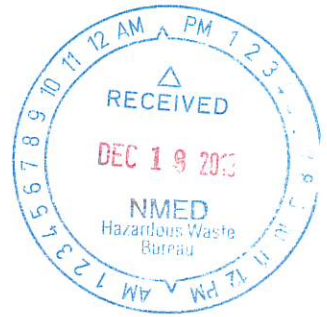




Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221

DEC 12 2019



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

Subject: Notification of a Class 1 Permit Modification to the Waste Isolation Pilot Plant
Hazardous Waste Facility Permit Number: NM4890139088-TSDF

Dear Mr. Cobrain:

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

- Update Panel Closure Information

We certify under penalty of law that this document and all attachments 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 R. Brown at (575) 234-7476.

Sincerely,

Gregory Sosson
Acting Manager
Carlsbad Field Office

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

Update Panel Closure Information

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

WIPP Permit Number - NM4890139088-TSDF

December 2019

Table of Contents

Transmittal Letter

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-7
Discussion.....	A-7
Proposed Revised Permit Text:	A-9

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
Permittees	U.S. Department of Energy and Nuclear Waste Partnership LLC
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. This change does not reduce the ability of the Permittees to provide continued protection to human health and the environment.

The requested modifications to the Permit and any related supporting documents are provided in this PMN. The proposed modifications to the text of the Permit has 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>Permit Attachment A2, Figure A2-1, <i>Repository Horizon</i></p> <p>Permit Attachment A2, Figure A2-2, <i>Spatial View of the Miscellaneous Unit and Waste Handling Facility</i></p> <p>Permit Attachment B, Figure B3-1, <i>Spatial View of the WIPP Facility</i></p> <p>Permit Attachment B, Figure B3-2, <i>Repository Horizon</i></p> <p>Permit Attachment D, Figure D-2, <i>Spatial View of the WIPP Facility</i></p> <p>Permit Attachment D, Figure D-7, <i>Designated Underground Assembly Areas</i></p> <p>Permit Attachment G, <i>List of Figures</i></p> <p>Permit Attachment G, Table G-1, <i>Anticipated Earliest Closure Dates for the Underground HWDUs</i></p> <p>Permit Attachment G, Figure G-1, <i>Location of Underground HWDUs and Anticipated WPC Locations</i></p> <p>Permit Attachment G, Figure G-6, <i>Approximate Locations of Boreholes in Relation to the WIPP Underground</i></p> <p>Permit Attachment H1, Figure H1-1, <i>Spatial View of WIPP Surface and Underground Facilities</i></p> <p>Permit Attachment K, Table K-4, <i>Hazardous Waste Management Units</i></p>	<p>This modification updates Permit Attachment G, Table G-1, <i>Anticipated Earliest Closure Dates for the Underground HWDUs</i>, and Permit Attachment K, Table K-4, <i>Hazardous Waste Management Units</i>, to reflect the actual closure end date for Panels 3, 4, 5 and 6. Since Panel 9 was not used for TRU mixed waste disposal, the Permittees are updating Permit Attachment G, Table G-1, to reflect this information. Figures are being updated to reflect closure of Panels 3, 4, 5 and 6. The Permittees are making the following changes to update the Permit with current information regarding the closure Panels 3 through 6:</p> <p><u>Table Changes</u></p> <ul style="list-style-type: none"> • Permit Attachment G, Table G-1, <i>Anticipated Earliest Closure Dates for the Underground HWDUs</i> <ul style="list-style-type: none"> ○ Changed “2/07” to “8/19” and deleted “SEE NOTE 1” in the Closure End column for Panel 3. ○ Changed “8/09” to “8/19” and deleted “SEE NOTE 1” in the Closure End column for Panel 4. ○ Changed “11/11” to “8/19” and deleted “SEE NOTE 1” in the Closure End column for Panel 5. ○ Changed “6/20” to “8/19” and deleted “SEE NOTE 1” in the Closure End column for Panel 6. ○ Added “*” to “PANEL 9” in the HWDU column for Panel 9. ○ Changed “6/20” to “N/A” in the Operations Start column for Panel 9. ○ Changed “1/28” to “N/A” in the Operations End column for Panel 9. ○ Changed “2/28” to “N/A” in the Closure Start column for Panel 9. ○ Changed “SEE NOTE 2” to “N/A” in the Closure End column for Panel 9. ○ Added “*** Panel 9 was not used for TRU mixed waste disposal. Closures for Panels 3, 4, 5 and 6 were placed in the north-south mains (E-300, E-140, W-30 and W-170), as shown in Figure G-1, pursuant to Section G-1e(1).” to the table footnotes. ○ Changed “through 6” to “and 2” in Note 1. ○ Added “N/A--Not Applicable” to the table footnotes. • Permit Attachment K, Table K-4, <i>Hazardous Waste Management Units</i> <ul style="list-style-type: none"> ○ Changed “Underground HWDU” to “Underground Hazardous Waste Disposal Unit (HWDU).” 	A.1

