



Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221
October 5, 2022

Mr. Rick Shean, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505

Subject: Class 1 Permit Modification Notification, Waste Isolation Pilot Plant Hazardous Waste Facility Permit Number: NM4890139088-TSDF

Dear Mr. Shean:

Enclosed is a Class 1 Permit Modification Notification for the following item:

- Completion of Panel 8 Mining

We certify under penalty of law that this document and enclosure were prepared under our direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on our inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of our knowledge and belief, true, accurate, and complete. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions, please contact Mr. Michael Gerle at (575) 988-5372.

Sincerely,

Reinhard Knerr
Manager
Carlsbad Field Office

SEAN DUNAGAN
(Affiliate)
Digitally signed by SEAN
DUNAGAN (Affiliate)
Date: 2022.10.05
12:19:54 -06'00'

Sean Dunagan
President and Project Manager
Nuclear Waste Partnership LLC

Enclosure

cc: w/enclosure
R. Maestas, NMED *ED
D. Biswell, NMED ED
M. McLean, NMED ED
CBFO M&RC
*ED denotes electronic distribution

Class 1 Permit Modification Notification

Completion of Panel 8 Mining

**Waste Isolation Pilot Plant
Carlsbad, New Mexico**

WIPP Permit Number - NM4890139088-TSDF

October 2022

Table of Contents

Table of Contents.....	i
Acronyms and Abbreviations	ii
Overview of the Permit Modification Notification.....	1
Attachment A Description of the Class 1 Permit Modification Notification	A-1
Table 1. Class 1 Hazardous Waste Facility Permit Modification Notification	A-2
Item 1	A-5
Description	A-5
Basis	A-6
Discussion.....	A-6
Revised Permit Text:.....	A-7

Acronyms and Abbreviations

CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
HWDU	Hazardous Waste Disposal Unit
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
Permit	Waste Isolation Pilot Plant Hazardous Waste Facility Permit
PMN	Permit Modification Notification
WIPP	Waste Isolation Pilot Plant

Overview of the Permit Modification Notification

This document contains a Class 1 Permit Modification Notification (**PMN**) for the Waste Isolation Pilot Plant (**WIPP**) Hazardous Waste Facility Permit (**Permit**) Number NM4890139088-TSDF.

This PMN is being submitted by the U.S. Department of Energy (**DOE**) and Nuclear Waste Partnership LLC, collectively referred to as the Permittees, in accordance with Permit Part 1, Section 1.3.1. (20.4.1.900 New Mexico Administrative Code (**NMAC**) incorporating Title 40 of the Code of Federal Regulations (**CFR**) §270.42(a)). The PMN in this document is necessary to notify the New Mexico Environment Department (**NMED**) of changes which impact the Permit. These changes do not reduce the ability of the Permittees to provide continued protection to human health and the environment.

The modification to the Permit and any related supporting documents are provided in this PMN. The proposed modifications to the text of the Permit have been identified using **red** text and double underline and a ~~strikeout~~ font for deleted information. All direct quotations are indicated by italicized text.

Attachment A
Description of the Class 1 Permit Modification Notification

Table 1. Class 1 Hazardous Waste Facility Permit Modification Notification

Item No.	Affected Permit Section	Change Description	Category
1	<p>Attachment A2, Figure A2-1, <i>Repository Horizon</i> Attachment A4, Figure A4-4, <i>Typical Underground Transport Route Using E-140</i> Attachment A4, Figure A4-4a, <i>Typical Underground Transport Route Using W-30</i> Attachment B, Figure B3-2, <i>Repository Horizon</i> Attachment D, Figure D-3, <i>WIPP Underground Facilities</i> Attachment D, Figure D-4, <i>Underground Escape and Evacuation Map</i> Attachment D, Figure D-7, <i>Designated Underground Assembly Areas</i> Attachment G, Figure G-1, <i>Location of Underground HWDUs and Anticipated WPC Locations</i> Attachment G, Figure G-6, <i>Approximate Locations of Boreholes in Relation to the WIPP Underground</i> Attachment G2, Figure G2-1, <i>View of the WIPP Underground Facility</i> Attachment K, Table K-4, <i>Hazardous Waste Management Units</i> Attachment N, Figure N-4b, <i>Disposal Room Sample Head Arrangement for Panel 8</i></p>	<p>This modification updates Permit figures and tables to reflect the completed construction and certification of Panel 8. As Panel 8 is now certified for use as an authorized Hazardous Waste Disposal Unit (HWDU), its status has changed from “planned” to “existing”. The certification and use of Panel 8 is illustrated by changing dashed lines into solid lines on the applicable Permit figures. Permit Attachment K, Table K-4 has also been updated to reflect the use of Panel 8 as an authorized HWDU. The specific changes are described below:</p> <ul style="list-style-type: none"> • Permit Attachment A2, Figure A2-1, <i>Repository Horizon</i> <ul style="list-style-type: none"> ○ Changed Panel 8 dashed lines into solid lines. ○ Deleted the following figure text: “NOTE: PANEL 8 IS CURRENTLY BEING MINED” because Panel 8 status has changed from planned to existing. • Permit Attachment A4, Figure A4-4, <i>Typical Underground Transport Route Using E-140</i> <ul style="list-style-type: none"> ○ Changed Panel 8 dashed lines into solid lines. ○ Changed the planned excavations lines from blue to black. ○ Changed the waste transportation route to reflect the route for waste emplacement in Panel 8. ○ Deleted the following figure text: “NOTE: PANEL 8 IS CURRENTLY BEING MINED” because Panel 8 status has changed from planned to existing. • Permit Attachment A4, Figure A4-4a, <i>Typical Underground Transport Route Using W-30</i> <ul style="list-style-type: none"> ○ Changed Panel 8 dashed lines into solid lines. ○ Changed the planned excavations lines from blue to black. ○ Changed the waste transportation route to reflect the route for waste emplacement in Panel 8. ○ Deleted the following figure text: “NOTE: PANEL 8 IS CURRENTLY BEING 	A.1

Item No.	Affected Permit Section	Change Description	Category
		<p>MINED” because Panel 8 status has changed from planned to existing.</p> <ul style="list-style-type: none"> • Permit Attachment B, Figure B3-2, <i>Repository Horizon</i> <ul style="list-style-type: none"> ○ Changed Panel 8 dashed lines into solid lines. ○ Deleted the following figure text: “NOTE: PANEL 8 IS CURRENTLY BEING MINED” because Panel 8 status has changed from planned to existing. • Permit Attachment D, Figure D-3, <i>WIPP Underground Facilities</i> <ul style="list-style-type: none"> ○ Changed Panel 8 dashed lines into solid lines. ○ Deleted the following figure text: “NOTE: PANEL 8 IS CURRENTLY BEING MINED” because Panel 8 status has changed from planned to existing. • Permit Attachment D, Figure D-4, <i>Underground Escape and Evacuation Map</i> <ul style="list-style-type: none"> ○ Updated with the most current map from the <i>Underground Escape and Evacuation Plan</i> on file at the WIPP facility, which indicates that the construction of Panel 8 is complete. • Permit Attachment D, Figure D-7, <i>Designated Underground Assembly Areas</i> <ul style="list-style-type: none"> ○ Changed Panel 8 dashed lines into solid lines. ○ Deleted the following figure text: “NOTE: PANEL 8 IS CURRENTLY BEING MINED” because Panel 8 status has changed from planned to existing. • Permit Attachment G, Figure G-1, <i>Location of Underground HWDUs and Anticipated WPC Locations</i> <ul style="list-style-type: none"> ○ Changed Panel 8 dashed lines into solid lines. ○ Deleted the following figure text: “NOTE: PANEL 8 IS CURRENTLY BEING MINED” because Panel 8 status has changed from planned to existing. 	

Item No.	Affected Permit Section	Change Description	Category
		<ul style="list-style-type: none"> • Permit Attachment G, Figure G-6, <i>Approximate Locations of Boreholes in Relation to the WIPP Underground</i> <ul style="list-style-type: none"> ○ Changed Panel 8 dashed lines into solid lines. ○ Deleted the following figure text: "NOTE: PANEL 8 IS CURRENTLY BEING MINED" because Panel 8 status has changed from planned to existing. • Permit Attachment G2, Figure G2-1, <i>View of the WIPP Underground Facility</i> <ul style="list-style-type: none"> ○ Deleted the following figure text: "NOT YET EXCAVATED" because Panel 8 excavation has been completed. • Permit Attachment K, Table K-4, <i>Hazardous Waste Management Units</i> <ul style="list-style-type: none"> ○ Added "SWMU 013j" to Unit ID Number column. ○ Added "Underground HWDU – Panel 8" to Unit Description column. • Permit Attachment N, Figure N-4b, <i>Disposal Room Sample Head Arrangement for Panel 8</i> <ul style="list-style-type: none"> ○ Changed "6 Ft" to "2 Ft." ○ Changed "4 Ft" to "6 Ft." ○ Changed "4 Ft" to "5 Ft." ○ Changed "2 Ft" to "3 Ft." ○ Added the following note: "(not to scale, all measurements approximate)." 	

Item 1

Description

This modification updates Permit figures and tables to reflect the completed construction and certification of Panel 8. As Panel 8 is now certified for use as an authorized Hazardous Waste Disposal Unit (**HWDU**), its status has changed from “planned” to “existing”. The certification and use of Panel 8 is illustrated by changing dashed lines into solid lines on the applicable Permit figures. Permit Attachment K, Table K-4 has also been updated to reflect the use of Panel 8 as an authorized HWDU. The specific changes are described below:

- Permit Attachment A2, Figure A2-1, *Repository Horizon*
 - Changed Panel 8 dashed lines into solid lines.
 - Deleted the following figure text: “NOTE: PANEL 8 IS CURRENTLY BEING MINED” because Panel 8 status has changed from planned to existing.
- Permit Attachment A4, Figure A4-4, *Typical Underground Transport Route Using E-140*
 - Changed Panel 8 dashed lines into solid lines.
 - Changed the planned excavations lines from blue to black.
 - Changed the waste transportation route to reflect the route for waste emplacement in Panel 8.
 - Deleted the following figure text: “NOTE: PANEL 8 IS CURRENTLY BEING MINED” because Panel 8 status has changed from planned to existing.
- Permit Attachment A4, Figure A4-4a, *Typical Underground Transport Route Using W-30*
 - Changed Panel 8 dashed lines into solid lines.
 - Changed the planned excavations lines from blue to black.
 - Changed the waste transportation route to reflect the route for waste emplacement in Panel 8.
 - Deleted the following figure text: “NOTE: PANEL 8 IS CURRENTLY BEING MINED” because Panel 8 status has changed from planned to existing.
- Permit Attachment B, Figure B3-2, *Repository Horizon*
 - Changed Panel 8 dashed lines into solid lines.
 - Deleted the following figure text: “NOTE: PANEL 8 IS CURRENTLY BEING MINED” because Panel 8 status has changed from planned to existing.
- Permit Attachment D, Figure D-3, *WIPP Underground Facilities*
 - Changed Panel 8 dashed lines into solid lines.
 - Deleted the following figure text: “NOTE: PANEL 8 IS CURRENTLY BEING MINED” because Panel 8 status has changed from planned to existing.
- Permit Attachment D, Figure D-4, *Underground Escape and Evacuation Map*
 - Updated with the most current map from the *Underground Escape and Evacuation Plan* on file at the WIPP facility, which indicates that the construction of Panel 8 is complete.
- Permit Attachment D, Figure D-7, *Designated Underground Assembly Areas*
 - Changed Panel 8 dashed lines into solid lines.
 - Deleted the following figure text: “NOTE: PANEL 8 IS CURRENTLY BEING MINED” because Panel 8 status has changed from planned to existing.
- Permit Attachment G, Figure G-1, *Location of Underground HWDUs and Anticipated WPC Locations*
 - Changed Panel 8 dashed lines into solid lines.
 - Deleted the following figure text: “NOTE: PANEL 8 IS CURRENTLY BEING MINED” because Panel 8 status has changed from planned to existing.

- Permit Attachment G, Figure G-6, *Approximate Locations of Boreholes in Relation to the WIPP Underground*
 - Changed Panel 8 dashed lines into solid lines.
 - Deleted the following figure text: “NOTE: PANEL 8 IS CURRENTLY BEING MINED” because Panel 8 status has changed from planned to existing.
- Permit Attachment G2, Figure G2-1, *View of the WIPP Underground Facility*
 - Deleted the following figure text: “NOT YET EXCAVATED” because Panel 8 excavation has been completed.
- Permit Attachment K, Table K-4, *Hazardous Waste Management Units*
 - Added “SWMU 013j” to Unit ID Number column.
 - Added “Underground HWDU – Panel 8” to Unit Description column.
- Permit Attachment N, Figure N-4b, *Disposal Room Sample Head Arrangement for Panel 8*
 - Changed “6 Ft” to “2 Ft.”
 - Changed “4 Ft” to “6 Ft.”
 - Changed “4 Ft” to “5 Ft.”
 - Changed “2 Ft” to “3 Ft.”
 - Added the following note: “(not to scale, all measurements approximate).”

