYDRODIVERSITY	24' W x 20' L x 10' TD IN SAME DRIFT AS IMPOST CONTACT!
3	RADIOLOGIC IMMIGRATION (IS/CH)	2 ROOMS 33' W x 33' L x 9' H
4	HYDROLOGIC PROPERTIES OF MAJOR FAULT'S IMBRICATE!	750' X 20' SAME ALCOVE AS HYDROLOGIC PROPERTIES

9305250071-61

FOR REFERENCE DRAWINGS INDEX SEE DRAWING VAP-025-2-CIVL-0202

- NOTES:
1. THE TEST LOCATIONS ARE CLOSELY DEPENDENT UPON THE HYDROLOGIC AND THE THERMAL/RADIOLOGIC CONTACTS. THE CLIMATE RADIOLOGIC IMMIGRATION TEST LOCATIONS ARE DEPENDENT UPON THE CLIMATE RADIOLOGIC IMMIGRATION TEST LOCATIONS. THE TEST LOCATIONS ARE DEPENDENT UPON THE CLIMATE RADIOLOGIC IMMIGRATION TEST LOCATIONS. THE TEST LOCATIONS ARE DEPENDENT UPON THE CLIMATE RADIOLOGIC IMMIGRATION TEST LOCATIONS.
  2. REFER TO VAP/CC 0013 REV 7/29/91 VOL. 2 SEPTOR FOR TEST DESCRIPTIONS
  3. REFER TO VAP-025-2-MING-0449, ALSO FOR TYPICAL ALCOVE EXCAVATION SEQUENCE IN USE!
  4. THESE ADDITIONAL TESTS WHICH MAY REQUIRE ALCOVE'S CANNOT BE LOCATED DUE TO CURRENT STATUS OF TEST PLANNING OR DEPENDENCE ON SITE-SPECIFIC RADIOLOGIC TESTS. THESE ADDITIONAL TESTS WHICH MAY REQUIRE ALCOVE'S CANNOT BE LOCATED DUE TO CURRENT STATUS OF TEST PLANNING OR DEPENDENCE ON SITE-SPECIFIC RADIOLOGIC TESTS. THESE ADDITIONAL TESTS WHICH MAY REQUIRE ALCOVE'S CANNOT BE LOCATED DUE TO CURRENT STATUS OF TEST PLANNING OR DEPENDENCE ON SITE-SPECIFIC RADIOLOGIC TESTS.



U.S. DEPARTMENT OF ENERGY  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE  
LAS VEGAS, NEVADA

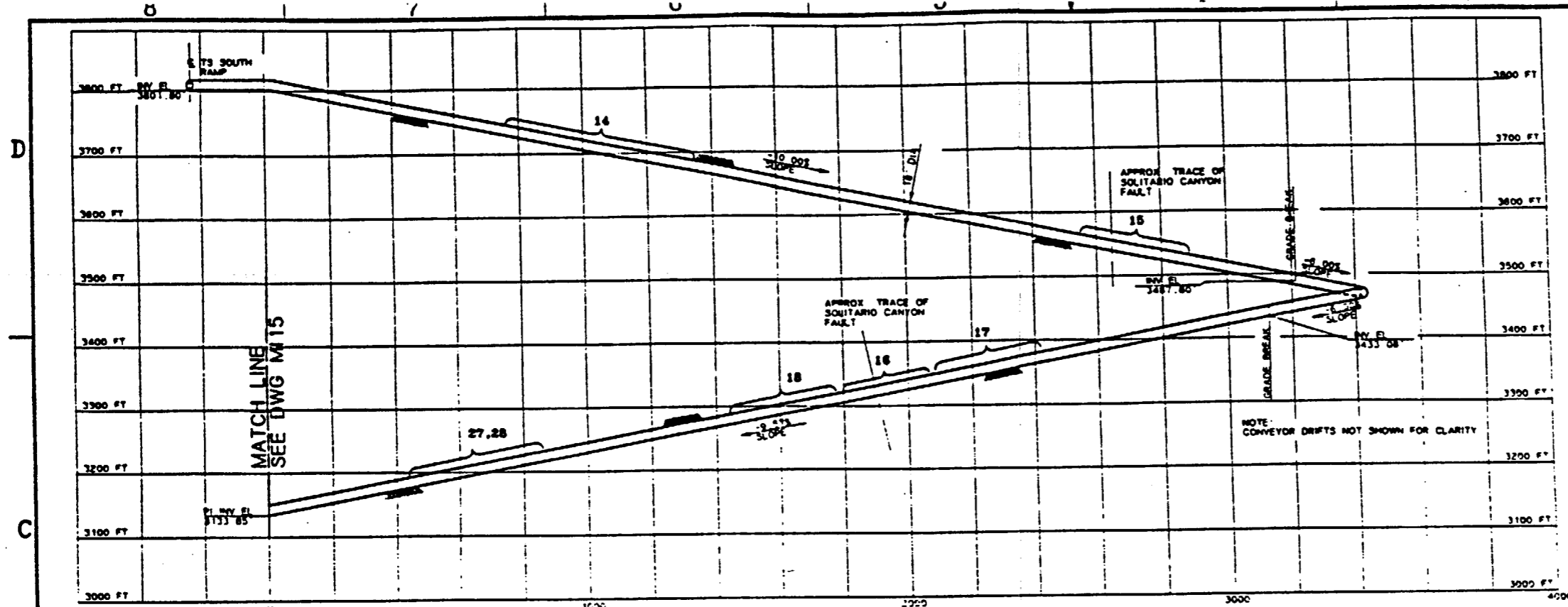
Raytheon Services Nevada  
LAS VEGAS, NEVADA

EXPLORATORY STUDIES FACILITY  
GENERAL ARRANGEMENT  
CH LEVEL DRIFTS PRELIMINARY TEST LOCATIONS  
PLAN AND PROFILE

APPROVALS

NO	DATE	REVISION	DES	DRW	CHK	APP	REV	APP	DATE
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DATE: 11/11/93



**NOTES:**

- 1 THE TEST LOCATIONS ARE CLOSELY DEPENDENT UPON THE HYDROLITHOLOGIC AND THE THERMAL/METAMORPHIC CONTACTS. THE CURRENT GEOLOGIC INFORMATION SUPPLIED BY SRI, SAIC, AND RSN IS PRELIMINARY AND UNCERTAIN. THEREFORE THE FINAL LOCATIONS OF TESTS AND ACCESS DRIFTS AND THEIR ORIENTATIONS WILL BE DEPENDENT UPON OBSERVED GEOLOGY AS EXCAVATION AND TESTING PROCEED
- 2 REFER TO YMP/CC 0013 REV 7/29/91 VOL. 2 ESDR FOR TEST DESCRIPTIONS.
- 3 REFER TO YMP-025-2-MING-M149.M300 FOR TYPICAL ALCOVE EXCAVATION SEQUENCE IN RAMP.
- 4 IN SITU SEALS TEST WHICH MAY REQUIRE ALCOVES CANNOT PRESENTLY BE LOCATED DUE TO CURRENT STATUS OF TEST PLANNING OR DEPENDENCE ON SITE-SPECIFIC GEOLOGY AND FACILITY DESIGN. ALCOVE LOCATIONS FOR THESE TESTS WILL BE DETERMINED AS PLANNING IS COMPLETED OR UPON EXAMINATION OF GEOLOGIC FEATURES FOLLOWING EXCAVATION.

LEGEND: INDICATES PRELIMINARY TEST ALCOVE LOCATION BASED UPON AVAILABLE GEOLOGICAL INFORMATION  
 INDICATES UNCERTAINTY OF TEST ALCOVE LOCATION

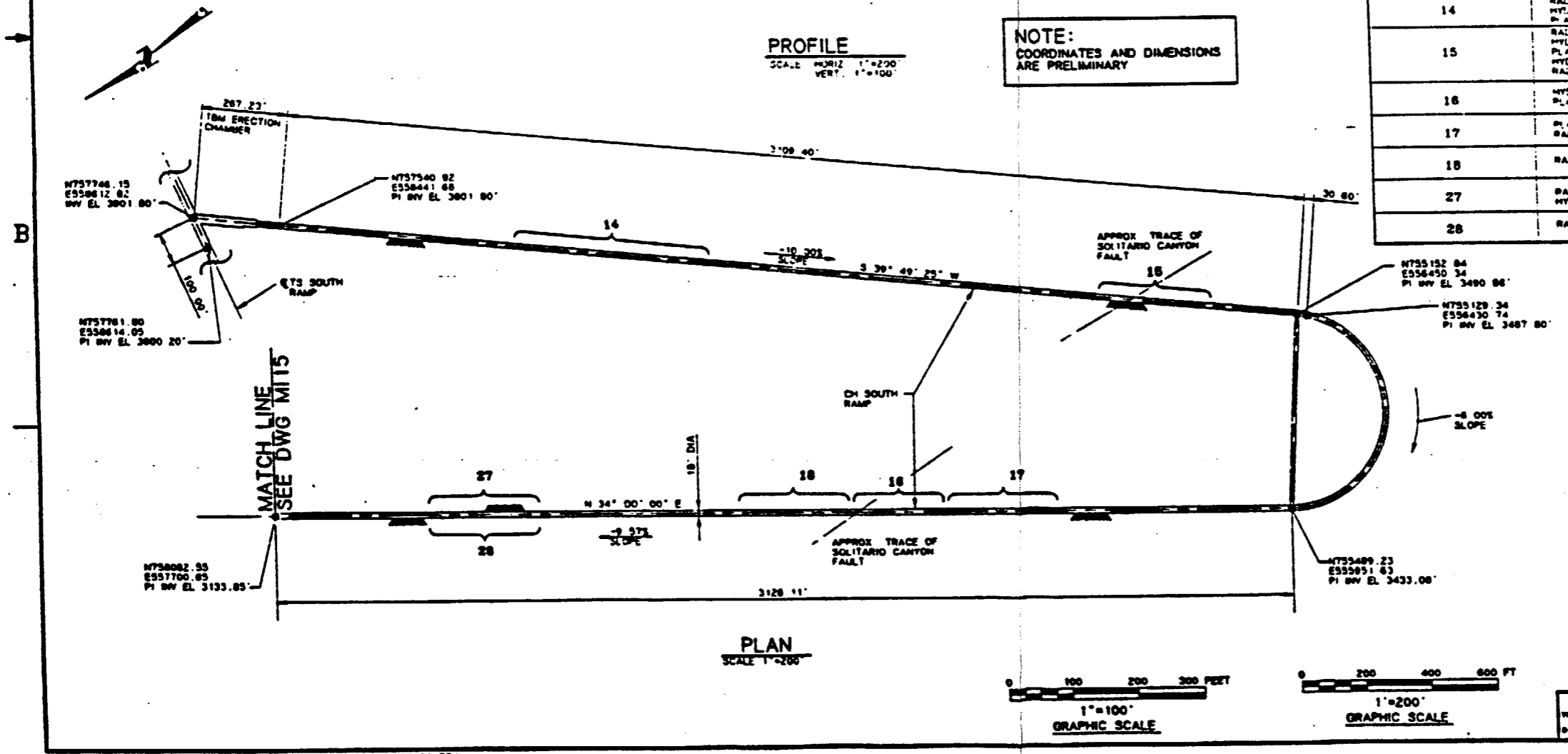
SI  
 APERTURE  
 CARD  
 Also Available On  
 Aperture Card

CALICO HILLS SOUTH RAMP		
TEST/ALCOVE LOCATION	TEST(S) TO BE LOCATED ON ALCOVE	EXCAVATION SIZE REQUIRED
14	RADIAL BORE HOLE (ANIS) HYDROCHEMISTRY PLATE LOADING (TS=3)	24' W x 20' L x 22' H SAME ALCOVE AS RADIAL BORE HOLE 15' W x 60' L x TBD H
15	RADIAL BORE HOLE (CONTACT) HYDROCHEMISTRY PLATE LOADING (CN=1) HYDROLOGIC PROPERTIES OF MAJOR FAULTS (SOLITARIO CANYON) RADIONUCLIDE MIGRATION (TS/CN)	24' W x 20' L x TBD H USE SAME ALCOVE AS RADIAL BORE HOLE 15' W x 60' L x TBD H TBD W x TBD L x TBD H 33' W x 33' L x 9' H 2 RMS REQ'D
16	HYDROLOGIC PROPERTIES OF MAJOR FAULTS (SOLITARIO CANYON) PLATE LOADING (CN=2)	TBD W x TBD L x TBD H 15' W x 60' L x TBD H
17	PLATE LOADING (CN=3) RADIONUCLIDE MIGRATION (VITRIC)	15' W x 60' L x TBD H 33' W x 33' L x 9' H
18	RADIONUCLIDE MIGRATION (VITRIC)	33' W x 33' L x 9' H 2 ROOMS REQUIRED
27	RADIAL BORE HOLE (V/Z CONTACT) HYDROCHEMISTRY	24' W x 20' L x TBD H USE SAME ALCOVE AS RADIAL BORE HOLE
28	RADIONUCLIDE MIGRATION (VITRIC / ZEOLITIC)	33' W x 33' L x 9' H 2 ROOMS REQUIRED

**PROFILE**

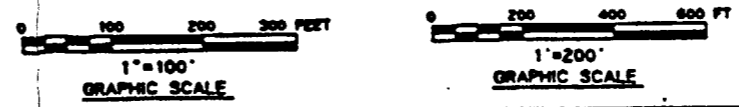
SCALE: HORIZ 1"=200'  
 VERT. 1"=100'

NOTE:  
 COORDINATES AND DIMENSIONS  
 ARE PRELIMINARY



**PLAN**

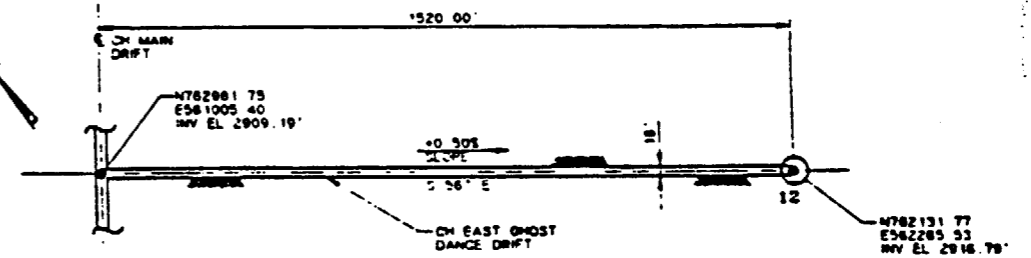
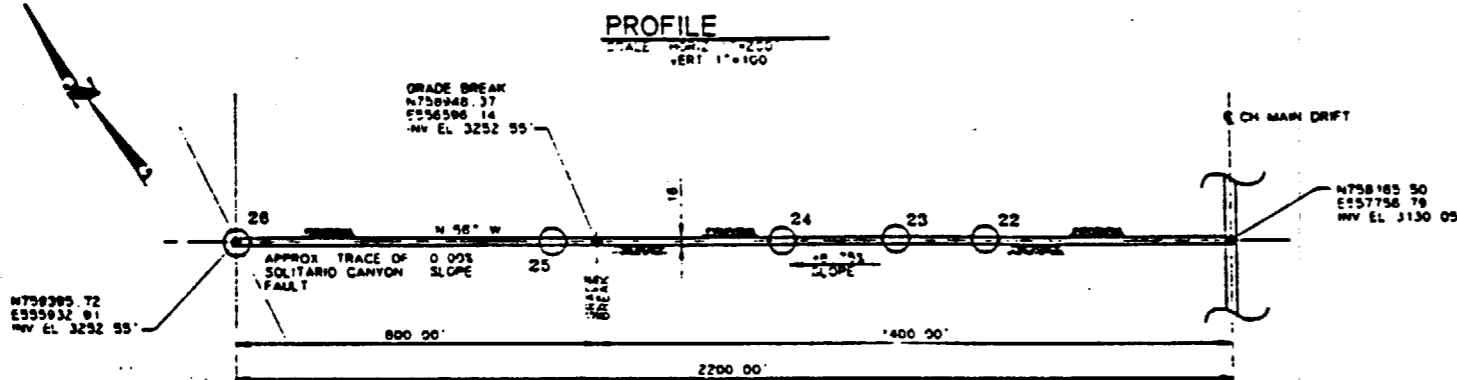
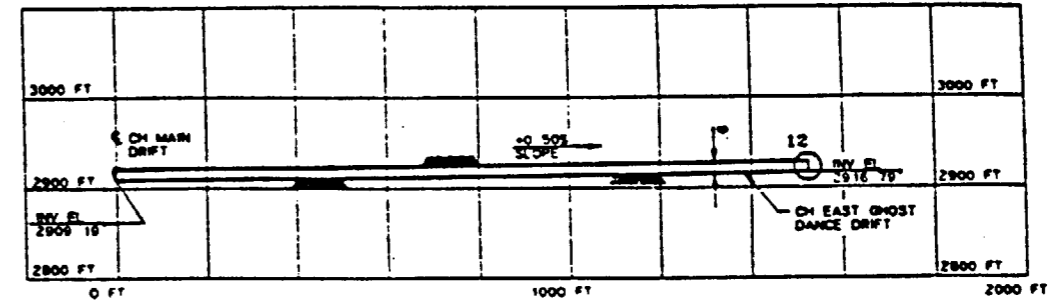
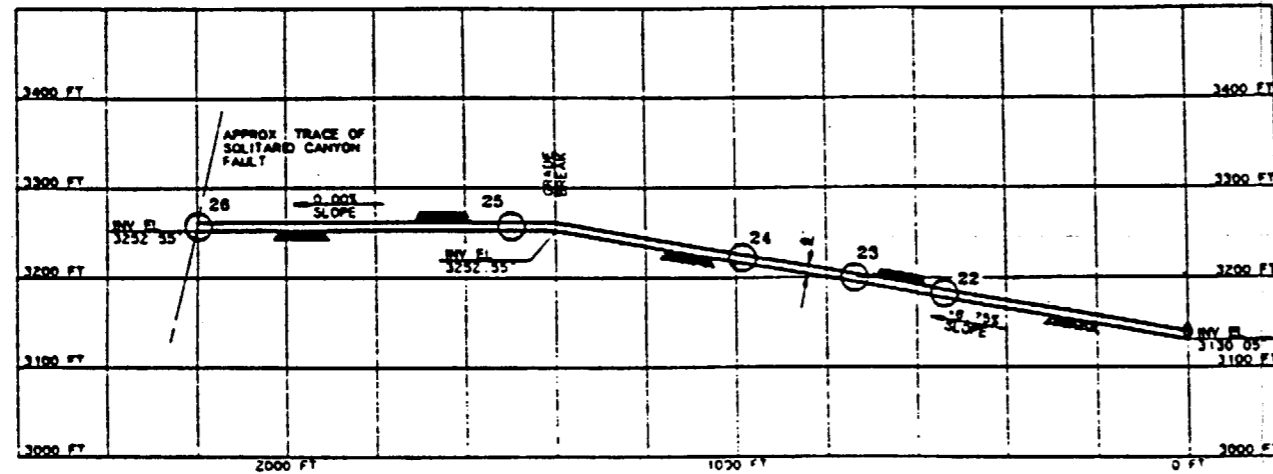
SCALE 1"=200'



9305250071-62

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-GE02

NO	DATE	REVISION	DES	DRN	CHK	DEC	DR	WPR	ENV	SAF	QA	TPO
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APPROVALS			 <b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA <b>EXPLORATORY STUDIES FACILITY</b> <b>GENERAL ARRANGEMENT</b> <b>CH SOUTH RAMP PRELIMINARY TEST LOCATIO</b> <b>PLAN &amp; PROFILE</b>									
DESIGN	RLC											
DRN	CLP											
CHKD	<i>[Signature]</i>											
SEC	<i>[Signature]</i>											
DESN	3, CH											
VERIFICATION	N/A											
ENV	SAF	<i>[Signature]</i>										
QUALITY ASSURANCE	<i>[Signature]</i>											
SUBMITTED BY: <i>[Signature]</i> DATE: 8-28-91 DRAWING NO: YMP-025-2-MING-M142												
YMPD APPROVED: <i>[Signature]</i> DATE: 8-28-91												



CH EAST GHOST DANCE DRIFT PLAN  
SCALE 1"=200'

CH SOLITARIO DRIFT PLAN  
SCALE 1"=200'

CALICO HILLS EAST GHOST DANCE DRIFT		
TEST/ALCOVE LOCATION	TEST(S) TO BE LOCATED ON ALCOVE	EXCAVATION SIZE REQUIRED
12	HYDROLOGIC PROPERTIES OF MAJOR FAULTS (GHOST DANCE) HYDROCHEMISTRY	TBD USE SAME ALCOVE

CALICO HILLS SOLITARIO DRIFT		
TEST/ALCOVE LOCATION	TEST(S) TO BE LOCATED IN ALCOVE	EXCAVATION SIZE REQUIRED
22	RADIONUCLIDE MIGRATION (ZEOLITIC/VITRIFIC)	33' W x 33' L x 9' H 2 RWS REQUIRED
23	PLATE LOADING (ZEOLITIC) HYDROCHEMISTRY	15' W x 60' L x TBD H USE SAME ALCOVE
24	RADIONUCLIDE MIGRATION (ZEOLITIC)	33' W x 33' L x 9' H 2 RWS REQUIRED
25	DIFFUSION TEST (ZEOLITIC)	20' W x 20' L x 9' H
26	HYDROLOGIC PROPERTIES OF MAJOR FAULTS (SOLITARIO CANYON) HYDROCHEMISTRY	TBD USE SAME ALCOVE

NOTE:  
COORDINATES AND DIMENSIONS  
ARE PRELIMINARY

NOTES:

- THE TEST LOCATIONS ARE CLOSELY DEPENDENT UPON THE HYDROLITHOLOGIC AND THE THERMAL/MECHANICAL CONTACTS. THE CURRENT GEOLOGIC INFORMATION SUPPLIED BY DML, SAIC, AND RSN IS PRELIMINARY AND UNCERTAIN. THEREFORE THE FINAL LOCATIONS OF TESTS AND TEST ACCESS DRIFTS AND THEIR ORIENTATIONS WILL BE DEPENDENT UPON OBSERVED GEOLOGY AS EXCAVATION AND TESTING PROCEED.
- REFER TO YMP/CC 0013 REV 7/29/91 VOL. 2 ESPDR FOR TEST DESCRIPTIONS.
- REFER TO YMP-025-2-MING-M149.M150 FOR TYPICAL ALCOVE EXCAVATION SEQUENCE IN MARS.
- THREE ADDITIONAL TESTS WHICH MAY REQUIRE ALCOVES CANNOT PRESENTLY BE LOCATED DUE TO CURRENT STATUS OF TEST PLANNING OR DEPENDENCE ON SITE-SPECIFIC GEOLOGY. THESE TESTS ARE: 1) BULK PERMEABILITY, 2) ROCK-MASS STRENGTH, AND 3) IN SITU TESTING OF SEAL COMPONENTS. ALCOVE LOCATIONS FOR THESE TESTS WILL BE DETERMINED AS PLANNING IS COMPLETED OR UPON EXAMINATION OF GEOLOGIC FEATURES FOLLOWING EXCAVATION.

LEGEND: ○ INDICATES PRELIMINARY TEST ALCOVE LOCATION BASED UPON AVAILABLE GEOLOGIC INFORMATION



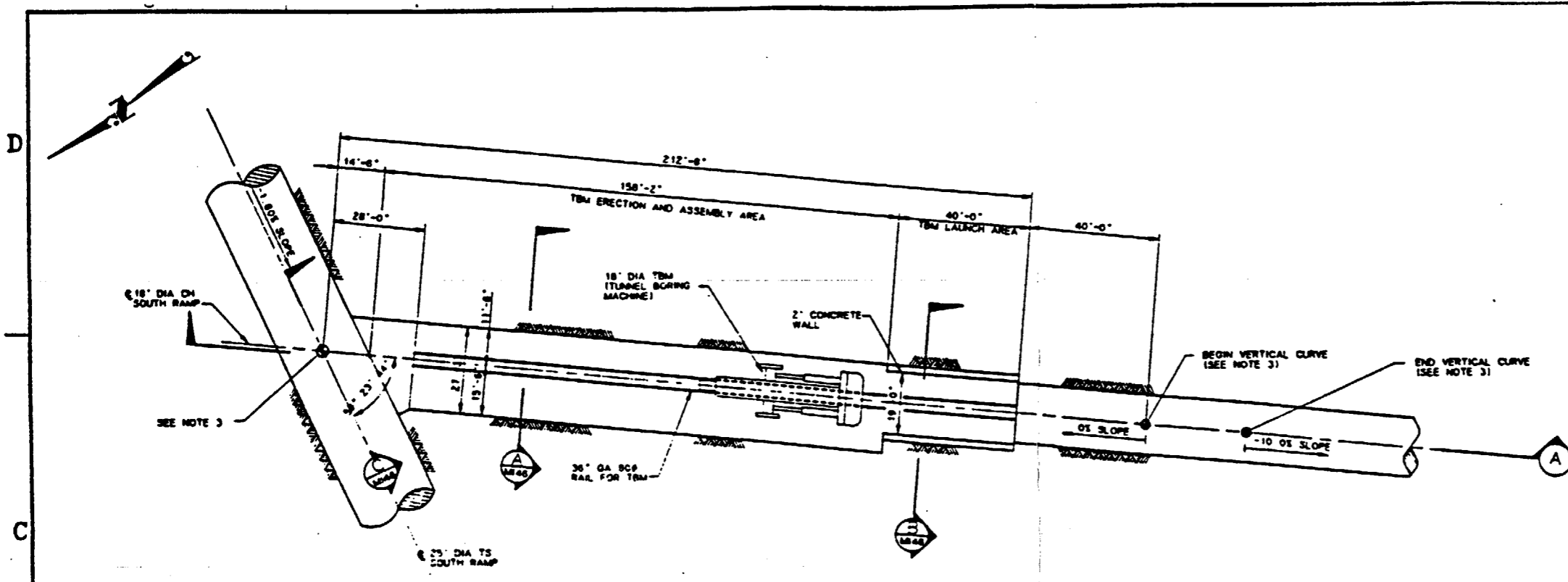
SI  
APERTURE  
CARD

Also Available On  
Aperture Card

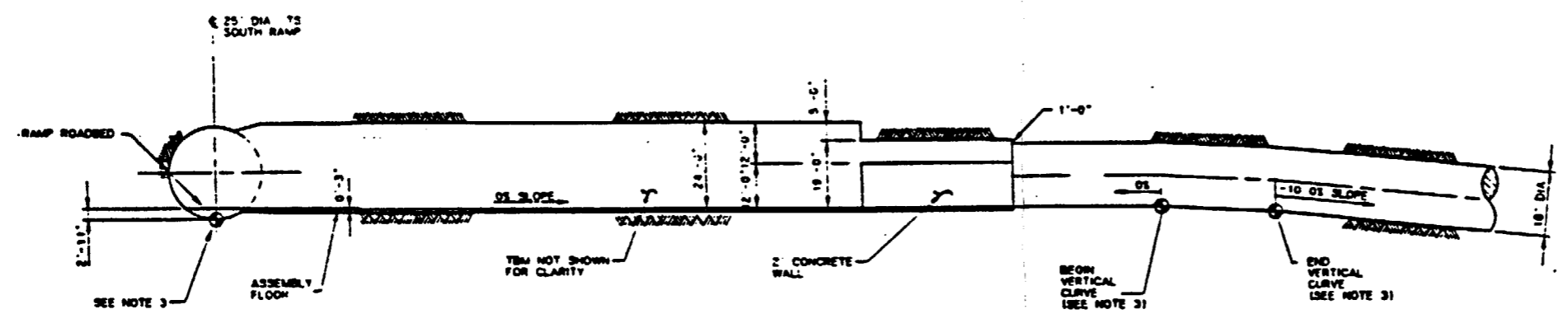
9305250071-63

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0202

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<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA													
<b>EXPLORATORY STUDIES FACILITY</b> GENERAL ARRANGEMENT CH LEVEL DRIFTS PRELIMINARY TEST LOCATIONS PLAN AND PROFILE													
APPROVALS													
DESIGN	RLC												
DRAWN	CLP												
CHECKED	[Signature]												
SEC	[Signature]												
DESIGN MANAGER	[Signature]												
VERIFICATION	N/A												
CHK	[Signature]												
QUALITY ASSURANCE	[Signature]												
YMP/CC	1.2.0.5												
DATE	8-28-91												
DRAWING NO.	YMP-025-2-MING-M143												
DATE													



PLAN  
SCALE 1"=20'



SECTION  
SCALE 1"=20' (A)

SI  
APERTURE  
CARD  
Also Available On  
Aperture Card

NOTES:

- DIMENSIONS SHOWN ARE APPROXIMATE. ACTUAL DIMENSIONS DEPEND ON TBM SELECTED.
- ⊙ SYMBOL IS FOR REFERENCE ONLY AND DOES NOT INDICATE SURVEY STATION LOCATIONS.
- SEE CALCULATION ST-SA-001 FOR MAJOR COORDINATES AND VERTICAL CURVE DATA.

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0602

9305250071-64

NO	DATE	REVISION	DES	DRN	CHK	DEC	CM	VRFY	ENV	SAP	QA	TRPO	YMP
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
APPROVALS			<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA										
DESIGN	M/E		EXPLORATORY STUDIES FACILITY GENERAL ARRANGEMENT TS/CH SOUTH RAMP INTERSECTION PLAN & SECTION										
DRN	CLP / REC		SUBMITTED BY: <i>[Signature]</i> DATE: 9-25-91 DRAWING NO.: YMP-025-2-MING-M145										
CHK	<i>[Signature]</i>		YMPD APPROVED: <i>[Signature]</i> DATE:										
DESIGN MANAGER	S.C.H.		U.S.G. ID: 1.2.8.5										
VERIFICATION	N/A		DATE:										
ENV	<i>[Signature]</i>		DATE:										
QUALITY ASSURANCE	<i>[Signature]</i>		DATE:										
FILE	YMP0110		DATE:										
U.S.G. ID	1.2.8.5		DATE:										
FILE NO	0-21-91		DATE:										

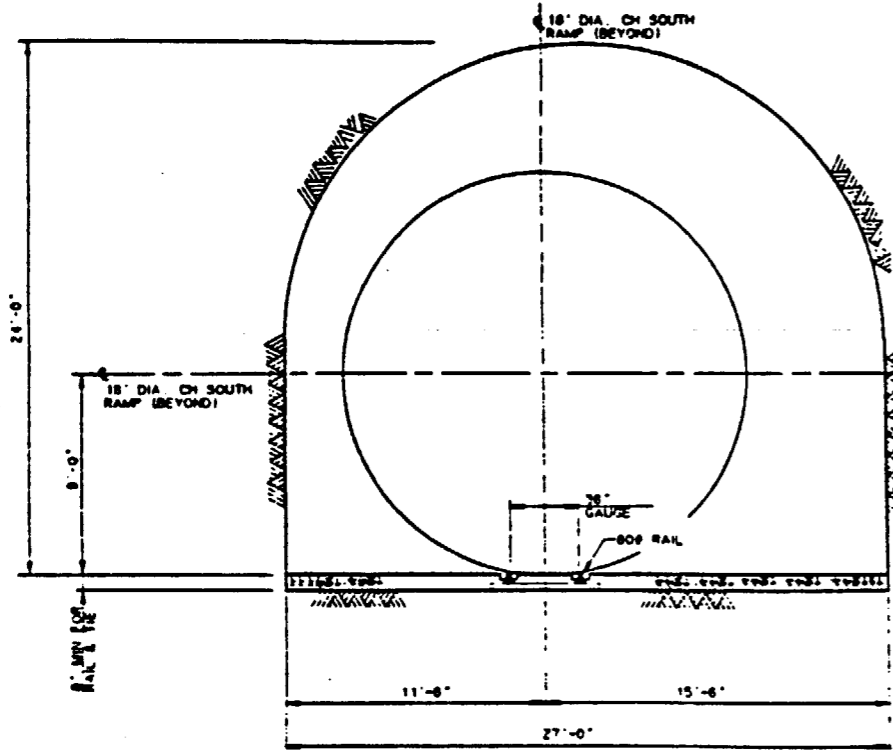


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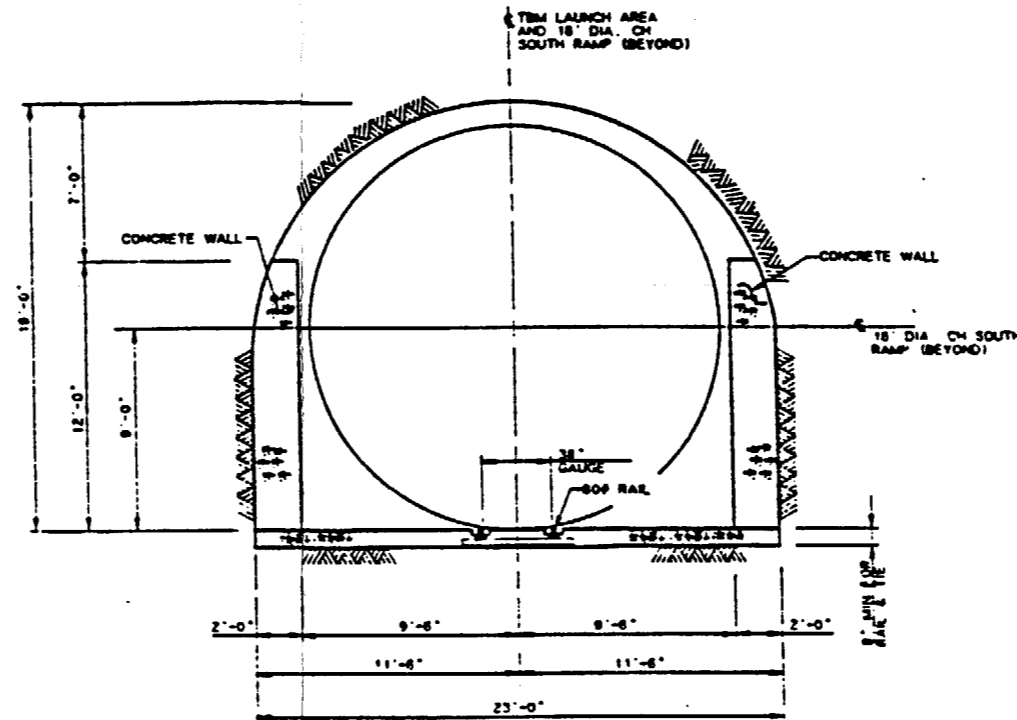
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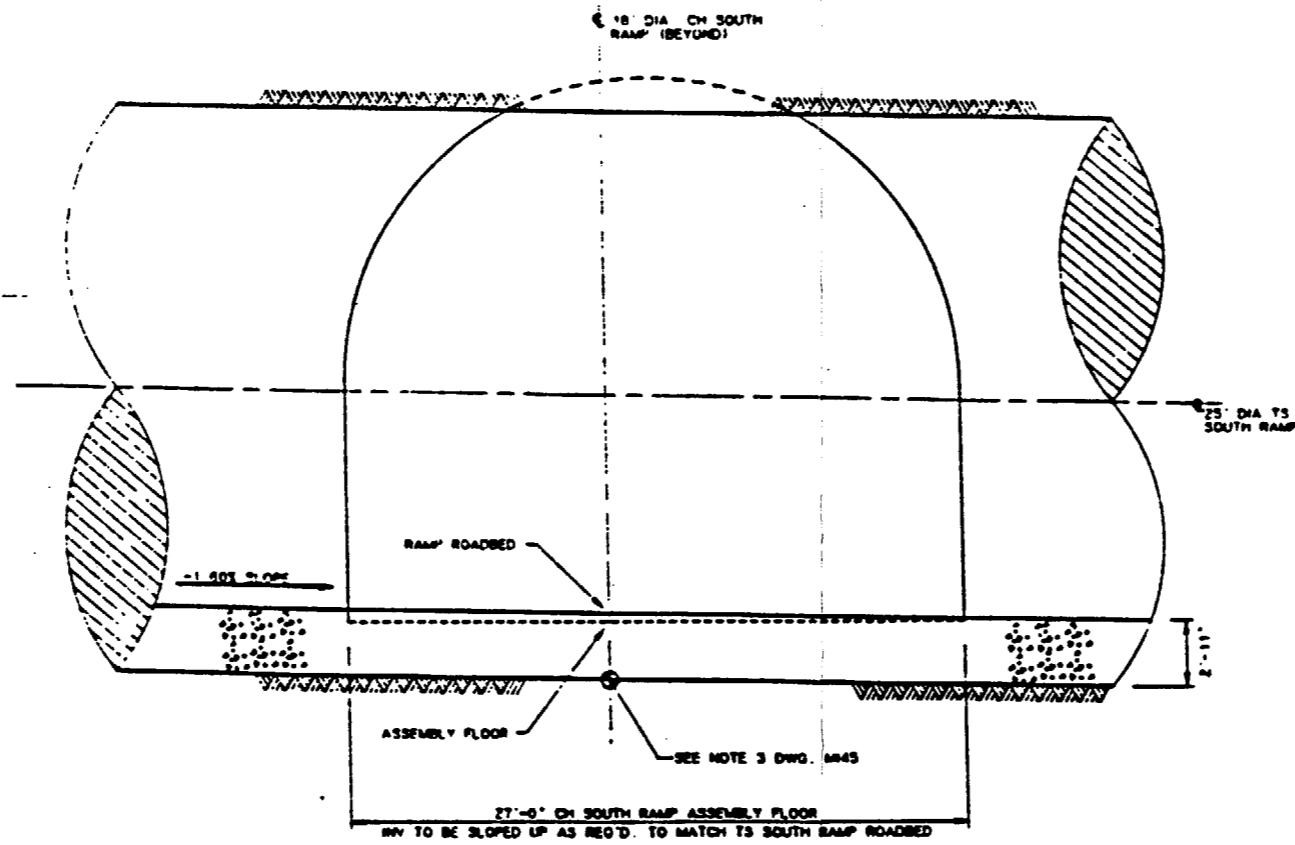