Item No.	Affected Permit Section	Change Description	Category
		<ul style="list-style-type: none"> ○ Added "This HWDU was closed August 2019." to Comments column for SWMU 013e, SWMU 013f, SWMU 013g and SWMU 013h. <p><u>Figure Changes</u></p> <ul style="list-style-type: none"> • Permit Attachment A2, Figure A2-1, <i>Repository Horizon</i>; Permit Attachment B, Figure B3-2, <i>Repository Horizon</i>; Permit Attachment D, Figure D-7, <i>Designated Underground Assembly Areas</i>; Permit Attachment G, Figure G-1, <i>Location of Underground HWDUs and Anticipated WPC Locations</i>; 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 "AREA DESIGNATED FOR ACCESS MAIN CLOSURES" to "EXISTING PANEL CLOSURE" in the figure legend. ○ Removed "AREA DESIGNATED FOR PANEL ENTRY CLOSURES WITHOUT EXPLOSION-ISOLATION WALLS" from the figure legend. ○ Changed "AREA DESIGNATED FOR PANEL ENTRY CLOSURES WITH EXPLOSION-ISOLATION WALLS" to "FUTURE PANEL CLOSURE" in the figure legend. ○ Revised the markers on the underground layout to correspond with the new figure legend as follows: <ul style="list-style-type: none"> ▪ Changed the markers for the Panels 1, 2, 7, 8 and 10 closures to future panel closures. ▪ Changed the markers for Panel 9 to existing panel closures. ▪ Removed the markers for Panels 3 through 6. • Permit Attachment A2, Figure A2-2, <i>Spatial View of the Miscellaneous Unit and Waste Handling Facility</i>, Permit Attachment B, Figure B3-1, <i>Spatial View of the WIPP Facility</i>, and Permit Attachment D, Figure D-2, <i>Spatial View of the WIPP Facility</i> <ul style="list-style-type: none"> ○ Removed the panel closure label. ○ Added a comma to "2150" to read "2,150." • Permit Attachment G, <i>List of Figures</i> <ul style="list-style-type: none"> ○ Changed the figure title from "Location of Underground HWDUs and Anticipated Closure Locations" to "Location of Underground HWDUs and WPC Locations." • Permit Attachment G, Figure G-1, <i>Location of Underground HWDUs and Anticipated WPC Locations</i> also change the following: 	

Item No.	Affected Permit Section	Change Description	Category
		<ul style="list-style-type: none"> ○ Changed the figure title from “Location of Underground HWDUs and Anticipated WPC Locations” to “Location of Underground HWDUs and WPC Locations.” • Permit Attachment G, Figure G-6, <i>Approximate Locations of Boreholes in Relation to the WIPP Underground</i> also make the following editorial changes: <ul style="list-style-type: none"> ○ Added a comma to “2878” to read “2,878.” ○ Added a comma to “1038” to read “1,038.” ○ Added a comma to “2150” to “2,150.” ○ Removed “BORE HOLE” from the ERDA-9 label to be consistent with the other borehole labels. • Permit Attachment H1, Figure H1-1, <i>Spatial View of WIPP Surface and Underground Facilities</i> <ul style="list-style-type: none"> ○ Make figure consistent with the other figures in the Permit that depict the spatial view of the WIPP facility. <ul style="list-style-type: none"> ▪ Removed panel closure label. ▪ Changed “655 M” to “2,150 FEET.” ▪ Added “(HAZARDOUS WASTE DISPOSAL UNITS)” To “PANELS 1 THROUGH 10” label. ▪ Removed “Experimental Area” label. ▪ Changed “Waste Hoist Headframe Within the Waste Handling Building” label to “WASTE SHAFT CONVEYANCE HEADFRAME OF THE WASTE HANDLING BUILDING.” ▪ Capitalized the figure labels. ▪ Removed number in the lower right-hand corner of the figure. 	