Basis

This change is classified as an “Administrative and informational change” and is, therefore, a Class 1 modification pursuant to 20.4.1.900 NMAC (incorporating 40 CFR §270.42, Appendix I, A.1).

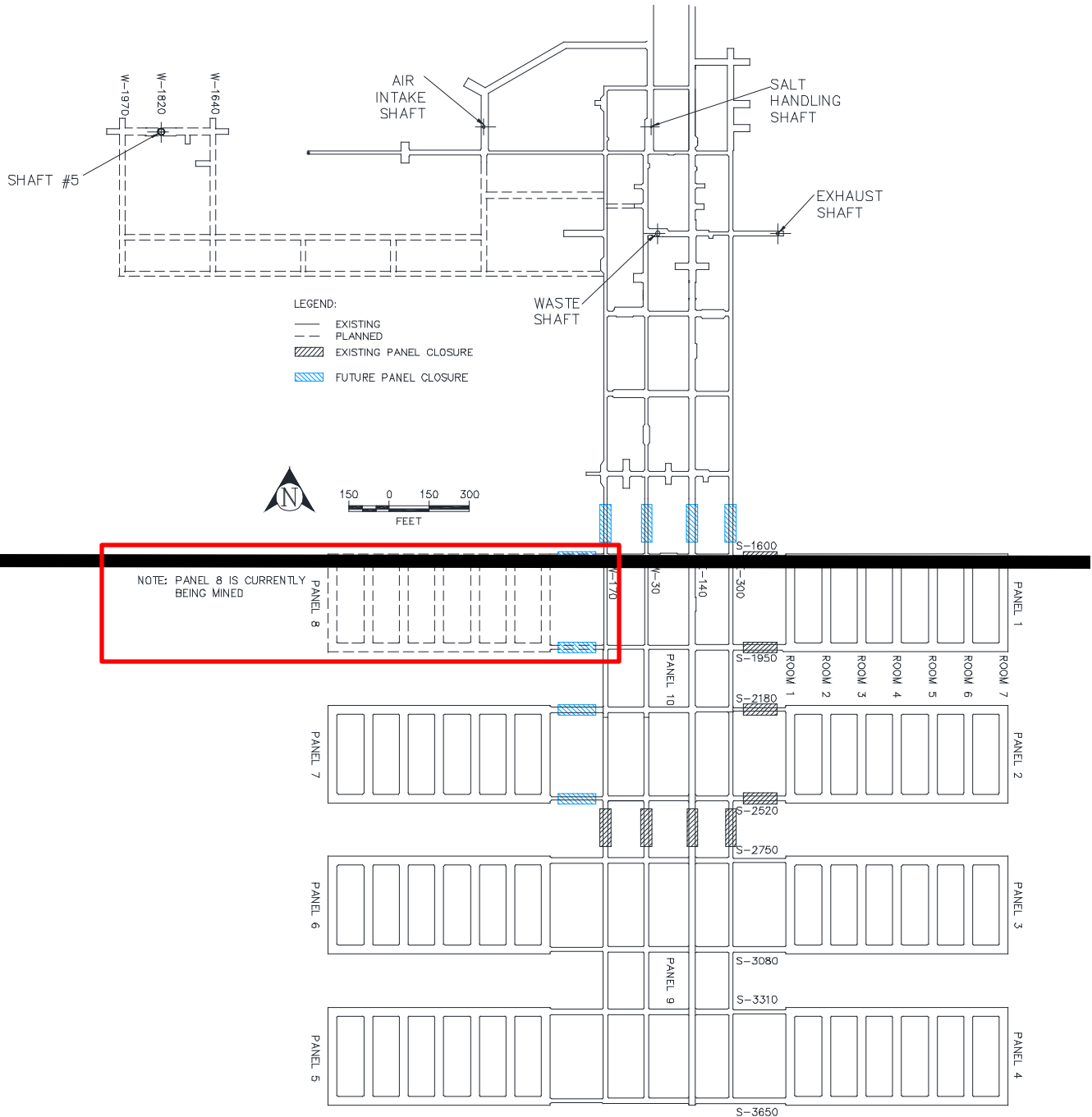
Discussion

On August 9-10, 2022, the NMED inspected Panel 8. On August 31, 2022, the NMED notified the Permittees of their concurrence that Panel 8 has been constructed in compliance with the requirements of the Permit. Panel 8 is now available for waste emplacement and is an authorized HWDU. Permit Figures A2-1, A4-4, A4-4a, B3-2, D-3, D-4, D-7, G-1, G-6, and G2-1 have been updated to indicate that Panel 8 is certified. An editorial change was made to Permit Figures A4-4 and A4-4a to make the line colors consistent with other figures in the Permit. Note that Permit Attachment G, Table G-1, *Anticipated Earliest Closure Dates for the Underground HWDUs* will be updated with the Permit modification to notify the NMED of the final TRU mixed waste volume emplaced in Panel 7 pursuant to Permit Part 6, Section 6.10.1.

Permit Attachment K, Table K-4 has also been updated to reflect the use of Panel 8 as an authorized HWDU. In addition, Permit Attachment N, Figure N-4b has been updated to reflect the approximate locations of the volatile organic compound sampling head intake lines. The note was added to Figure N-4b to be consistent with the note on Figure N-4a and to make it clear that the figure is not to scale and is for illustrative and informational purposes. These changes are needed to update the Permit with current information related to the completed construction and authorization to use Panel 8.

For clarity, red boxes are provided on the versions of the figures being replaced to depict the exact areas where changes are being made.

Revised Permit Text:



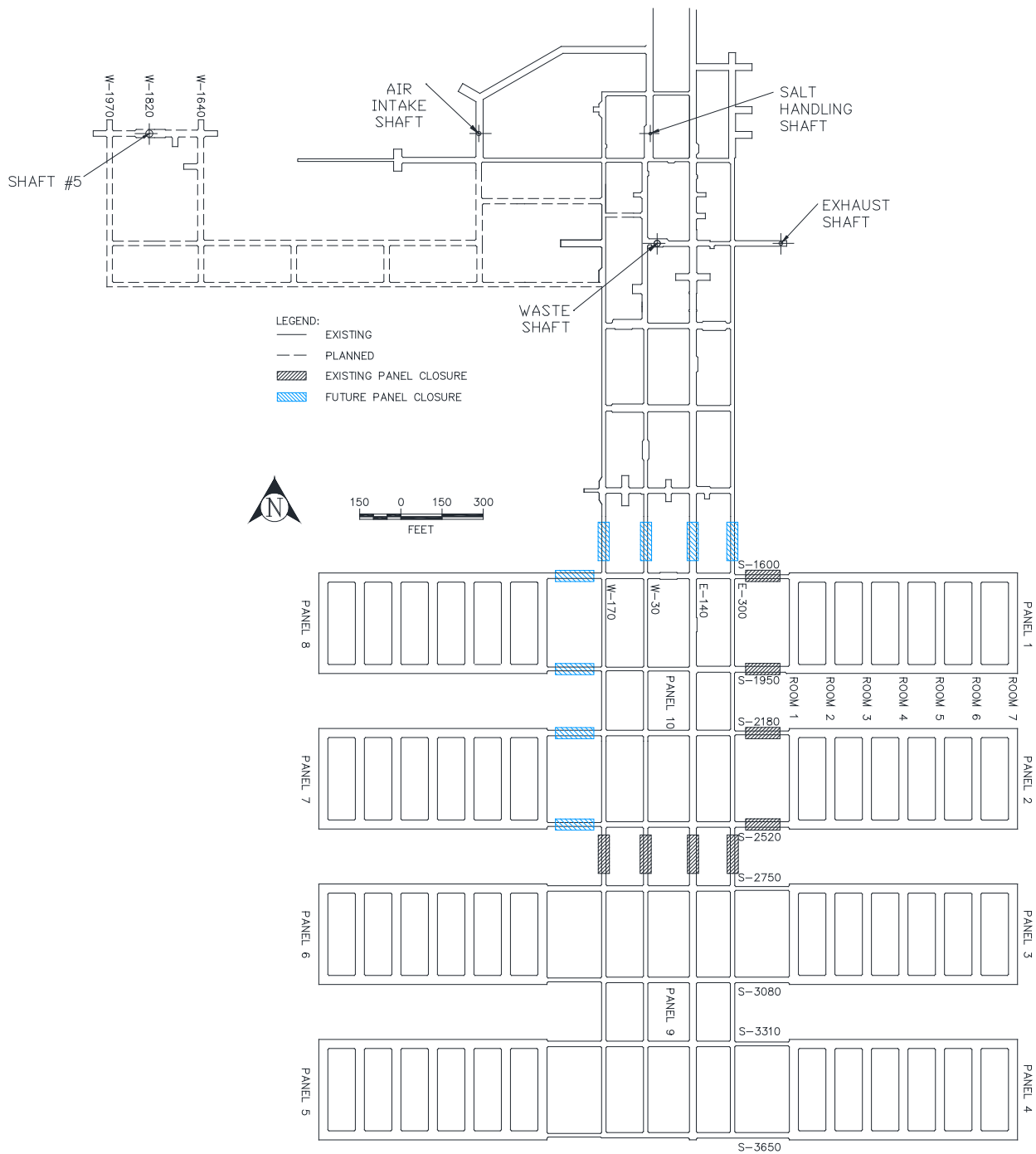
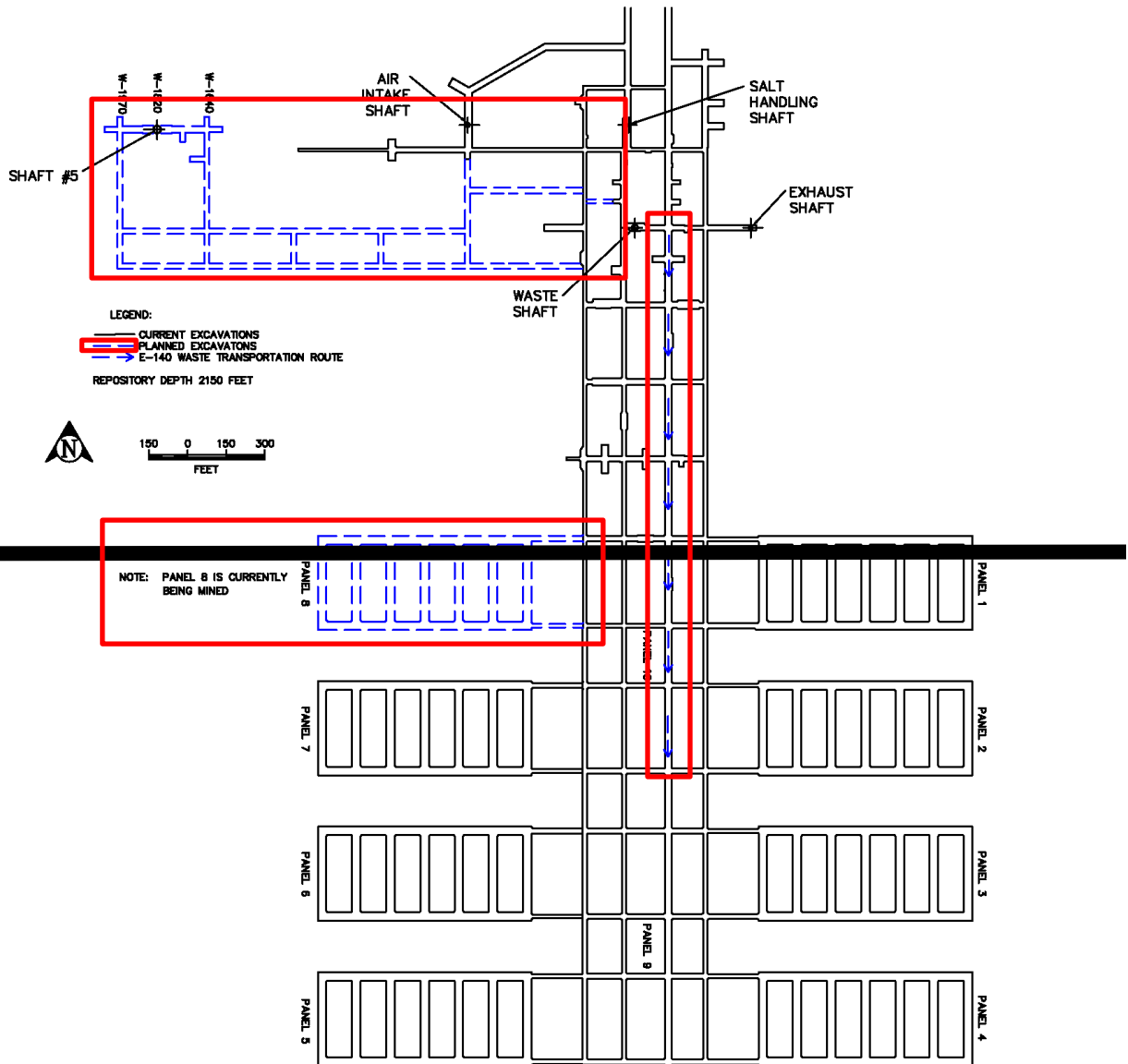