SECTION **A**  
SCALE 1/4" = 1'-0"

**NOTE:**  
DIMENSIONS SHOWN ARE APPROXIMATE  
ACTUAL DIMENSIONS DEPEND ON TBM SELECTED



SECTION **B**  
SCALE 1/4" = 1'-0"



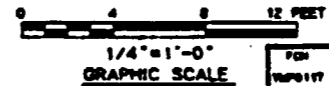
SECTION **C**  
SCALE 1/4" = 1'-0"

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CARD  
Also Available On  
Aperture Card

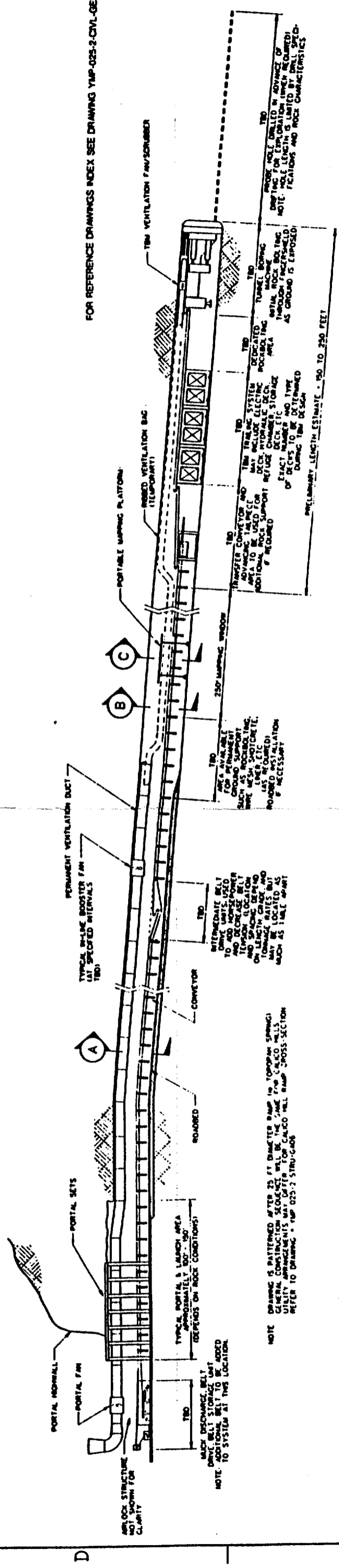
FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CVL-0202  
FOR NOTES SEE DRAWING YMP-025-2-MING-M45

9305250071-65

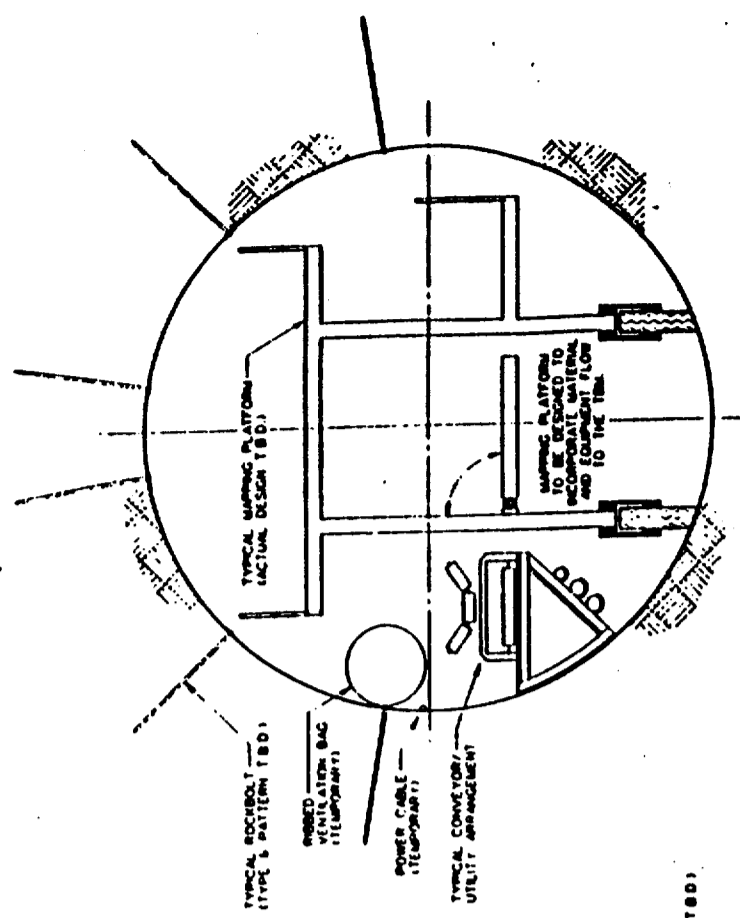
NO	DATE	REVISION	DES	DRN	CHK	DEC	DM	VER	ENR	SAP	SA	TPO	PL
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
APPROVALS			<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA										
DESIGN	M.A.E.												
DRAWN	CLP / SFC												
CHECKED	D.K. 1/88												
SEC	J.C.B.												
DESIGN MANAGER	S.B. CH.												
VERIFICATION	N/A												
ENR	OP	L. V. 1/88											
QUALITY ASSURANCE	S. S. 9/91												
SUBMITTED BY			DATE	DRAWING NO.									
Y.M.P. APPROVED			8-25-91	YMP-025-2-MING-M45									
DATE			DWG										



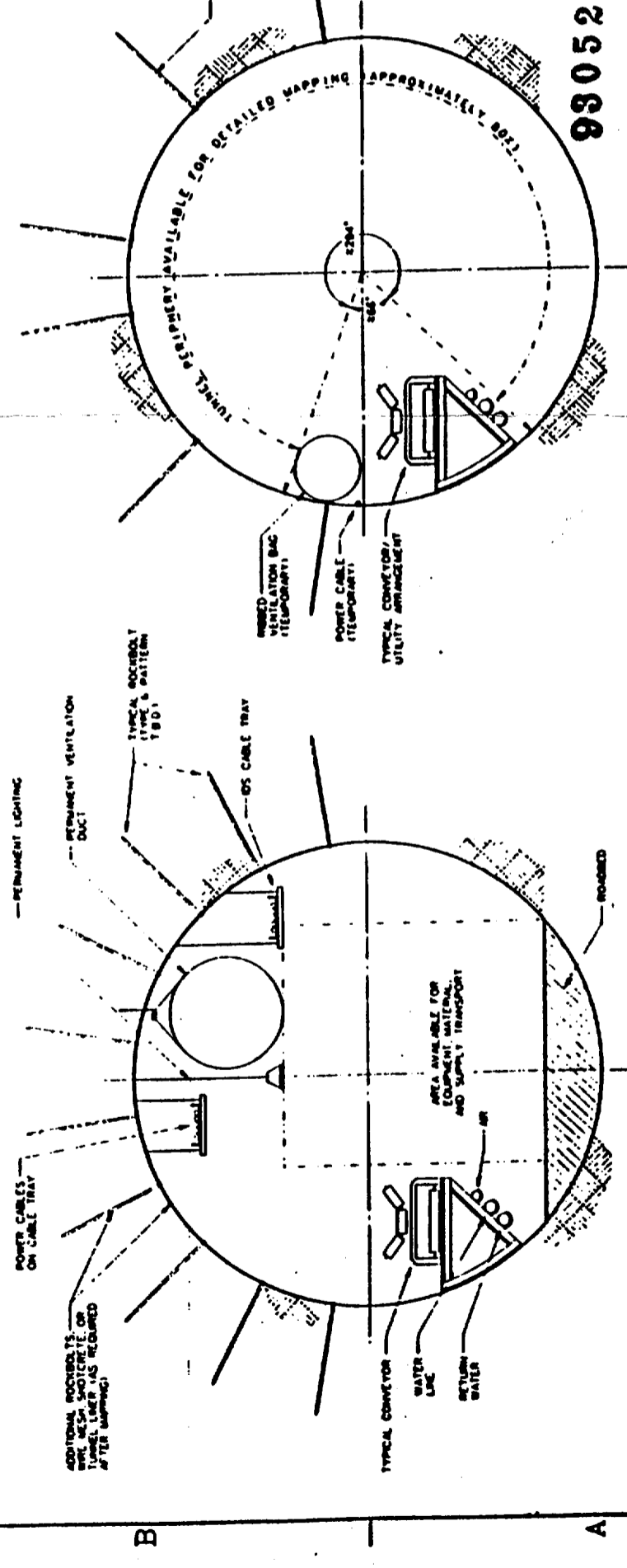
FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CVL-GEDZ



**TYPICAL CROSS-SECTION OF RAMP CONSTRUCTION SEQUENCE**  
SCALE NONE



**SECTION C**  
SCALE NONE



**SECTION A**  
SCALE NONE

**SECTION B**  
SCALE NONE

**SECTION C**  
SCALE NONE

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**9305250071-66**

NO.	DATE	REVISION	DES	CHK	APP	BY	CHK	BY	DATE

APPROVALS		DATE		DRAWING NO.		YMP-025-2-MNC-048	
DESIGNER	DATE	DATE	DATE	DATE	DATE	DATE	DATE
CHIEF ENGINEER	DATE	DATE	DATE	DATE	DATE	DATE	DATE

U.S. DEPARTMENT OF ENERGY		YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE	
LAS VEGAS, NEVADA		LAS VEGAS, NEVADA	

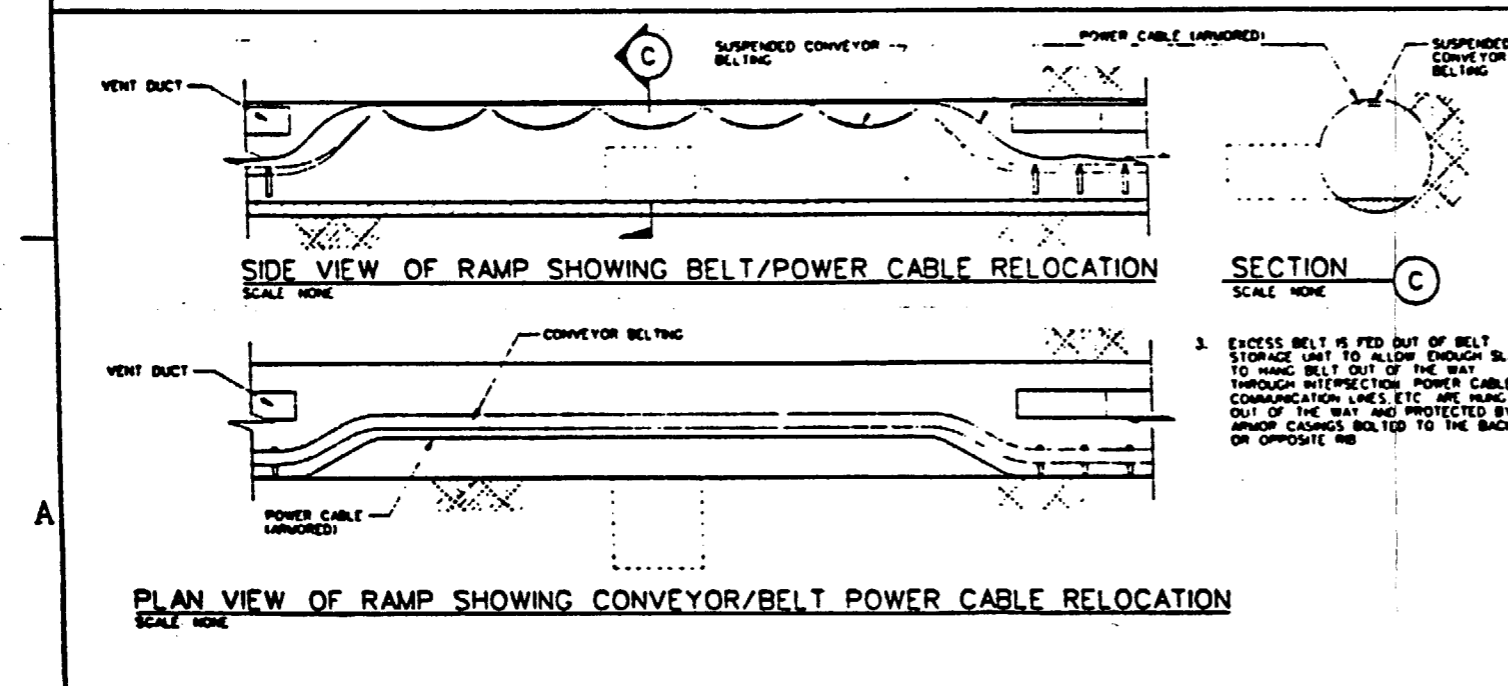
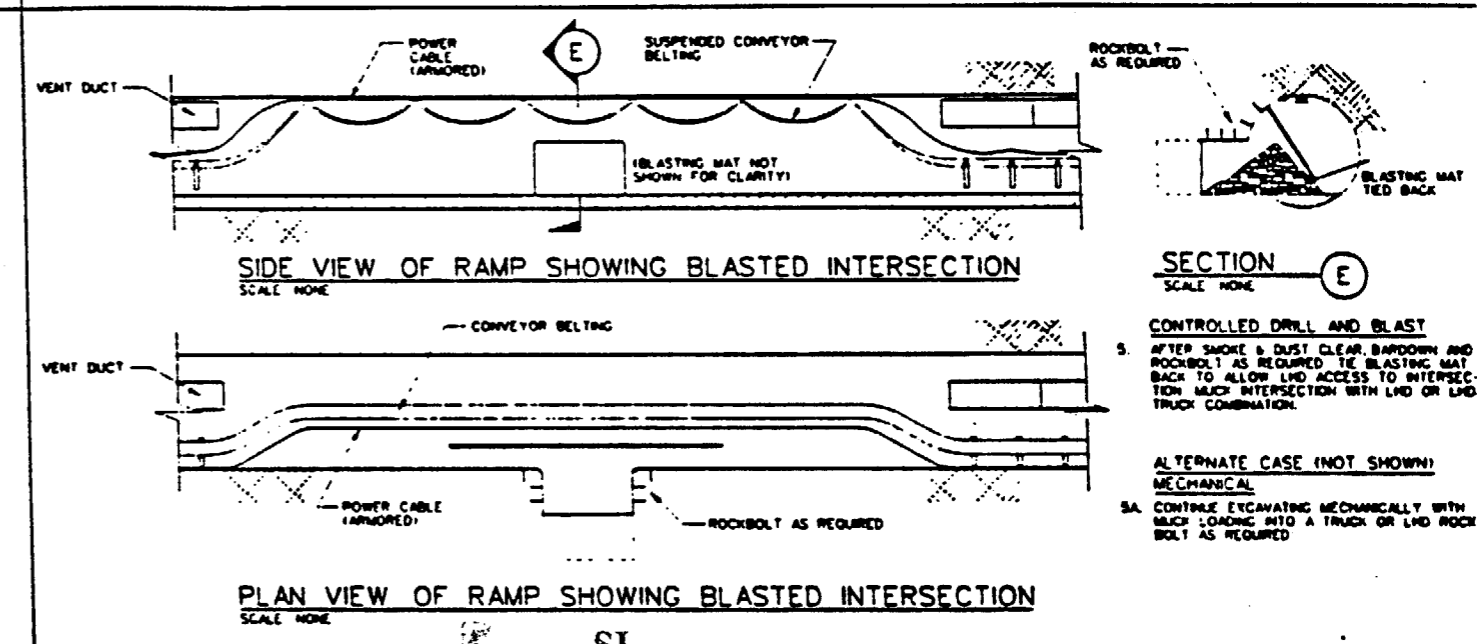
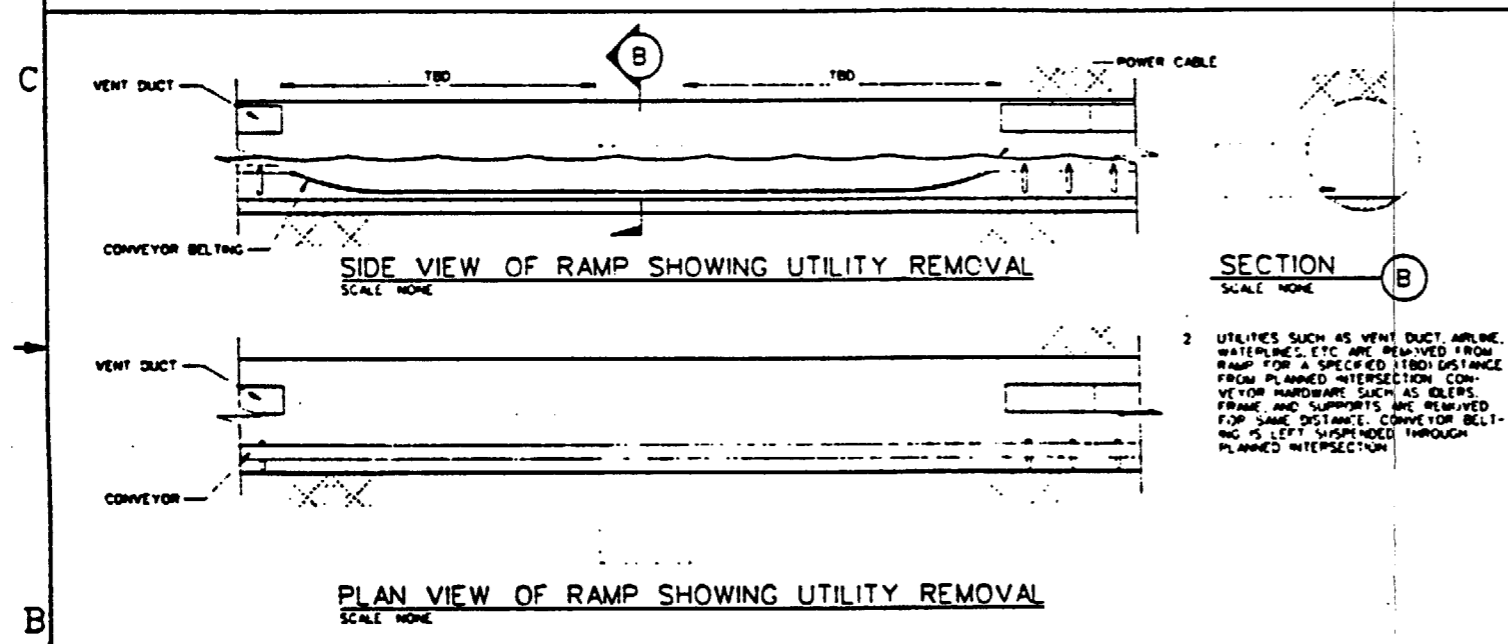
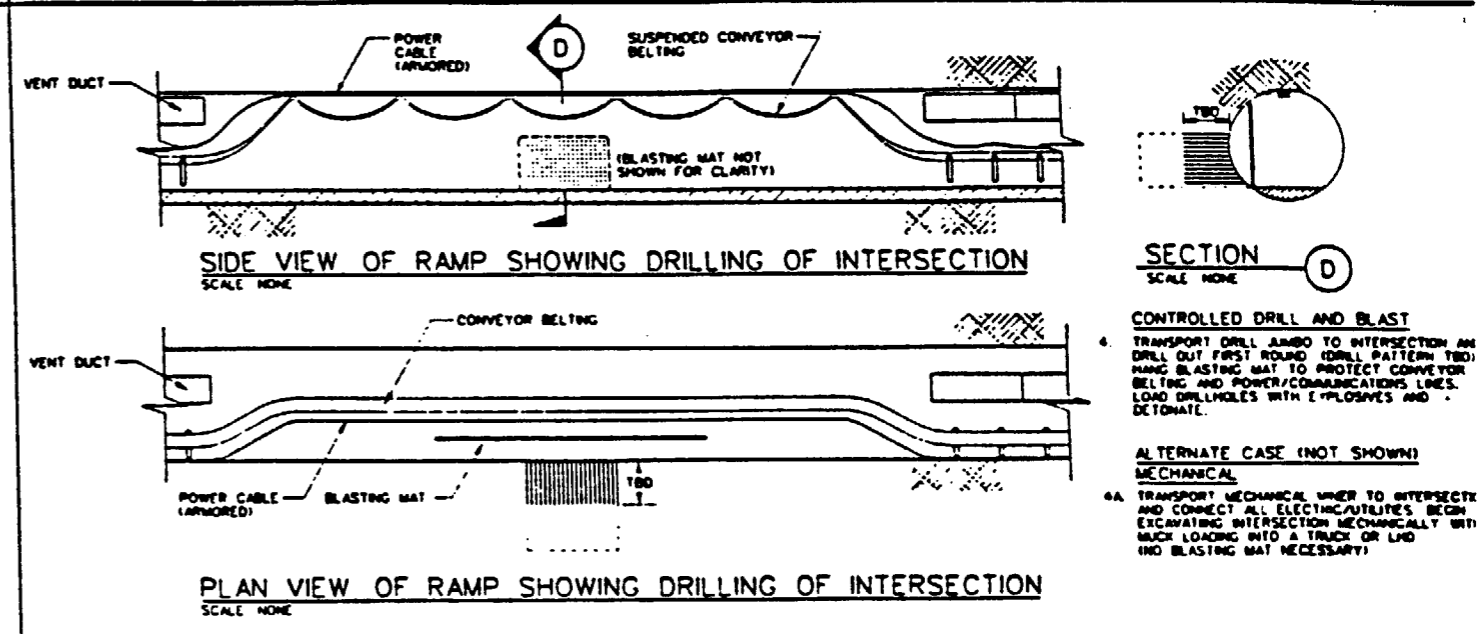
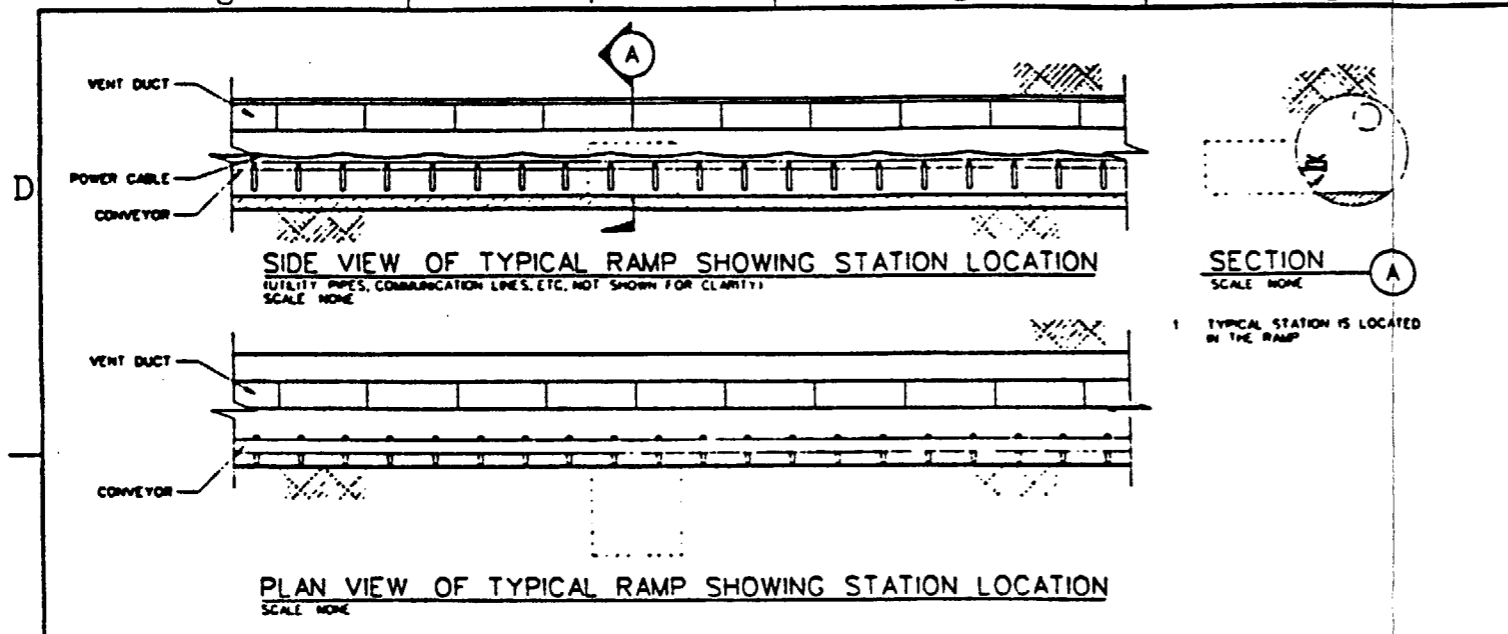
  

RSN Raytheon Services Nevada		LAS VEGAS, NEVADA	
EXPLORATORY STUDIES FACILITY		GENERAL ARRANGEMENT	
RAMP CONSTRUCTION SEQUENCE		SECTIONS	

FOR APPROVAL	DATE	BY
	12.05.05	





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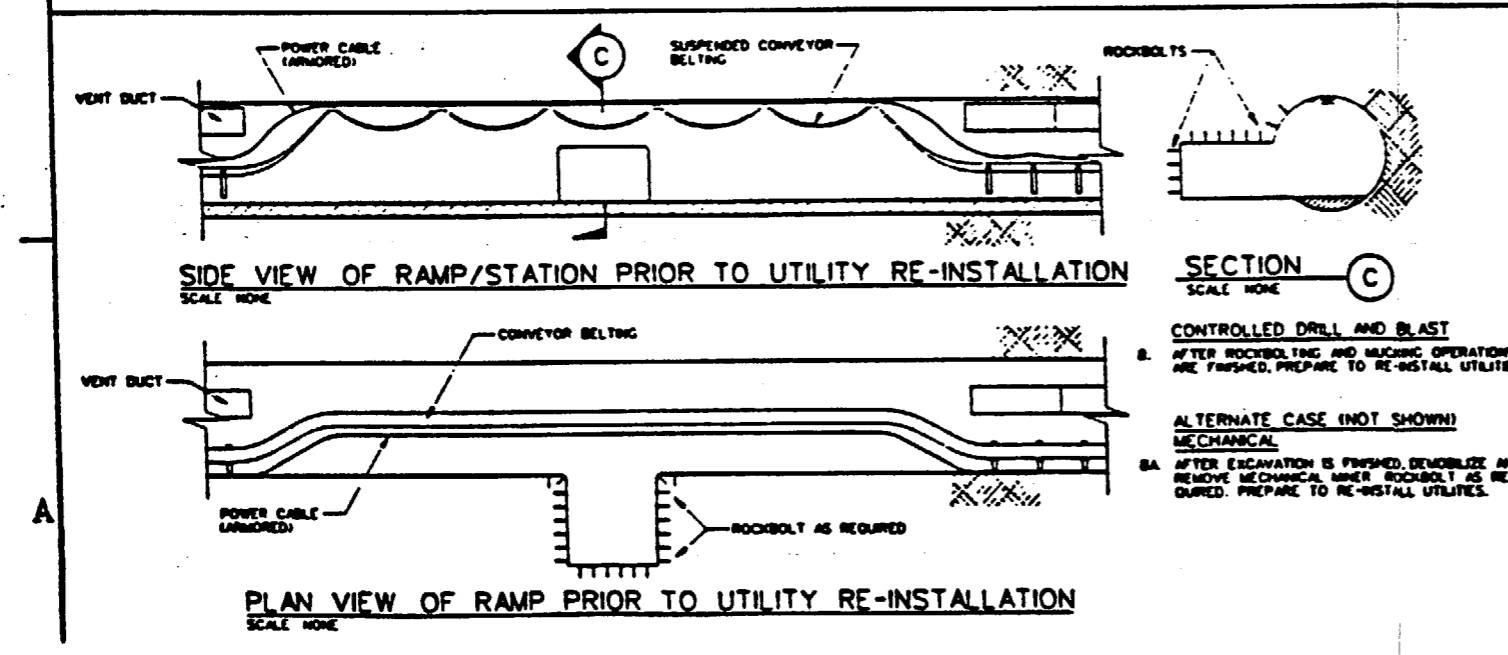
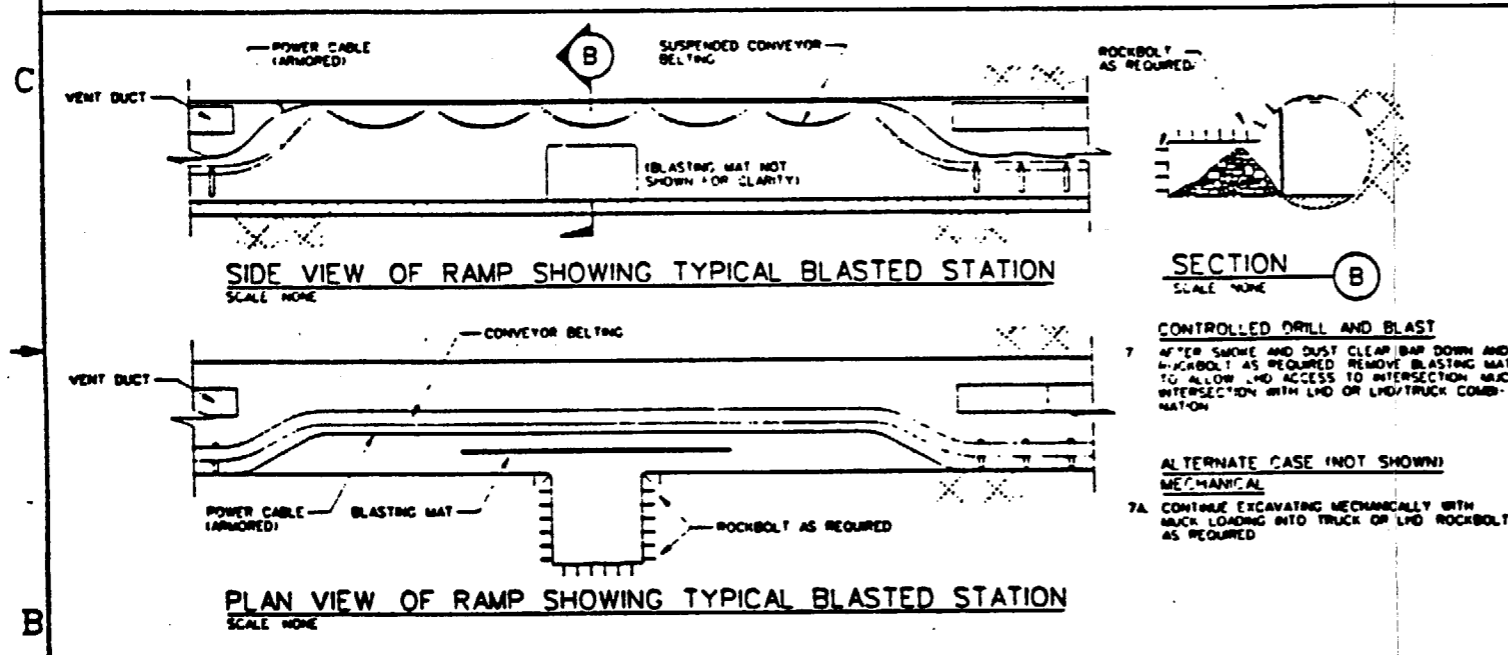
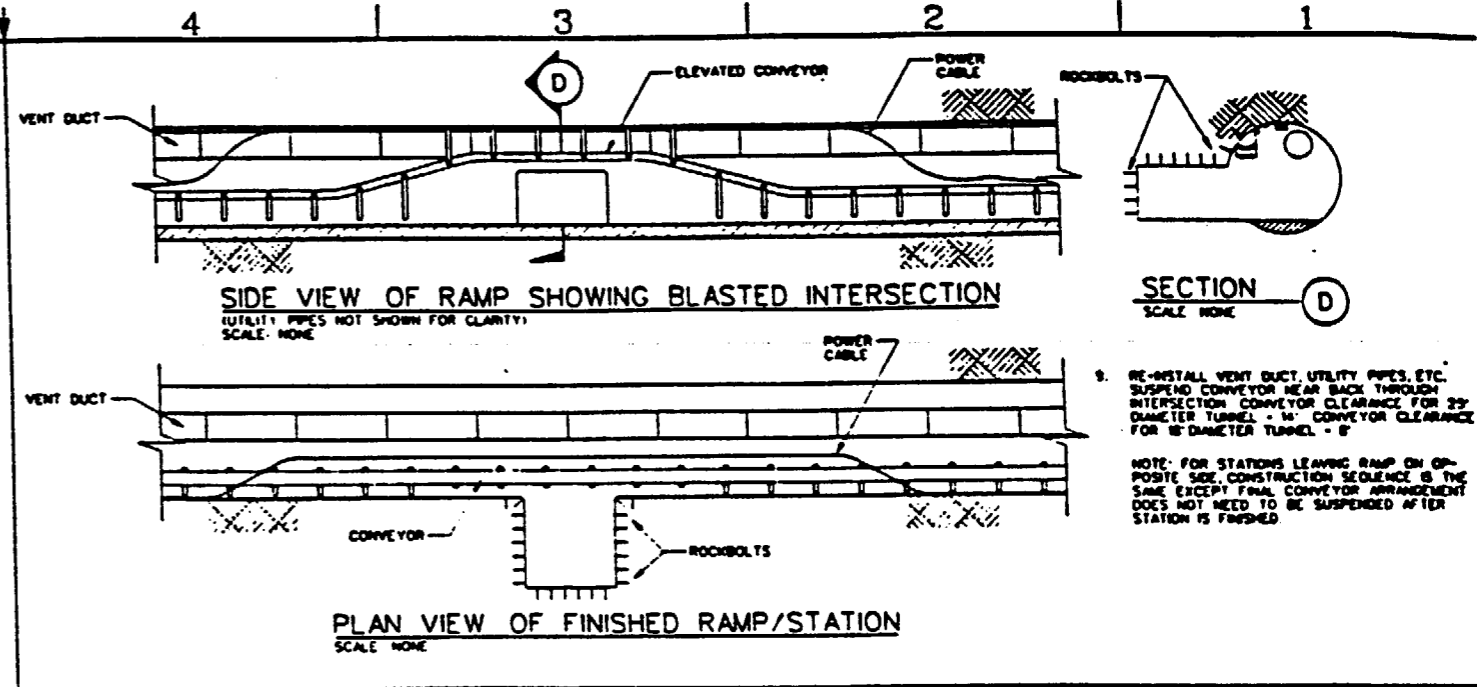
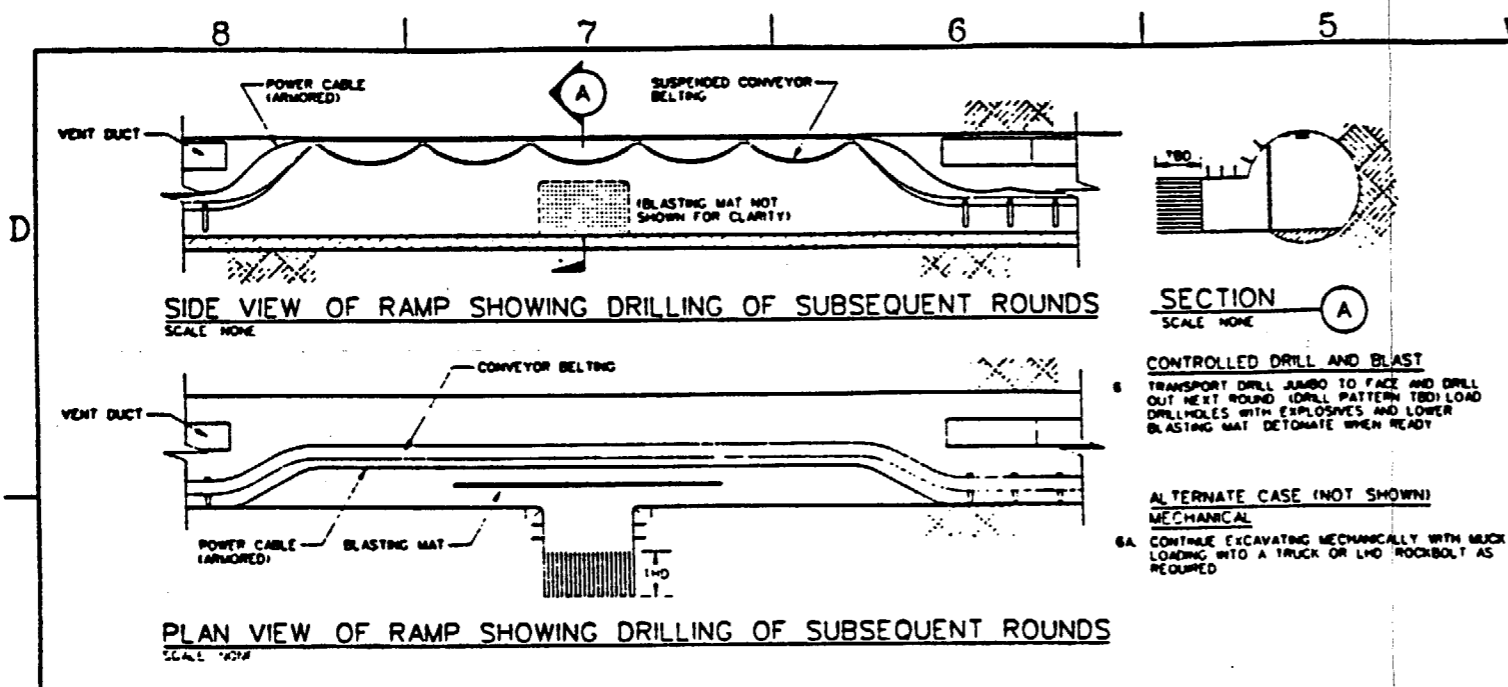
FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-GE02