Item 1

Description

This modification updates Permit Attachment G, Table G-1, *Anticipated Earliest Closure Dates for the Underground HWDUs*, and Permit Attachment K, Table K-4, *Hazardous Waste Management Units*, to reflect the actual closure end date for Panels 3, 4, 5 and 6. Since Panel 9 was not used for TRU mixed waste disposal, the Permittees are updating Permit Attachment G, Table G-1, to reflect this information. Figures are being updated to reflect closure of Panels 3, 4, 5 and 6. The Permittees are making the following changes to update the Permit with current information regarding the closure Panels 3 through 6:

Table Changes

- Permit Attachment G, Table G-1, *Anticipated Earliest Closure Dates for the Underground HWDUs*
 - Changed “2/07” to “8/19” and deleted “SEE NOTE 1” in the Closure End column for Panel 3.
 - Changed “8/09” to “8/19” and deleted “SEE NOTE 1” in the Closure End column for Panel 4.
 - Changed “11/11” to “8/19” and deleted “SEE NOTE 1” in the Closure End column for Panel 5.
 - Changed “6/20” to “8/19*” and deleted “SEE NOTE 1” in the Closure End column for Panel 6.
 - Added “**” to “PANEL 9” in the HWDU column for Panel 9.
 - Changed “6/20” to “N/A” in the Operations Start column for Panel 9.
 - Changed “1/28” to “N/A” in the Operations End column for Panel 9.
 - Changed “2/28” to “N/A” in the Closure Start column for Panel 9.
 - Changed “SEE NOTE 2” to “N/A” in the Closure End column for Panel 9.
 - Added “** Panel 9 was not used for TRU mixed waste disposal. Closures for Panels 3, 4, 5 and 6 were placed in the north-south mains (E-300, E-140, W-30 and W-170), as shown in Figure G-1, pursuant to Section G-1e(1).” to the table footnotes.
 - Changed “through 6” to “and 2” in Note 1.
 - Added “N/A--Not Applicable” to the table footnotes.
- Permit Attachment K, Table K-4, *Hazardous Waste Management Units*
 - Changed “Underground HWDU” to “Underground Hazardous Waste Disposal Unit (**HWDU**).”
 - Added “This HWDU was closed August 2019.” to Comments column for SWMU 013e, SWMU 013f, SWMU 013g and SWMU 013h.

Figure Changes

- Permit Attachment A2, Figure A2-1, *Repository Horizon*; Permit Attachment B, Figure B3-2, *Repository Horizon*; Permit Attachment D, Figure D-7, *Designated Underground*

Assembly Areas; Permit Attachment G, Figure G-1, Location of Underground HWDUs and Anticipated WPC Locations; Permit Attachment G, Figure G-6, Approximate Locations of Boreholes in Relation to the WIPP Underground

- Changed “AREA DESIGNATED FOR ACCESS MAIN CLOSURES” to “EXISTING PANEL CLOSURE” in the figure legend.
- Removed “AREA DESIGNATED FOR PANEL ENTRY CLOSURES WITHOUT EXPLOSION-ISOLATION WALLS” from the figure legend.
- Changed “AREA DESIGNATED FOR PANEL ENTRY CLOSURES WITH EXPLOSION-ISOLATION WALLS” to “FUTURE PANEL CLOSURE” in the figure legend.
- Revised the markers on the underground layout to correspond with the new figure legend as follows:
 - Changed the markers for the Panels 1, 2, 7, 8 and 10 closures to future panel closures.
 - Changed the markers for Panel 9 to existing panel closures.
 - Removed the markers for Panels 3 through 6.
- Permit Attachment A2, Figure A2-2, *Spatial View of the Miscellaneous Unit and Waste Handling Facility*, Permit Attachment B, Figure B3-1, *Spatial View of the WIPP Facility*, and Permit Attachment D, Figure D-2, *Spatial View of the WIPP Facility*
 - Removed the panel closure label.
 - Added a comma to “2150” to read “2,150.”
- Permit Attachment G, *List of Figures*
 - Changed the figure title from “Location of Underground HWDUs and Anticipated Closure Locations” to “Location of Underground HWDUs and WPC Locations.”
- Permit Attachment G, Figure G-1, *Location of Underground HWDUs and Anticipated WPC Locations* also change the following:
 - Changed the figure title from “Location of Underground HWDUs and Anticipated WPC Locations” to “Location of Underground HWDUs and WPC Locations.”
- Permit Attachment G, Figure G-6, *Approximate Locations of Boreholes in Relation to the WIPP Underground* also make the following editorial changes:
 - Added a comma to “2878” to read “2,878.”
 - Added a comma to “1038” to read “1,038.”
 - Added a comma to “2150” to “2,150.”
 - Removed “BORE HOLE” from the ERDA-9 label to be consistent with the other borehole labels.
- Permit Attachment H1, Figure H1-1, *Spatial View of WIPP Surface and Underground Facilities*
 - Make figure consistent with the other figures in the Permit that depict the spatial view of the WIPP facility.

- Removed panel closure label.
- Changed “655 M” to “2,150 FEET.”
- Added “(HAZARDOUS WASTE DISPOSAL UNITS)” To “PANELS 1 THROUGH 10” label.
- Removed “Experimental Area” label.
- Changed “Waste Hoist Headframe Within the Waste Handling Building” label to “WASTE SHAFT CONVEYANCE HEADFRAME OF THE WASTE HANDLING BUILDING.”
- Capitalized the figure labels.
- Removed number in the lower right-hand corner of the figure.