Figure A2-1
Repository Horizon



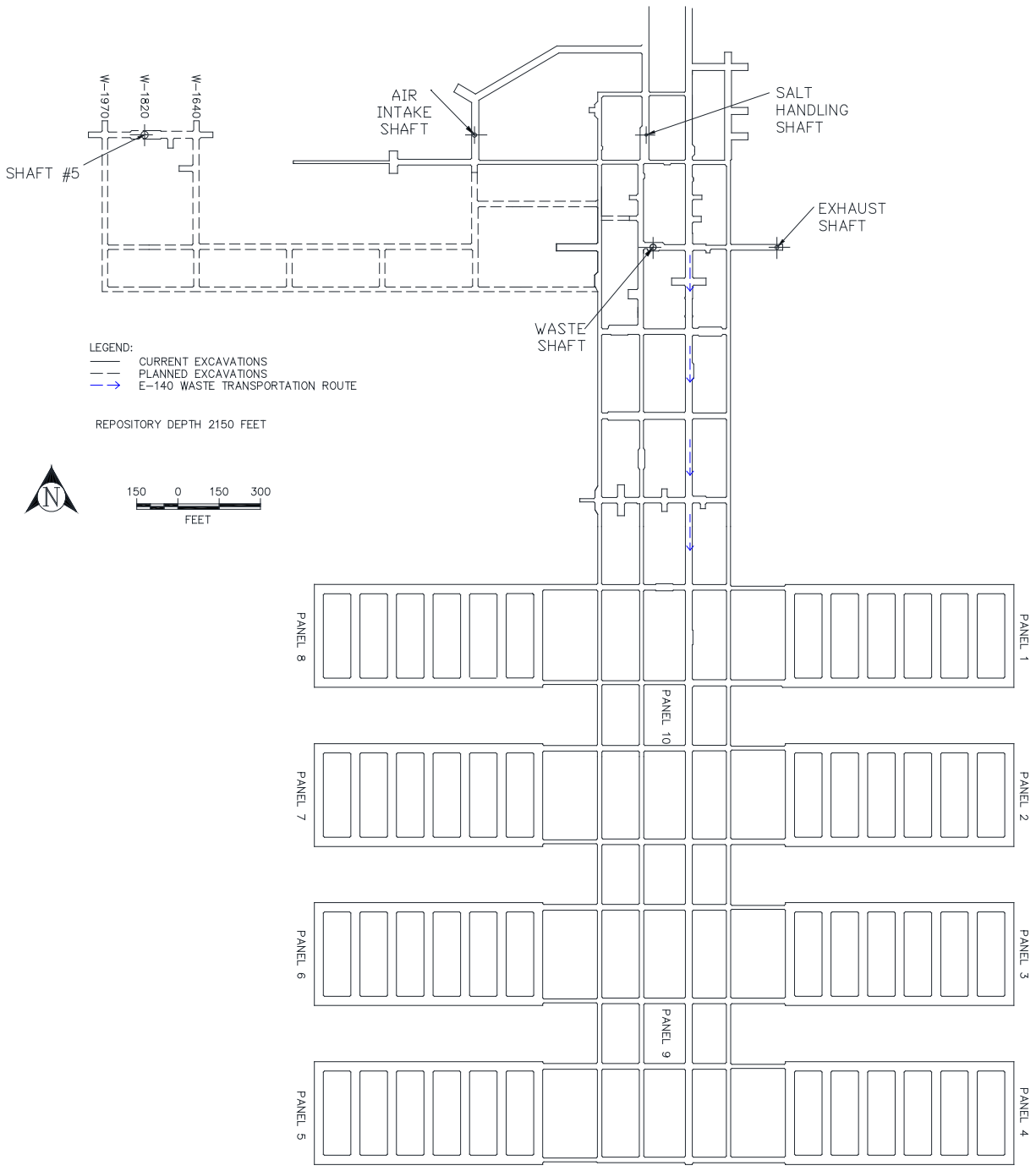
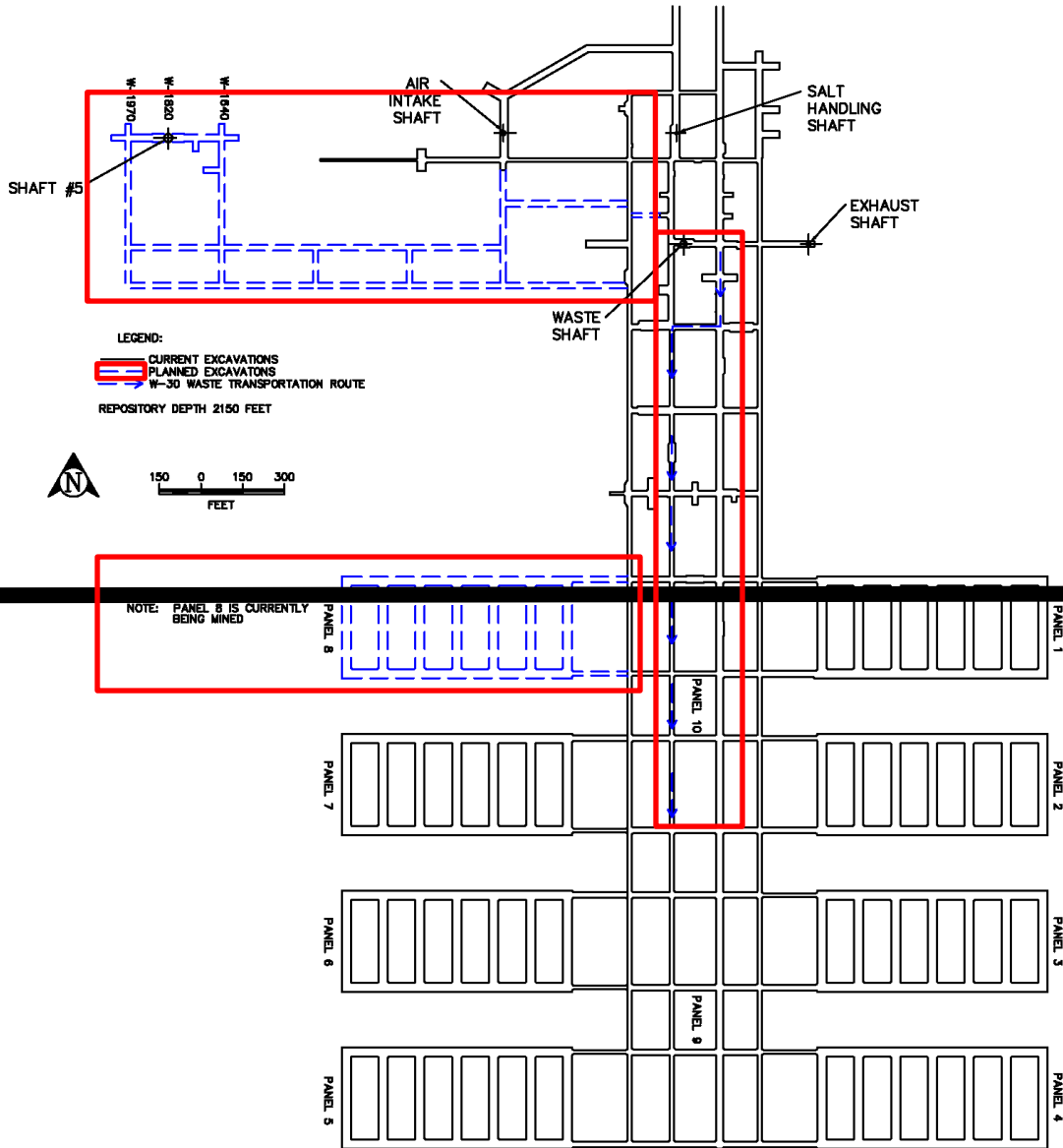