**GENERAL NOTES**

- RAMP STATION CONSTRUCTION SEQUENCE CONTINUED ON YMP-025-2-MING-M850
- MECHANICAL EXCAVATION METHODS WILL BE USED WHEN FEASIBLE AND PRACTICAL. CONTROLLED DRILL AND BLAST SCENARIO IS SHOWN TO ILLUSTRATE THE CYCLIC NATURE OF THE SYSTEM UTILITY RE-ARRANGEMENTS WILL BE SIMILAR FOR A MECHANICAL MINER
- RAMP STATION CONSTRUCTION SEQUENCE APPLIES TO ALL RAMP SIZES UNDER CONSIDERATION
- ROCKBOLT TYPES & PATTERN TBD

NO	DATE	REVISION	DES	DRN	CHK	DEC	DR	APP	ENV	SAP	EPS	QA	TR
<b>U.S. DEPARTMENT OF ENERGY</b>													
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE													
LAS VEGAS, NEVADA													
APPROVALS				<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA  <b>EXPLORATORY STUDIES FACILITY</b> <b>GENERAL ARRANGEMENT</b> <b>RAMP STATION CONSTRUCTION SEQUE</b> <b>PLANS AND SECTIONS</b>									
DESIGN	NAME												
DRAWN	FE												
CHECKED	JULY 1998												
BY SIGN	B.C.H.												
VERIFICATION	SVA												
DATE	7/22/98												
QUALITY	8-24-98												
FOR	L285												
BY	YMP-025-2-MING-M849												

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Aperture Card

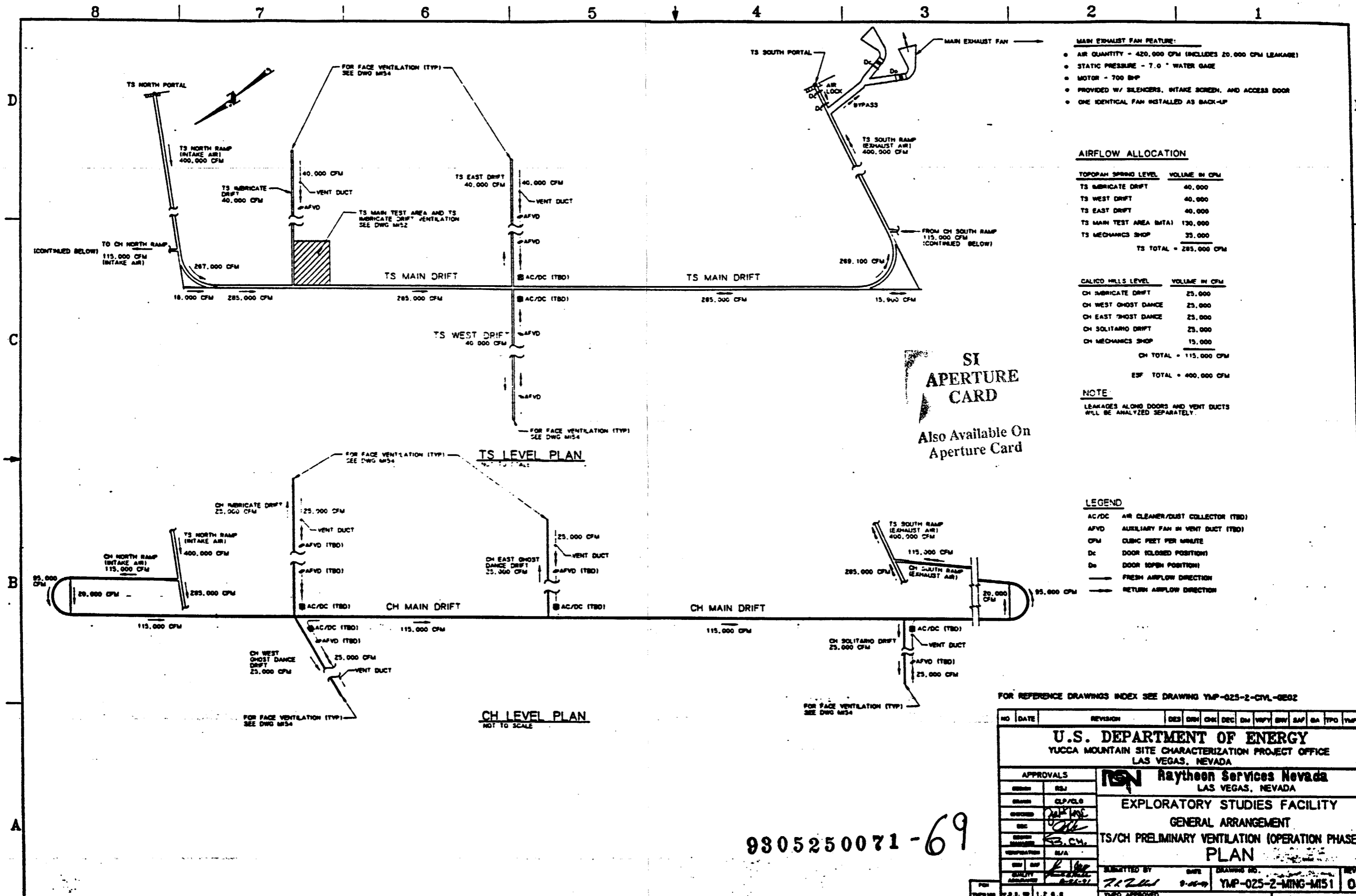
FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0802

**GENERAL NOTES**

- RAMP STATION CONSTRUCTION SEQUENCE CONTINUED FROM YMP-025-2-MING-0849.
- MECHANICAL EXCAVATION METHODS WILL BE USED WHEN FEASIBLE AND PRACTICAL. CONTROLLED DRILL AND BLAST SCENARIO IS SHOWN TO ILLUSTRATE THE CYCLIC NATURE OF THE SYSTEM UTILITY RE-ARRANGEMENTS WILL BE SIMILAR FOR A MECHANICAL MINER.
- RAMP STATION CONSTRUCTION SEQUENCE APPLIES TO ALL RAMP SIZES UNDER CONSIDERATION
- ROCKBOLT TYPES & PATTERN TBD

9305250071-68

NO.	DATE	REVISION	DES	CHK	SEC	APP	APP	APP	APP	APP	APP
<b>U.S. DEPARTMENT OF ENERGY</b>											
TUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE											
LAS VEGAS, NEVADA											
APPROVALS			Raytheon Services Nevada LAS VEGAS, NEVADA <b>EXPLORATORY STUDIES FACILITY</b> GENERAL ARRANGEMENT <b>RAMP STATION CONSTRUCTION SEQUE</b> <b>PLANS AND SECTIONS</b>								
DESIGN	M.E.										
DRAWN	P.E.										
CHECKED	J.C.H.										
SEC	J.C.H.										
DATE	3.24.91										
BY	S.C.H.										
DATE	3.24.91										
QUALITY	S.C.H.										
DATE	3.24.91										
SUBMITTED BY			DATE			DRAWING NO.					
T.Z.M.			3-24-91			YMP-025-2-MING-1450					



- MAIN EXHAUST FAN FEATURE:**
- AIR QUANTITY - 420,000 CFM (INCLUDES 20,000 CFM LEAKAGE)
  - STATIC PRESSURE - 7.0" WATER GAGE
  - MOTOR - 700 HP
  - PROVIDED W/ SILENCERS, INTAKE SCREEN, AND ACCESS DOOR
  - ONE IDENTICAL FAN INSTALLED AS BACK-UP

**AIRFLOW ALLOCATION**

TOPGRAPH SPRING LEVEL	VOLUME IN CFM
TS IRRIGATE DRIFT	40,000
TS WEST DRIFT	40,000
TS EAST DRIFT	40,000
TS MAIN TEST AREA (MTA)	130,000
TS MECHANICS SHOP	35,000
<b>TS TOTAL</b>	<b>285,000 CFM</b>

CALICO HILLS LEVEL	VOLUME IN CFM
CH IRRIGATE DRIFT	25,000
CH WEST GHOST DANCE	25,000
CH EAST GHOST DANCE	25,000
CH SOLITARIO DRIFT	25,000
CH MECHANICS SHOP	15,000
<b>CH TOTAL</b>	<b>115,000 CFM</b>
<b>ESF TOTAL</b>	<b>400,000 CFM</b>

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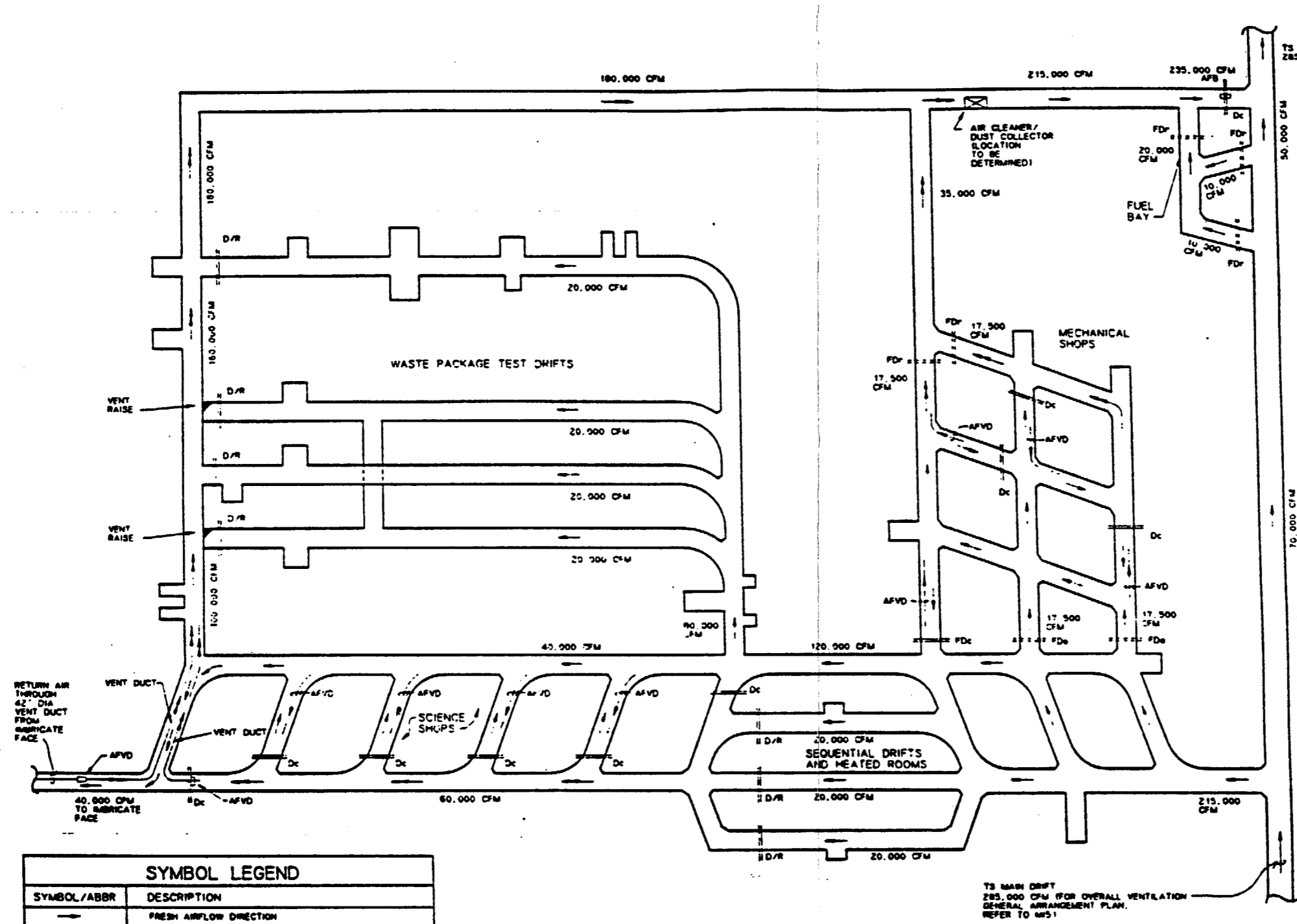
- LEGEND**
- AC/DC AIR CLEANER/DUST COLLECTOR (ITBD)
  - AFVD AUXILIARY FAN IN VENT DUCT (ITBD)
  - CFM CUBIC FEET PER MINUTE
  - Dc DOOR (CLOSED POSITION)
  - Do DOOR (OPEN POSITION)
  - FRESH AIRFLOW DIRECTION
  - ← RETURN AIRFLOW DIRECTION

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0602

NO	DATE	REVISION	DES	DRW	CHK	DEC	CM	WRP	SW	SAP	SA	TPD	YMP
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
APPROVALS		<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA											
DESIGNED	BY	<b>EXPLORATORY STUDIES FACILITY</b> GENERAL ARRANGEMENT <b>TS/CH PRELIMINARY VENTILATION (OPERATION PHASE PLAN)</b>											
CHECKED	BY	SUBMITTED BY: <i>[Signature]</i> DATE: 9-11-99 DRAWING NO.: YMP-025-2-MING-M151											
DATE	BY	TYPED APPROVED: <i>[Signature]</i>											

9805250071-69

8 7 6 5 4 3 2 1



**GENERAL NOTES:**

1. SYSTEM WILL ACCOMMODATE FLEXIBLE AIRFLOW DISTRIBUTION TO THE DIFFERENT ROOMS OR HEADINGS AS NEEDED DURING SITE CHARACTERIZATION PHASE BY WAY OF REGULATORS.
2. MECHANICAL SHOP AND FUEL BAY ARE PROVIDED WITH ISOLATION FIRE DOORS AND AUTOMATIC FIRE SUPPRESSION TO SATISFY 30 CFR 57.4761
3. LEAKAGE ALONG DOORS AND VENT DUCTS WILL BE ANALYZED SEPARATELY.
4. SEE DRAWING YMP-025-2-MWG-M25 FOR INDIVIDUAL TEST LOCATIONS AND DRIFT NAMES.

**AIR DISTRIBUTION  
(FRESH AIR ALLOCATION)**

WASTE PACKAGE TEST DRIFTS	80,000 CFM
SEQUENTIAL DRIFTS & HEATED ROOMS	80,000 CFM
MECHANICAL SHOP	35,000 CFM
INTEGRATE DRIFT	40,000 CFM
<b>TOTAL</b>	<b>235,000 CFM</b>

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SYMBOL LEGEND	
SYMBOL/ABBR	DESCRIPTION
→	FRESH AIRFLOW DIRECTION
←	RETURN AIRFLOW DIRECTION
AFB	AUXILIARY FAN IN BLEEDHEAD WITH ACCESS DOOR IN CLOSED POSITION
AFVD	AUXILIARY FAN IN VENT DUCT
CFM	CUBIC FEET PER MINUTE
Dc	DOOR (CLOSED POSITION)
D/R	DOOR AND REGULATOR (LOCATION TO BE DETERMINED)
FDc	FIRE DOOR (CLOSED POSITION)
FDo	FIRE DOOR (OPEN POSITION)
FDr	FIRE DOOR REGULATOR
R	REGULATOR WITH ACCESS DOOR IN CLOSED POSITION

**VENTILATION PLAN  
TS MAIN TEST AREA  
(OPERATION PHASE)**

NOT TO SCALE

TS MAIN DRIFT  
235,000 CFM (FOR OVERALL VENTILATION  
GENERAL ARRANGEMENT PLAN.  
REFER TO M25)

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0602

9805250071-70

NO.	DATE	REVISION	DES	ENR	CHK	DEC	DM	VPY	SWY	SAP	SA	TPD	YMP
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA													
<b>EXPLORATORY STUDIES FACILITY</b> <b>AIRFLOW GENERAL ARRANGEMENT</b> <b>TS MAIN TEST AREA VENTILATION PLAN</b>													
APPROVALS		SUBMITTED BY: <i>[Signature]</i> DATE: 7-27-97 DRAWING NO: YMP-025-2-MWG-M52											
DESIGN	CLP / BFC	TYPED APPROVED: <i>[Signature]</i> DATE: 7-27-97											
CHECKED	<i>[Signature]</i>	PROJECT MANAGER: <i>[Signature]</i>											
DESIGN MANAGER	<i>[Signature]</i>	QUALITY ASSURANCE: <i>[Signature]</i>											
VENTILATION	N/A	FOR YUCCA MOUNTAIN PROJECT: 1, 2, 3, 5											

8 7 6 5 4 3 2 1

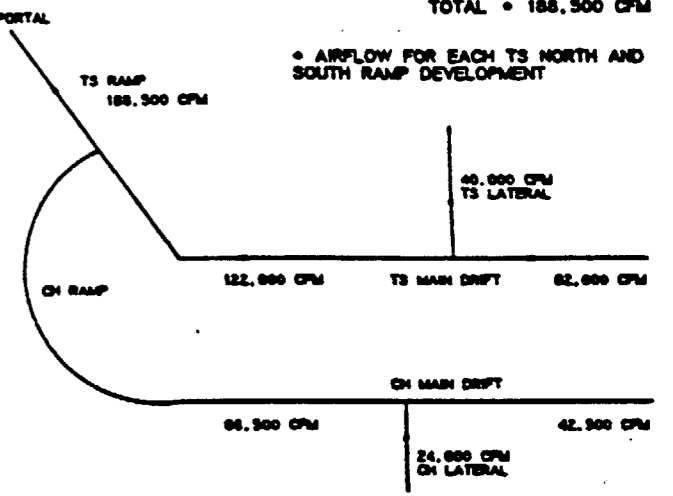
**SI APERTURE CARD**

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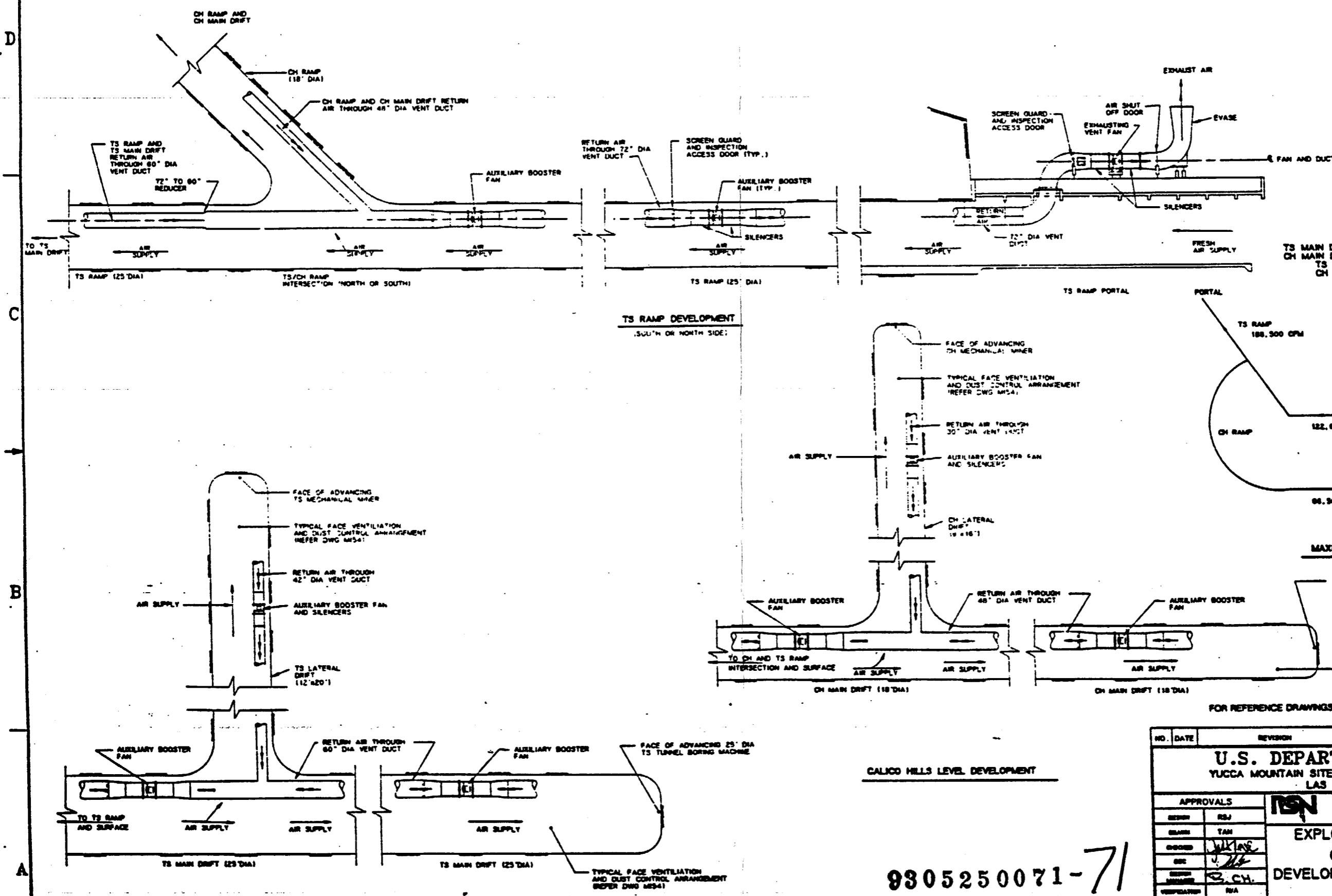
**DEVELOPMENT SEQUENCE FACE VENTILATION AIRFLOW DESIGN (TOTAL INCLUDING LEAKAGE)**

TS MAIN DRIFT RAMP 25" DIA	=	82,000 CFM
CH MAIN DRIFT RAMP 18" DIA	=	42,500 CFM
TS LATERAL (ONE FACE)	=	40,000 CFM
CH LATERAL (ONE FACE)	=	24,000 CFM
<b>TOTAL</b>	<b>=</b>	<b>188,500 CFM</b>

• AIRFLOW FOR EACH TS NORTH AND SOUTH RAMP DEVELOPMENT



MAXIMUM AIRFLOW BEFORE TS OR CH CONNECTION



**TS RAMP DEVELOPMENT**  
(SOUTH OR NORTH SIDE)

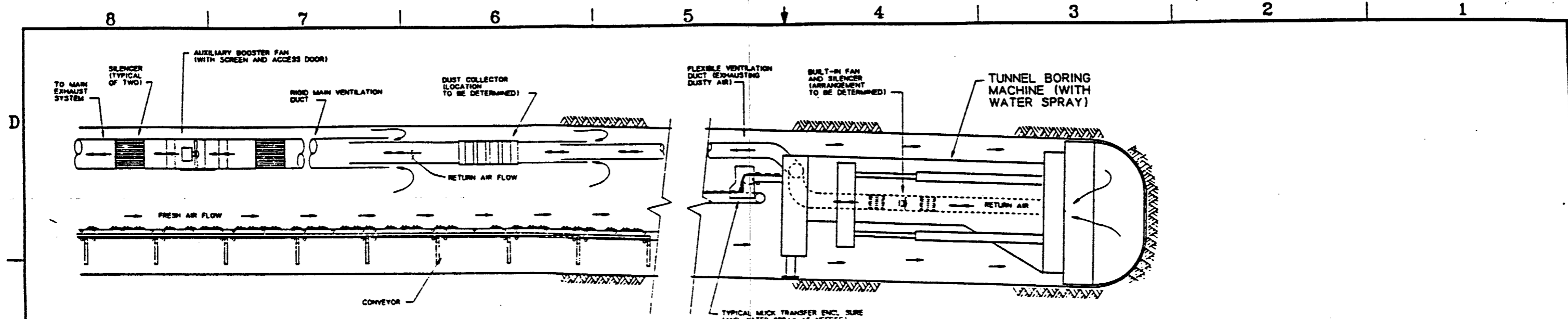
**TOPOPAH SPRING LEVEL DEVELOPMENT**

**CALICO HILLS LEVEL DEVELOPMENT**

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CVL-0502

NO.	DATE	REVISION	DES	CHK	DEC	EN	VEP	EN	SAP	GA	TPD	YMP
<b>U.S. DEPARTMENT OF ENERGY</b>												
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE												
LAS VEGAS, NEVADA												
<b>APPROVALS</b>			<p><b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA</p> <p><b>EXPLORATORY STUDIES FACILITY</b> <b>GENERAL ARRANGEMENT</b> <b>DEVELOPMENT VENTILATION SEQUENCE PLAN</b></p>									
DESIGN	RSJ											
DRAWN	TAM											
CHECKED	<i>[Signature]</i>											
DATE	12/15/91											
DESIGNED BY	C. CH.											
VERIFIED BY	NIA											
ENR	SAP	<i>[Signature]</i>										
QUALITY ASSURANCE	<i>[Signature]</i>											
DATE	9-25-91											
DRAWING NO.	YMP-025-2-MING-M53											

9305250071-71

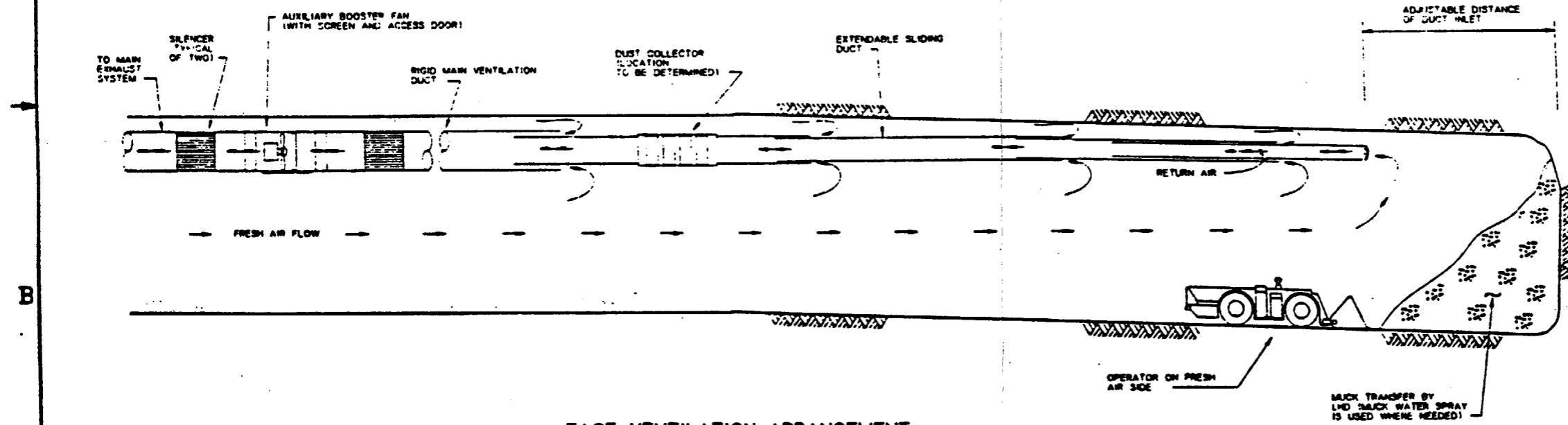


FACE VENTILATION ARRANGEMENT  
TYPICAL AIR FLOW DIRECTION AND  
DUST CONTROL CONCEPT  
FOR MECHANICAL MINERS  
NOT TO SCALE

DEVELOPMENT FACE VENTILATION  
AIRFLOW DESIGN  
(TOTAL INCLUDING LEAKAGES)

TS RAMP OR DRIFT 25' DIA.	----	82,000 CFM
CH RAMP OR DRIFT 18' DIA.	----	42,500 CFM
TS LATERAL (ONE FACE)	-----	40,000 CFM
CH LATERAL (ONE FACE)	-----	24,000 CFM
<b>TOTAL</b>		<b>188,500 ± CFM</b>

\* AIRFLOW FOR EACH TS NORTH AND SOUTH RAMP DEVELOPMENT



FACE VENTILATION ARRANGEMENT  
TYPICAL AIR FLOW DIRECTION AND  
DUST CONTROL CONCEPT  
FOR LOADING MUCK BY LHD  
NOT TO SCALE

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FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0202

9305250071-72

NO.	DATE	REVISION	DES	CHK	DEC	EN	VEPY	SHV	SAP	SA	TPD	YU
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA												
APPROVALS			<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA									
DESIGN	REV		EXPLORATORY STUDIES FACILITY GENERAL ARRANGEMENT FACE VENTILATION (CONSTRUCTION PHASE SECTIONS)									
DRAMA	SPC		SUBMITTED BY: <i>[Signature]</i> DATE: 8-24-72 DRAWING NO.: YMP-025-2-MING-M154									
DESIGN	CHK											
DESIGN	APP											
DESIGN	APP											
DESIGN	APP											
DESIGN	APP		TYPED APPROVED									

**NOTES:**

1. ALL CIRCUITS SHALL HAVE GROUND-CHECK MONITORS AND FEEDERS SHALL HAVE GROUND-CHECK CONDUCTORS.
2. SPARE 4.18KV CIRCUITS MAY BE UTILIZED FOR LOW VOLTAGE DRIFT LAMPING.
3. THE TWO INCOMING FEEDER CIRCUIT BREAKERS SHALL BE NORMALLY CLOSED WITH THE TIE CIRCUIT BREAKER NORMALLY OPEN. IF ONE OF THE FEEDERS HAS A DIRECT SHORT CIRCUIT OR POWER FAILURE, THE AFFECTED BREAKER CIRCUIT BREAKER SHALL TRIP AND THE TIE BREAKER SHALL CLOSE TO BRIDGE THE TOTAL BUS.
4. THE RESISTOR GROUND IS CONNECTED TO THE SURFACE WIRE SAFETY GROUND SYSTEM ONLY.
5. THE GROUND IS CONNECTED TO THE SURFACE WIRE SAFETY GROUND SYSTEM ONLY.