Basis

The change updates anticipated closure dates with actual closure dates for Panels 3 through 6; it is not a change in the schedule for closure activities. Additionally, other minor editorial changes are being made to the Permit text and figures. As a result, this Permit modification 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) and not a Class 1* modification involving “Changes to the closure schedule for any unit, changes in the final closure schedule for the facility, or extension of the closure period, with prior approval of the Director” pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.42, Appendix I, D.1.b).

Discussion

The Permittees are updating Permit Attachment G, Table G-1, with current information relative to the closure of the Underground Hazardous Waste Disposal Units (**HWDUs**), known as Panels 3, 4, 5 and 6. These panels were closed on August 22, 2019, in accordance with Permit Attachment G and Permit Attachment G1. The closures for these panels were installed in the W-170, W-30, E-140 and E-300 drifts between S-2750 and S-2520 (i.e., between Panels 9 and 10). Therefore, the closure end dates for Panels 3, 4, 5 and 6 in Table G-1 are being updated to August 2019 (i.e., “8/19”), and the references to Note 1 are being removed from the Closure End column, with the closure of Panels 3 through 6, Note 1 is no longer applicable. Since Panel 9 was not used for TRU mixed waste disposal, the Permittees are updating the Panel 9 row in Table G-1 with “N/A” for each column. In addition, the Permittees are adding a new footnote to indicate that Panel 9 was not used for TRU mixed waste disposal and to indicate that the closures for Panels 3, 4, 5 and 6 were placed in the north south mains (E300, E-140, W-30, and W-170). This change is needed to document that the closures were installed in the north and south mains pursuant to Permit Attachment G, Section G-1e(1), *Panel Closure*, instead of in the access drifts to Panels 3, 4, 5 and 6. Note 1 is being revised to remove Panels 3, 4, 5 and 6. Since “N/A” is used in the table, the Permittees are adding the definition to the table footnote.

The Permittees are also updating Permit Attachment K, Table K-4, *Hazardous Waste Management Units*, to document the completion of closure for SWMU 013e, SWMU 013f, SWMU 013g and SWMU 013h, (Panels 3, 4, 5 and 6, respectively). Since Panel 9 was not used for TRU mixed waste disposal, it is not identified as an Underground HWDU. The Permittees are adding “This HWDU was closed August 2019” to the Comments column in this table to identify the closure date of these locations. The Permittees are also making an editorial correction to this table to define the acronym “HWDU.”

The Permittees are updating several Permit figures to depict the existing and future panel closure locations, remove unnecessary panel closure labels and make editorial changes (e.g., add commas to 4-digit numbers). The Permittees are updating Figures A2-1, D-7, G-1 and G-6 with the current Panels 3 through 6 closure configuration. The Permittees are removing the label for panel closure areas in Figures A2-2, B3-1, D-2 and H1-1; since the panel closure areas are clearly depicted in Figures A2-1, D-7, G-1 and G-6, it is not necessary to also depict these areas in Figures A2-2, B3-1, D-2 and H1-1. Note that the Permittees are not updating the figures in Permit Attachment G1 and Permit Attachment G1B at this time since these figures are directly from the 2016 Panel Closure Design Report.

The changes described above are needed to update the Permit to reflect closure of Panels 3, 4, 5 and 6. These changes ensure the accuracy of the Permit and that consistency is maintained with Permit figures relative to the August 2019 closure of Panels 3, 4, 5 and 6.

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

Proposed Revised Permit Text:

**Table G-1
Anticipated Earliest Closure Dates for the Underground HWDUs**

HWDU	OPERATIONS START	OPERATIONS END	CLOSURE START ^a	CLOSURE END ^b
PANEL 1	3/99*	3/03*	3/03*	7/03* SEE NOTE 1
PANEL 2	3/03*	10/05*	10/05*	3/06* SEE NOTE 1
PANEL 3	4/05*	2/07*	2/07*	2/07 8/19* SEE NOTE 1
PANEL 4	1/07*	5/09*	5/09*	8/09 8/19* SEE NOTE 1
PANEL 5	3/09*	7/11*	7/11*	11/11 8/19* SEE NOTE 1
PANEL 6	3/11*	1/14*	1/14*	6/20 8/19* SEE NOTE 1
PANEL 7	9/13*	7/21	8/21	1/22
PANEL 8	7/21	8/24	9/24	2/25
PANEL 9**	N/A 6/20	N/A 4/28	N/A 2/28	N/A SEE NOTE 2
PANEL 10	1/28	9/30	10/30	SEE NOTE 2

* Actual month and year

** Panel 9 was not used for TRU mixed waste disposal. Closures for Panels 3, 4, 5 and 6 were placed in the north-south mains (E-300, E-140, W-30 and W-170), as shown in Figure G-1, pursuant to Section G-1e(1).