Figure A4-4
Typical Underground Transport Route Using E-140



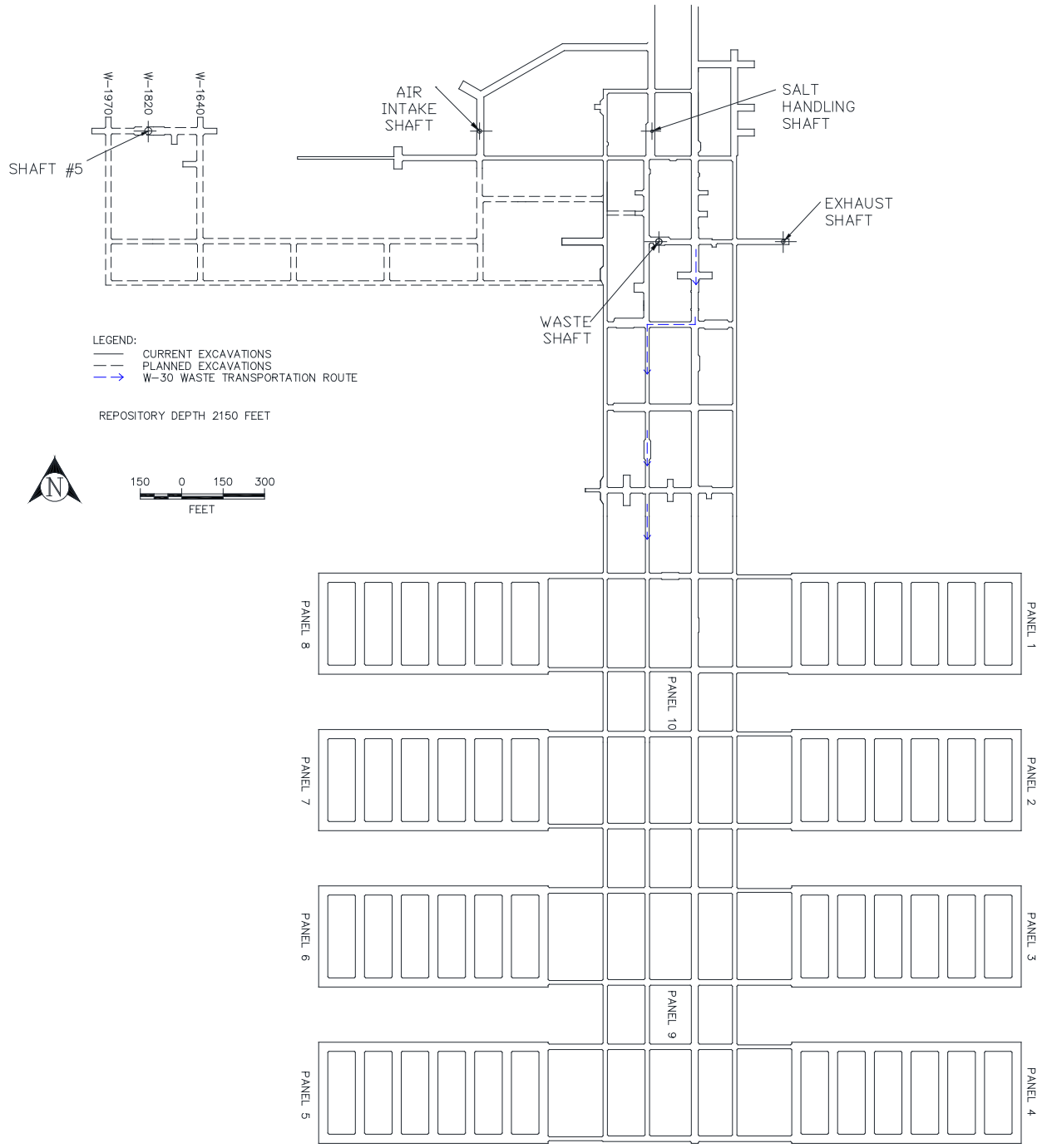
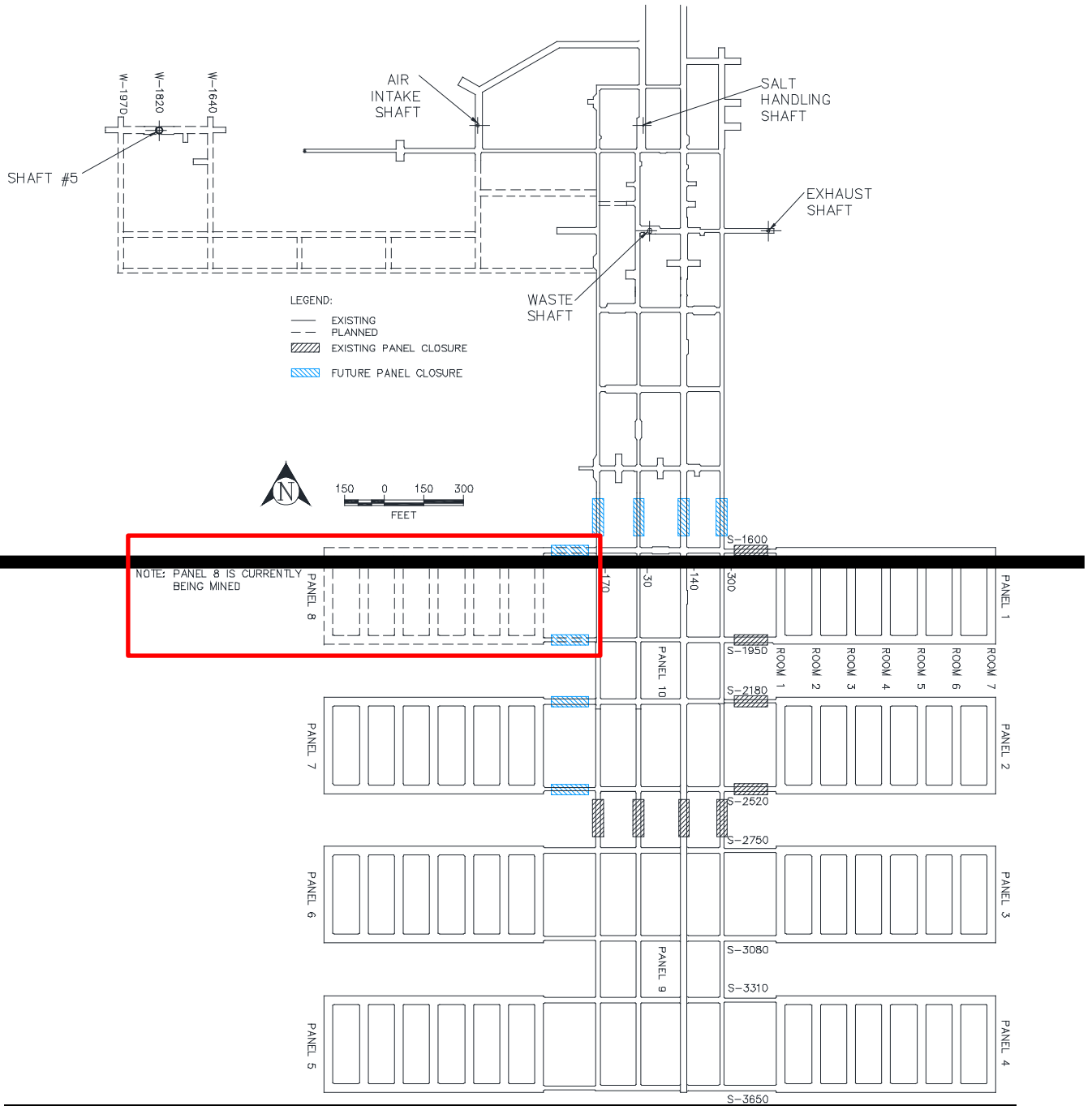
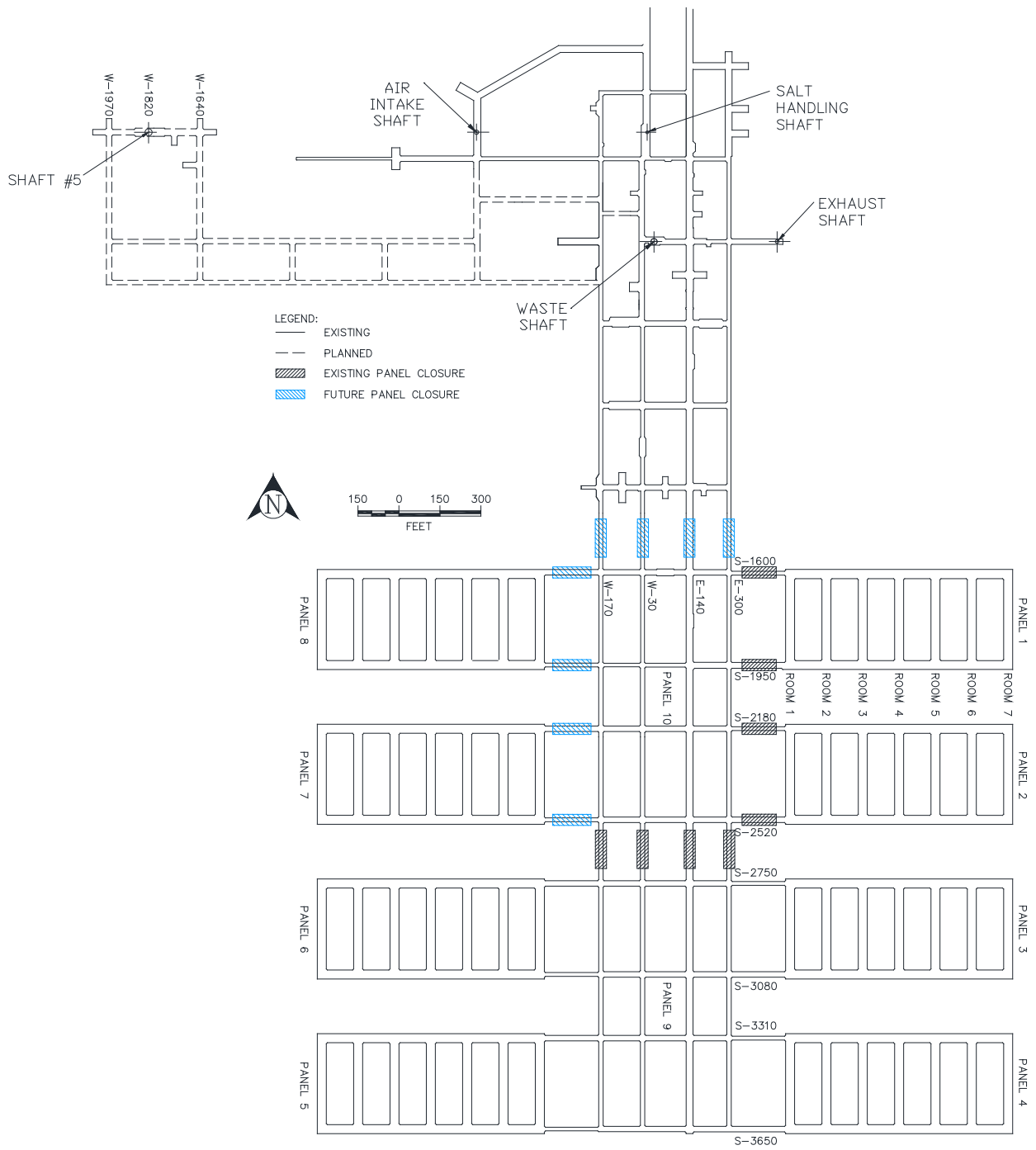


Figure A4-4a
Typical Underground Transport Route Using W-30

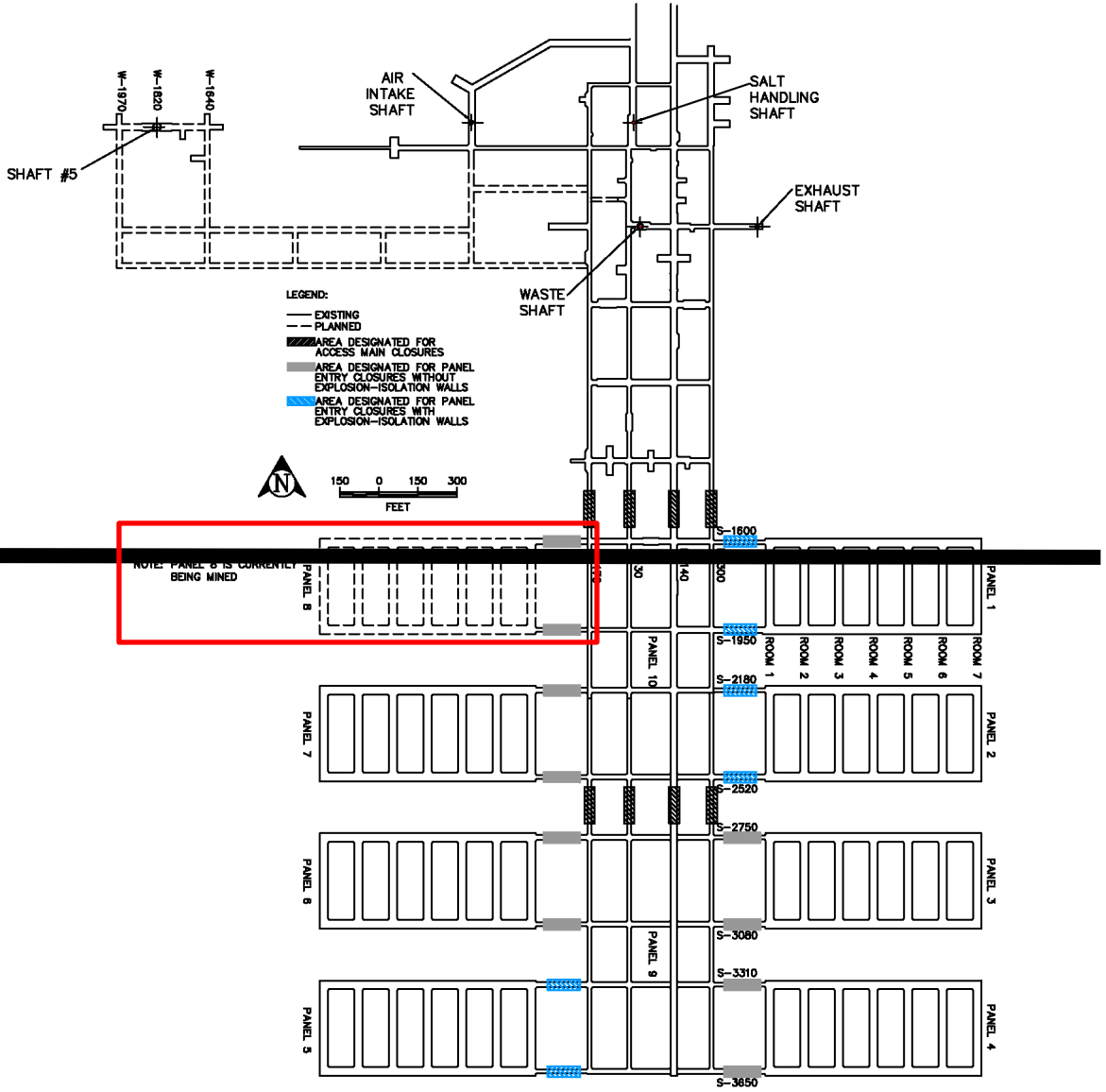
ATTACHMENT B

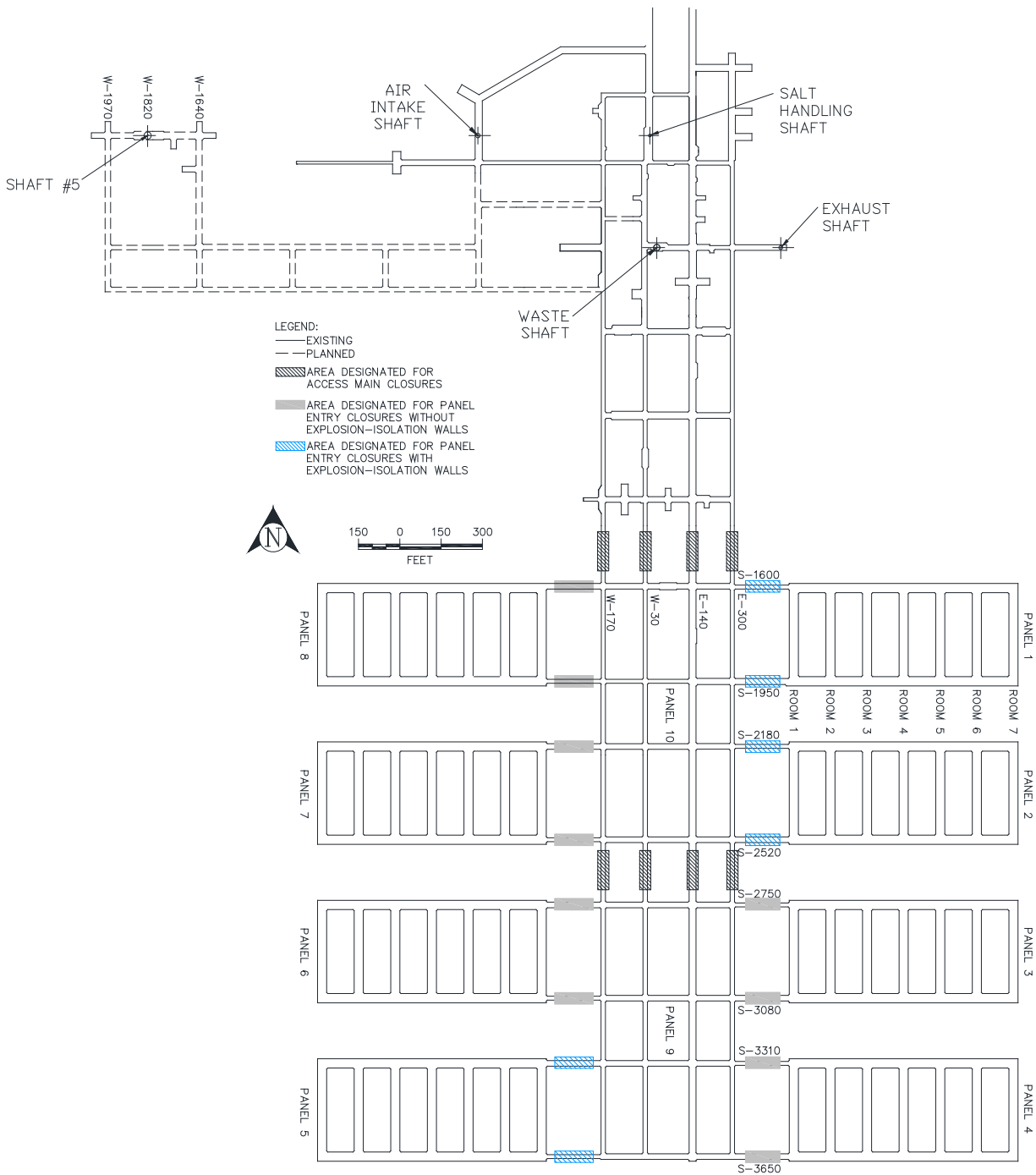
HAZARDOUS WASTE PERMIT APPLICATION PART A