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CARD**

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Aperture Card

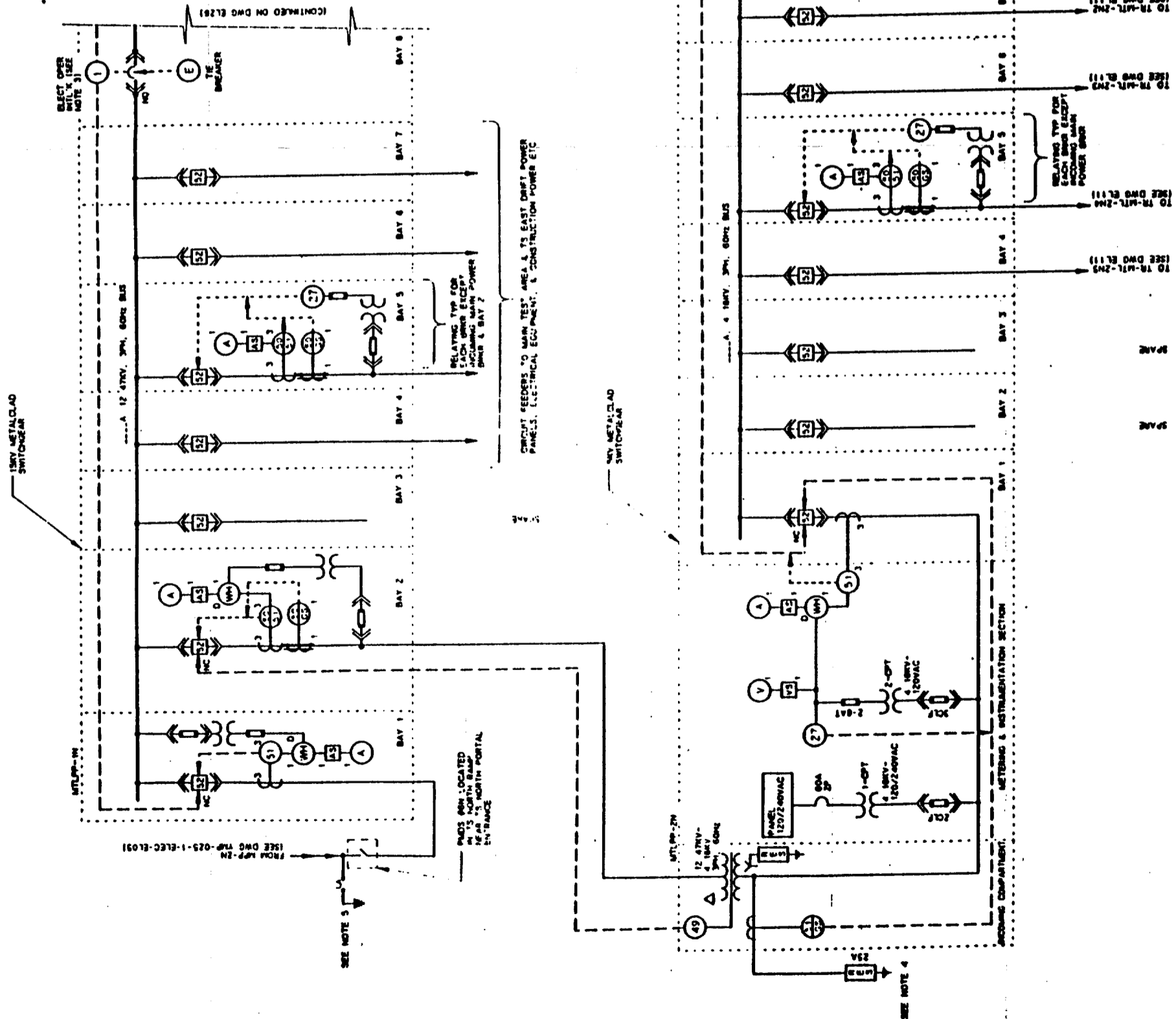
FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CNL-0502

FOR GENERAL NOTES, SEE DRAWING YMP-025-1-ELEC-EL01.

NO.	DATE	REVISION	DES	CHK	CHK	CHK	CHK	CHK	CHK	CHK	CHK	CHK	CHK	CHK
<p><b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA</p> <p><b>TSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA</p> <p>EXPLORATORY STUDIES FACILITY TS MAIN DRIFT/NORTH FEEDERS ELECTRICAL <b>ONE LINE DIAGRAM</b></p>														
APPROVALS		DESIGNER	CHECKED	APPROVED	DATE	BY	DATE	BY	DATE	BY	DATE	BY	DATE	BY
<p>DESIGNER: [Signature]</p> <p>CHECKED: [Signature]</p> <p>APPROVED: [Signature]</p> <p>DATE: [Date]</p>		<p>DATE: [Date]</p> <p>BY: [Signature]</p>		<p>DATE: [Date]</p> <p>BY: [Signature]</p>		<p>DATE: [Date]</p> <p>BY: [Signature]</p>		<p>DATE: [Date]</p> <p>BY: [Signature]</p>		<p>DATE: [Date]</p> <p>BY: [Signature]</p>		<p>DATE: [Date]</p> <p>BY: [Signature]</p>		
<p>U.S. DEPARTMENT OF ENERGY YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA</p>														

9305250071-73

TS MAIN DRIFT/NORTH FEEDERS-ONE LINE DIAGRAM



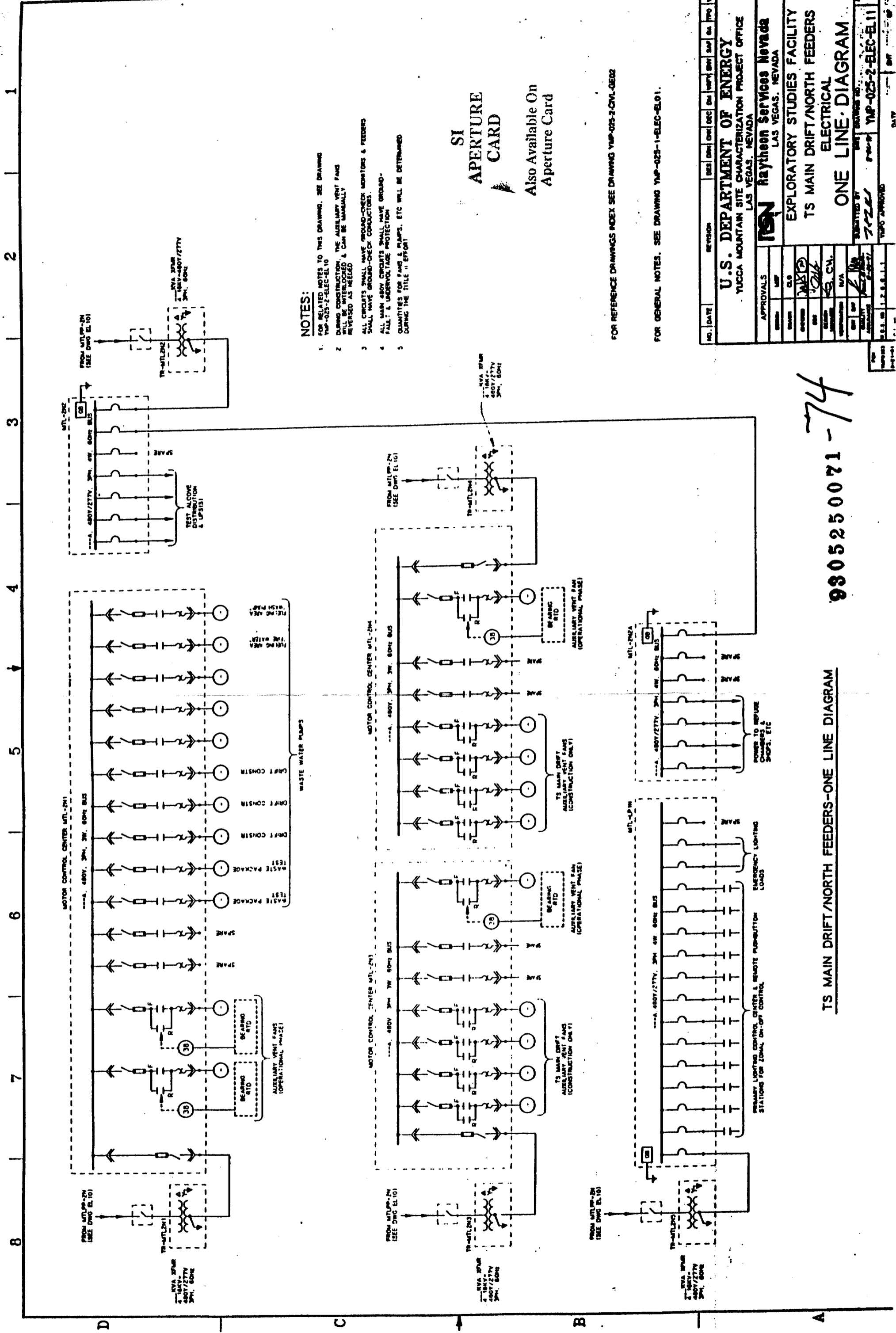
D

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1 2 3 4 5 6 7 8



**NOTES:**

1. FOR RELATED NOTES TO THIS DRAWING, SEE DRAWING YMP-025-2-ELEC-E-10
2. DURING CONSTRUCTION, THE AUXILIARY VENT FANS SHALL BE MANUALLY OPERATED & CAN BE MANUALLY REVERSED AS NEEDED
3. ALL CIRCUITS SHALL HAVE GROUND-CHECK MONITORS & FEEDERS SHALL HAVE GROUND-CHECK CONDUCTORS.
4. ALL MAIN ASBY CIRCUITS SHALL HAVE GROUND-FALLT & UNDERVOLTAGE PROTECTION
5. QUANTITIES FOR FANS & PUMPS, ETC WILL BE DETERMINED DURING THE TITLE "E" REPORT

**SI APERTURE CARD**

Also Available On Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0602

FOR GENERAL NOTES, SEE DRAWING YMP-025-1-ELEC-E-01.

NO.	DATE	REVISION	DES	CHK	DEC	BY	APP	BY	APP
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA									
<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA									
<b>EXPLORATORY STUDIES FACILITY</b> <b>TS MAIN DRIFT/NORTH FEEDERS</b> <b>ELECTRICAL</b> <b>ONE LINE DIAGRAM</b>									
APPROVALS		DESIGNED BY: <i>[Signature]</i> CHECKED BY: <i>[Signature]</i> DRAWN BY: <i>[Signature]</i> IN CHARGE: <i>[Signature]</i> PROJECT MANAGER: <i>[Signature]</i> SUPERVISOR: <i>[Signature]</i> APPROVED: <i>[Signature]</i> DATE: 1.2.8.1.1							
SUBMITTED BY: <i>[Signature]</i>		DATE: 1.2.8.1.1		PROJECT NO: YMP-025-2-ELEC-E-11		DATE: 1.2.8.1.1			

74

**TS MAIN DRIFT/NORTH FEEDERS-ONE LINE DIAGRAM**

9805250071-74



**NOTES:**

1. ALL CIRCUITS SHALL HAVE GROUND-CHECK SWITCHES & FEEDERS SHALL HAVE GROUND-CHECK CONDUCTORS.
2. SPARE A BAY CIRCUITS MAY BE UTILIZED FOR LONG EXPERIMENTAL DRIFT MINING.
3. THE TWO INCOMING FEEDER CIRCUITS SHALL BE KEPT SEPARATELY CLOSED WITH OPENING OF ONE OF THE FEEDERS HAS A DIRECT SHORT CIRCUIT ON POWER FAILURE. THE AFFECTED BREAKER OPENING SHALL IMMEDIATELY TRIP THE CIRCUIT AND SHALL BE USED TO DEREGULATE THE TOTAL BUS.
4. THE RESISTOR GROUND IS CONNECTED TO THE SURFACE WIRE SAFETY GROUND SYSTEM ONLY.

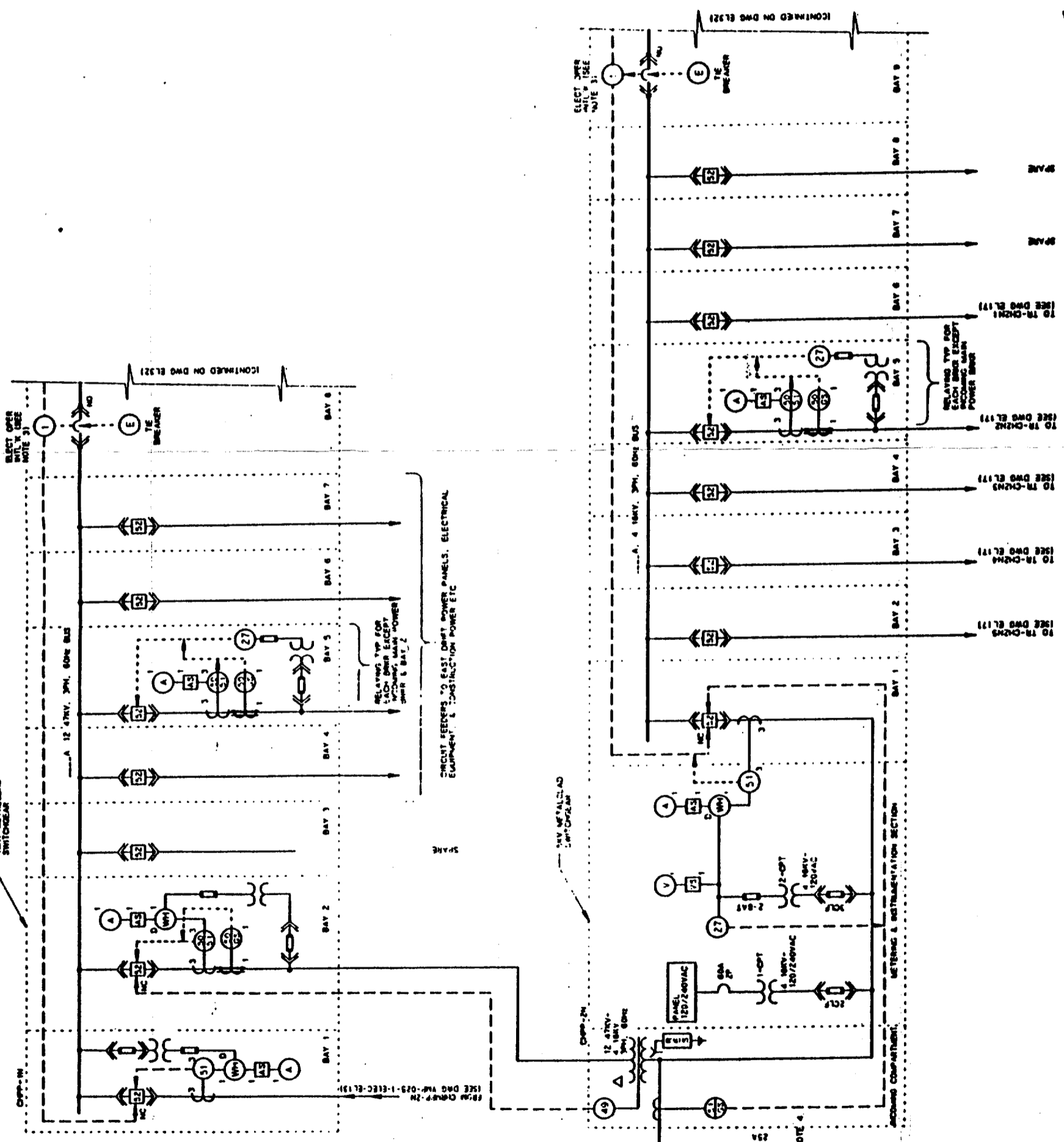
**SI  
APERTURE  
CARD**

Also Available On  
Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0503

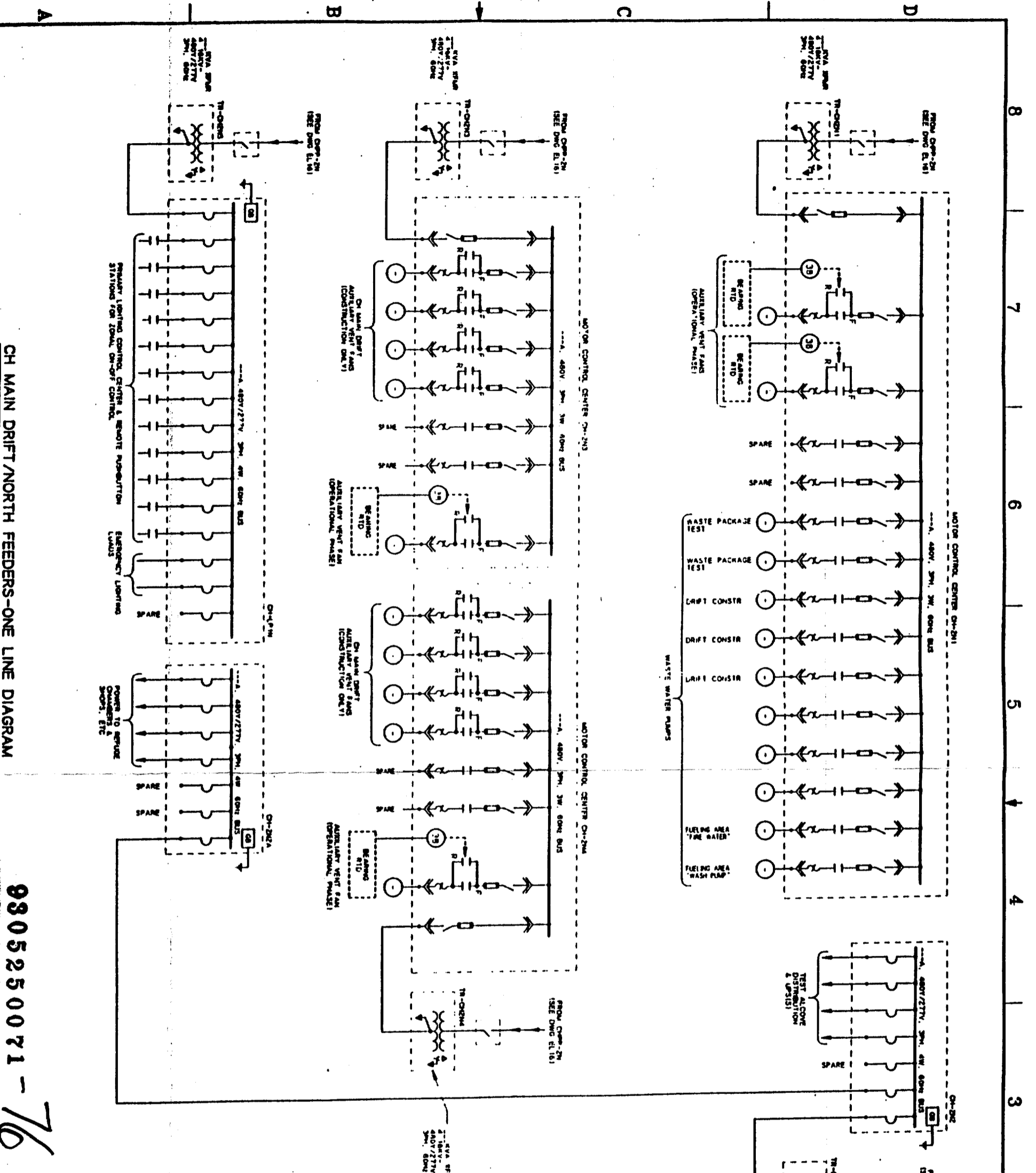
OR GENERAL NOTES, SEE DRAWING YMP-025-1-ELEC-0101.

NO	DATE	REVISION	DES	CHK	SEC	DR	APP	BY	DA	TRD	TRP
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA											
<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA											
EXPLORATORY STUDIES FACILITY CH MAIN DRIFT/NORTH FEEDERS ELECTRICAL ONE LINE DIAGRAM											
SUBMITTED BY: [Signature] APPROVED BY: [Signature] DATE: 11.2.82											
YMP-025-2-ELEC-010 YMP APPROVED											



9305250071-75

**CH MAIN DRIFT/NORTH FEEDERS-ONE LINE DIAGRAM**



CH MAIN DRIFT/NORTH FEEDERS-ONE LINE DIAGRAM

9805250071-76

SI  
APERTURE  
CARD  
Also Available On  
Aperture Card

- NOTES:
1. FOR RELATED NOTES TO THIS DRAWING, SEE DRAWING WMP-025-2-ELEC-EL-16.
  2. DURING CONSTRUCTION, THE AUXILIARY VENT FANS WILL BE WIRELOCKED & CAN BE MANUALLY REVERSED AS NEEDED.
  3. ALL CIRCUITS SHALL HAVE GROUND-CHECK MONITORS & FEEDERS SHALL HAVE GROUND-CHECK CONNECTIONS.
  4. ALL MAIN 480V CIRCUITS SHALL HAVE GROUND-Fault & UNDERVOLTAGE PROTECTION.
  5. QUANTITIES FOR PUMPS & PUMPS, ETC WILL BE OBTAINED DURING THE TITLE II EFFORT.

FOR REFERENCE DRAWINGS INDEX SEE DRAWING WMP-025-2-CIVIL-GE02  
 FOR GENERAL NOTES, SEE DRAWING WMP-025-1-ELEC-EL-01.

NO.	DATE	REVISION	DES	CHK	SEC	DR	APP	BY	DATE

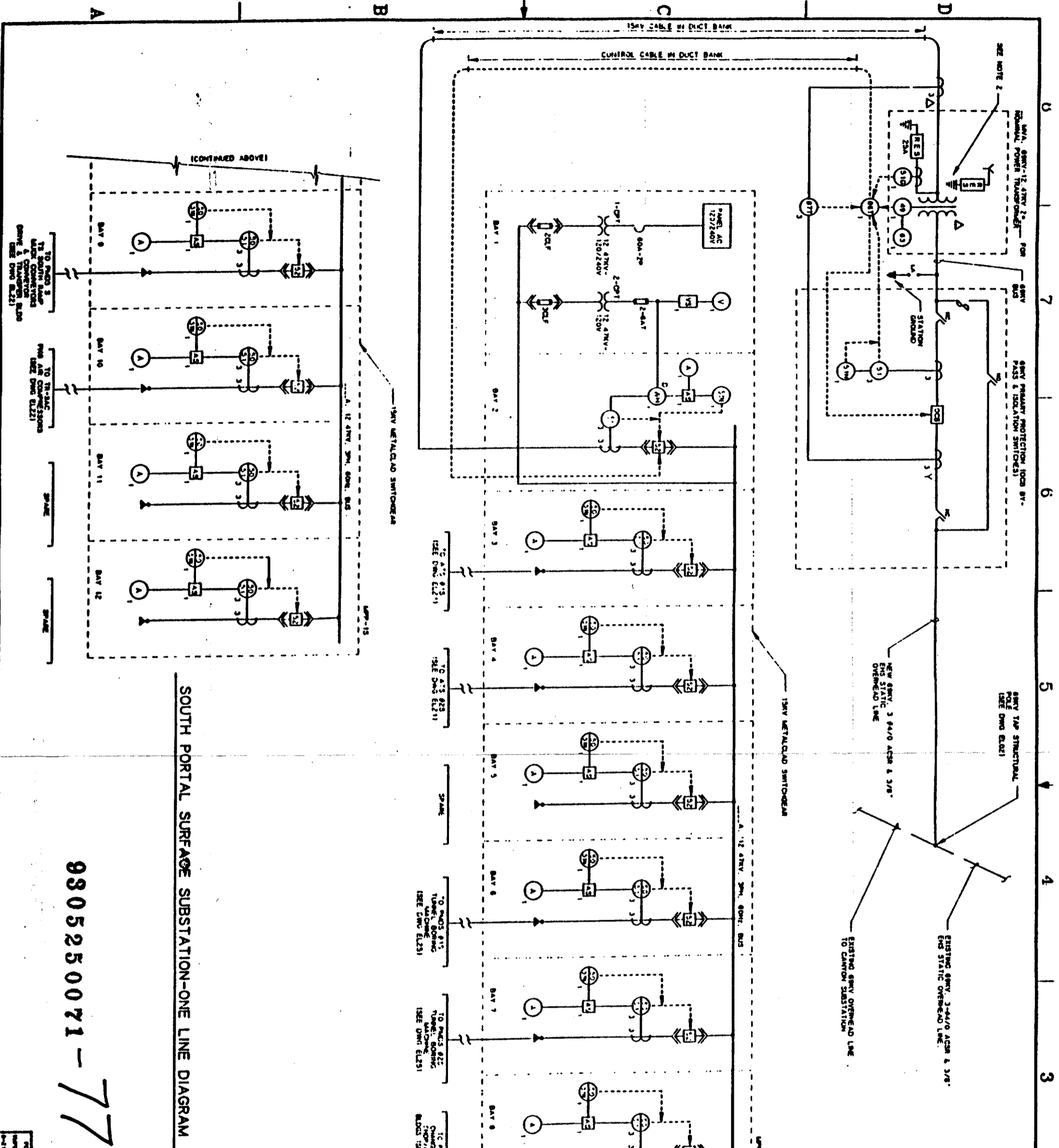
U.S. DEPARTMENT OF ENERGY  
 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE  
 LAS VEGAS, NEVADA

Raytheon Services Nevada  
 LAS VEGAS, NEVADA

EXPLORATORY STUDIES FACILITY  
 CH MAIN DRIFT/NORTH FEEDERS  
 ELECTRICAL  
 ONE LINE DIAGRAM

APPROVALS:  
 [Signatures]

DATE: 11/11/81



- NOTES:**
1. ALL CIRCUITS SHALL HAVE GROUND-FAULT MONITORS & FEEDERS SHALL HAVE GROUND-FAULT CONDUCTORS.
  2. THE RESISTOR GROUND IS CONNECTED TO THE SURFACE WIRE SAFETY GROUND SYSTEM ONLY.
  3. POWER FACTOR CAPACITORS WILL BE INCLUDED AS REQUIRED DURING THE TITLE # PROJECT.

SI  
APERTURE  
CARD  
Also Available On  
Aperture Card

SOUTH PORTAL SURFACE SUBSTATION-ONE LINE DIAGRAM

9305250071-77

NO.	DATE	REVISION	DES.	CHK.	APP.	BY	DATE
<p>U.S. DEPARTMENT OF ENERGY YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA</p> <p>APPROVALS</p> <p>Raytheon Services Nevada LAS VEGAS, NEVADA</p> <p>EXPLORATORY STUDIES FACILITY SOUTH PORTAL SURFACE SUBSTATION ONE LINE DIAGRAM</p> <p>DESIGNED BY: [Signature] CHECKED BY: [Signature] DATE: 12-22-93 VMP-025-2-ELEC-B20 0</p>							

FOR REFERENCE DRAWINGS INDEX SEE DRAWING VMP-025-2-CV1-GE02  
FOR GENERAL NOTES, SEE DRAWING VMP-025-1-ELEC-BL01.

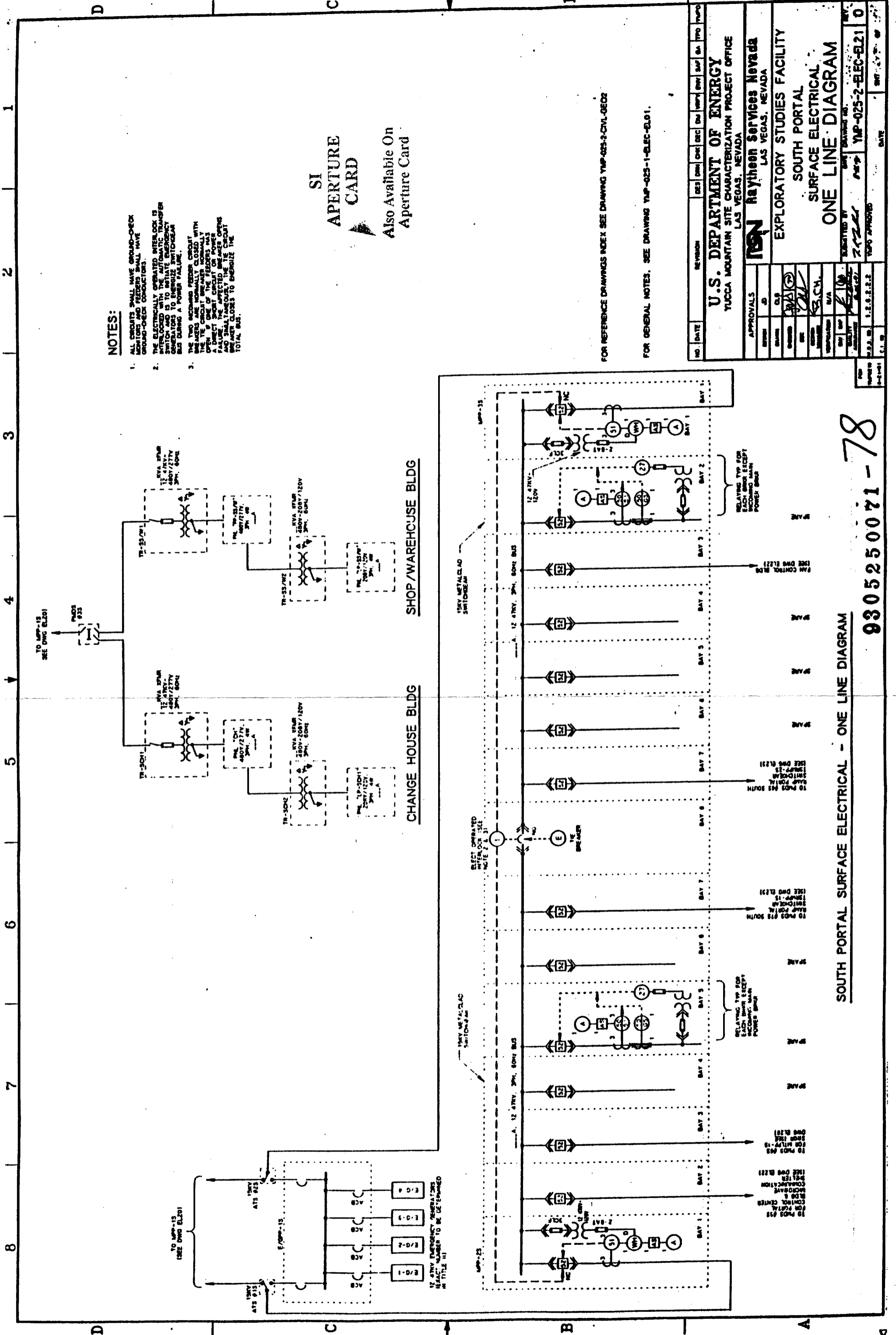
**NOTES:**

1. ALL CIRCUITS SHALL HAVE GROUND-CHECK MONITORS AND FEEDERS SHALL HAVE GROUND-CHECK CONDUCTORS.
2. THE ELECTRICALLY OPERATED INTERLOCK IS INTERLOCKED WITH THE AUTOMATIC TRANSFER SWITCH AND IS TO INITIATE EMERGENCY GENERATORS TO ENERGIZE SWITCHGEAR BUS DURING A POWER FAILURE.
3. THE TWO INCORPORATED FEEDER CIRCUIT BREAKERS ARE NORMALLY CLOSED WITH THE FEEDER BREAKER NORMALLY OPEN & ONE OF THE FEEDERS HAS A FANCT (FANCT) WHICH WILL OPEN AND SMALLY CLOSE THE FEEDER BREAKER AND SMALLY CLOSE THE FEEDER BREAKER TO ENERGIZE THE TOTAL BUS.

**SI APERTURE CARD**  
Also Available On Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0202  
FOR GENERAL NOTES, SEE DRAWING YMP-025-1-ELEC-0101.

NO.	DATE	REVISION	DES	CHK	DEC	DR	APP	APP	APP	APP	APP	APP	APP	APP	APP
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA															
<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA															
<b>EXPLORATORY STUDIES FACILITY</b> SOUTH PORTAL SURFACE ELECTRICAL <b>ONE LINE DIAGRAM</b>															
APPROVALS DESIGNER: [Signature] CHECKER: [Signature] ENGINEER: [Signature] SUPERVISOR: [Signature] PROJECT MANAGER: [Signature] DATE: 1.26.82															
SUBMITTED BY: [Signature] DRAWING NO.: YMP-025-2-ELEC-0101 REV: 0															



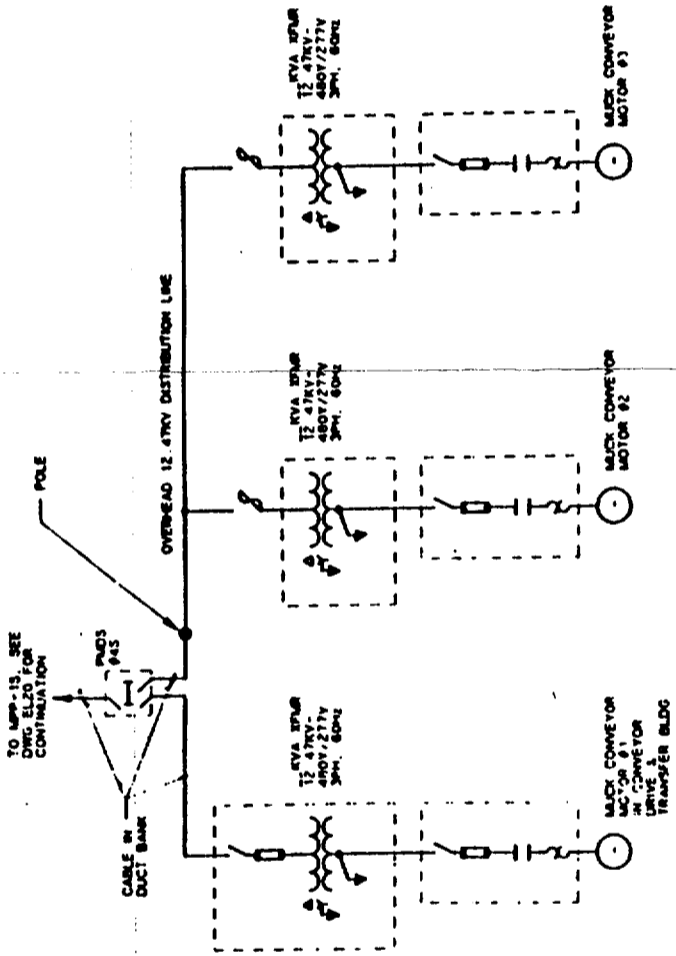
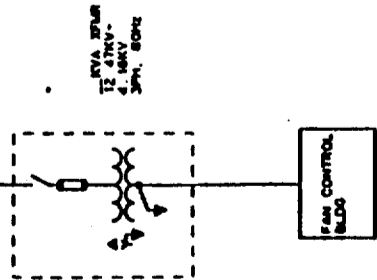
**SOUTH PORTAL SURFACE ELECTRICAL - ONE LINE DIAGRAM**

9305250071-78

TO APP-15, SEE DWG EL20 FOR CONTINUATION

TO APP-15, SEE DWG EL20 FOR CONTINUATION

- NOTES:**
1. FOR RELATED NOTES TO THIS DRAWING, SEE DRAWING YMP-025-2-ELEC-EL21.
  2. CONTROL & INTERLOCK DETAILS FOR THE VERT. FANS, CONVEYORS, DEPICTED BEARING THE TITLE "I" EFFORT.