^a The point of closure start is defined as 60 days following notification to the NMED of closure.

^b The point of closure end is defined as 180 days following placement of final waste in the panel.

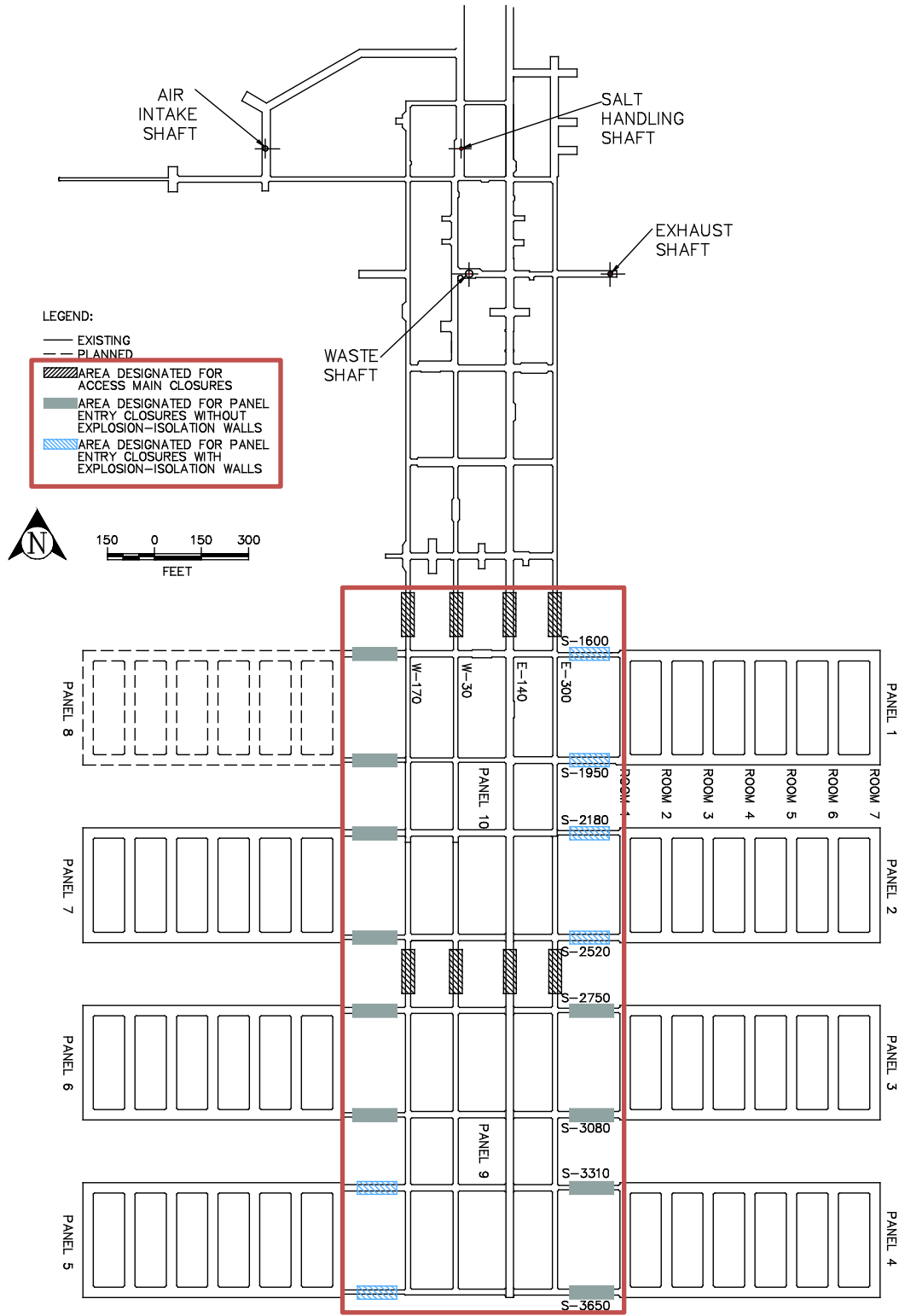
NOTE 1: Installation of the 12-foot explosion-isolation wall for Panels 1, 2, and 5 has been completed. Final closure of Panels 1 and 2 through 6 will be completed as specified in this Permit no later than June 30, 2020.