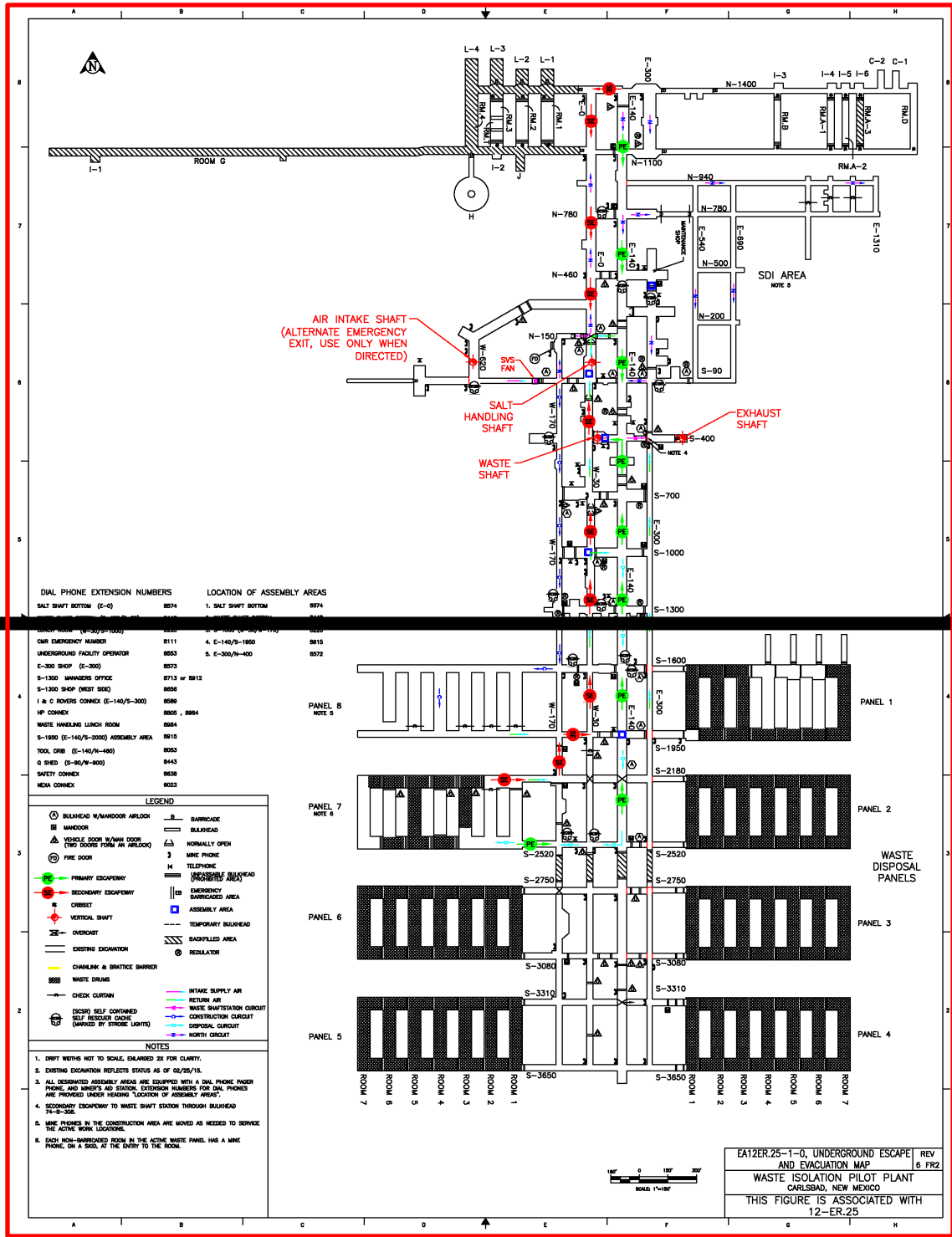


**Figure B3-2
Repository Horizon**





**Figure D-3
WIPP Underground Facilities**



DIAL PHONE EXTENSION NUMBERS	LOCATION OF ASSEMBLY AREAS		
SALT SHAFT BOTTOM (E-0)	8574	1. SALT SHAFT BOTTOM	8574
U&I SHOP (E-140/S-1000)	8569	4. S-1000 (E-140/S-1000)	8569
OUR EMERGENCY NUMBER	8111	4. E-140/S-1000	8115
UNDERGROUND FACILITY OPERATOR	8553	5. E-300/N-400	8572
E-300 SHOP (E-300)	8573		
S-1300 MANAGERS OFFICE	8713 or 8812		
S-1300 SHOP (WEST SIDE)	8556		
I & O ROWERS CONNEX (E-140/S-300)	8589		
HF CONNEX	8550, 8864		
WASTE HANDLING LUNCH ROOM	8554		
S-1800 (E-140/S-3000) ASSEMBLY AREA	8518		
TOOL CRIB (E-140/N-400)	8553		
Q SHED (S-80/N-400)	8443		
SAFETY CONNEX	8538		
MEDIA CONNEX	8523		

LEGEND

NOTES

- DRIFT METERS NOT TO SCALE. ENLARGED 2X FOR CLARITY.
- EXISTING EXCAVATION REFLECTS STATUS AS OF 02/25/15.
- ALL DESIGNATED ASSEMBLY AREAS ARE EQUIPPED WITH A DIAL PHONE. PAGER PHONES AND MINERS' AID STATION. EXTENSION NUMBERS FOR DIAL PHONES ARE PROVIDED UNDER HEADING LOCATION OF ASSEMBLY AREAS.
- SECONDARY ESCAPEWAY TO WASTE SHAFT STATION THROUGH BULKHEAD 74-8-302.
- WIRE PHONES IN THE CONSTRUCTION AREA ARE MOVED AS NEEDED TO SERVICE THE ACTIVE WORK LOCATION.
- EACH HIGH-PRESSURE ROOM IN THE ACTIVE WASTE PANEL HAS A MINE PHONE, ON A SKID, AT THE ENTRY TO THE ROOM.

EA12ER.25-1-0, UNDERGROUND ESCAPE AND EVACUATION MAP
 WASTE ISOLATION PILOT PLANT
 CARLSBAD, NEW MEXICO
 THIS FIGURE IS ASSOCIATED WITH 12-ER.25

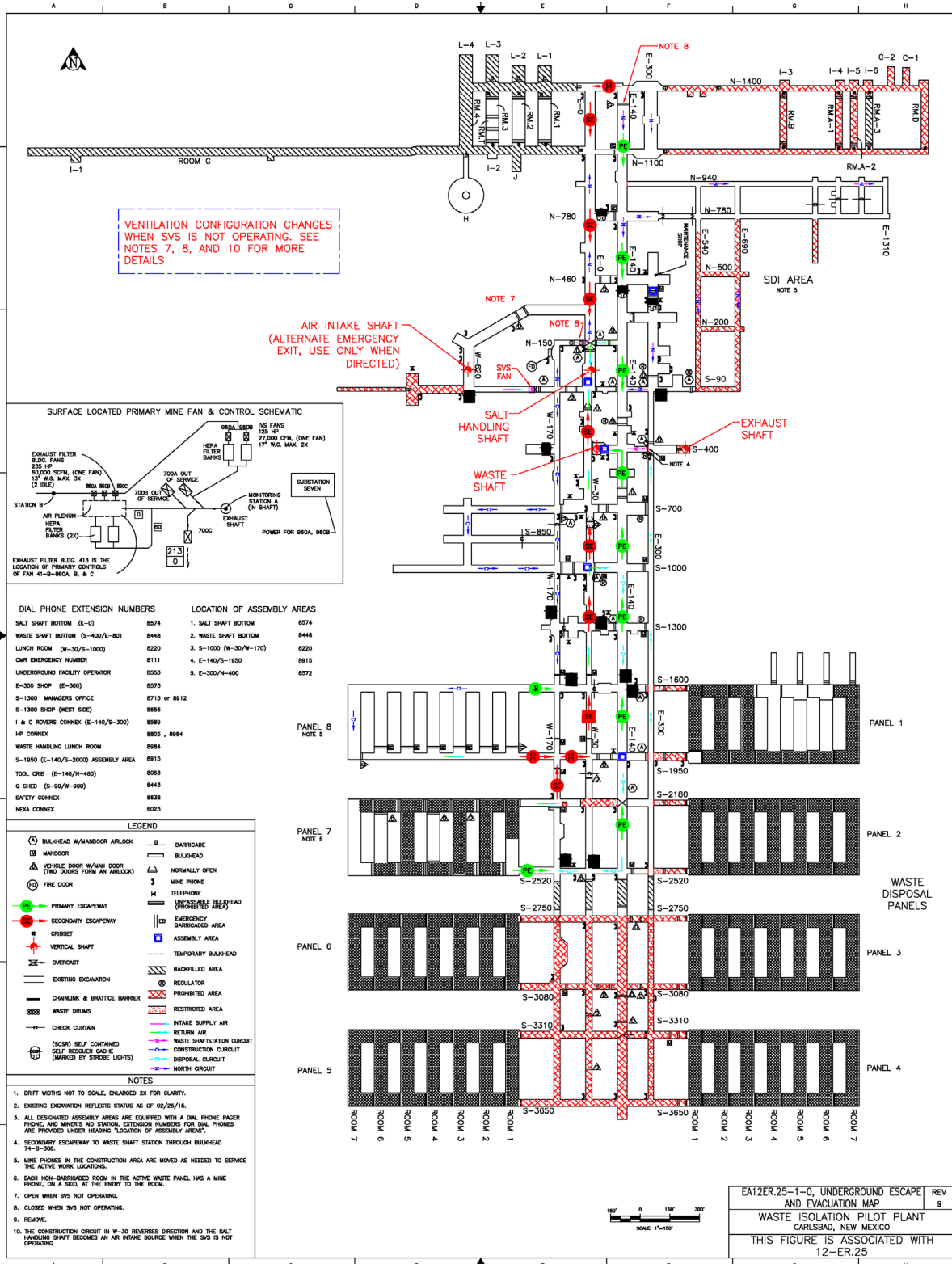
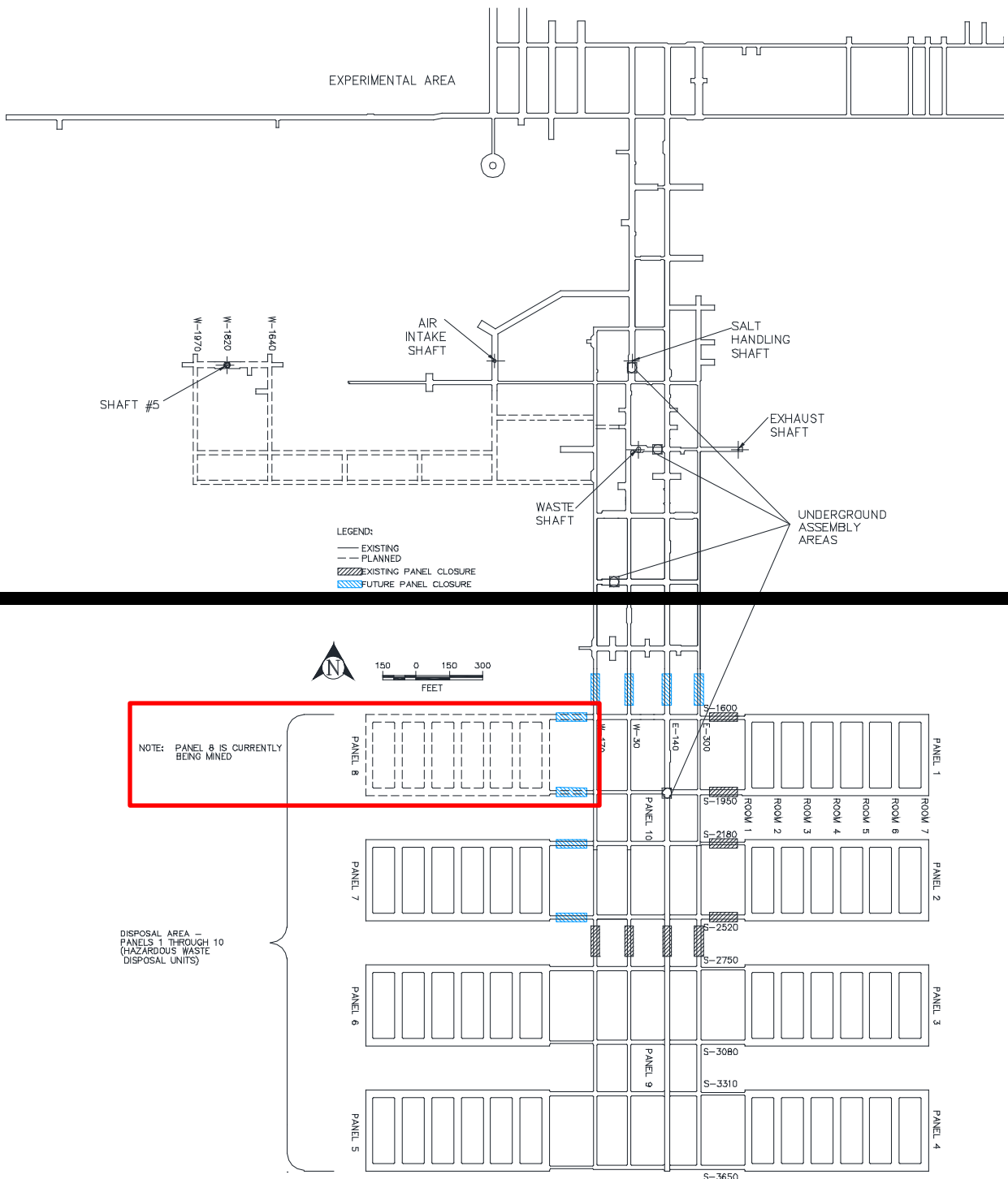