**FAN CONTROL BLDG**

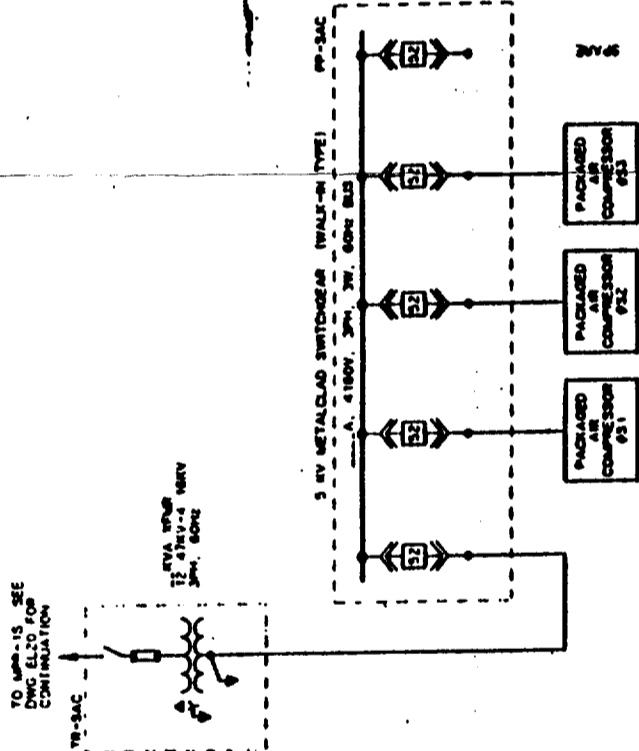
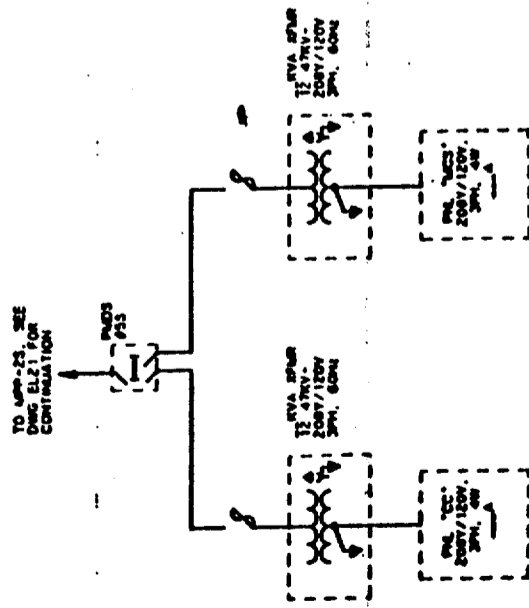
**SOUTH RAMP MUCK CONVEYORS**

**SI**  
**APERTURE**  
**CARD**

Also Available On  
Aperture Card

TO APP-25, SEE DWG EL21 FOR CONTINUATION

TO APP-15, SEE DWG EL20 FOR CONTINUATION



**PORTAL CONTROL CENTER BLDG**

**MICROWAVE COMMUNICATION SHELTER**

**PACKAGED AIR COMPRESSORS**

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CVL-GE02

FOR GENERAL NOTES, SEE DRAWING YMP-025-1-ELEC-EL01.

NO.	DATE	REVISION	DES	CHK	APP	BY	DATE	BY	DATE

**U.S. DEPARTMENT OF ENERGY**  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE  
LAS VEGAS, NEVADA

**TSN Raytheon Services Nevada**  
LAS VEGAS, NEVADA

EXPLORATORY STUDIES FACILITY  
SOUTH PORTAL  
SURFACE ELECTRICAL  
ONE LINE DIAGRAM

APPROVALS

DESIGNED BY: [Signature]  
CHECKED BY: [Signature]  
DATE: [Date]

REVISIONS

NO. DATE DESCRIPTION

1. 1.2.8.2.2.2. YMP-025-2-ELEC-EL22 0

9305250071-79

**NOTES:**

1. ALL CIRCUITS SHALL HAVE GROUND-CHECK MONITORS AND FEEDERS SHALL HAVE GROUND-CHECK CONDUCTORS
2. THE TWO INCOMING FEEDER CIRCUIT BREAKERS ARE NORMALLY CLOSED WITH THE CIRCUIT BREAKER NORMALLY OPEN IF ONE OF THE FEEDERS HAS A FAULT. THE CIRCUIT BREAKER OPENING AND SMALLY CLOSES THE CIRCUIT BREAKER CLOSING TO ENERGIZE THE TOTAL BUS
3. THE GROUND IS CONNECTED TO THE SURFACE WIRE SAFETY GROUND SYSTEM ONLY

**SI  
APERTURE  
CARD**  
Also Available On  
Aperture Card

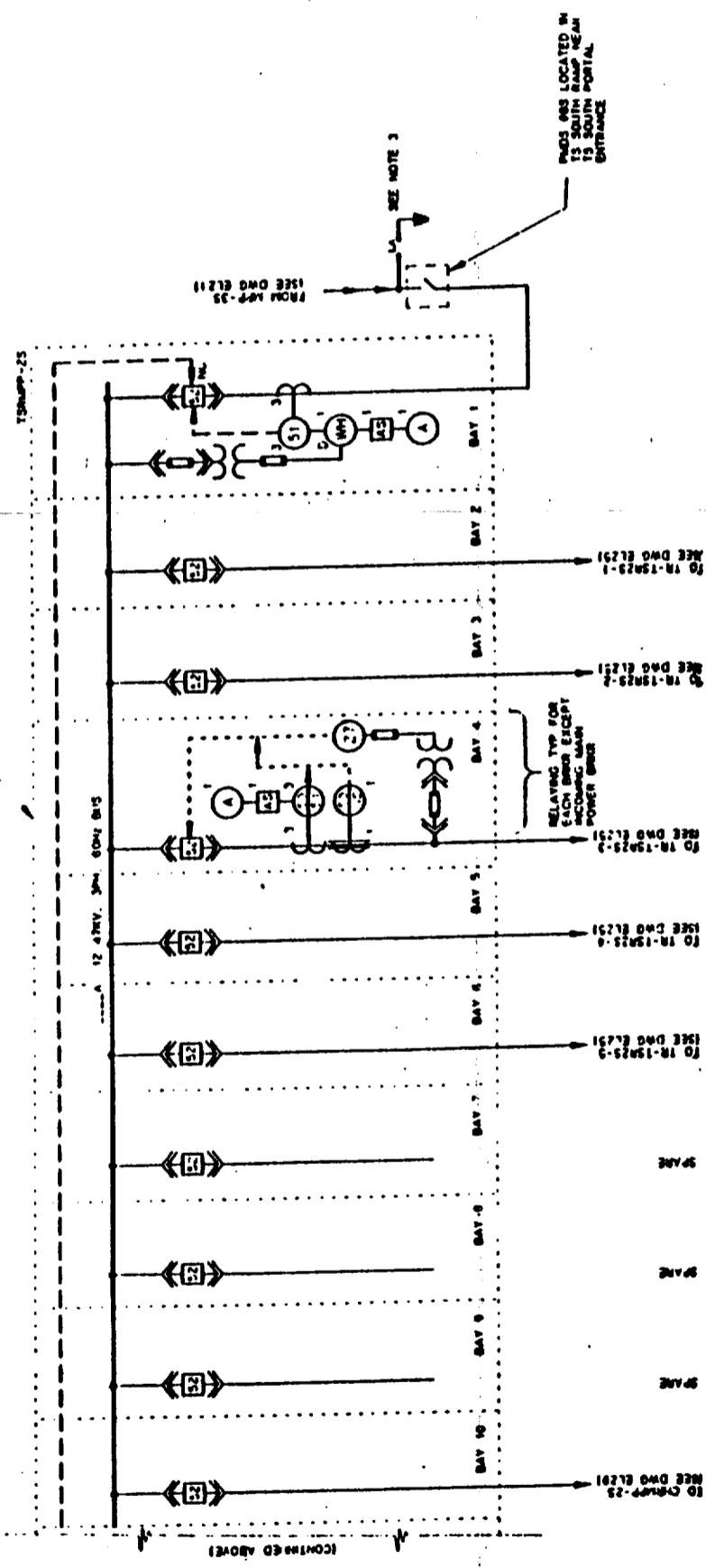
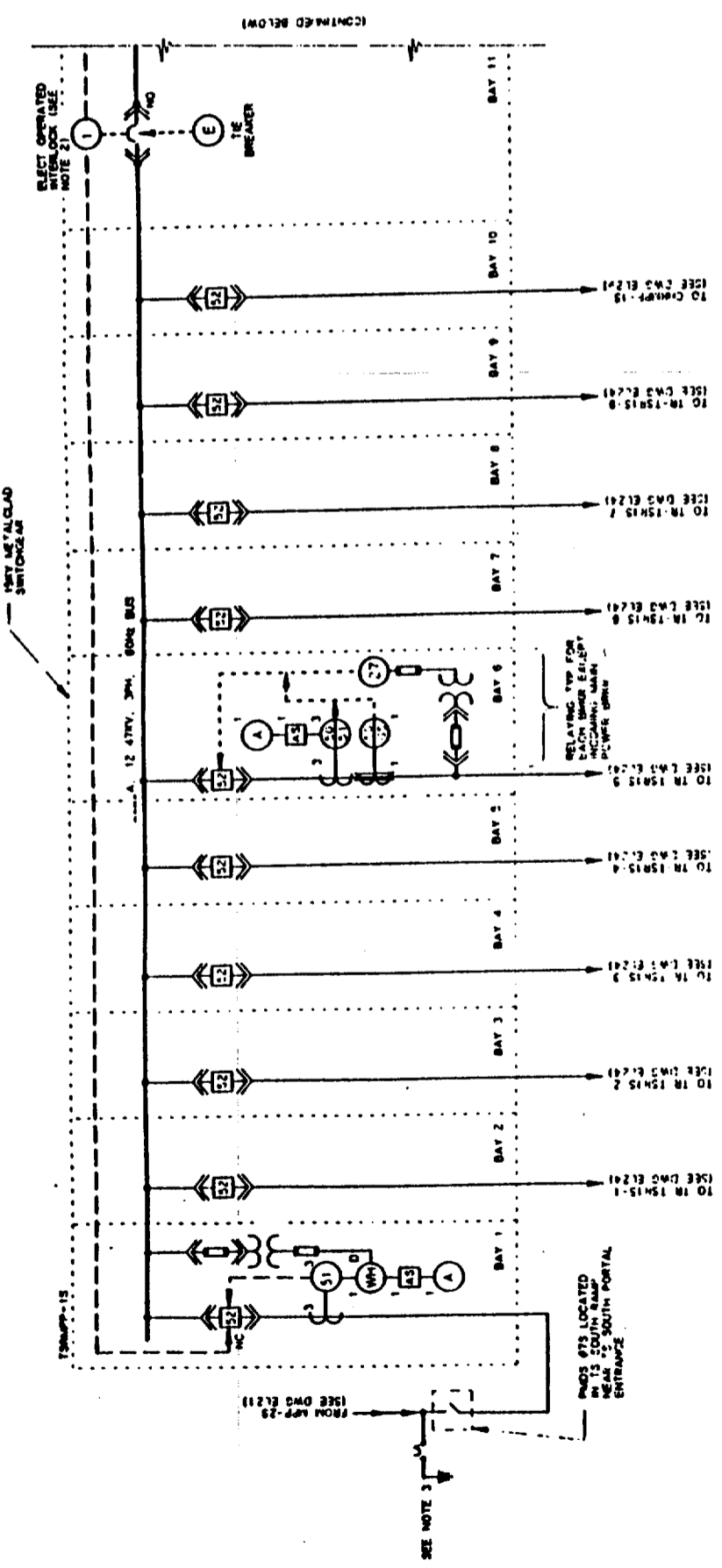
FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-GE02

FOR GENERAL NOTES. SEE DRAWING YMP-025-1-ELEC-EL01.

NO	DATE	REVISION	DES	CHK	REC	EN	APP	BY	TRD
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA									
<b>ISN Raytheon Services Nevada</b> LAS VEGAS, NEVADA									
EXPLORATORY STUDIES FACILITY TS SOUTH RAMP ELECTRICAL <b>ONE LINE DIAGRAM</b>									
APPROVALS DESIGNED BY: [Signature] CHECKED BY: [Signature] DRAWN BY: [Signature] DATE: 11.2.83.2 TYPED APPROVED: [Signature] DATE: 11.2.83.2									

9805250071-80

**TS SOUTH RAMP - ONE LINE DIAGRAM**



(CONTINUED ABOVE)

(CONTINUED BELOW)

**NOTES:**

FOR RELATED NOTES TO THIS DRAWING, SEE DRAWING YMP-025-2-ELEC-EL23.

**SI**  
**APERTURE**  
**CARD**  
Also Available On  
Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CVL-050Z

FOR GENERAL NOTES, SEE DRAWING YMP-025-1-ELEC-EL01.

NO	DATE	REVISION	DES	DRW	CHK	APP	BY	DATE

**U.S. DEPARTMENT OF ENERGY**  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE  
LAS VEGAS, NEVADA

**TSN Raytheon Services Nevada**  
LAS VEGAS, NEVADA

**EXPLORATORY STUDIES FACILITY**  
TS SOUTH RAMP  
ELECTRICAL

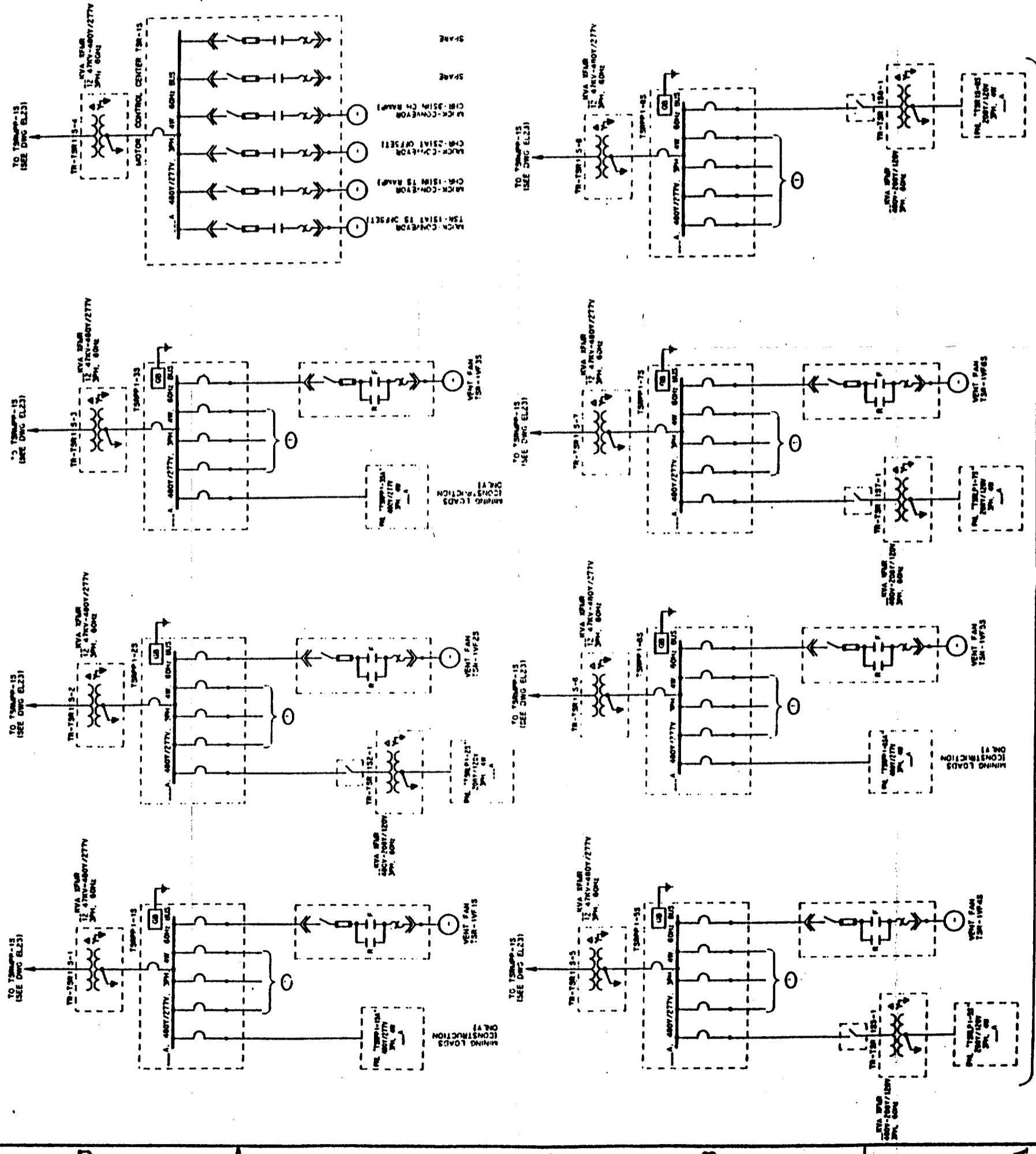
**ONE LINE DIAGRAM**

APPROVALS

DESIGN	APP	CHK	APP
DATE	DATE	DATE	DATE

OPERATED BY: *[Signature]*  
DATE: *[Date]*  
SUBMITTED BY: *[Signature]*  
DATE: *[Date]*

FOR: *[Project Name]*  
DATE: *[Date]*

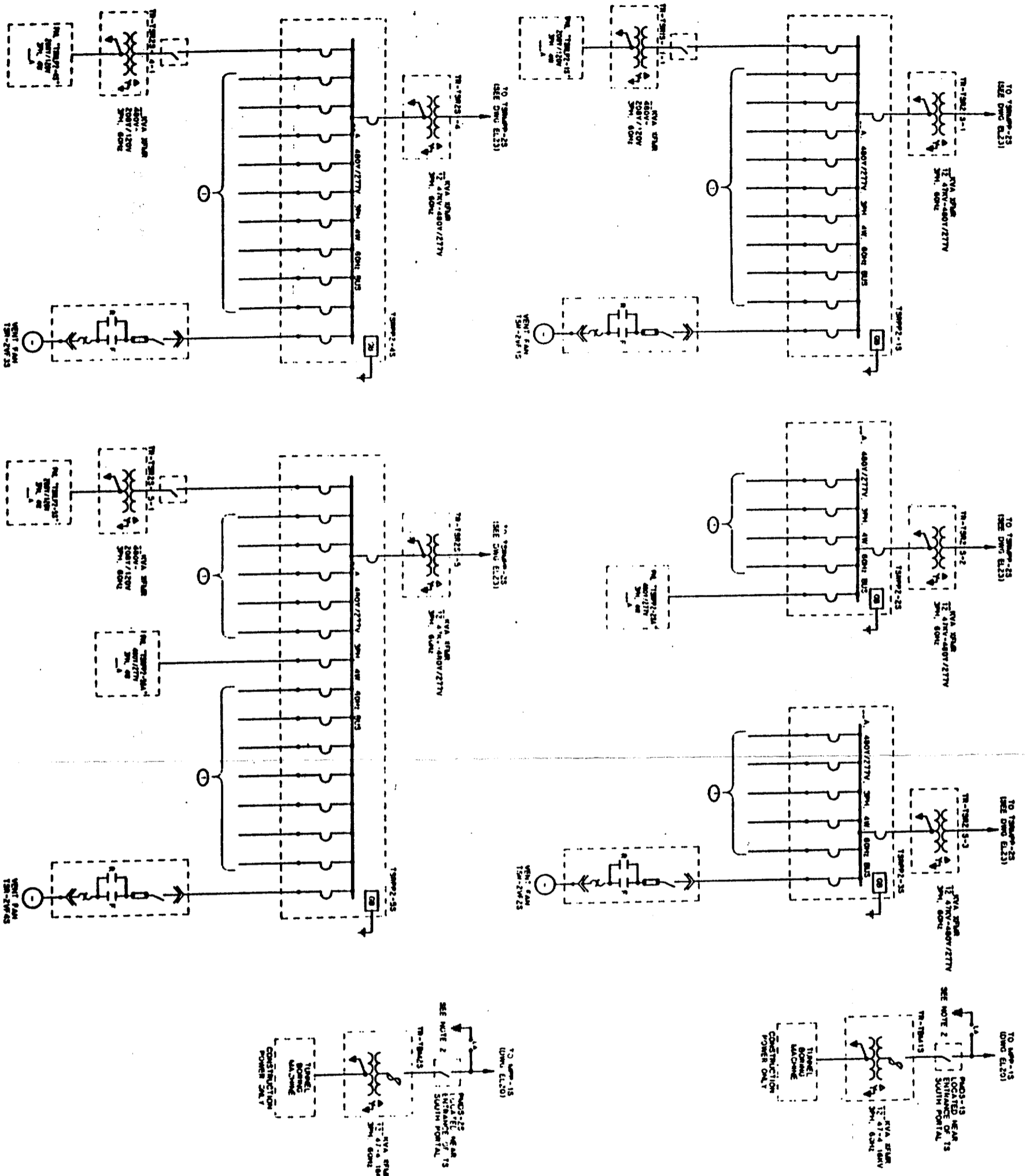


○ POWER PANELS LOCATED IN TS SOUTH RAMP AT VARIOUS FACILITIES REQUIRING POWER FOR INSTRUMENTATION, TESTING, LIGHTING, UPS, ETC.

**TS SOUTH RAMP - ONE LINE DIAGRAM**

9305250071-81

8 7 6 5 4 3 2 1



POWER PANELS LOCATED AT TS SOUTH RAMP AT VARIOUS FACILITIES REQUIRED FOR INSTRUMENTATION TESTING, LIGHTING, UPS, ETC.

TS SOUTH RAMP - ONE LINE DIAGRAM

9805250071-82

NOTES:  
 1 FOR RELATED NOTES TO THIS DRAWING, SEE DRAWING WVP-023-2-ELEC-EL23.  
 2 THE GROUND IS CONNECTED TO THE SURFACE LINE SAFETY GROUND SYSTEM ONLY.

SI  
 APERTURE  
 CARD  
 Also Available On  
 Aperture Card

FOR REFERENCE DRAWINGS NOEX SEE DRAWING WVP-025-3-OM-0202  
 FOR GENERAL NOTES, SEE DRAWING WVP-023-1-ELEC-EL01.

NO	DATE	REVISION	DES	CHK	APP	BY	DATE
1	11.28.82						

U.S. DEPARTMENT OF ENERGY  
 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE  
 LAS VEGAS, NEVADA

Raytheon Services Nevada  
 LAS VEGAS, NEVADA

EXPLORATORY STUDIES FACILITY  
 TS SOUTH RAMP  
 ELECTRICAL  
 ONE LINE DIAGRAM

DESIGNED BY: [Signature]  
 CHECKED BY: [Signature]  
 DRAWING NO: WVP-023-2-ELEC-EL25  
 DATE: 11.28.82



1 2 3 4 5 6 7 8

- NOTES:**
1. ALL CIRCUITS SHALL HAVE GROUND-CHECK MONITORS & FEEDERS SHALL HAVE GROUND-CHECK CONDUCTORS.
  2. SPARE 4. 1KV CIRCUITS MAY BE UTILIZED FOR LONG EXPLORATORY DRIFT MINING.
  3. THE TWO INCOMING FEEDER CIRCUIT BREAKERS ARE NORMALLY CLOSED WITH THE TIE CIRCUIT BREAKER NORMALLY OPEN. IN THE EVENT OF A FEEDER OR TIE CIRCUIT BREAKER FAILURE, THE AFFECTED BREAKER OPENS AND SMALL AMPLITUDE THE TIE CIRCUIT BREAKER CLOSURES TO ENERGIZE THE TOTAL BUS.
  4. THE RESISTOR GROUND IS CONNECTED TO THE SURFACE WIRE SAFETY GROUND SYSTEM ONLY.
  5. THE GROUND IS CONNECTED TO THE SURFACE WIRE SAFETY GROUND SYSTEM ONLY.

**SI APERTURE CARD**  
Also Available On Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-OVL-GE02  
FOR GENERAL NOTES, SEE DRAWING YMP-025-1-ELEC-EL01.

NO	DATE	REVISION	DES	CHK	SEC	APP	BY	DATE

**U.S. DEPARTMENT OF ENERGY**  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE  
LAS VEGAS, NEVADA

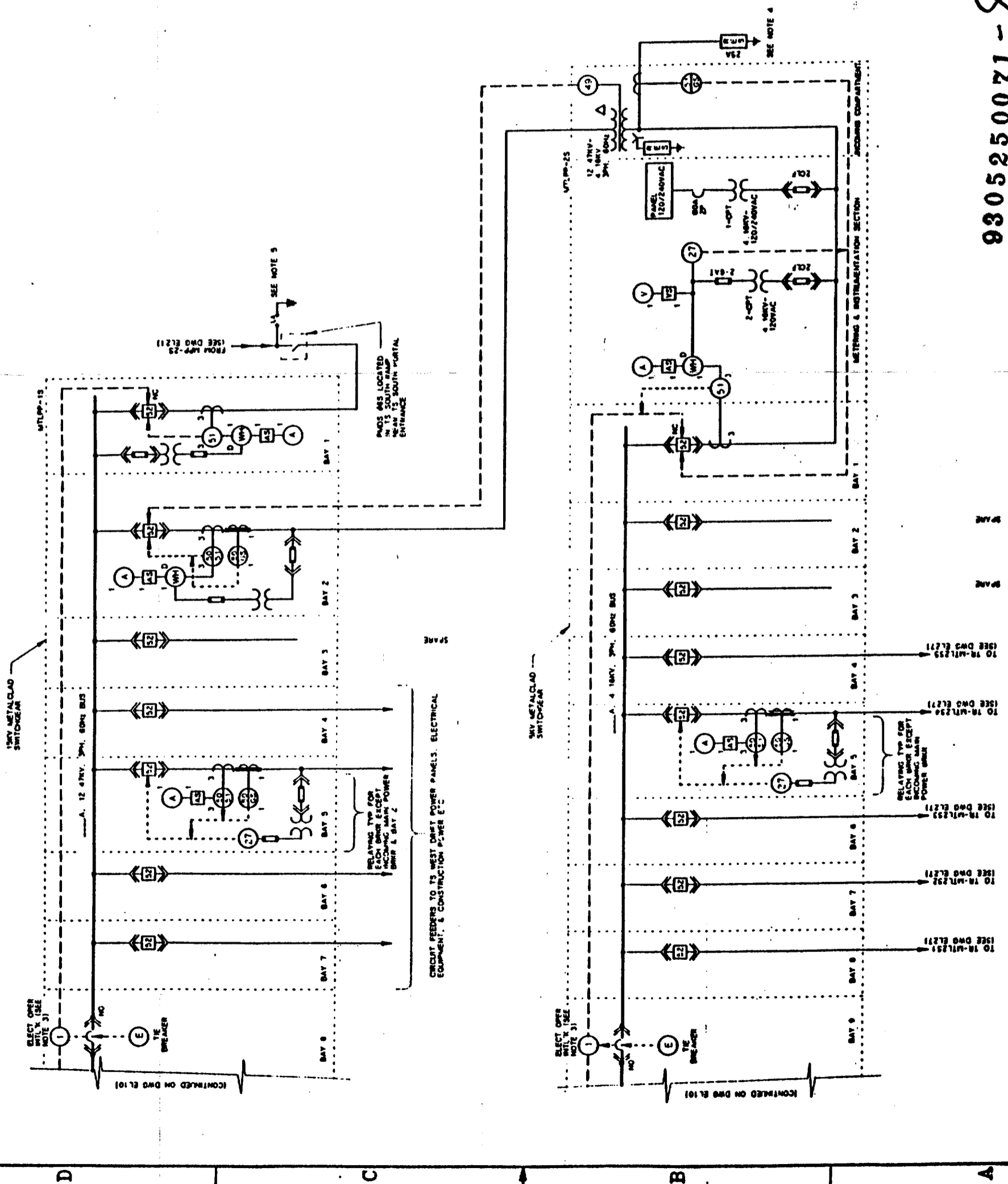
**Raytheon Services Nevada**  
LAS VEGAS, NEVADA

EXPLORATORY STUDIES FACILITY  
TS MAIN DRIFT/SOUTH FEEDERS  
ELECTRICAL  
**ONE LINE DIAGRAM**

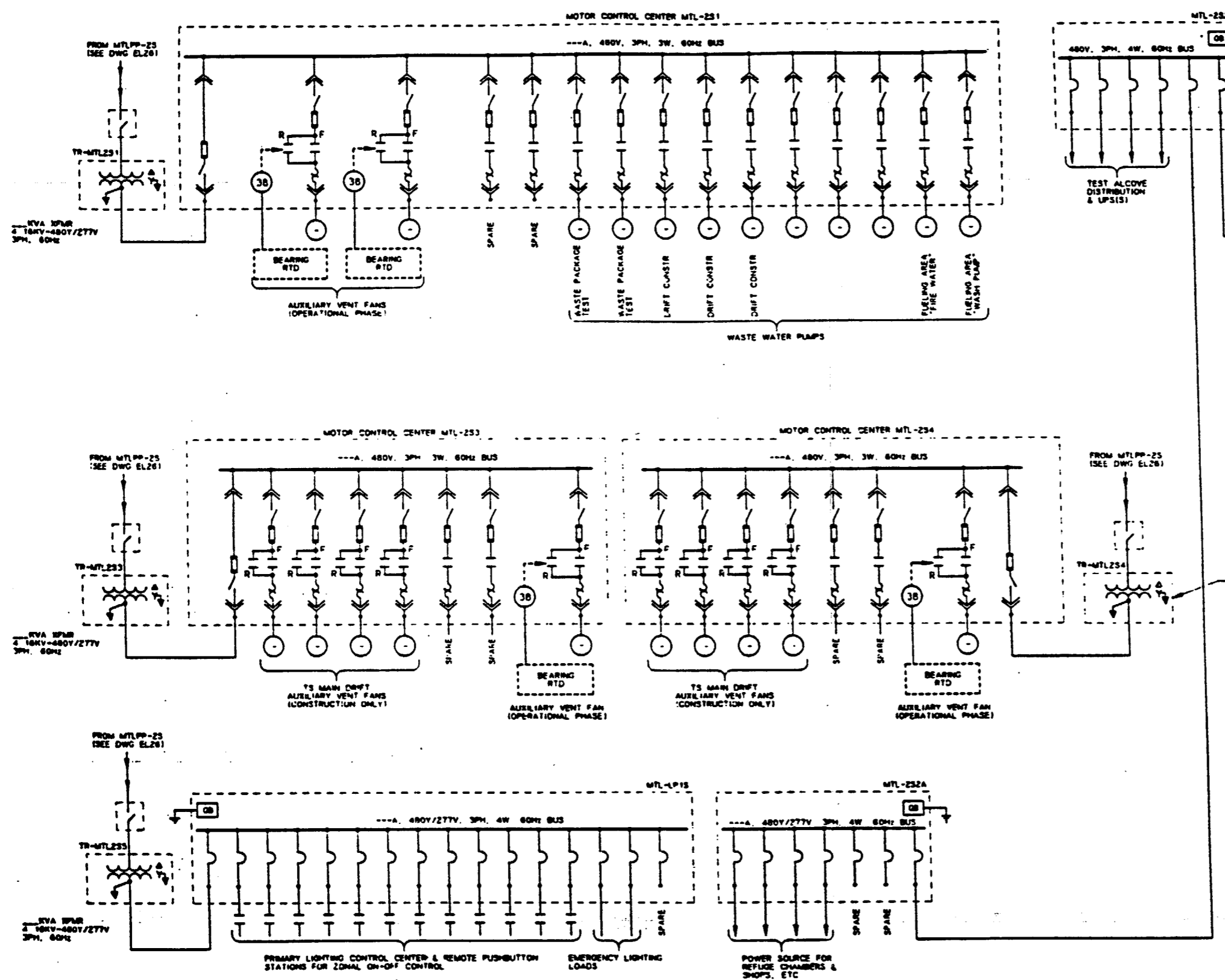
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CHECKED BY: [Signature]  
APPROVED BY: [Signature]  
DATE: 1.2.9.1.1  
PROJECT NO: YMP-025-2-ELEC-EL26  
DRAWING NO: 0

9305250071-83

**TS MAIN DRIFT/SOUTH FEEDERS - ONE LINE DIAGRAM**



D  
C  
B  
A



**NOTES:**

1. FOR RELATED NOTES TO THIS DRAWING, SEE DRAWING YMP-025-2-ELEC-EL29
2. DURING CONSTRUCTION, THE AUXILIARY VENT FANS WILL BE INTERLOCKED & CAN BE MANUALLY REVERSED AS NEEDED
3. ALL CIRCUITS SHALL HAVE GROUND-CHECK MONITORS & FEEDERS SHALL HAVE GROUND-CHECK CONDUCTORS.
4. ALL MAIN 480V CIRCUITS SHALL HAVE GROUND-FAULT & UNDERVOLTAGE PROTECTION
5. QUANTITIES FOR FANS & PUMPS, ETC WILL BE DETERMINED DURING THE TITLE II EFFORT

**SI APERTURE CARD**  
Also Available On Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-GEO2

FOR GENERAL NOTES, SEE DRAWING YMP-025-1-ELEC-EL01.

**TS MAIN DRIFT/SOUTH FEEDERS - ONE LINE DIAGRAM**

9305250071-84

NO.	DATE	REVISION	DES	DRW	CHK	DEC	DM	WFT	BRW	SAP	SA	TPO	TM
<b>U.S. DEPARTMENT OF ENERGY</b>													
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
APPROVALS		<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA											
DESIGN	SEP												
DRW	CLD												
CHK	<i>[Signature]</i>												
DEC	<i>[Signature]</i>												
DRW	MANAGER												
VERIFICATION	N/A												
BY	SAP												
QUALITY ASSURANCE	<i>[Signature]</i>												
SUBMITTED BY		DATE		DRAWING NO.									
7/22/81		7/22/81		YMP-025-2-ELEC-EL27									
VETO APPROVED		DATE		BY									
C.I. 88													

**NOTES:**

1. ALL CIRCUITS SHALL HAVE GROUND-CHECK AND LOCKING FEEDERS SHALL HAVE GROUND-CHECK CONDUCTORS.
2. THE TWO INCOMING FEEDER CIRCUIT BREAKERS ARE NORMALLY CLOSED. WHEN THE CIRCUIT BREAKERS ARE OPEN, ONE OF THE FEEDERS HAS A DIRECT SHORT CIRCUIT ON POWER FAILURE. THE AFFECTED BREAKER OPENS AND SIMULTANEOUSLY THE TIE CIRCUIT BREAKER CLOSURES TO ENERGIZE THE TOTAL BUS.