NOTE 2: The time to close these areas may be extended depending on the nature and extent of the disturbed rock zone. The excavations that constitute these panels will have been opened for as many as 40 years so that the preparation for closure may take longer than the time allotted in Figure G-2. If this extension is needed, it will be requested as an amendment to the Closure Plan.

N/A--Not Applicable

**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 <u>Hazardous Waste Disposal Unit (HWDU)</u> - Panel 1	
SWMU 013d	Underground HWDU – Panel 2	
SWMU 013e	Underground HWDU – Panel 3	<u>This HWDU was closed August 2019.</u>
SWMU 013f	Underground HWDU – Panel 4	<u>This HWDU was closed August 2019.</u>
SWMU 013g	Underground HWDU – Panel 5	<u>This HWDU was closed August 2019.</u>
SWMU 013h	Underground HWDU – Panel 6	<u>This HWDU was closed August 2019.</u>
SWMU 013i	Underground HWDU – Panel 7	



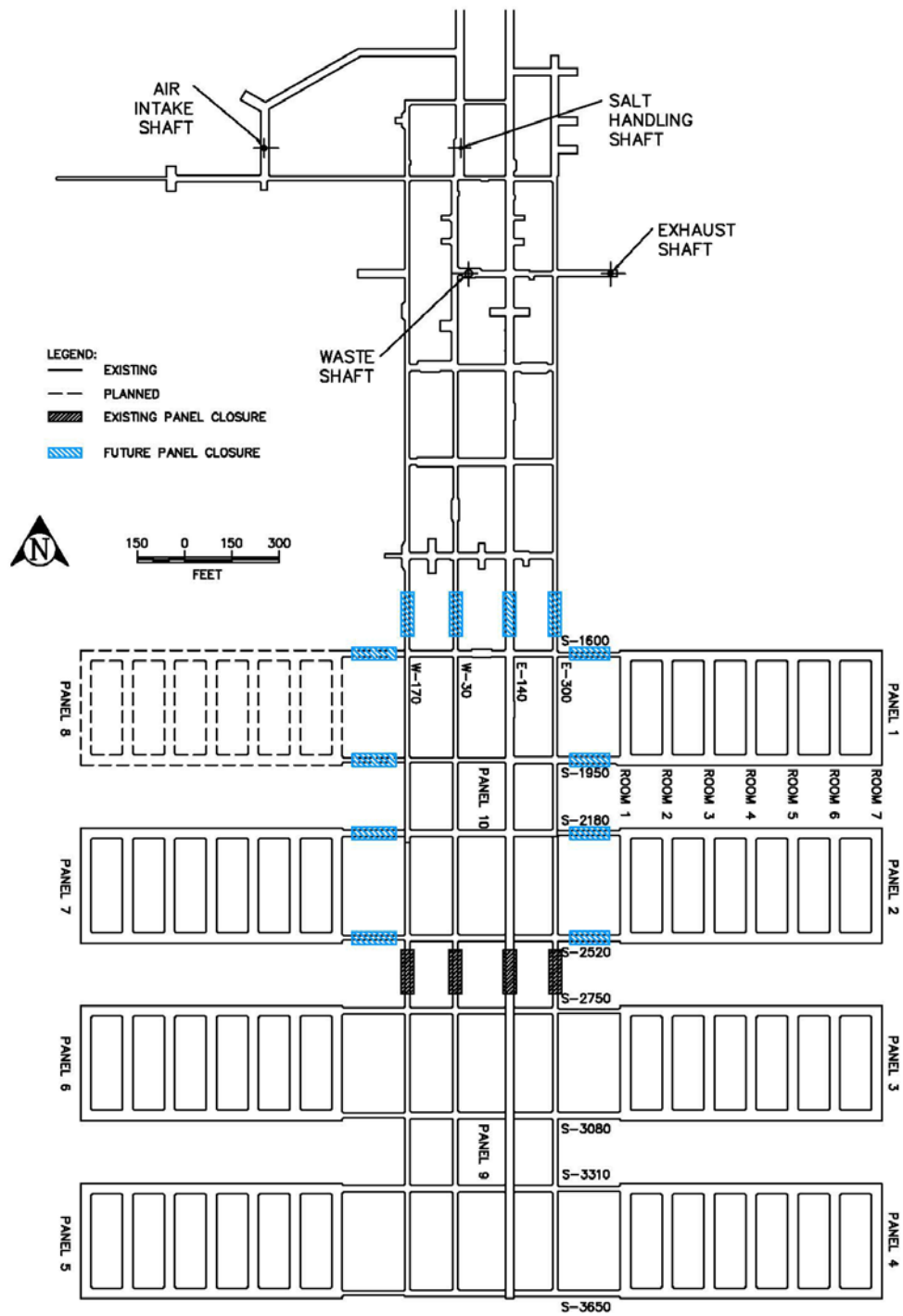
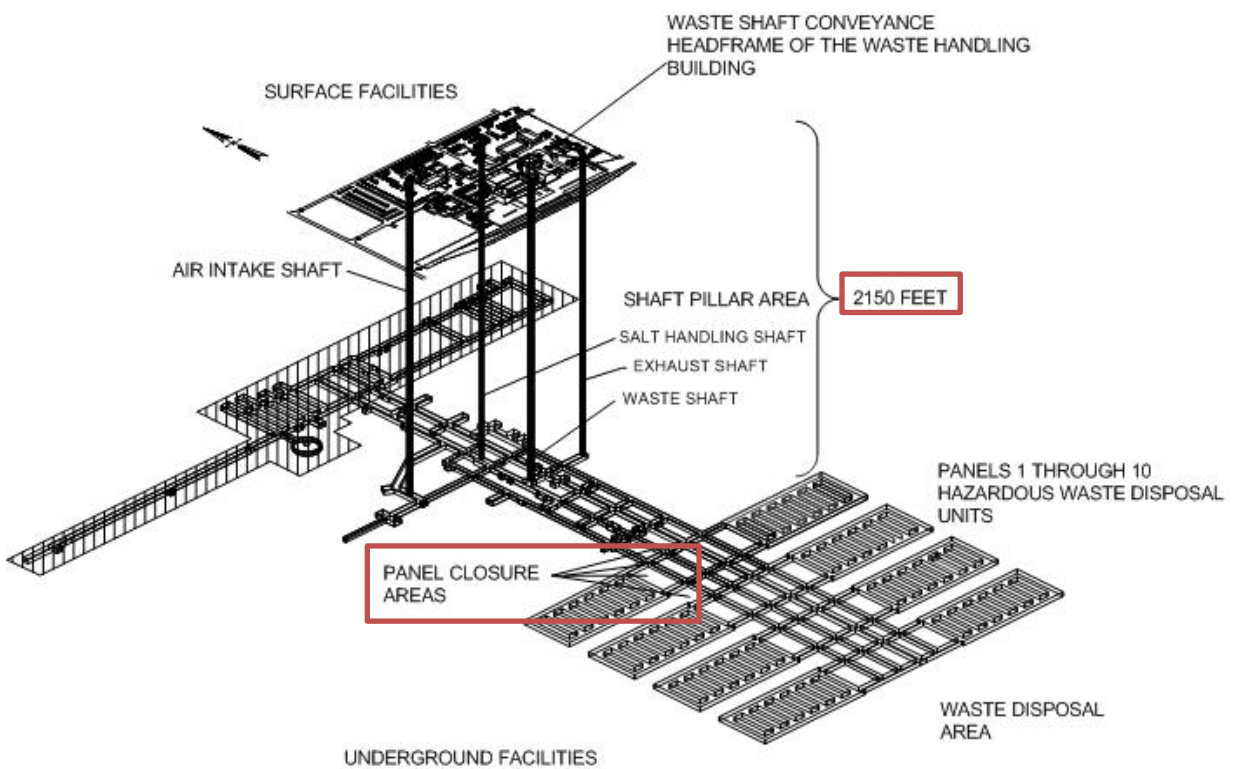