Figure D-4
Underground Escape and Evacuation Map



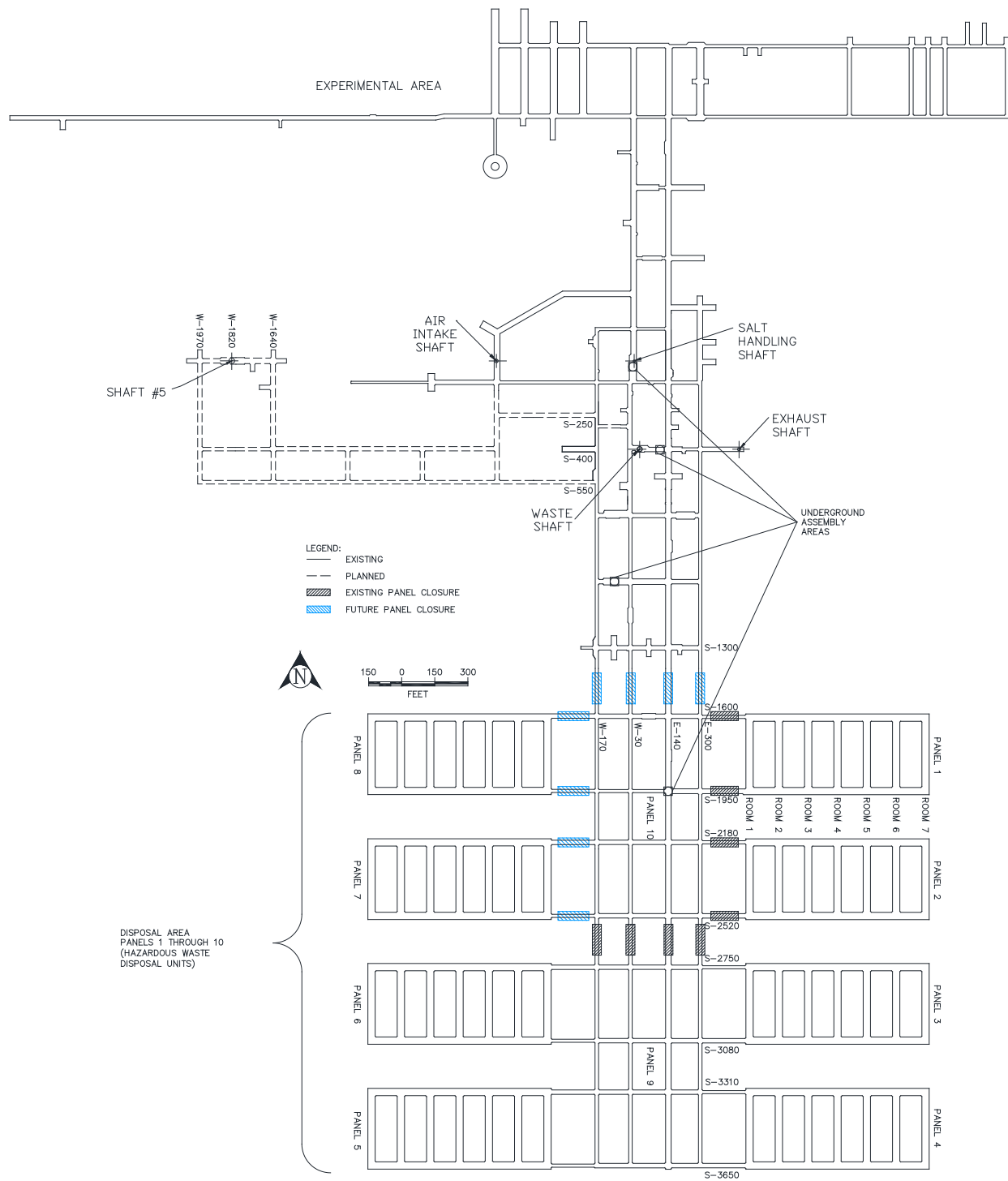
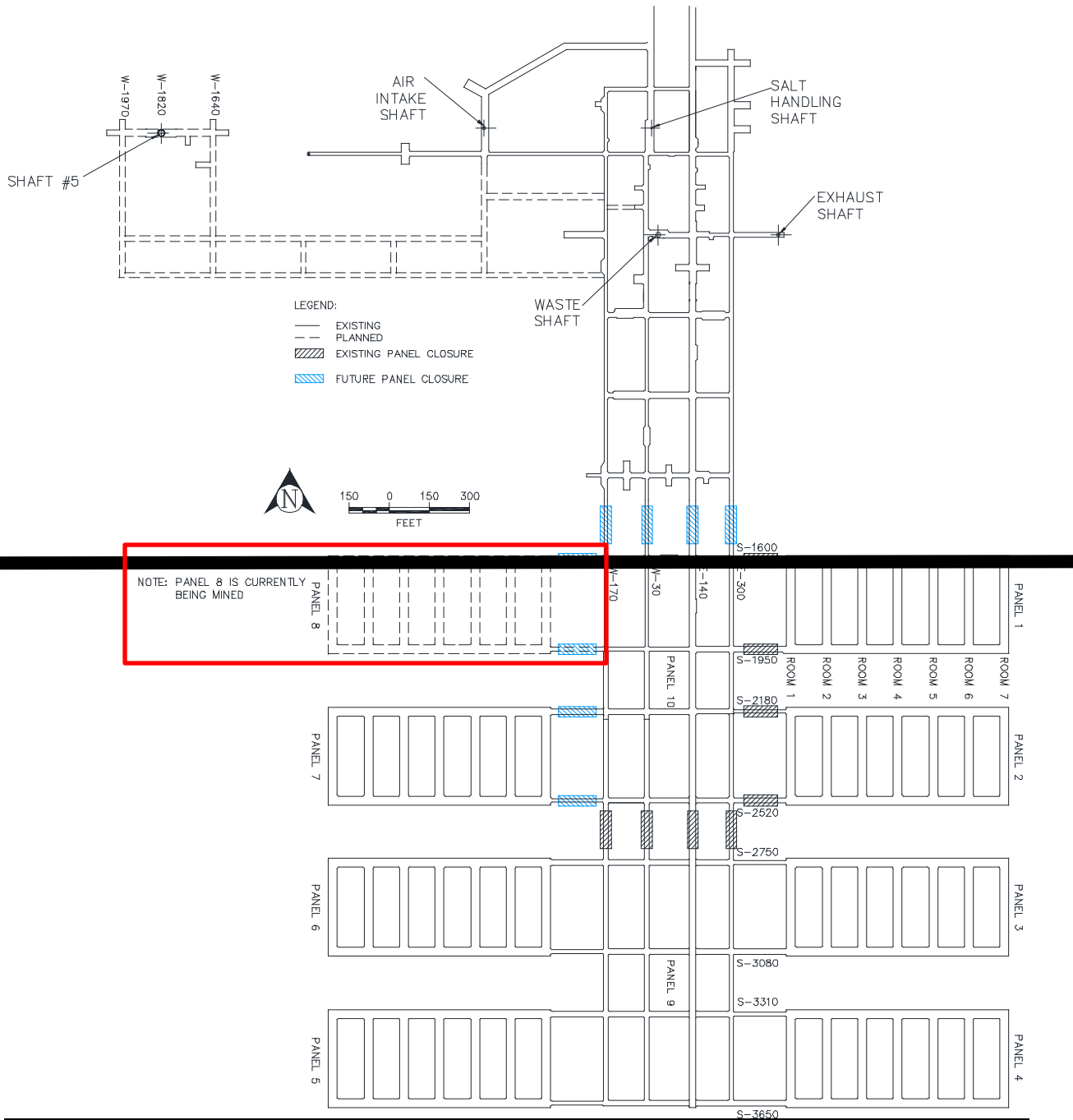