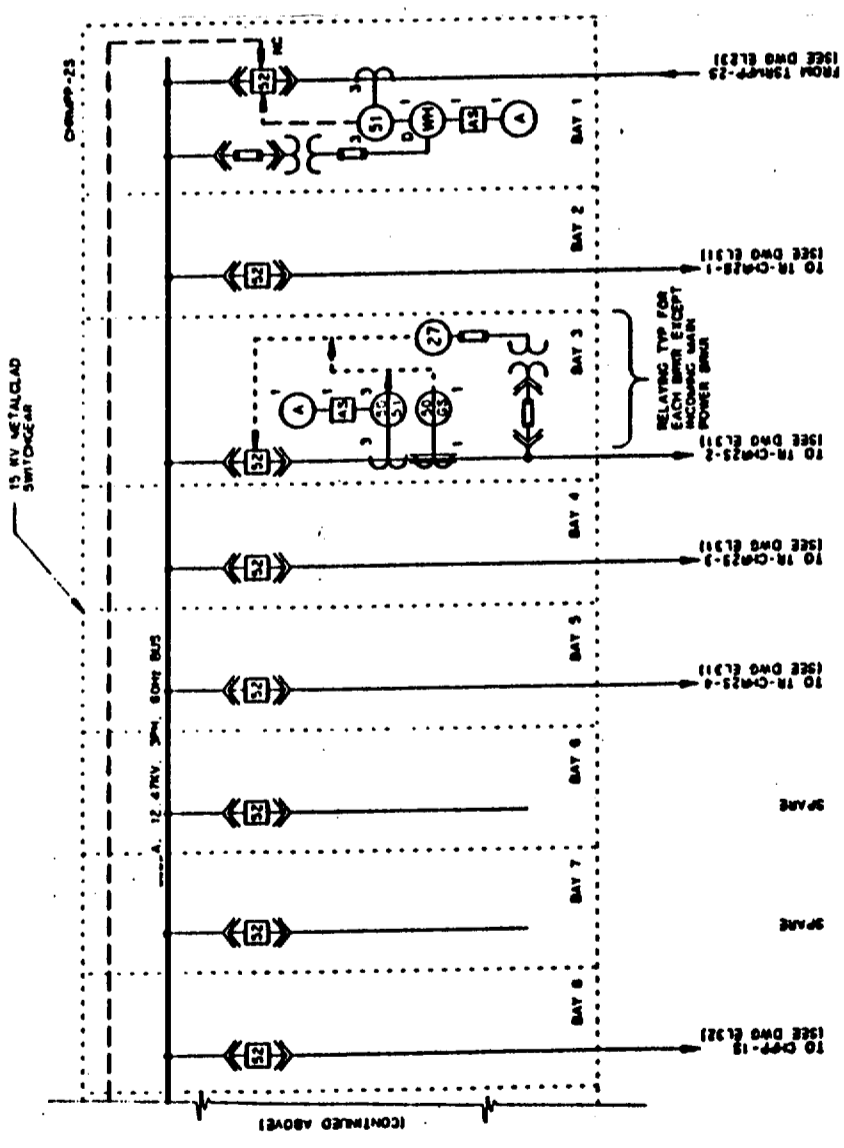
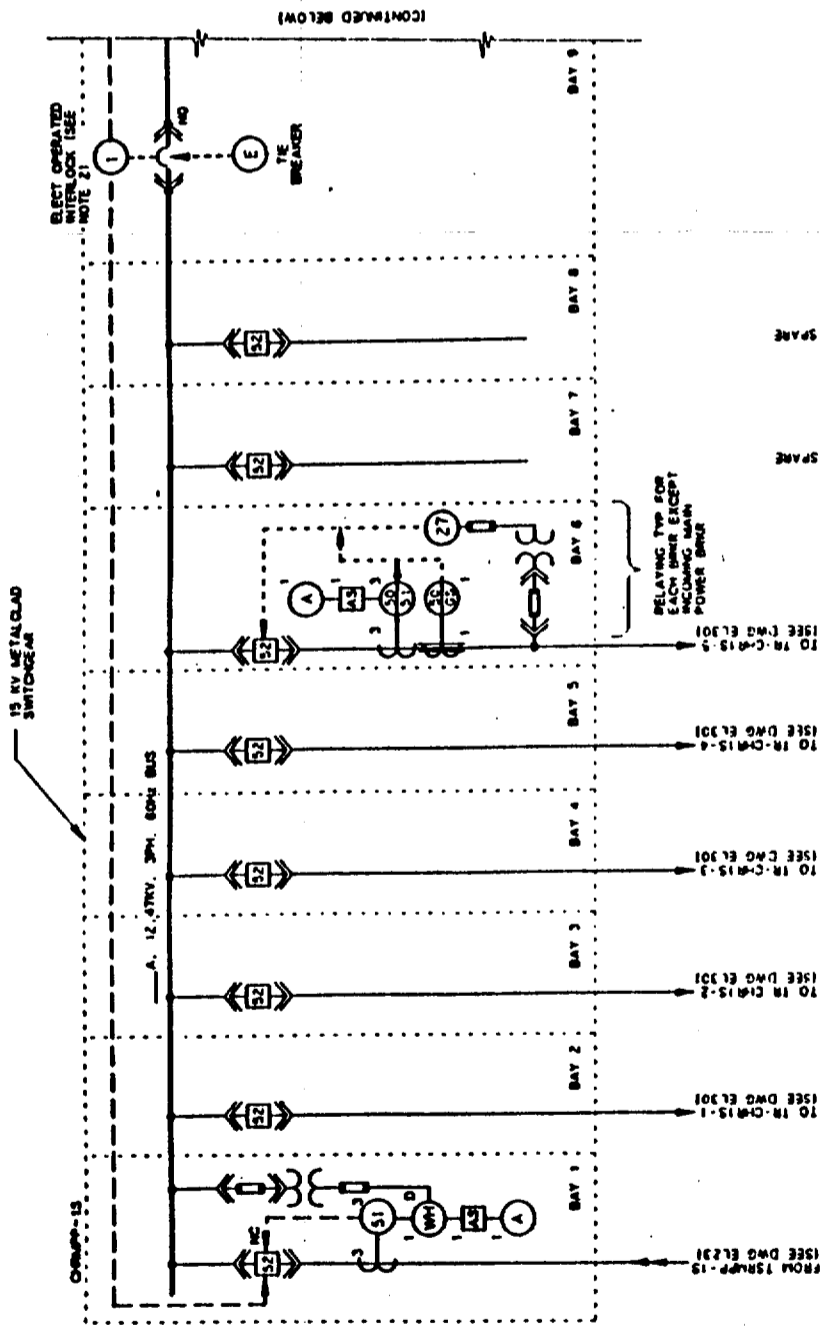
**SI  
APERTURE  
CARD**

Also Available On  
Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CVL-0202

FOR GENERAL NOTES, SEE DRAWING YMP-025-1-ELEC-EL01.

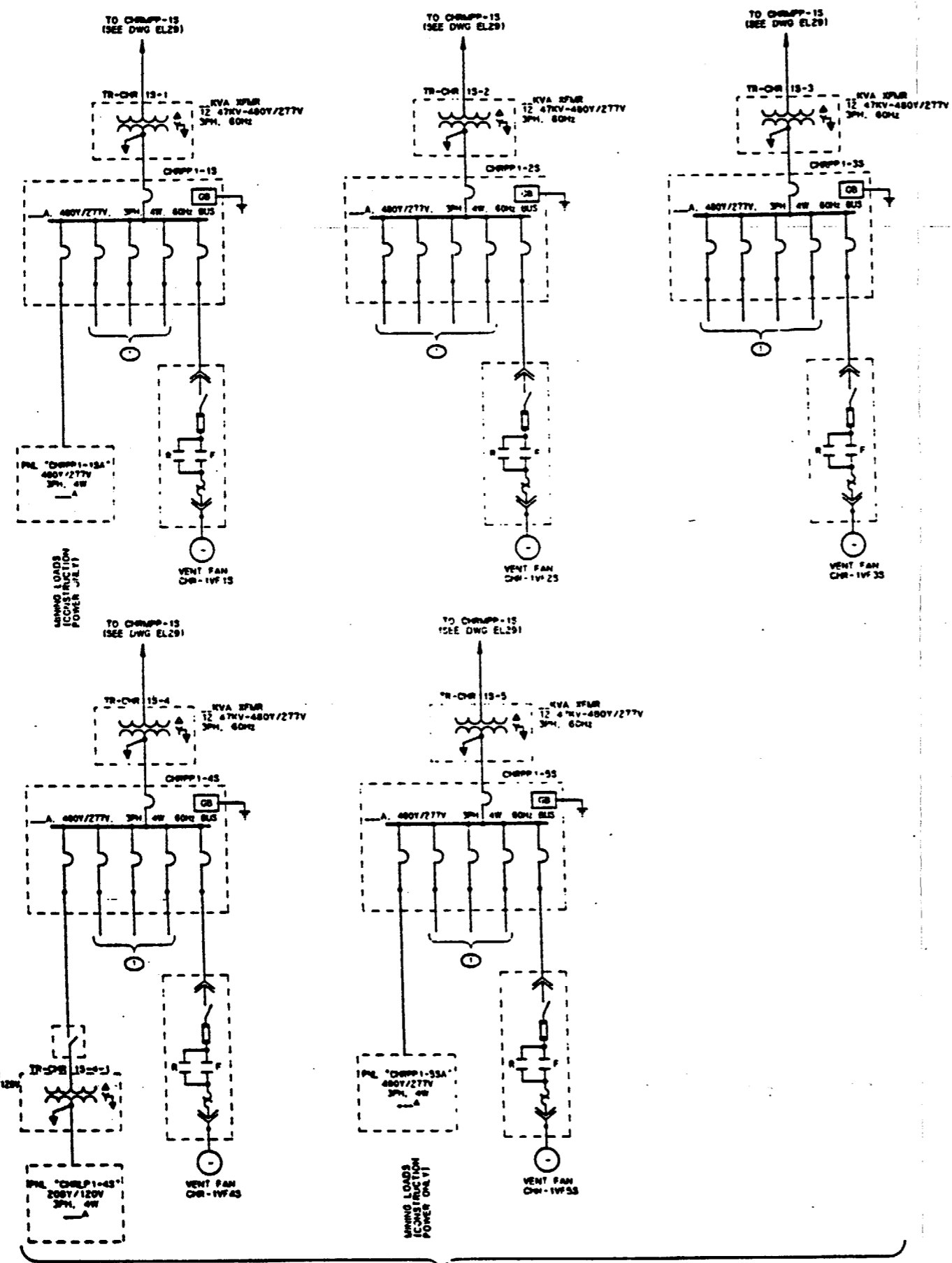
9305250071-85



CH SOUTH RAMP - ONE LINE DIAGRAM

NO.	DATE	REVISION	DES	CHK	DEC	DR	APP	BY	SA	TRD	TRP
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA											
<b>APPROVALS</b> DESIGNED BY: [Signature] CHECKED BY: [Signature] DRAWN BY: [Signature] IN CHARGE: [Signature] SUPERVISOR: [Signature] PROJECT MANAGER: [Signature]											
<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA EXPLORATORY STUDIES FACILITY CH SOUTH RAMP ELECTRICAL <b>ONE LINE DIAGRAM</b>											
DRAWING NO. YMP-025-2-ELEC-EL29 SHEET NO. 0 DESIGNED BY: [Signature] CHECKED BY: [Signature] DRAWN BY: [Signature] IN CHARGE: [Signature] SUPERVISOR: [Signature] PROJECT MANAGER: [Signature]											
U.S.G. 1.2.8.3.3 DATE: [Blank]											

**NOTE:**  
1. FOR RELATED NOTES TO THIS DRAWING, SEE DRAWING YMP-025-2-ELEC-EL29.



Ⓢ POWER PANELS LOCATED IN CH SOUTH RAMP AT VARIOUS FACILITIES REQUIRING POWER FOR INSTRUMENTATION, TESTING, LIGHTING, UPS(S), ETC

**CH SOUTH RAMP - ONE LINE DIAGRAM**

**SI APERTURE CARD**  
Also Available On Aperture Card

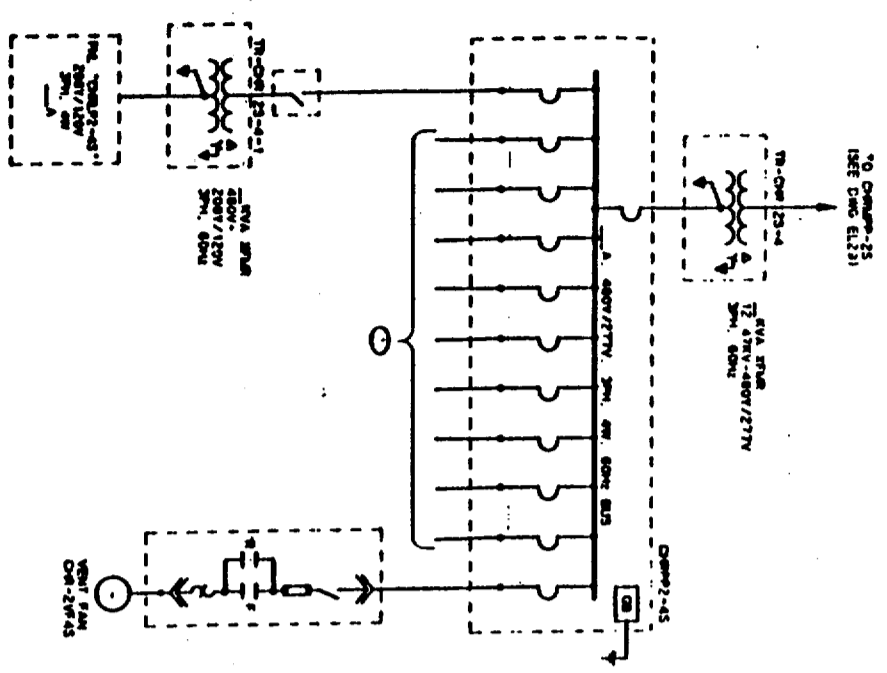
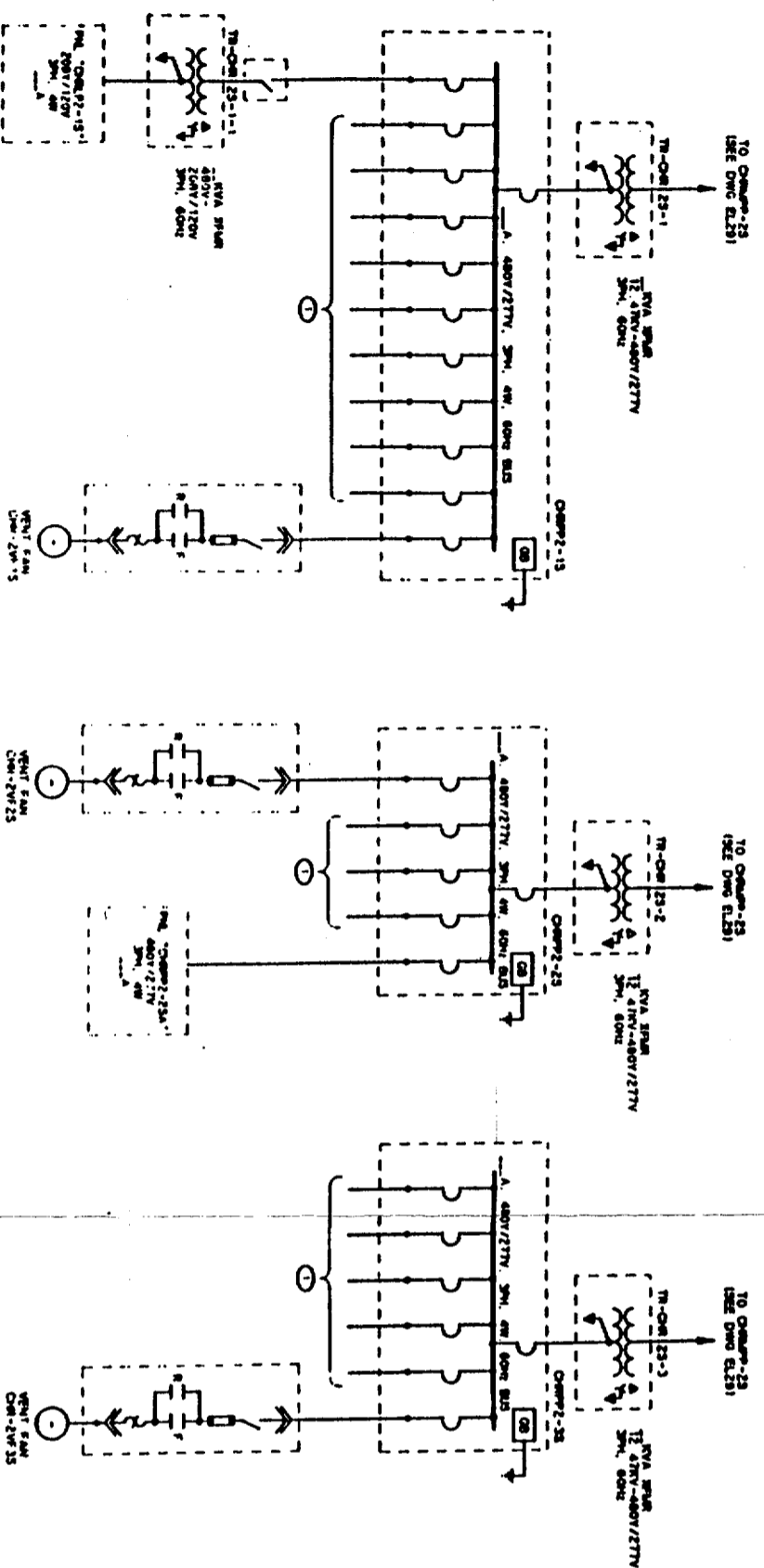
FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-GEO2

FOR GENERAL NOTES, SEE DRAWING YMP-025-1-ELEC-EL01.

9305250071-86

NO	DATE	REVISION	DES	DRW	CHK	DEC	EN	VPY	BRN	SAP	SA	TPO	YMP																											
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA																																								
<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA																																								
<b>EXPLORATORY STUDIES FACILITY</b>																																								
<b>CH SOUTH RAMP</b>																																								
<b>ELECTRICAL</b>																																								
<b>ONE LINE DIAGRAM</b>																																								
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SUBMITTED BY			<table border="1"> <tr> <td>DATE</td> <td>BY</td> <td>DRWG NO.</td> </tr> <tr> <td>7/2/81</td> <td>8-20</td> <td>YMP-025-2-ELEC-EL30</td> </tr> </table>											DATE	BY	DRWG NO.	7/2/81	8-20	YMP-025-2-ELEC-EL30																					
DATE	BY	DRWG NO.																																						
7/2/81	8-20	YMP-025-2-ELEC-EL30																																						
TPO APPROVED			<table border="1"> <tr> <td>DATE</td> <td>BY</td> </tr> <tr> <td></td> <td></td> </tr> </table>											DATE	BY																									
DATE	BY																																							

8 7 6 5 4 3 2 1



NOTE:  
1. FOR RELATED NOTES TO THIS DRAWING, SEE DRAWING YMP-025-2-ELEC-EL25.

SI  
APERTURE  
CARD  
Also Available On  
Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CVL-0202

FOR GENERAL NOTES, SEE DRAWING YMP-025-1-ELEC-EL01.

9805250071-87

POWER PANELS LOCATED IN CH SOUTH RAMP AT VARIOUS FACILITIES REQUIRE POWER FOR IRRADIATION, TESTING, LABORATORY, SERIAL, ETC

CH SOUTH RAMP - ONE LINE DIAGRAM

NO	DATE	REVISION	DES	DRW	CHK	SEC	BY	APP	BY	PRO	THRO
<p align="center"><b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA</p> <p><b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA</p> <p>EXPLORATORY STUDIES FACILITY CH SOUTH RAMP ELECTRICAL ONE LINE DIAGRAM</p>											
<p>APPROVALS</p> <p>DESIGNED BY: [Signature]</p> <p>CHECKED BY: [Signature]</p> <p>DATE: 12.8.53</p> <p>PROJECT NO.: YMP-025-2-ELEC-EL31</p> <p>REV: 0</p>											

1 2 3 4 5 6 7 8

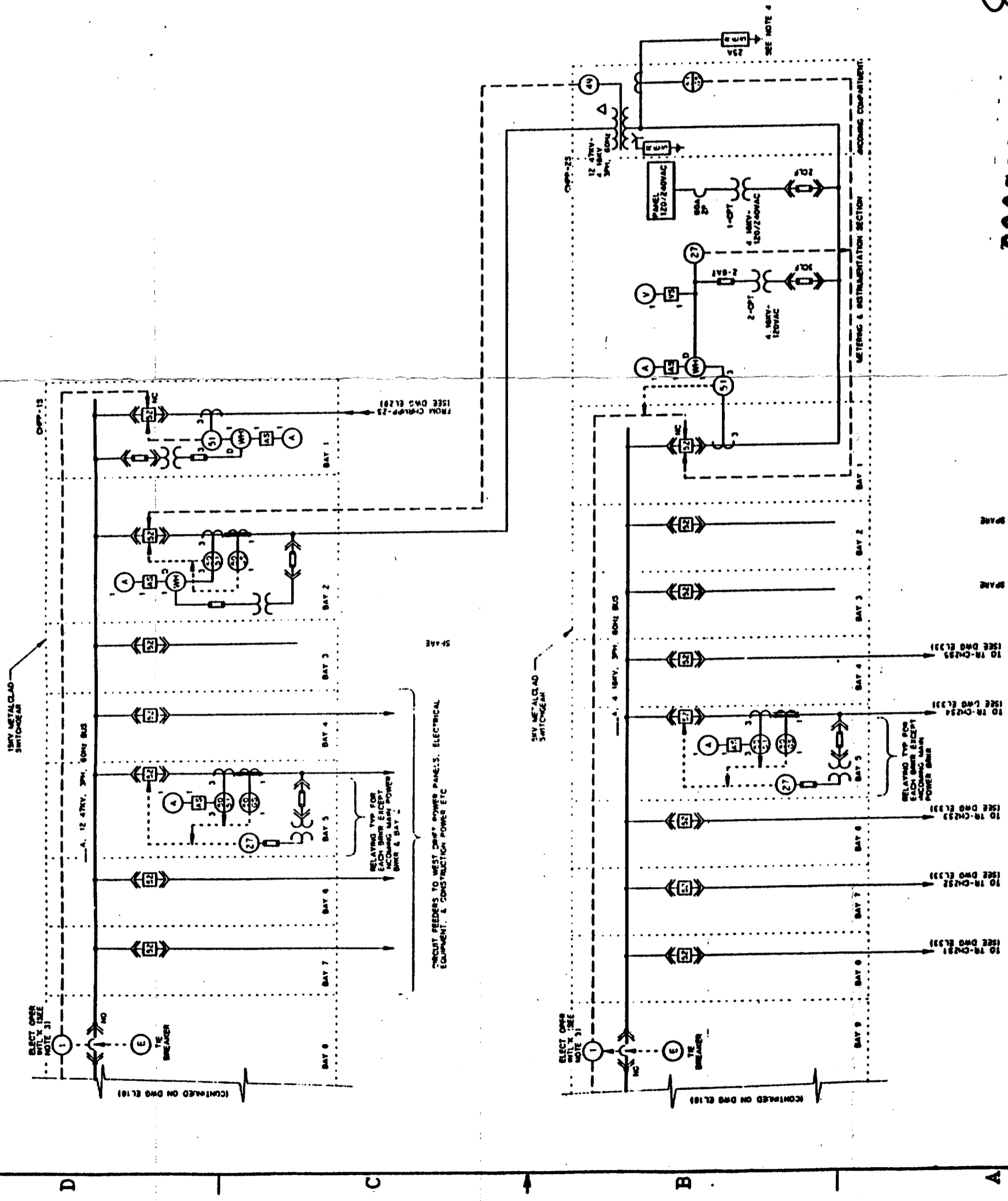
- NOTES:**
1. ALL CIRCUITS SHALL HAVE GROUND-CHECK MONITORS & FEEDERS SHALL HAVE GROUND-CHECK CONDUCTORS.
  2. SPACE & NAVY CIRCUITS MAY BE UTILIZED FOR LOW EXPLOSION-DRIFT MINING.
  3. THE TWO INCOMING FEEDER CIRCUIT BREAKERS ARE NORMALLY CLOSED WITH THE CIRCUIT BREAKERS NORMALLY OPEN. THE CIRCUIT BREAKERS SHALL OPEN ON DIRECT SHORT CIRCUIT OR POWER FAILURE. THE AFFECTED BREAKER OPENS AND SHALL AUTOMATICALLY THE CIRCUIT BREAKER CLOSURE TO ENERGIZE THE 101% BUS.
  4. THE RESISTOR GROUND IS CONNECTED TO THE SURFACE WIRE SAFETY GROUND SYSTEM ONLY.

**SI APERTURE CARD**  
Also Available On Aperture Card

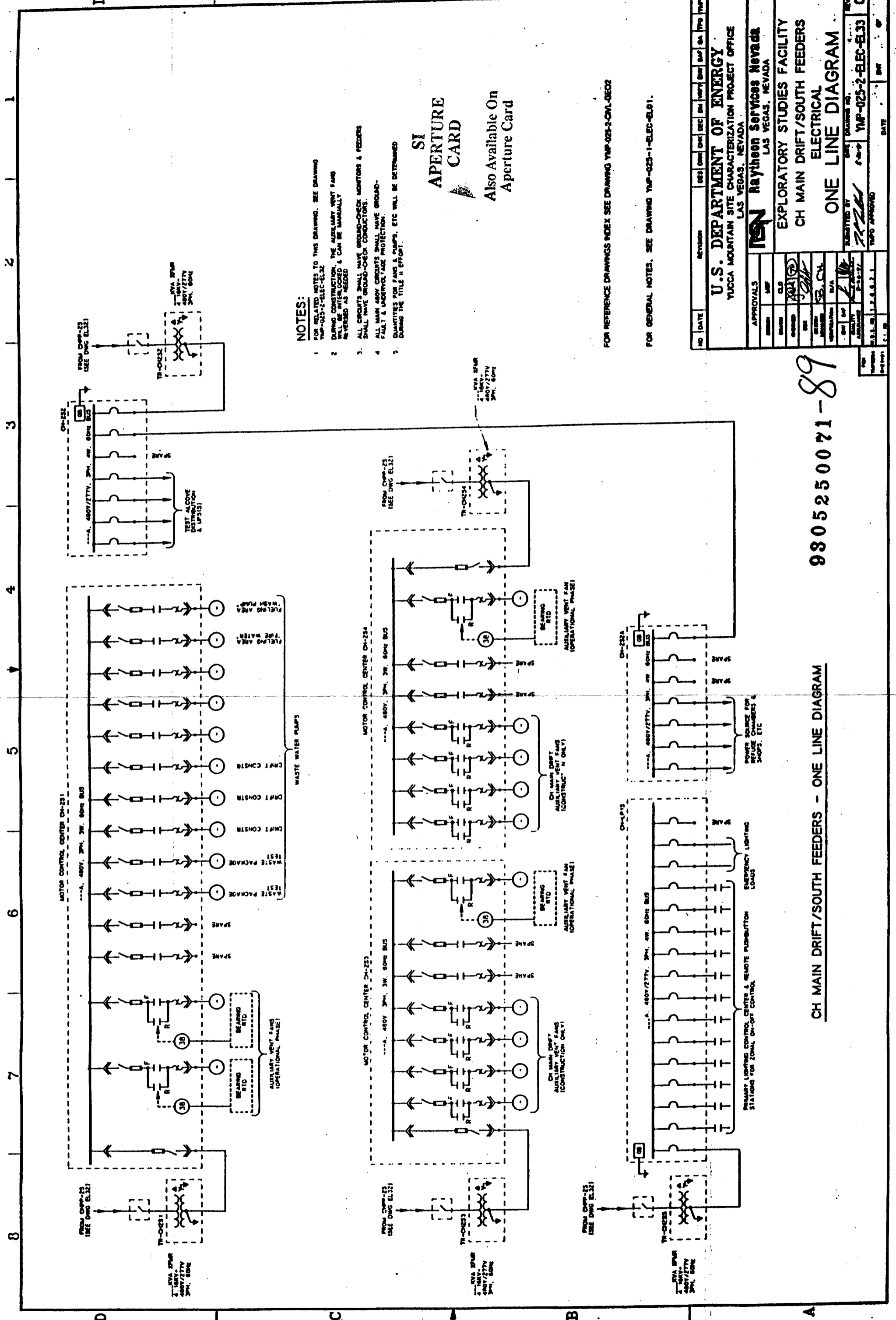
FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CVL-GE02  
FOR GENERAL NOTES, SEE DRAWING YMP-025-1-ELEC-EL01.

NO	DATE	REVISION	DES	CHK	APP	DEC	DU	WRT	DRW	SAP	QA	TRD
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA												
<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA												
EXPLORATORY STUDIES FACILITY CH MAIN DRIFT/SOUTH FEEDERS ELECTRICAL <b>ONE LINE DIAGRAM</b>												
SUBMITTED BY: <i>[Signature]</i> DATE: 11-2-81 YMP-025-2-ELEC-EL32												

9305250071-88



CH MAIN DRIFT/SOUTH FEEDERS - ONE LINE DIAGRAM



**NOTES:**

1. FOR RELATED NOTES TO THIS DRAWING, SEE DRAWING YMP-023-2-ELEC-EL32.
2. DURING CONSTRUCTION, THE AUXILIARY VENT FANS WILL BE INTERLOCKED & CAN BE MANUALLY REVERSED AS NEEDED.
3. ALL CIRCUITS SHALL HAVE GROUND-CHECK MONITORS & FEEDERS SHALL HAVE GROUND-CHECK CONDUCTORS.
4. ALL MAIN 480V CIRCUITS SHALL HAVE GROUND-FAULT & UNDERVOLTAGE PROTECTION.
5. QUANTITIES FOR FANS & PUMPS, ETC WILL BE DETERMINED DURING THE TITLE II EFFORT.

**SI APERTURE CARD**  
 Also Available On Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-023-2-CVI-0602  
 FOR GENERAL NOTES, SEE DRAWING YMP-023-1-ELEC-EL01.

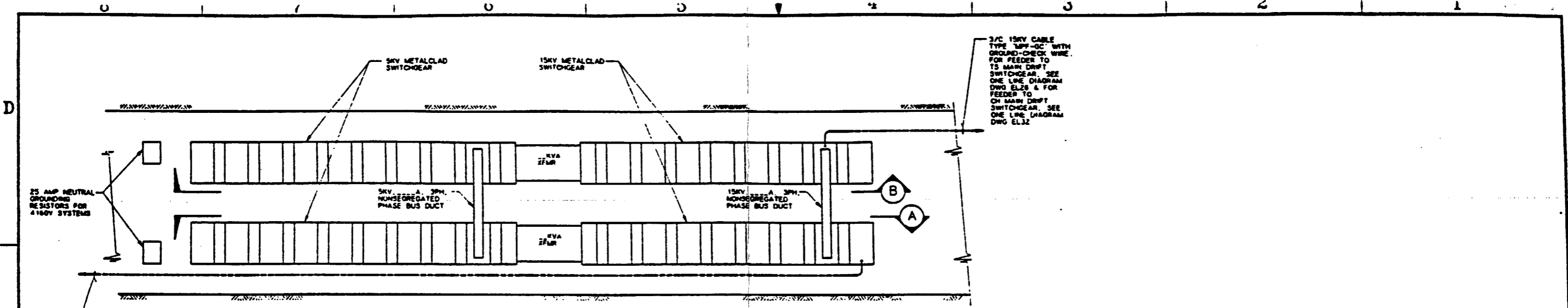
NO	DATE	REVISION	DES	CHK	DEC	DR	APP	BY	DATE

<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA	
<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA	
EXPLORATORY STUDIES FACILITY CH MAIN DRIFT/SOUTH FEEDERS ELECTRICAL ONE LINE DIAGRAM	
APPROVALS DESIGNED BY: [Signature] CHECKED BY: [Signature] DRAWN BY: [Signature] DATE: 1-2-85	SUBMITTED BY: [Signature] DATE: 1-2-85
PROJECT NO.: YMP-023-2-ELEC-EL33 SHEET NO.: 0	DATE:

9305250071-89

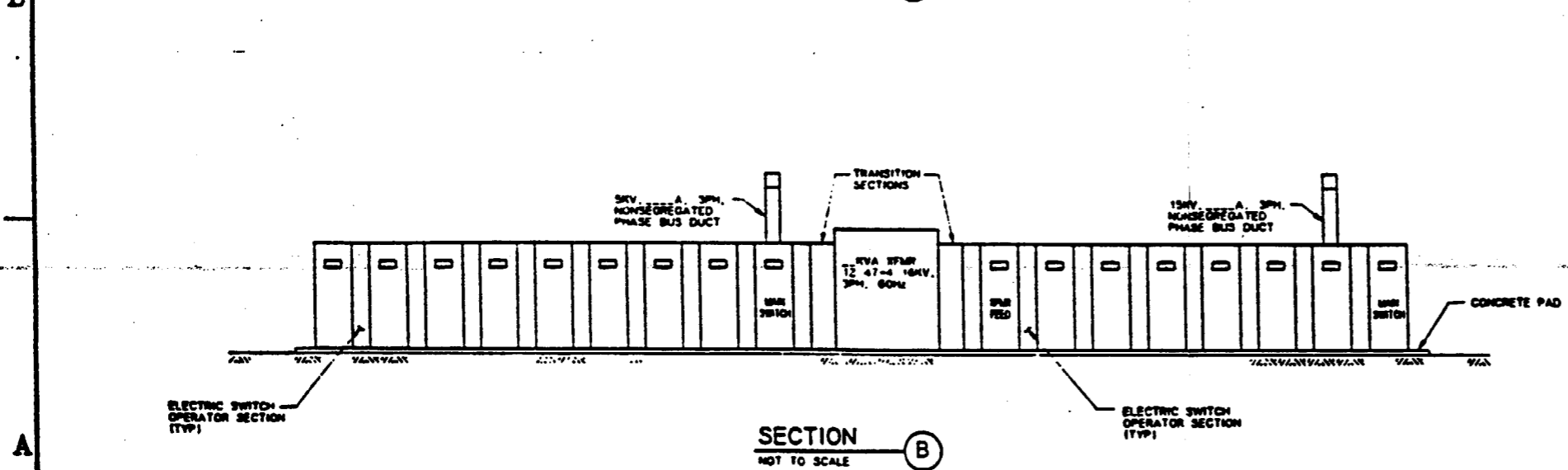
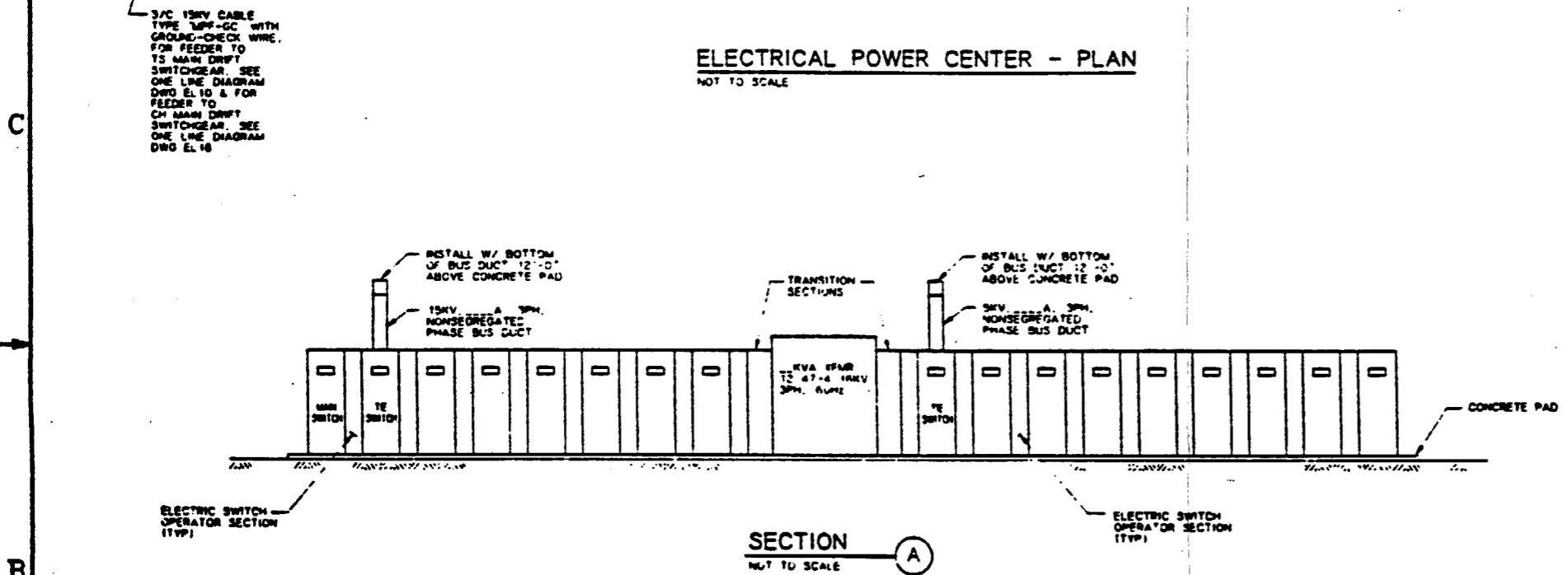
CH MAIN DRIFT/SOUTH FEEDERS - ONE LINE DIAGRAM



**ELECTRICAL POWER CENTER - PLAN**  
NOT TO SCALE

SI  
APERTURE  
CARD

Also Available On  
Aperture Card



FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0202

FOR GENERAL NOTES, SEE DRAWING YMP-025-1-ELEC-EL01

9305250071-90

NO.	DATE	REVISION	DES	DRN	CHK	DEC	ENR	SAF	QA	TPO	YMP
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA											
APPROVALS			<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA								
DESIGN	E.S.										
DRAWN	E.S.										
CHECKED	<i>[Signature]</i>										
SEC	<i>[Signature]</i>										
DESIGN MONITOR	S.C.H.										
VERIFICATION	S/A										
BY	<i>[Signature]</i>										
QUALITY ASSURANCE	<i>[Signature]</i>										
SUBMITTED BY			DRAWING NO.			REV.					
<i>[Signature]</i>			YMP-025-2-ELEC-EL34			0					
DATE			REV.								



**GENERAL NOTES :**

1. SYSTEM SHOWN SCHEMATICALLY, NOT TO SCALE. MAJOR PIPING RUNS CURVED TO SHOW RELATIVE ELEVATIONS BETWEEN SALIENT POINTS.
2. DASHED BOXES IN DRIFT PIPING DEPICT THE GENERIC WATER FACILITY TYPICAL FOR A SPECIFIC APPLICATION. WATER TAP AT DRIFT INTERSECTIONS, EXCAVATION EQUIPMENT SITES, SPECIFIC LOCATIONS FOR EACH APPLICATION ARE NOT IMPLIED.
3. METERING AND REMOTE MONITORING AND CONTROL SYSTEMS WILL BE DEVELOPED IN THE TITLE II DESIGN TO REGULATE WATER LOSS BY LEAK GATES BELOW LINE BREAK VALVE SETPOINTS.
4. MAIN DISTRIBUTION PIPING SHALL BE SCHEDULE 40 WITH GROOVED COUPLINGS AND FITTINGS. PIPING SIZES SHALL BE 8" FOR TS RAMPS AND TS MAIN DRIFT, 6" FOR CH RAMPS AND CH MAIN DRIFT.

**KEYED NOTES :**

- ① ISOLATION VALVE INSTALLED IN SUPPLY PIPING TO DRIFT EXCAVATION SITE PREVENTS WATER DISCHARGE WHEN EXCAVATION SITE IS MOVED FURTHER DOWN DRIFT. VALVE REMAINS AND BECOMES PART OF WATER SUPPLY TAP (KEYED NOTE 2 AND 3) AS WORK PROGRESSES.
- ② WATER SUPPLY TAP FOR MAIN AND BRANCH DRIFTS, CREATED AT INTERVALS AS EXCAVATION WORK PROCEEDS DOWN DRIFT. TAP ALLOWS ACCESS TO WATER SUPPLY BY EQUIPMENT FOR SUBSEQUENT EXCAVATION OR TESTING IN ITS VICINITY.
- ③ FIRE HOSE MANIFOLD PIPE GROUPS MULTIPLE HOSE STATIONS (SPACED 300 FT. APART) ALONG PUCK CONVEYOR TO ONE TEE IN WATER SUPPLY MAIN.
- ④ FIRE HOSE MANIFOLD PIPE (SIMILAR TO KEYED NOTE 3) WITH PRV USED WHERE PRESSURE IN MAIN EXCEEDS RATED ALLOWED PRESSURE OF HOSE.

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	ISOLATION VALVE (MANUAL)
	PRESSURE REDUCING VALVE (SENSING LINE TO REDUCED PRESSURE)
	CAPPED CONNECTION
	HOSE
	LINE BREAK ISOLATION VALVE (AUTOMATIC)
	ISOLATION VALVE (ELECTRIC SOLENOID)
	METERING UNIT (INPUT TO REMOTE MONITORING AND CONTROL)
	RELIEF VALVE (ALARM SWITCH ON DISCHARGE)

**ABBREVIATIONS**

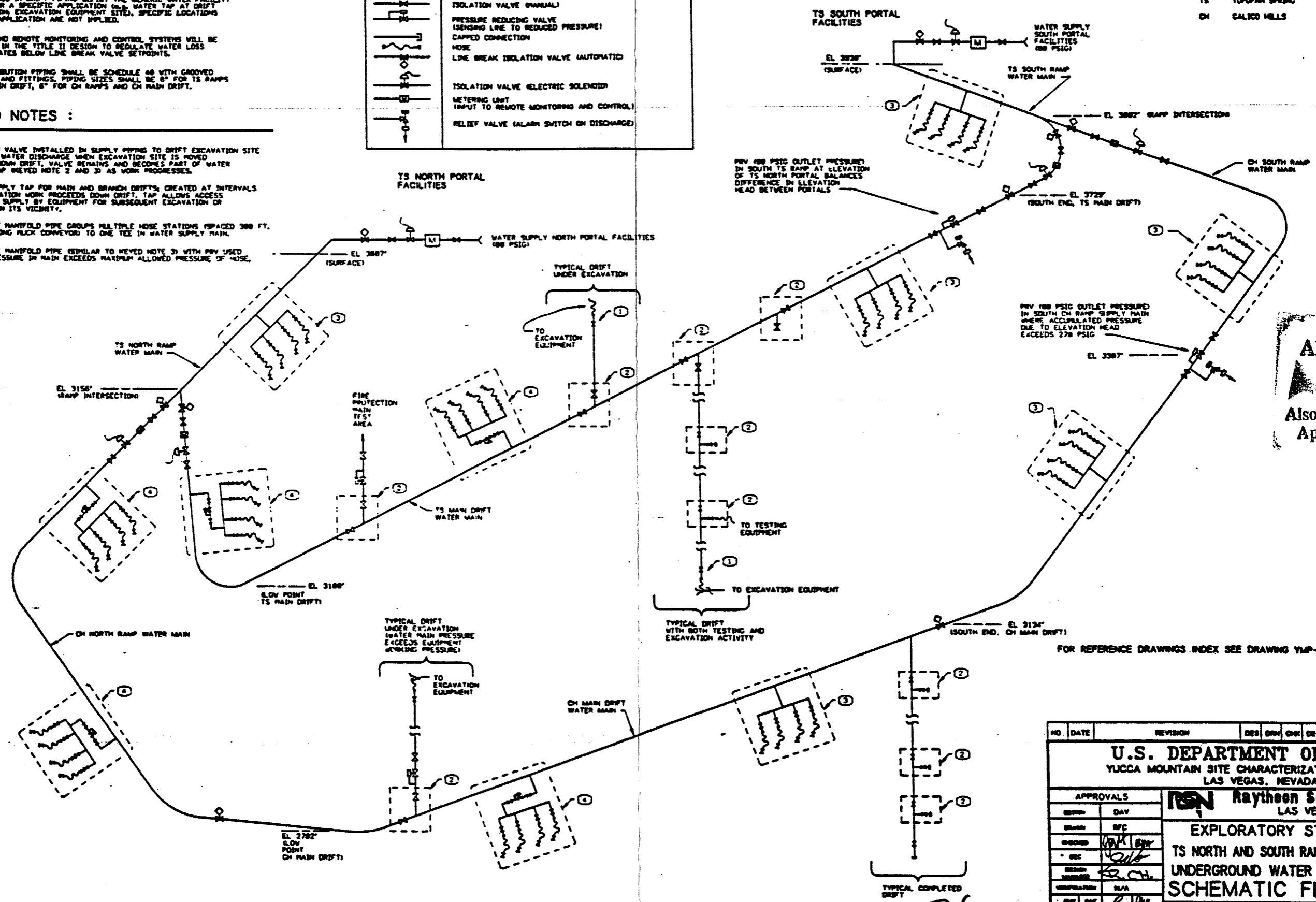
- PRV PRESSURE REDUCING VALVE
- TS TOPOGAM SPRING
- CH CALICO HILLS

D

C

B

A



**SI APERTURE CARD**  
Also Available On Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0502

9805250071-91

NO.	DATE	REVISION	DES	CHK	CHK	DEC	CHK	INVTY	ENR	SAF	QA	TPO	TRF
<b>U.S. DEPARTMENT OF ENERGY</b>													
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
APPROVALS		<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA											
DESIGN	DAY	EXPLORATORY STUDIES FACILITY											
DRWING	BY	TS NORTH AND SOUTH RAMP GENERAL ARRANGEMENT											
CHECKED	DATE	UNDERGROUND WATER DISTRIBUTION SYSTEM											
DESIGN MANAGER	DATE	<b>SCHEMATIC FLOW DIAGRAM</b>											
CONSTRUCTION	DATE	SUBMITTED BY											
QUALITY ASSURANCE	DATE	YMP-025-2-MECH-PI01											
DATE													

8

7

6

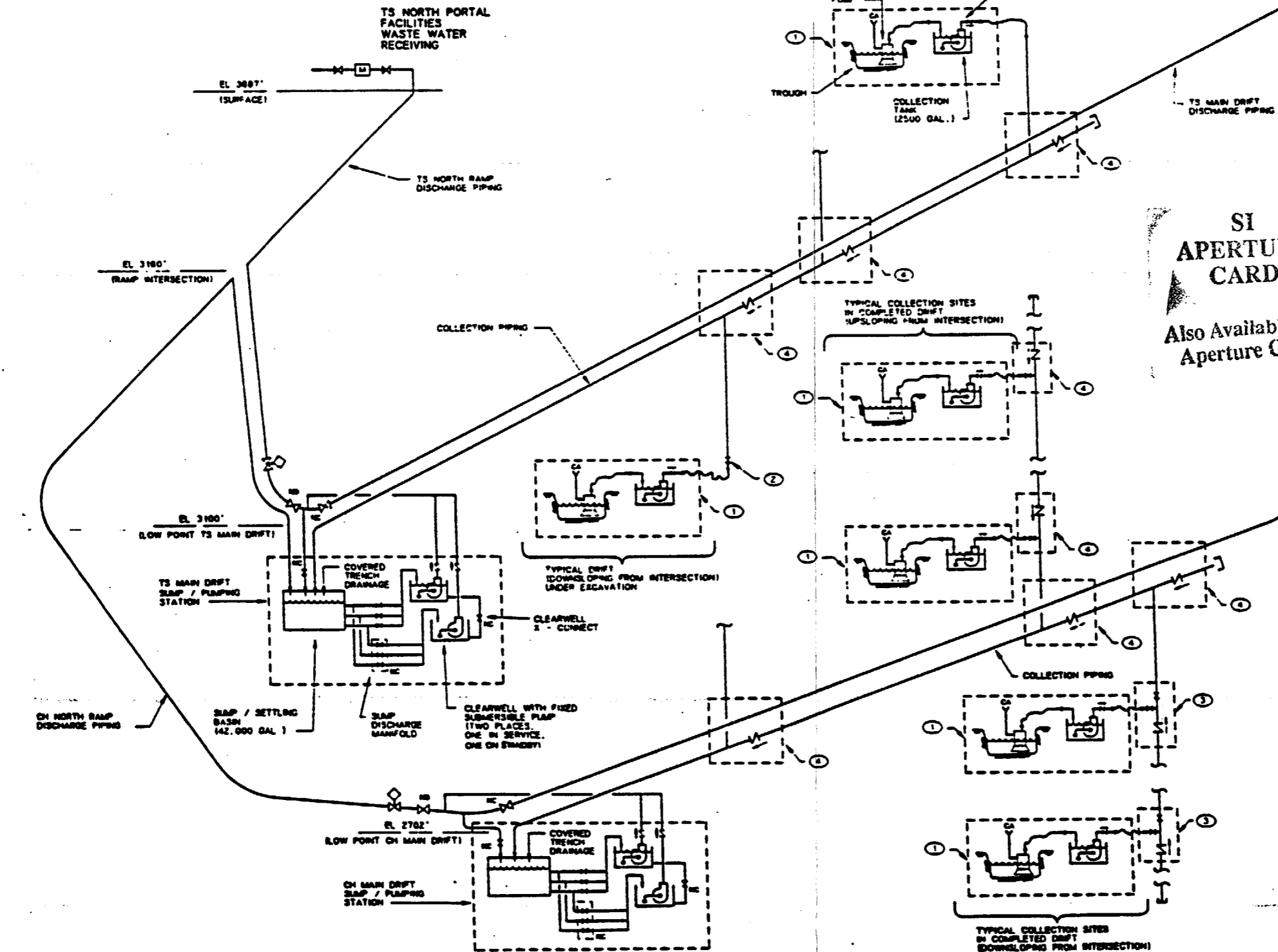
5

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3

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	ISOLATION VALVE
	CHECK VALVE (PERMITTED FLOW INDICATED)
	CAPPED CONNECTION
	HOSE
	LINE BREAK ISOLATION VALVE (AUTOMATIC)
	METERING UNIT

ABBREVIATIONS	
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
CA	COMPRESSED AIR
TBM	TUNNEL BORING MACHINE
TS	TOPOGAN SPRING
CH	CALICO HILLS



**GENERAL NOTES :**

1. SYSTEM SHOWN SCHEMATICALLY. NOT TO SCALE. MAJOR PIPING RUNS CURVED TO SHOW RELATIVE ELEVATIONS BETWEEN SALIENT POINTS.
2. DASHED BORES IN DRIFT PIPING DEPICT THE GENERIC WASTE WATER FACILITY TYPICAL FOR A SPECIFIC APPLICATION IN A DRAIN TAP FOR UPSLOPING DRIFT. COLLECTION SITE IN DRIFT EXCAVATION! SPECIFIC LOCATIONS FOR EACH APPLICATION ARE NOT APPLIED.
3. DISCHARGE PIPING 6" SCHEDULE 40 WITH GROOVED FITTINGS.
4. COLLECTION PIPING 3" SCHEDULE 40 WITH GROOVED FITTINGS.

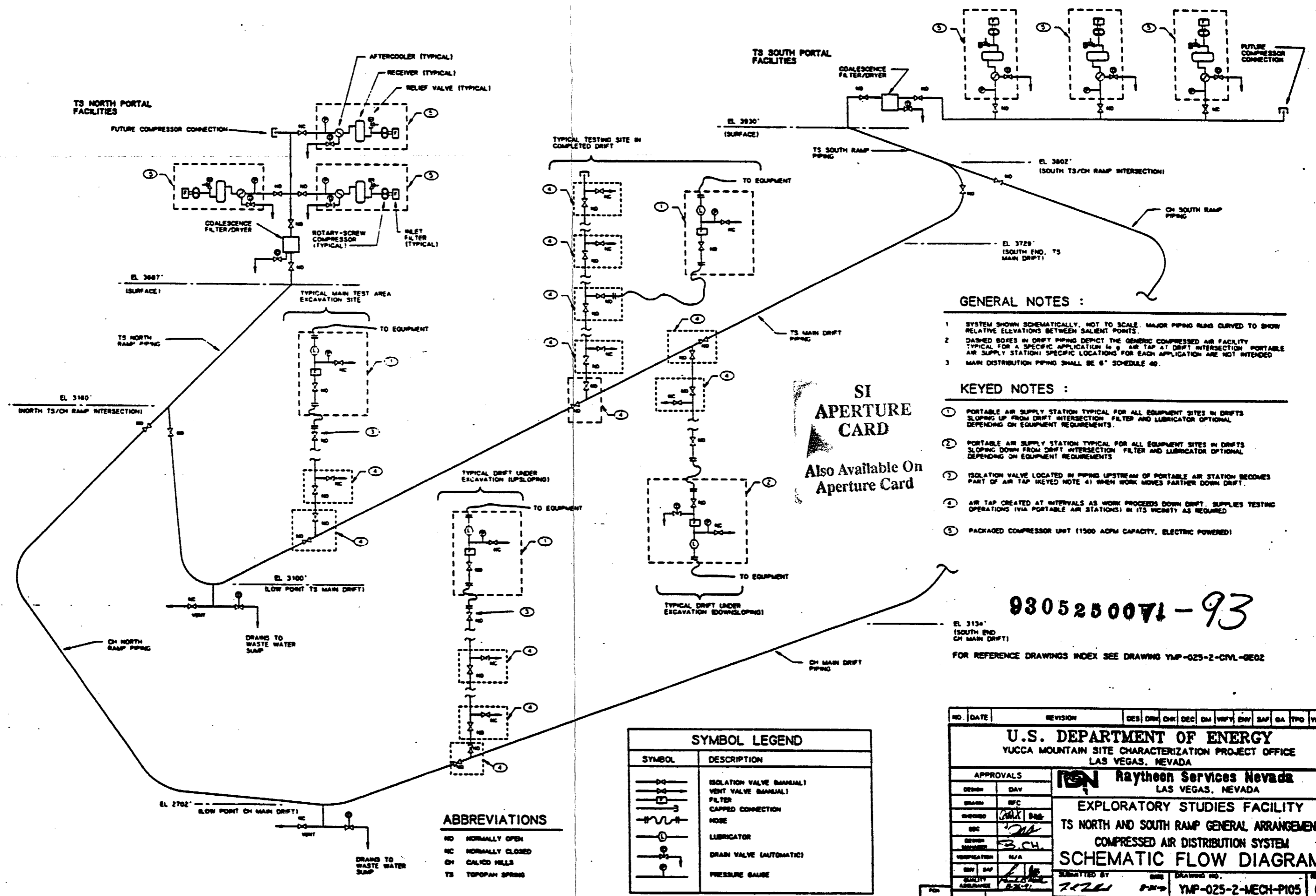
**KEYED NOTES :**

1. WASTE WATER COLLECTION SITE. APPLICABLE FOR EXCAVATION. TESTING AND GROUND WATER INFLOW WATER WILL BE CHANNLED AND PICKED UP AS SOON AS FEASIBLE BY THE WASTE WATER COLLECTION SYSTEM.
2. ISOLATION VALVE INSTALLED IN COLLECTION PIPING OF DRIFT SLOPING DOWN FROM DRIFT INTERSECTION PREVENTS WATER DRAINAGE WHEN EXCAVATION SITE IS MOVED FURTHER DOWN DRIFT. VALVE REMAINS AND BECOMES PART OF DRAINAGE TAP KEYED NOTE 3) AS WORK PROGRESSES.
3. DRAIN TAP FOR DOWNWARD SLOPING DRIFT. CREATED AT INTERVAL AS WORK PROCEEDS DOWN DRIFT. TAP ALLOWS ACCESS TO DRAIN BY COLLECTION SITE KEYED NOTE 1) FOR TESTING OR GROUND WATER IN ITS VICINITY.
4. DRAIN TAP FOR UPWARD SLOPING DRIFT. (SIMILAR TO KEYED NOTE 3) REQUIRING ONLY CHECK VALVE.

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0202

9305250071-92

NO.	DATE	REVISION	DES	DRN	DEC	CH	VFY	CH	SAF	SA	TRD	YMP
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA												
<b>APPROVALS</b>										<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA		
DESIGN	DAV											
DRAWN	BFC											
CHECKED	CHL / BFB											
SEC												
DESIGN MANAGER	S. CH.											
VERIFICATION	N/A											
BY	SAF											
QUALITY ASSURANCE												
SUBMITTED BY										DATE	DRAWING NO.	
712/2011										5-2-11	YMP-025-2-MECH-P103	C
YMPD APPROVED										DATE	BY	



- GENERAL NOTES :**
- 1 SYSTEM SHOWN SCHEMATICALLY, NOT TO SCALE. MAJOR PIPING RUNS CURVED TO SHOW RELATIVE ELEVATIONS BETWEEN SALENT POINTS.
  - 2 DASHED BOXES IN DRIFT PIPING DEPICT THE GENERIC COMPRESSED AIR FACILITY TYPICAL FOR A SPECIFIC APPLICATION IN A AIR TAP AT DRIFT INTERSECTION PORTABLE AIR SUPPLY STATION! SPECIFIC LOCATIONS FOR EACH APPLICATION ARE NOT INTENDED
  - 3 MAIN DISTRIBUTION PIPING SHALL BE 6" SCHEDULE 40.

- KEYED NOTES :**
- 1 PORTABLE AIR SUPPLY STATION TYPICAL FOR ALL EQUIPMENT SITES IN DRIFTS SLOPING UP FROM DRIFT INTERSECTION FILTER AND LUBRICATOR OPTIONAL DEPENDING ON EQUIPMENT REQUIREMENTS.
  - 2 PORTABLE AIR SUPPLY STATION TYPICAL FOR ALL EQUIPMENT SITES IN DRIFTS SLOPING DOWN FROM DRIFT INTERSECTION FILTER AND LUBRICATOR OPTIONAL DEPENDING ON EQUIPMENT REQUIREMENTS
  - 3 ISOLATION VALVE LOCATED IN PIPING UPSTREAM OF PORTABLE AIR STATION BECOMES PART OF AIR TAP (KEYED NOTE 4) WHEN WORK MOVES FARTHER DOWN DRIFT.
  - 4 AIR TAP CREATED AT INTERVALS AS WORK PROCEEDS DOWN DRIFT. SUPPLIES TESTING OPERATIONS (VIA PORTABLE AIR STATIONS) IN ITS VICINITY AS REQUIRED
  - 5 PACKAGED COMPRESSOR UNIT (1500 ACPM CAPACITY, ELECTRIC POWERED)

**SI APERTURE CARD**  
 Also Available On Aperture Card

9305250071-93

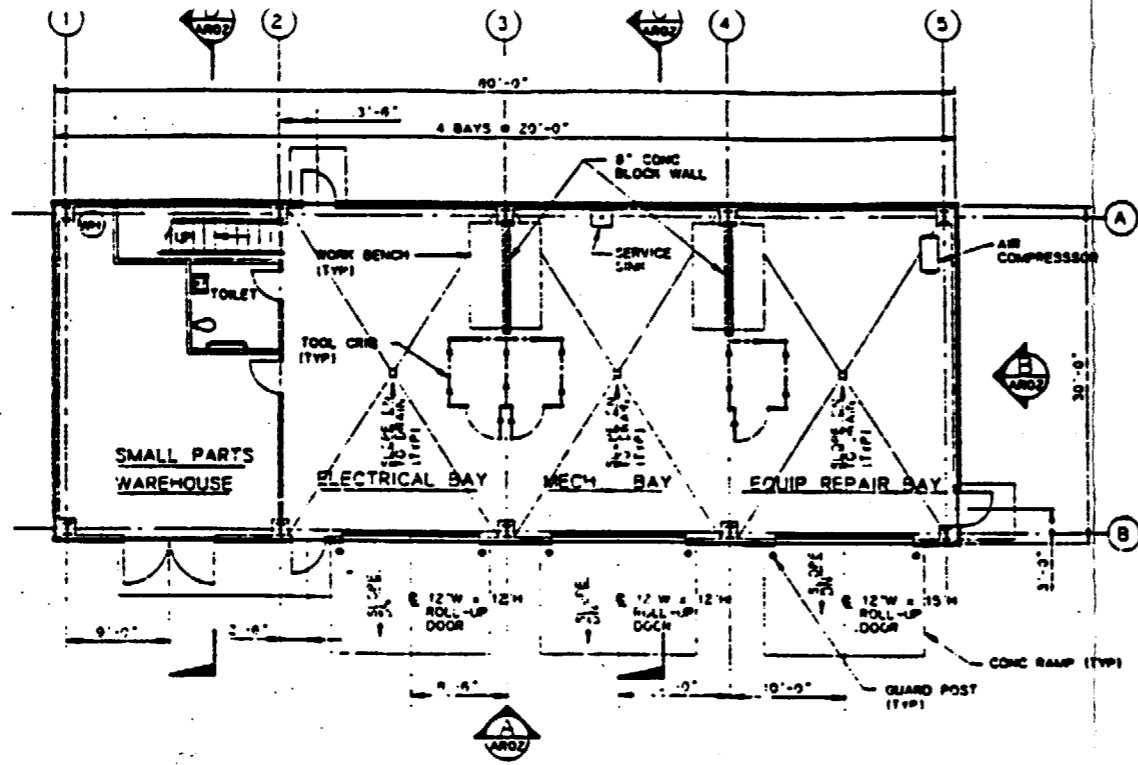
FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-GE02

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	ISOLATION VALVE (MANUAL)
	VENT VALVE (MANUAL)
	FILTER
	CAPPED CONNECTION
	NOSE
	LUBRICATOR
	DRAIN VALVE (AUTOMATIC)
	PRESSURE GAUGE

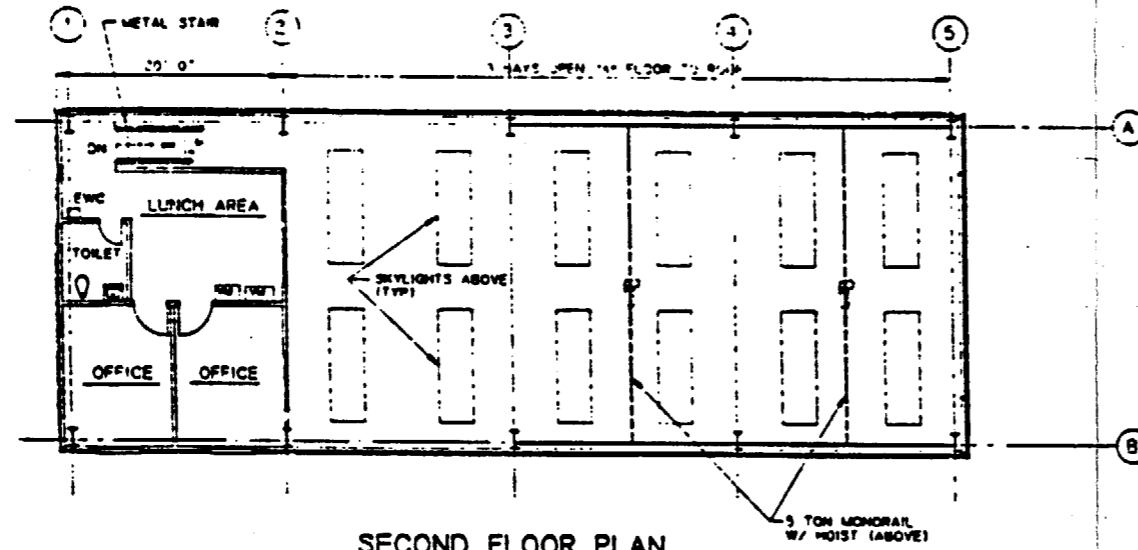
**ABBREVIATIONS**

NO	NORMALLY OPEN
NC	NORMALLY CLOSED
CH	CALICO HILLS
TS	TOPOGRAPHY SPRING

NO.	DATE	REVISION	DES	DRW	CHK	DEC	DM	VFY	ENR	SAP	DA	TPD	YR
<b>U.S. DEPARTMENT OF ENERGY</b>													
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
APPROVALS		<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA											
DRWN	DAY												
DRWN	BY	RFC											
CHECKED	DATE	2/21/88											
BY		B.C.H.											
VERIFICATION	N/A												
BY	DATE	2/21/88											
QUALITY ASSURANCE	BY	2/21/88											
SUBMITTED BY		DATE		DRAWING NO.									
2/21/88		2/21/88		YMP-025-2-MECH-P105									
YMPD APPROVED		DATE											



**FIRST FLOOR PLAN**  
SCALE 1/8" = 1'-0"

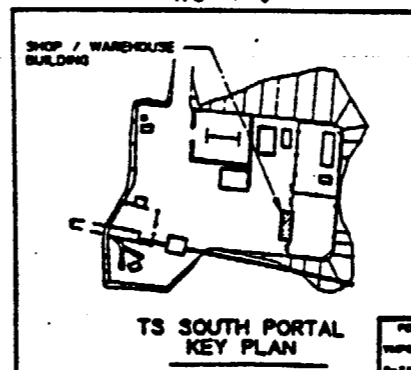
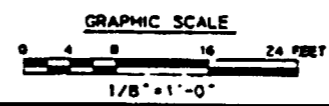


**SECOND FLOOR PLAN**  
SCALE 1/8" = 1'-0"

SI  
APERTURE  
CARD  
Also Available On  
Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0202

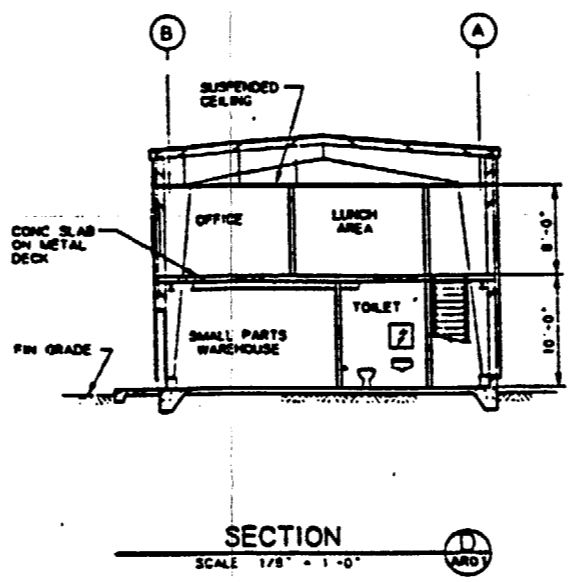
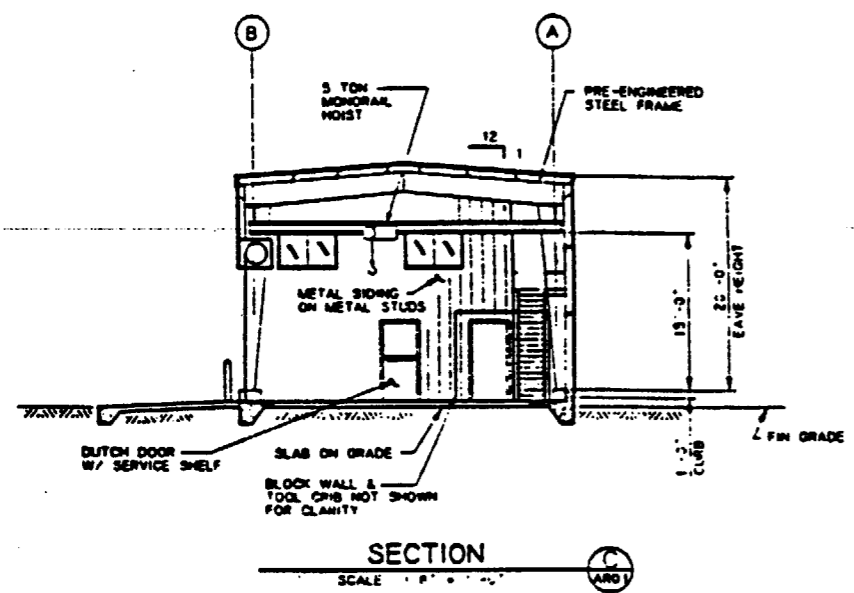
9305250071 - 94



NO.	DATE	REVISION	DES	CHK	DEC	DR	INSP	ENR	SAP	QA	TPO	YMP
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA												
APPROVALS			<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA									
DESIGN	PZ		<b>EXPLORATORY STUDIES FACILITY</b> <b>TS SOUTH PORTAL GENERAL ARRANGEMENT</b> <b>SHOP / WAREHOUSE BUILDING</b> <b>FLOOR PLANS</b>									
DRAWN	M.S.H.											
CHECKED	<i>[Signature]</i>											
DEC	<i>[Signature]</i>											
DESIGN MANAGER	B.C.H.											
VERIFICATION	N/A											
ENR	SAP		SUBMITTED BY <i>[Signature]</i> DATE <i>[Date]</i> DRAWING NO. <b>YMP-025-2-7010-AR01</b> REV. <b>0</b> YUCCA APPROVED									
QUALITY ASSURANCE	<i>[Signature]</i>											
FOR IMPROVED	1, 2, 3, 1, 2											
C.I. NO.												