Figure D-7
Designated Underground Assembly Areas



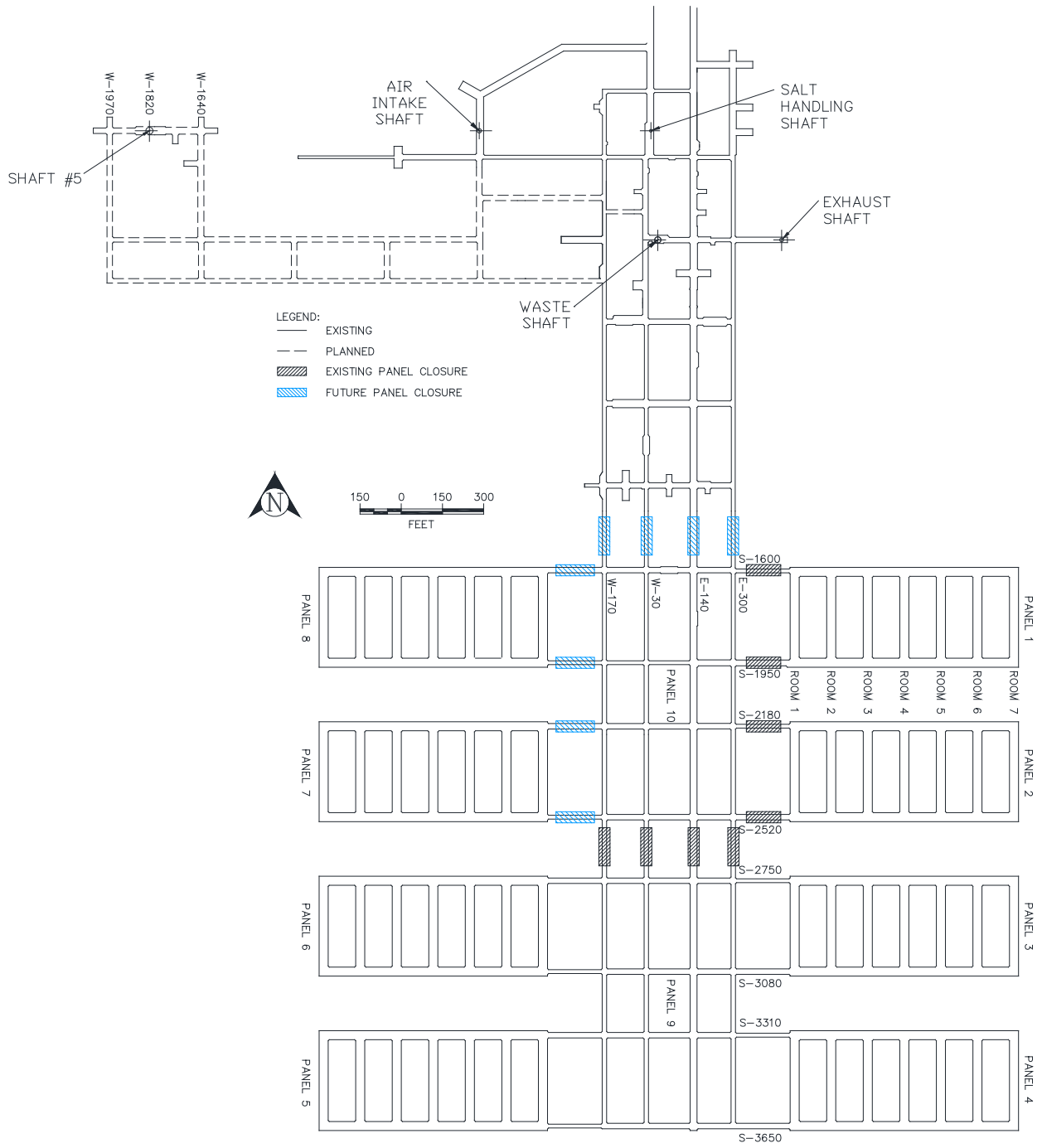
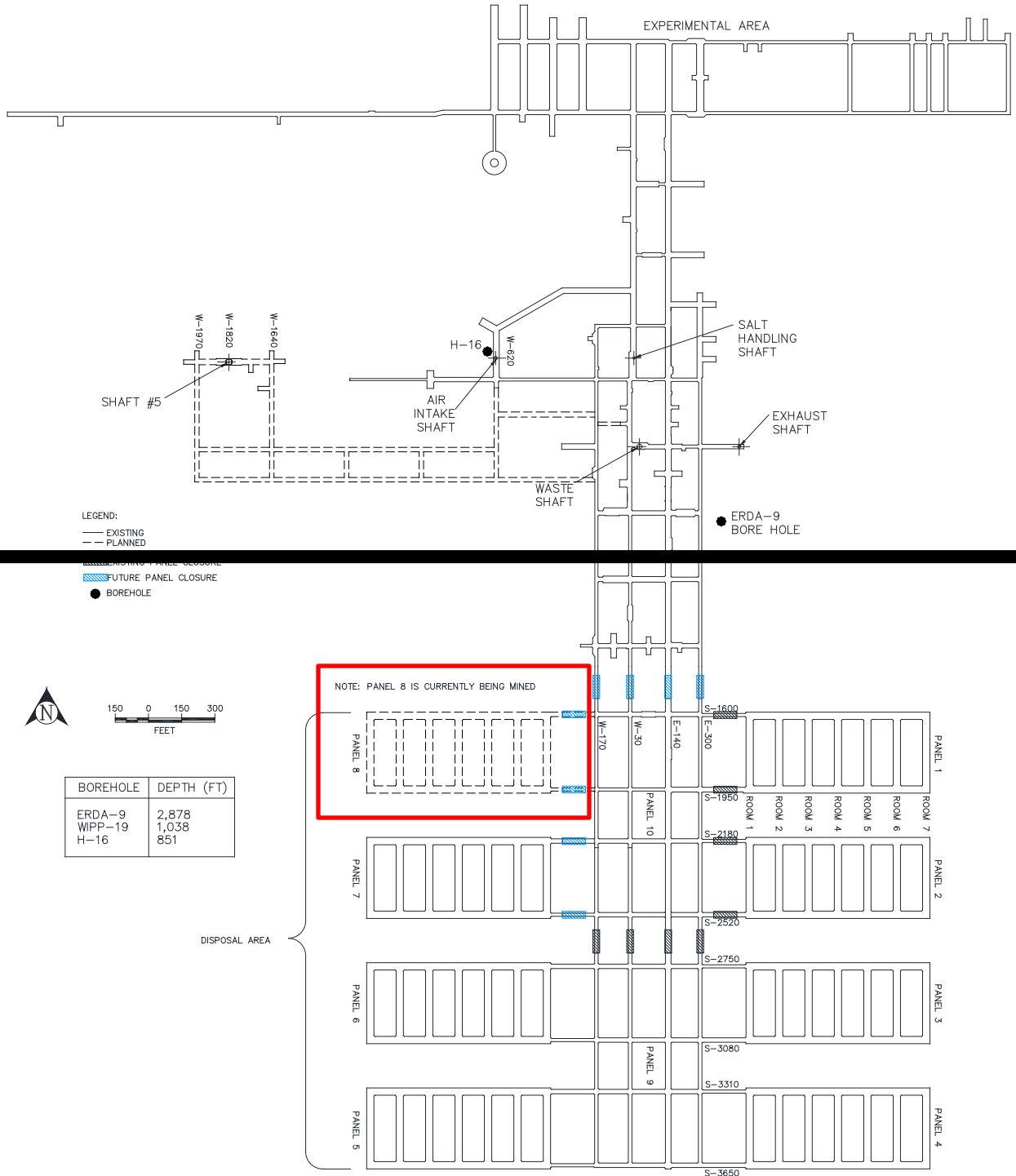


Figure G-1
Location of Underground HWDUs and Anticipated Closure Locations



LEGEND:
 — EXISTING
 - - - PLANNED
 [Hatched Box] EXISTING PANEL CLOSURE
 [Blue Hatched Box] FUTURE PANEL CLOSURE
 ● BOREHOLE



BOREHOLE	DEPTH (FT)
ERDA-9	2,878
WIPP-19	1,038
H-16	851

NOTE: PANEL 8 IS CURRENTLY BEING MINED

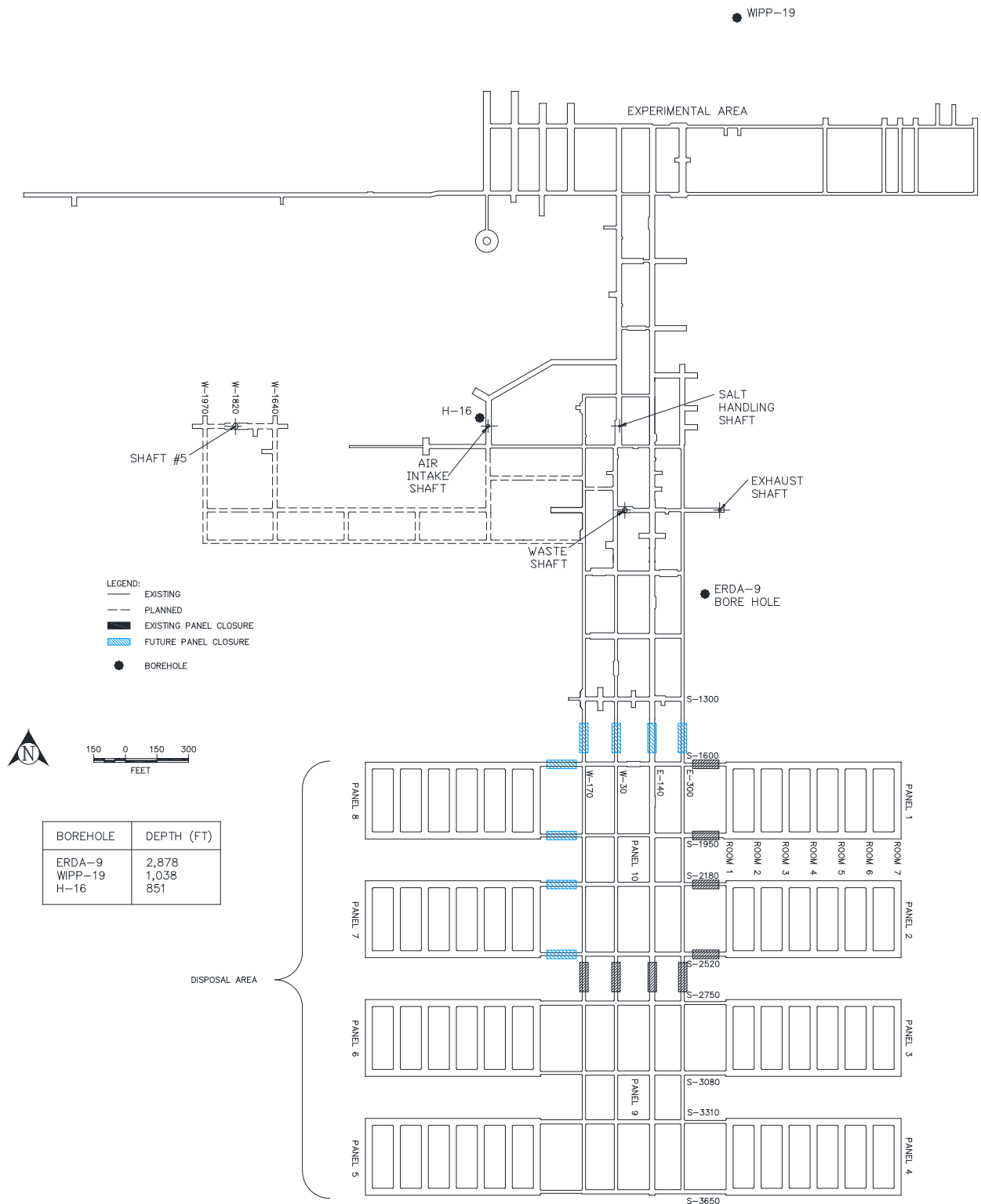
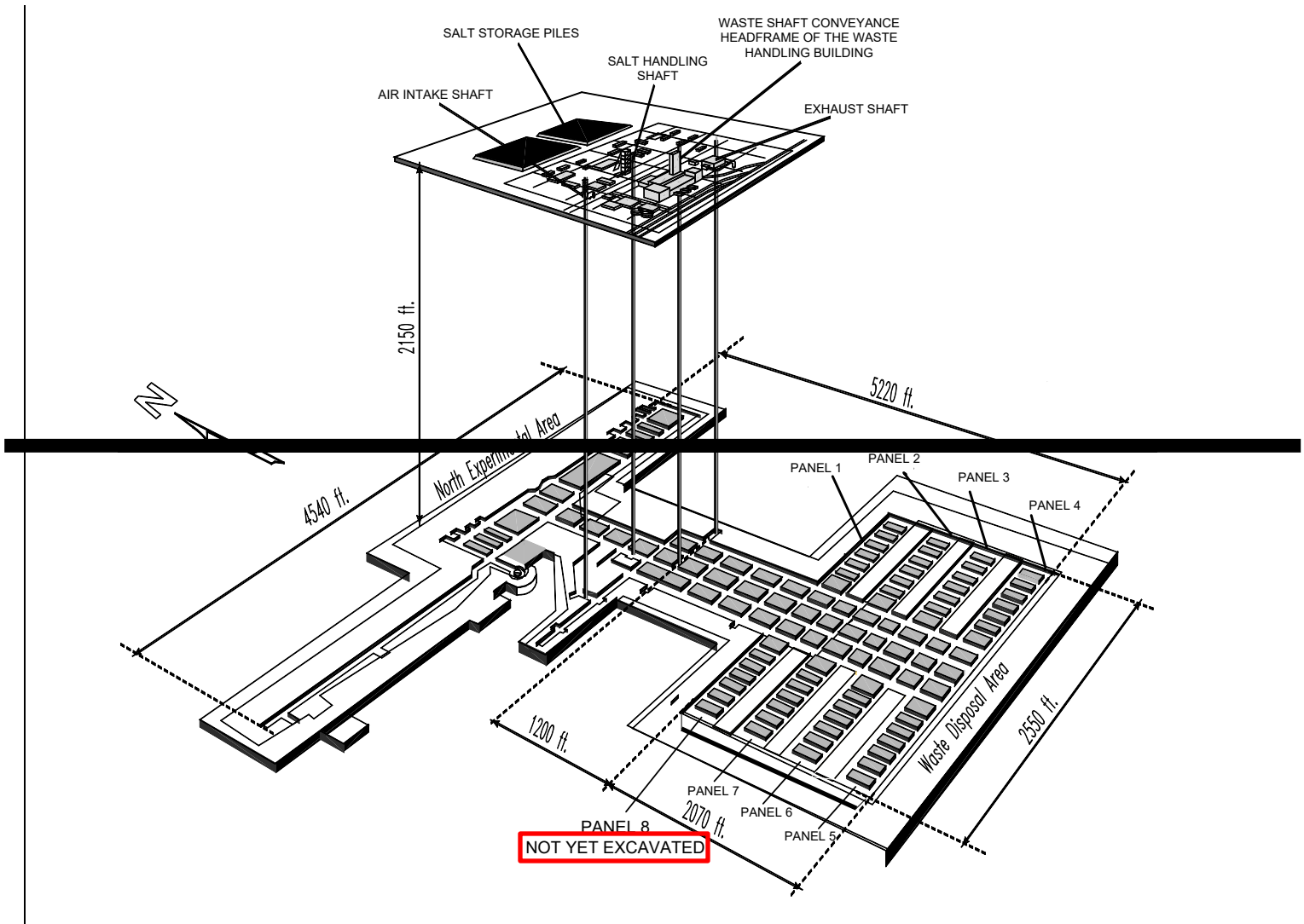


Figure G-6
Approximate Locations of Boreholes in Relation to the WIPP Underground

ATTACHMENT G2

WASTE ISOLATION PILOT PLANT SHAFT SEALING SYSTEM COMPLIANCE SUBMITTAL DESIGN REPORT



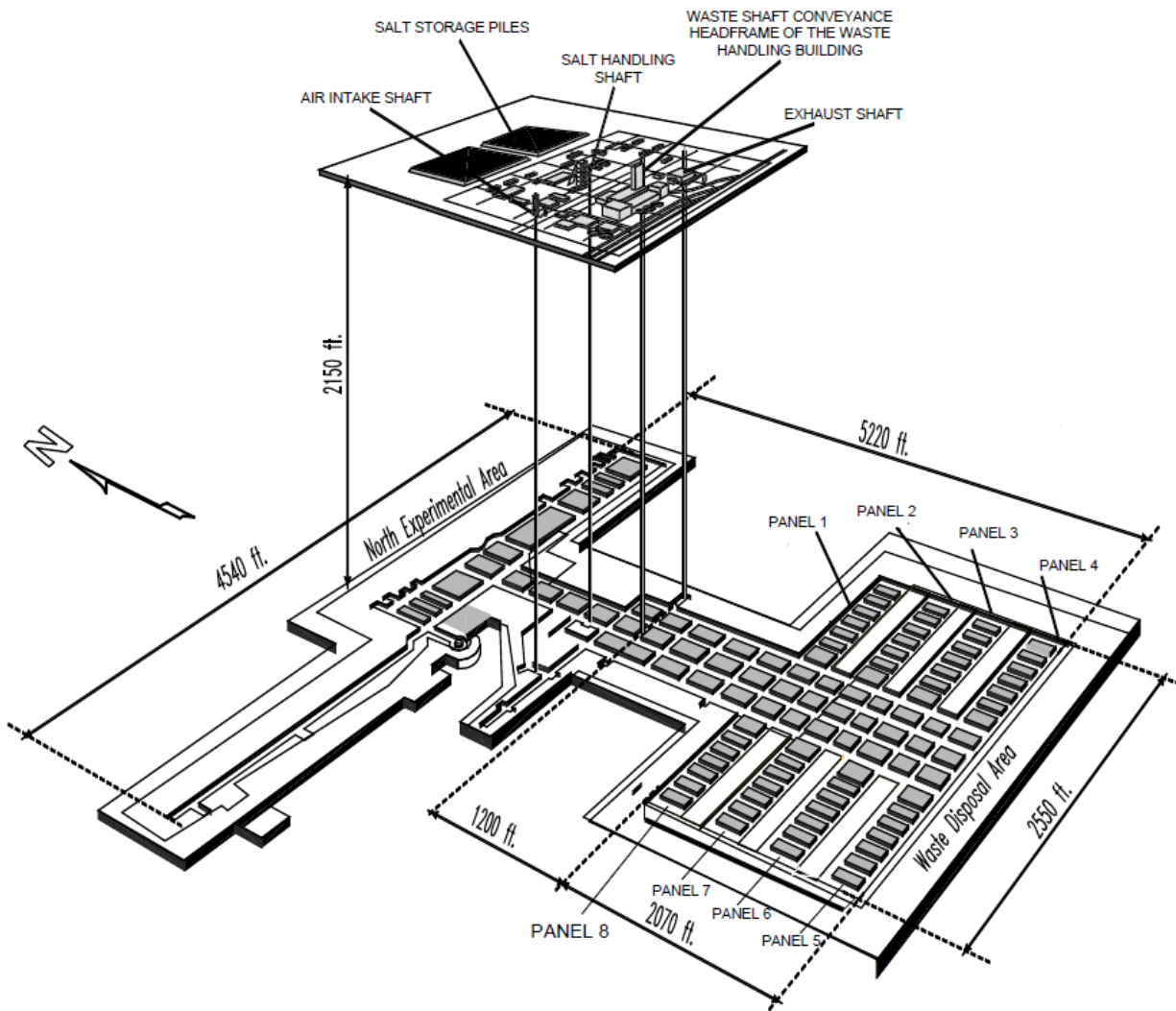
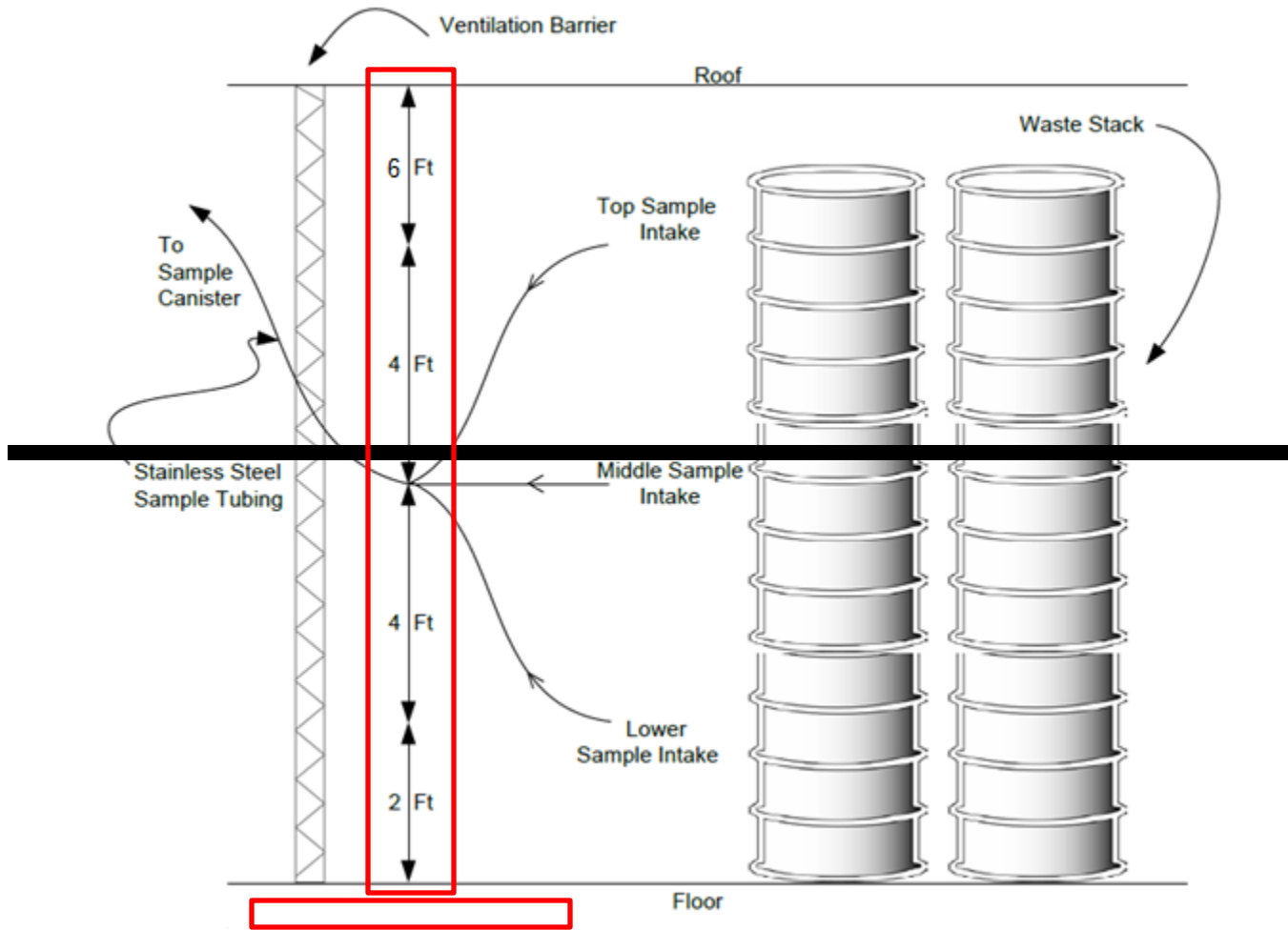


Figure G2-1
View of the WIPP Underground Facility

**Table K-4
Hazardous Waste Management Units**

Unit ID Number	Unit Description	Comments
SWMU 013a	Waste Handling Building Unit	
SWMU 013b	Parking Area Unit	
SWMU 013c	Underground Hazardous Waste Disposal Unit (HWDU) - Panel 1	This HWDU was closed May 2020.
SWMU 013d	Underground HWDU – Panel 2	This HWDU was closed May 2020.
SWMU 013e	Underground HWDU – Panel 3	This HWDU was closed August 2019.
SWMU 013f	Underground HWDU – Panel 4	This HWDU was closed August 2019.
SWMU 013g	Underground HWDU – Panel 5	This HWDU was closed August 2019.
SWMU 013h	Underground HWDU – Panel 6	This HWDU was closed August 2019.
SWMU 013i	Underground HWDU – Panel 7	
<u>SWMU 013j</u>	<u>Underground HWDU – Panel 8</u>	



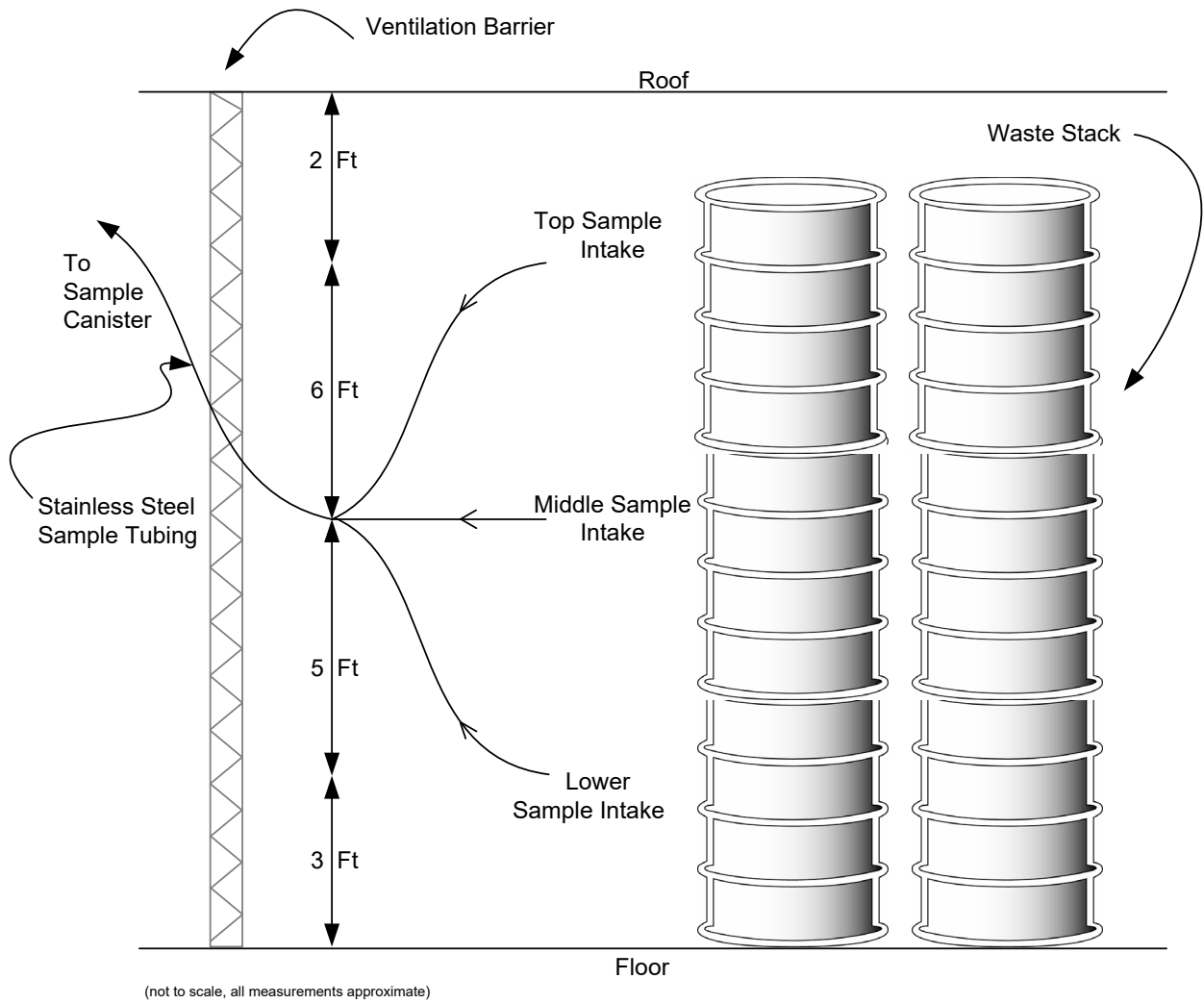


Figure N-4b
Disposal Room Sample Head Arrangement for Panel 8