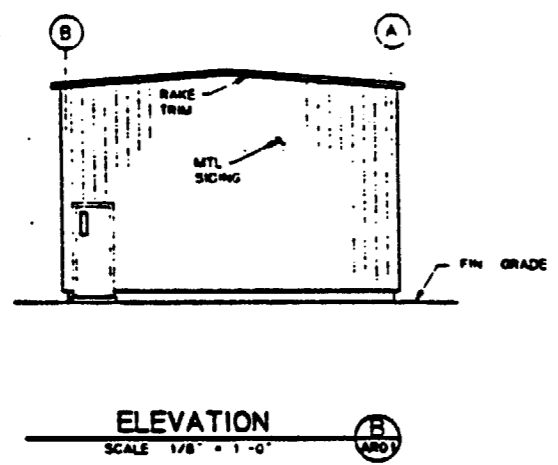
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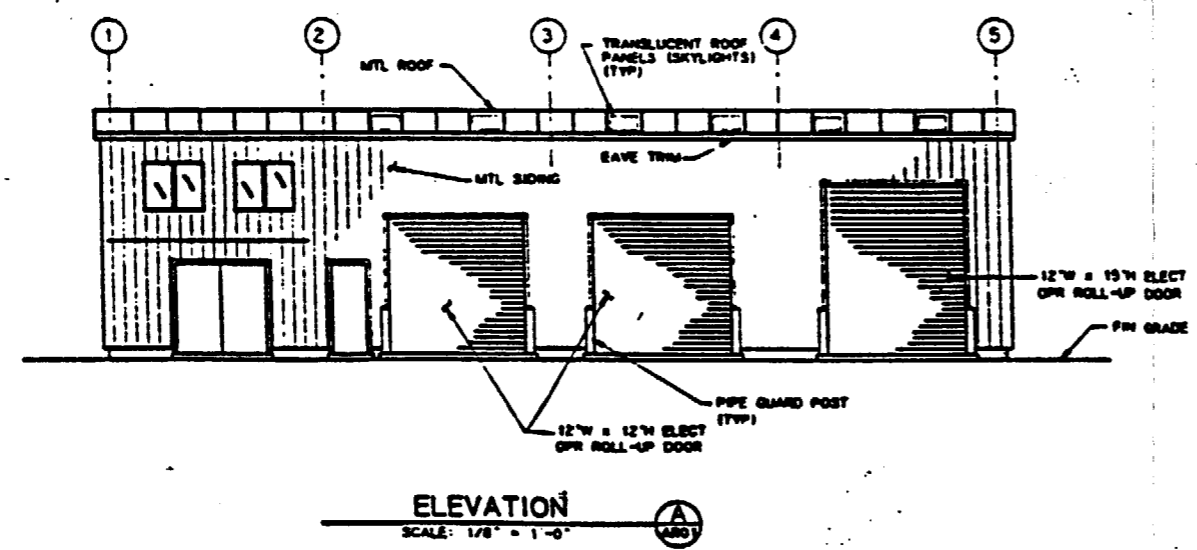


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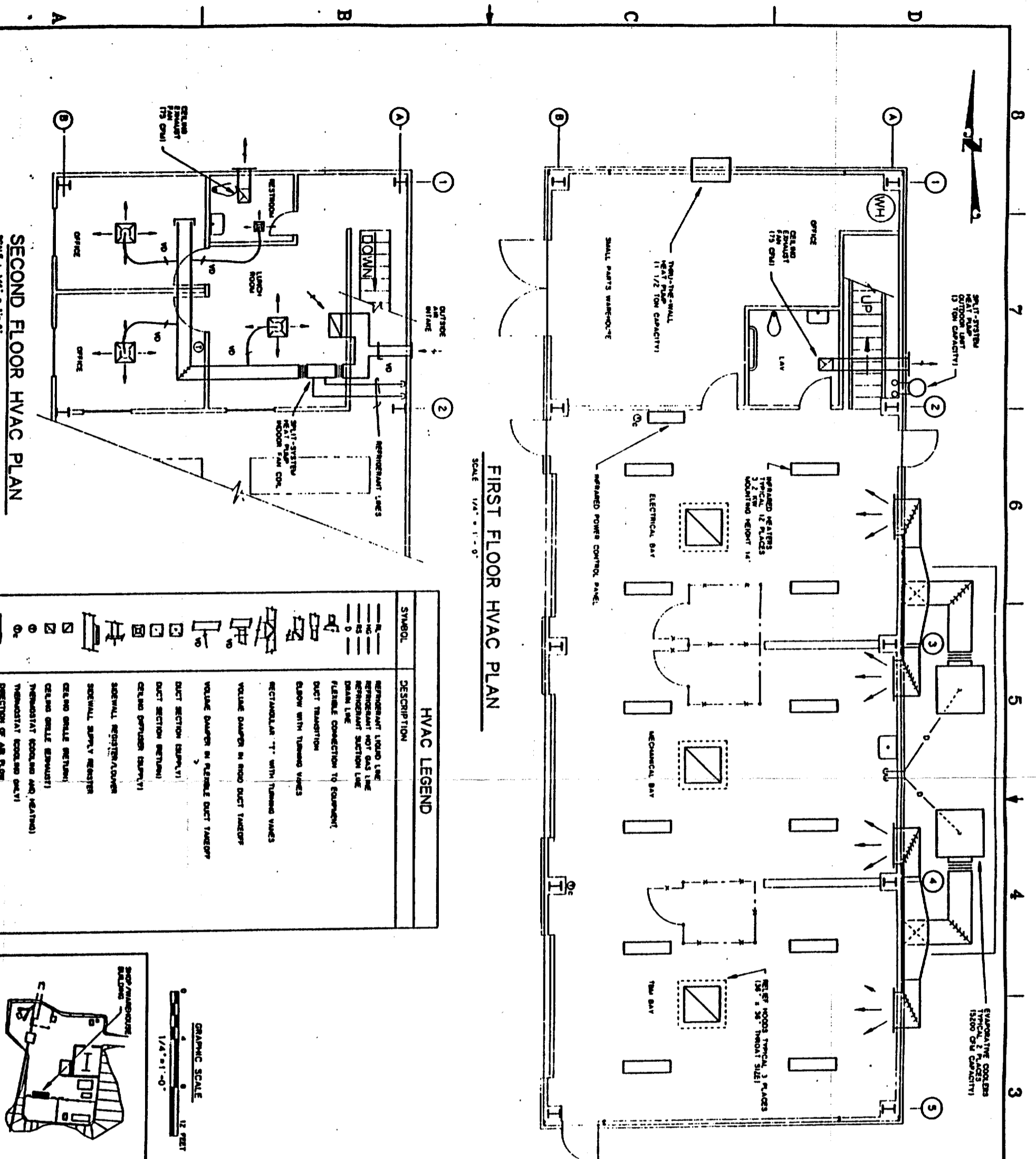
SI  
APERTURE  
CARD

Also Available On  
Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CYL-0E02

9305250071 - 95

NO.	DATE	REVISION	DES	CHK	SEC	DR	VERIFY	ENV	SAF	QA	TRD	TR
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA												
APPROVALS			<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA EXPLORATORY STUDIES FACILITY TS SOUTH PORTAL GENERAL ARRANGEMENT SHOP / WAREHOUSE BUILDING <b>ELEVATIONS &amp; SECTIONS</b>									
DESIGN	PE											
DRAWN	MAN											
CHECKED	<i>[Signature]</i>											
SEC	<i>[Signature]</i>											
DESIGN APPROVED	B.C.H.											
VERIFICATION	N/A											
ENV	ENV											
QUALITY ASSURANCE	<i>[Signature]</i>											
FOR YMP025 0-25-01	U.S. DEPT. OF ENERGY	1, 2, 3, 1, 2	SUBMITTED BY: <i>[Signature]</i> DATE: <i>[Date]</i> YUCCA APPROVED: <i>[Signature]</i> DATE: <i>[Date]</i> YMP-025-2-7010-AR02									



FIRST FLOOR HVAC PLAN  
SCALE 1/4" = 1'-0"

HVAC LEGEND

SYMBOL	DESCRIPTION
	REFRIGERANT LIQUID LINE
	REFRIGERANT HOT GAS LINE
	REFRIGERANT SUCTION LINE
	DRAIN LINE
	FUEL LINE CONNECTION TO EQUIPMENT
	DUCT TRANSITION
	ELBOW WITH TURNED VANES
	RECTANGULAR "T" WITH TURNED VANES
	VOLUME DAMPER IN DUCT
	VOLUME DAMPER IN FLEXIBLE DUCT TRANSITION
	DUCT SECTION (SUPPLY)
	DUCT SECTION (RETURN)
	CEILING DIFFUSER (SUPPLY)
	CEILING DIFFUSER (RETURN)
	SIDEWALL REGISTER/DAMPER
	SIDEWALL SUPPLY REGISTER
	CEILING GRILLE (RETURN)
	CEILING GRILLE (EXHAUST)
	THERMOSTAT (COOLING AND HEATING)
	THERMOSTAT (COOLING ONLY)
	DIRECTION OF AIR FLOW

SECOND FLOOR HVAC PLAN  
SCALE 1/4" = 1'-0"

GENERAL NOTES:  
1. THIS DRAWING DEPICTS ONLY THE MAJOR EQUIPMENT FEATURES OF THIS PROJECT. ALL DETAILS, EQUIPMENT DESCRIPTIONS AND SPECIAL INSTRUCTIONS SHALL BE DEVELOPED DURING THE TITLE # STAGE.

SI  
APERTURE  
CARD  
Also Available On  
Aperture Card

FOR REFERENCE DRAWINGS ONLY SEE DRAWING YMP-025-2-CIVL-0802

9305250021-96

GRAPHIC SCALE  
1/4" = 1'-0"

TS SOUTH PORTAL KEY PLAN

NO.	DATE	REVISION	DES	CHK	APP	BY	DATE

U.S. DEPARTMENT OF ENERGY  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE  
LAS VEGAS, NEVADA

Raytheon Services Nevada  
LAS VEGAS, NEVADA

EXPLORARY STUDIES FACILITY  
TS SOUTH PORTAL GENERAL ARRANGEMENT  
SHOP / WAREHOUSE BUILDING  
HVAC PLAN

APPROVALS

DESIGNED BY: [Signature]  
CHECKED BY: [Signature]  
DATE: 7-2-82

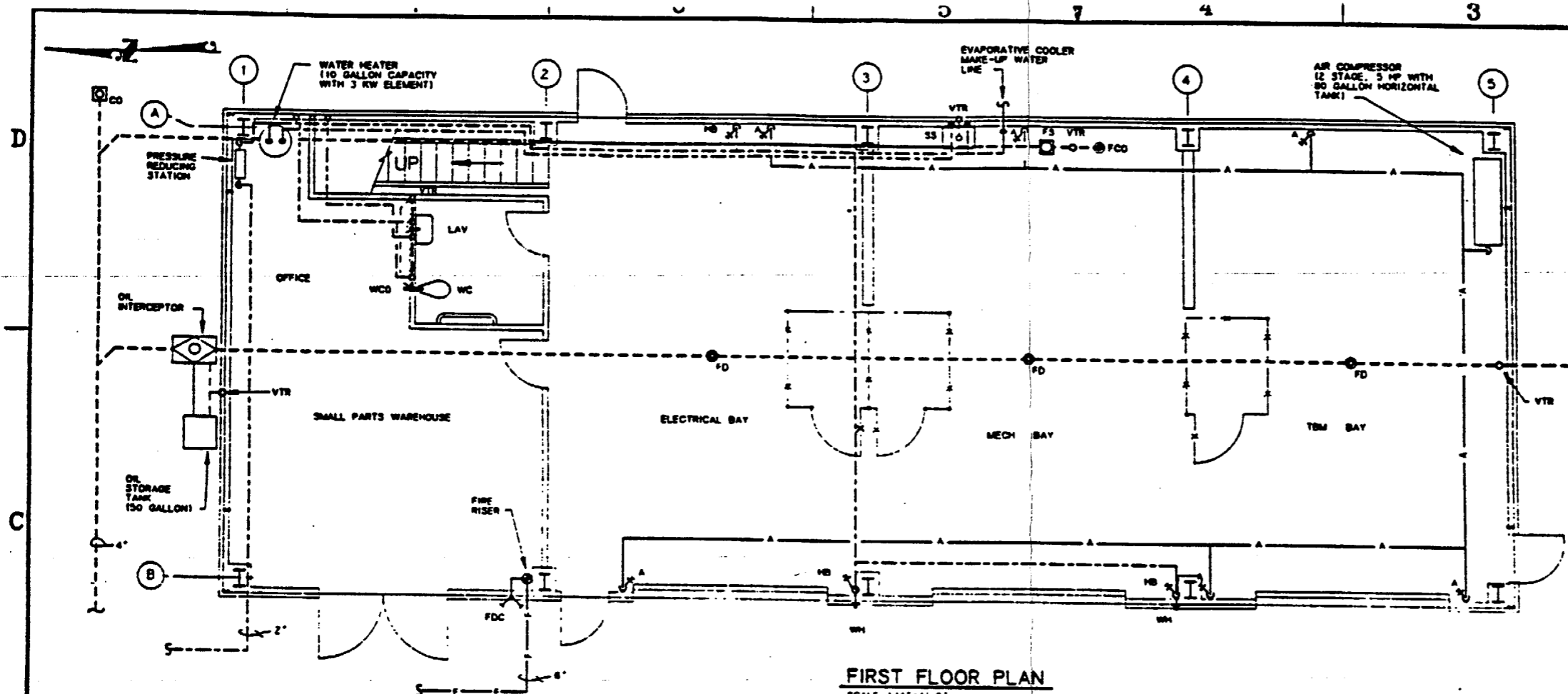
REVISIONS BY: [Signature]  
DATE: 7-2-82

PROJECT NO. YMP-025-2-7010-HV01

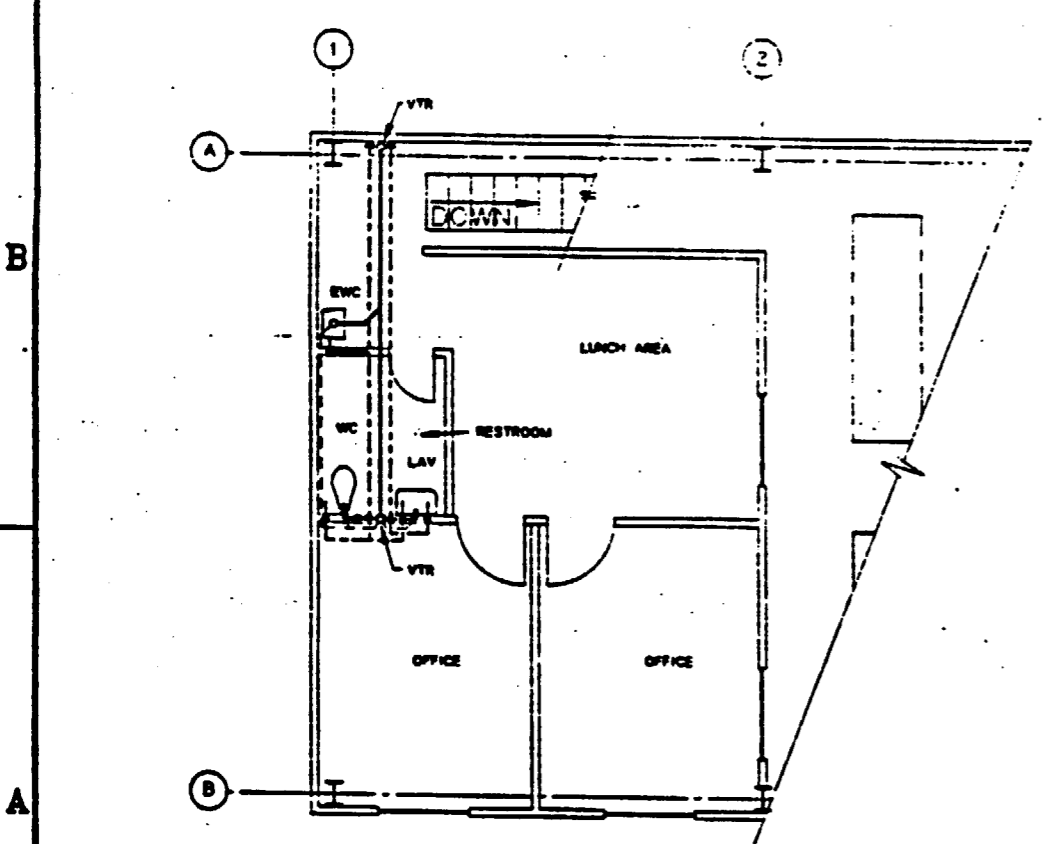
**GENERAL NOTES:**

1. THIS DRAWING DEPICTS ONLY THE MAJOR DESIGN FEATURES OF THIS PROJECT. ALL DETAILS, EQUIPMENT DESCRIPTIONS AND SPECIAL INSTRUCTIONS SHALL BE DEVELOPED DURING THE TITLE II EFFORT.

**SI APERTURE CARD**  
Also Available On Aperture Card



**FIRST FLOOR PLAN**  
SCALE 1/4" = 1'-0"

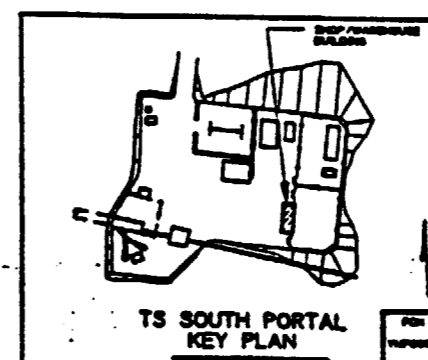
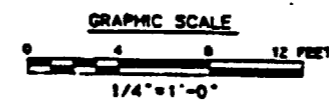


**2ND FLOOR PLUMBING PLAN**  
SCALE: 1/4" = 1'-0"

PLUMBING LEGEND	
SYMBOL/ABBREVIATION	DESCRIPTION
—	SOL/WASTE (ABOVE GRADE)
- - -	SOL/WASTE (BELOW GRADE)
—	VENT PIPING
—	DOMESTIC COLD WATER
—	DOMESTIC HOT WATER
—	FIRE LINE
—	COMPRESSED AIR
—	FIRE RISER
FDC	FIRE DEPARTMENT CONNECTION
FCD	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FS	FLOOR SINK
WCO	WALL CLEAN OUT
CO	CLEAN OUT AT FINISH GRADE
VTR	VENT THRU ROOF
HS	HOSE BIB
WH	WALL HYDRANT
S	SHOWER
WC	WATER CLOSET
UR	URINAL
SS	SERVICE SINK
LAV	COUNTER TOP LAVATORY
LAV	WALL MOUNTED LAVATORY
S	COUNTER TOP SINK
W	WASH FOUNTAIN
EW/SN	EYE WASH/SHOWER
BW	BOOT WASH
EWC	ELECTRIC WATER COOLER
A	COMPRESSED AIR STATION

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0202

9305250071-97



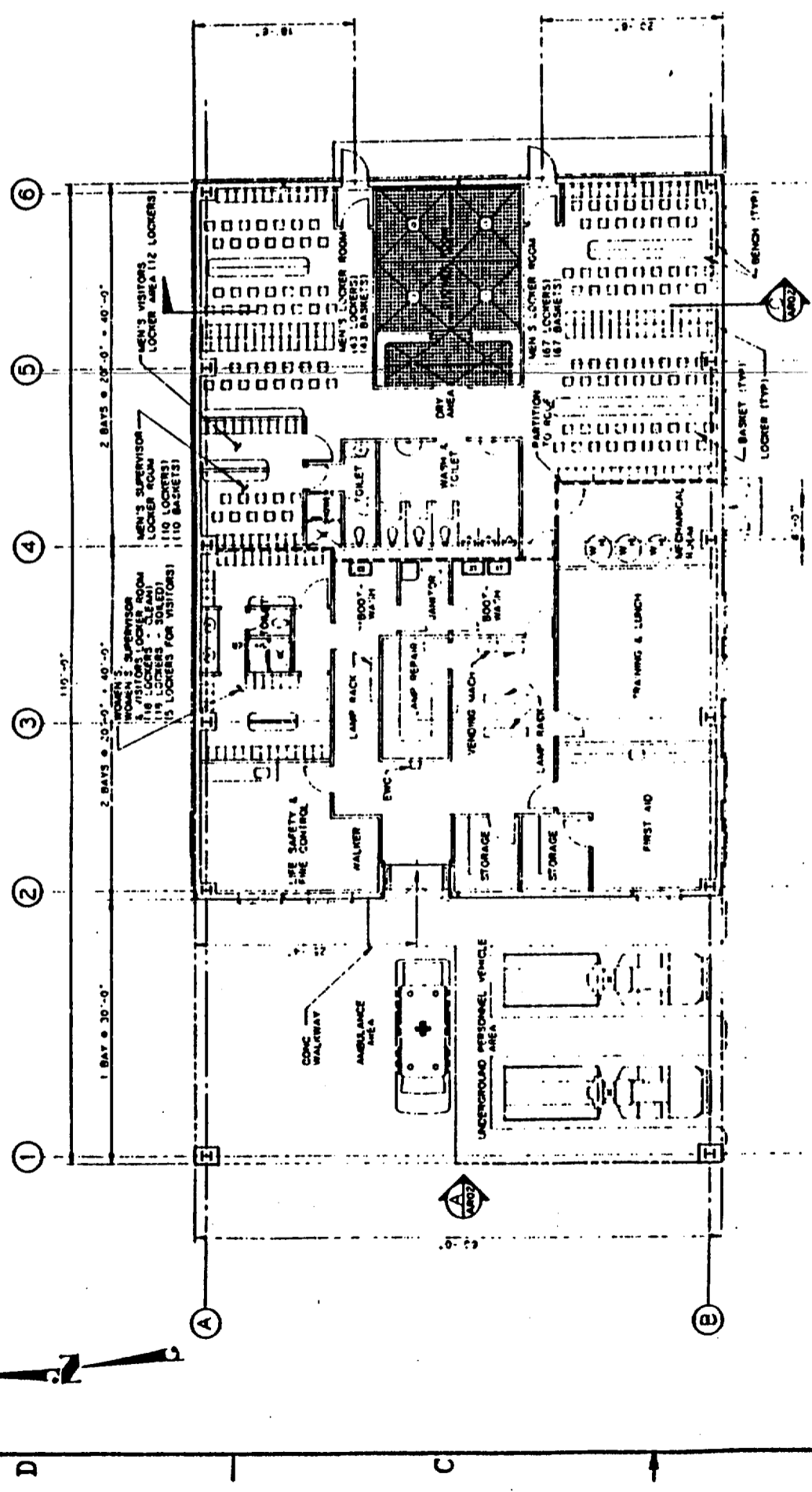
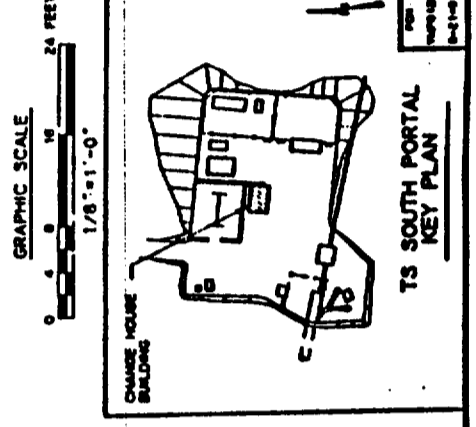
NO.	DATE	REVISION	DES	DRN	CHK	DEC	DR	VPY	EDW	SAP	SA	TPD	TRPO
<b>U.S. DEPARTMENT OF ENERGY</b>													
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA													
<b>EXPLORATORY STUDIES FACILITY</b>													
<b>TS SOUTH PORTAL GENERAL ARRANGEMENT</b>													
<b>SHOP / WAREHOUSE BUILDING</b>													
<b>PLUMBING PLAN</b>													
APPROVALS													
DESIGN	TAM												
DRN	RFC												
CHKD	JMS/SAS												
DEC	CH												
DRN	S.C.H.												
VERIFICATION	N/A												
EDW	SAP												
QUALITY ASSURANCE	R.M.C.												
VPY	EDW												
TRPO	JMS												
SUBMITTED BY		DATE		DRAWING NO.		REV.							
JMS		08-9		YMP-025-2-7010-PP01		0							
VPY APPROVED		DATE		BY		REV.							

SI  
APERTURE  
CARD  
Also Available On  
Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0602

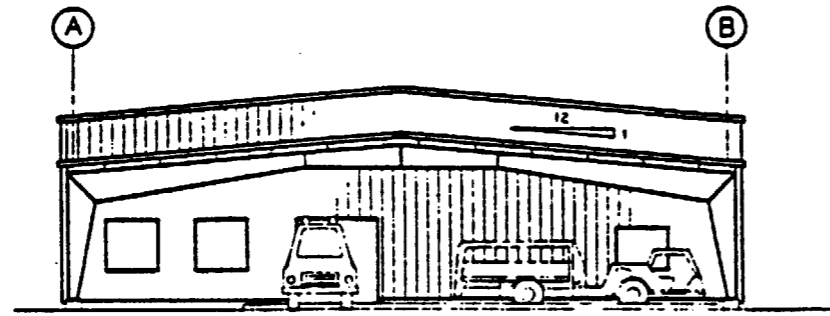
9305250071 - 98

NO	DATE	REVISION	DES	DRW	CHK	DEC	BY	APP	CA	TRD
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA										
<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA										
EXPLORATORY STUDIES FACILITY TS SOUTH PORTAL GENERAL ARRANGEMENT CHANGE HOUSE BUILDING FLOOR PLAN										
APPROVALS DESIGN: [Signature] CHECKED: [Signature] DATE: [Signature] VERIFICATION: [Signature] BY: [Signature] SECURITY: [Signature] DATE: [Signature]										
EXAMINED BY: [Signature] DATE: [Signature] YUCCA MOUNTAIN PROJECT NO.: YMP-025-2-7011-AR01 DATE: [Signature]										

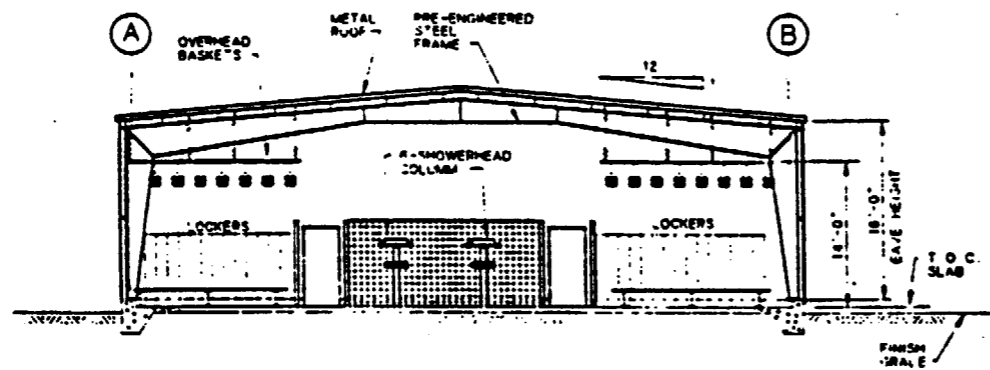


FLOOR PLAN  
SCALE 1/8" = 1'-0"

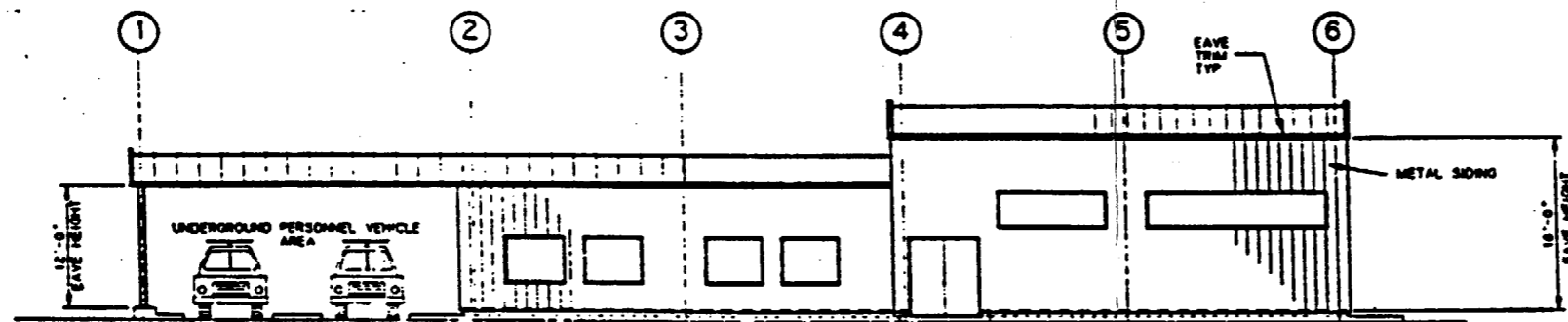




ELEVATION  
SCALE 1/8" = 1'-0" (A) (AR01)



SECTION  
SCALE 1/8" = 1'-0" (C) (AR01)



ELEVATION  
SCALE 1/8" = 1'-0" (B) (AR01)

SI  
APERTURE  
CARD  
Also Available On  
Aperture Card

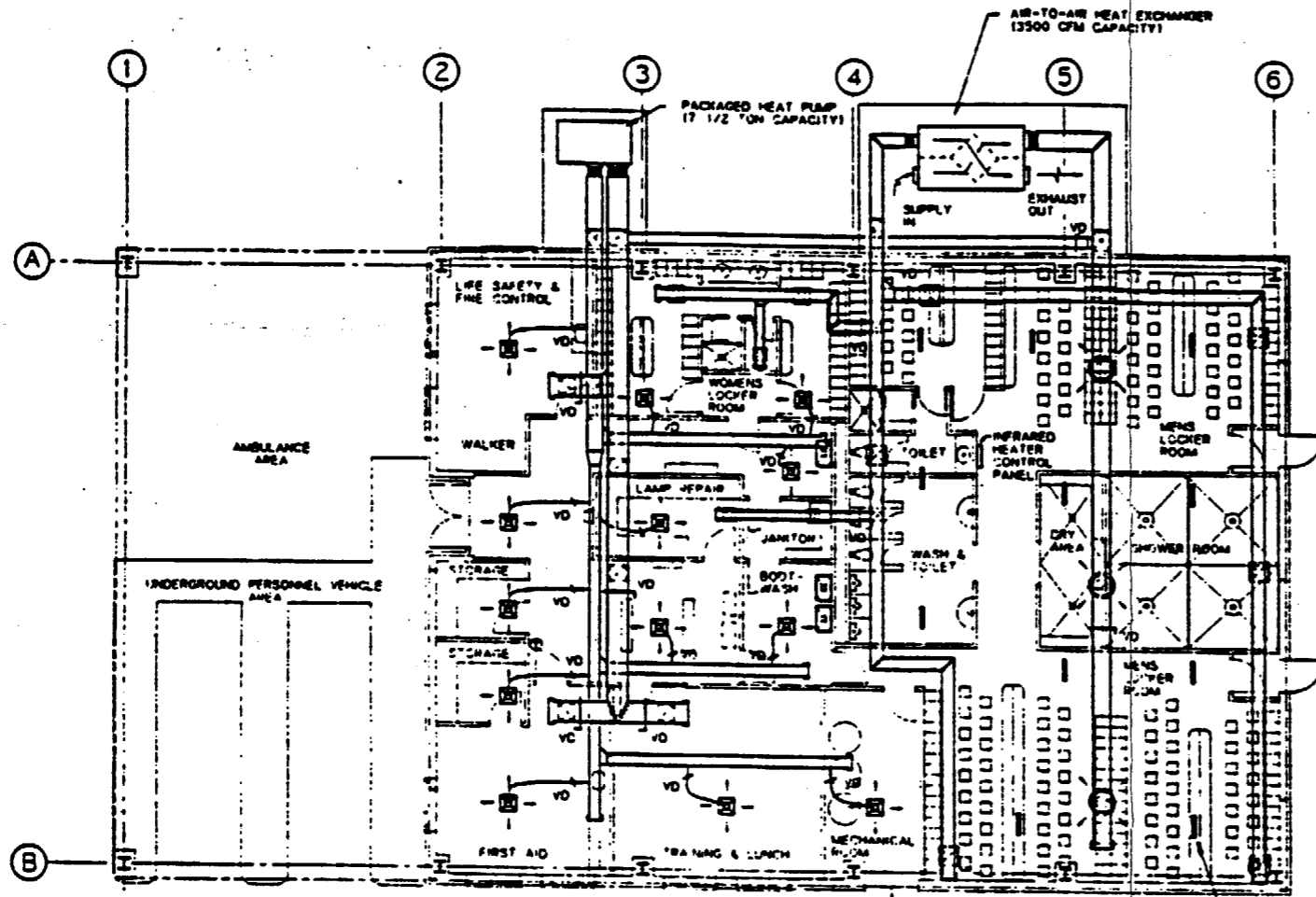
FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0E02

9305250071 - 99

NO.	DATE	REVISION	DES	DRN	CHK	DEC	ENR	VPV	ENR	SAF	QA	TPD
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA												
APPROVALS			<b>RSN Raytheon Services Nevada</b> LAS VEGAS, NEVADA									
DESIGN	PZ											
DRAWN	SMH											
CHECKED	<i>[Signature]</i>											
SEC	<i>[Signature]</i>											
OFFICE MANAGER	B.C.H.											
VEHICLE	N/A											
ENR	<i>[Signature]</i>											
SECURITY	<i>[Signature]</i>											
SUBMITTED BY		DATE	DRAWING NO.									
<i>[Signature]</i>		8-25-99	YMP-025-2-7011-AR02									
U.S. DEPT. OF ENERGY		1, 2, 3, 1, 2	VISO APPROVED									
DATE		SHT										

**GENERAL NOTES:**

THIS DRAWING DEPICTS ONLY THE MAJOR DESIGN FEATURES OF THIS PROJECT. ALL DETAILS, EQUIPMENT DESCRIPTIONS AND SPECIAL INSTRUCTIONS SHALL BE DEVELOPED DURING THE TITLE II EFFORT.



**HVAC PLAN**  
SCALE 1/8" = 1'-0"

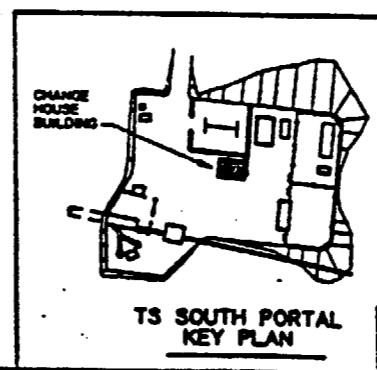
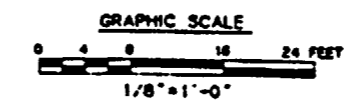
**SI APERTURE CARD**  
Also Available On Aperture Card

FOR REFERENCE DRAWINGS INDEX SEE DRAWING YMP-025-2-CIVL-0602

9305250071-100

HVAC LEGEND	
SYMBOL	DESCRIPTION
	REFRIGERANT LIQUID LINE
	REFRIGERANT HOT GAS LINE
	REFRIGERANT SUCTION LINE
	DRAIN LINE
	FLEXIBLE CONNECTION TO EQUIPMENT
	DUCT TRANSITION
	ELBOW WITH TURNING VANES
	RECTANGULAR "T" WITH TURNING VANES
	BRANCH DUCT WITH TURNING VANES
	VOLUME DAMPER IN RIGID DUCT TAKEOFF
	FIRE DAMPER IN WALL PENETRATION
	VOLUME DAMPER IN FLEXIBLE DUCT TAKEOFF
	DUCT SECTION (SUPPLY)
	DUCT SECTION (RETURN)
	CEILING DIFFUSER (SUPPLY)

HVAC LEGEND CONTINUATION	
SYMBOL	DESCRIPTION
	SIDEWALL REGISTER/LOUVER
	SIDEWALL SUPPLY REGISTER
	CEILING GRILLE (RETURN)
	CEILING GRILLE (EXHAUST)
	WALL / DOOR LOUVER
	THERMOSTAT (COOLING AND HEATING)
	THERMOSTAT (COOLING ONLY)
	THERMOSTAT (HEATING ONLY)
	DIRECTION OF AIR FLOW



NO.	DATE	REVISION	DES	DRN	CHK	DEC	DM	VFY	ENV	SAF	QA	TPO	YMP
<b>U.S. DEPARTMENT OF ENERGY</b> YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA													
<b>Raytheon Services Nevada</b> LAS VEGAS, NEVADA													
<b>EXPLORATORY STUDIES FACILITY</b> TS SOUTH PORTAL GENERAL ARRANGEMENT CHANGE HOUSE BUILDING <b>HVAC PLAN</b>													
APPROVALS		SUBMITTED BY: <i>[Signature]</i> DATE: <i>8-20-71</i> DRAWING NO.: <b>YMP-025-2-7011-HV01</b> REV. <b>0</b>											
DESIGN	ENV	TPO APPROVED: <i>[Signature]</i> DATE: _____											
DRN	ENV												
CHK	ENV												
DEC	ENV												
DM	ENV												
VFY	ENV												
ENV	ENV												
SAF	ENV												
QA	ENV												
TPO	ENV												
YMP	ENV												