Figure A2-1
Repository Horizon



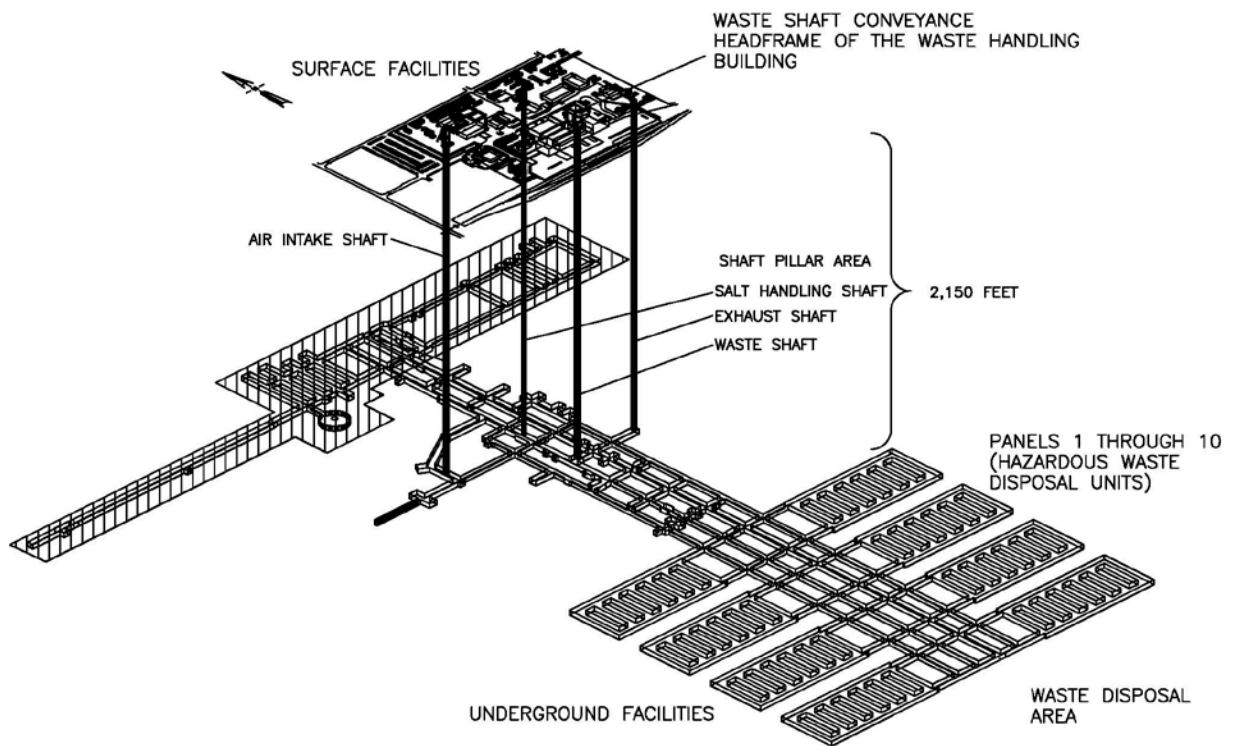
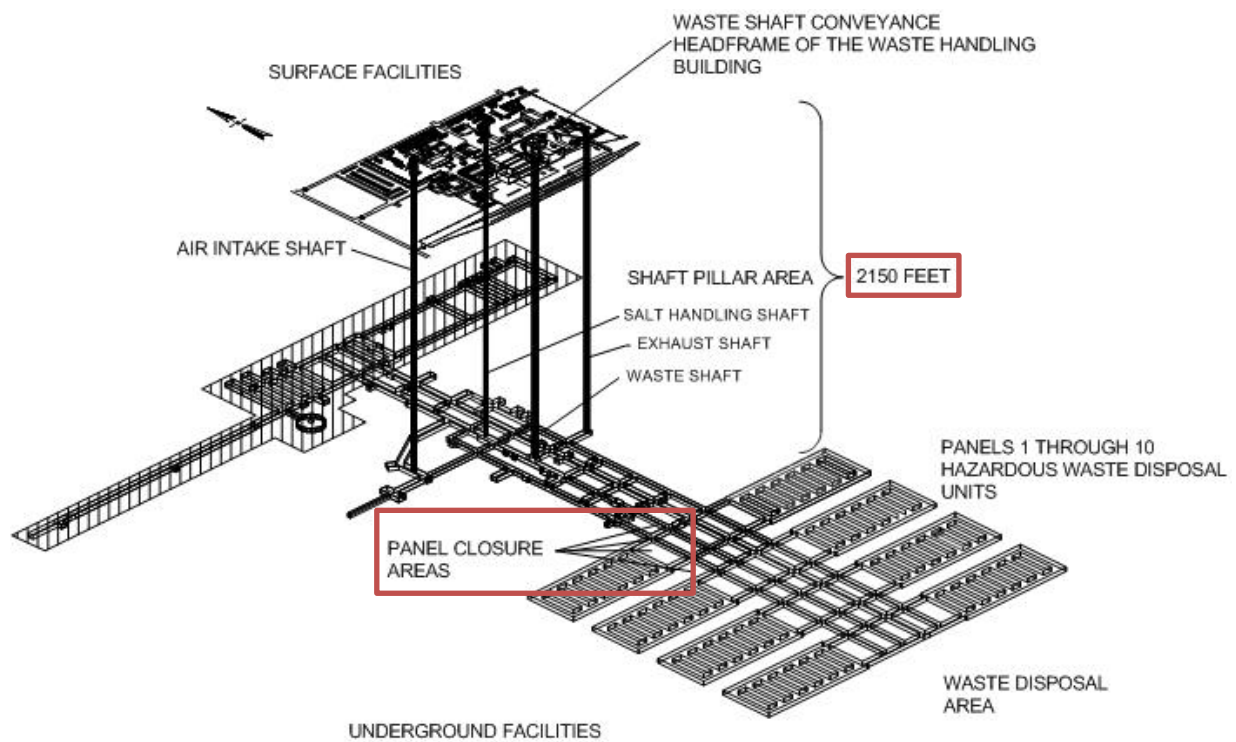


Figure A2-2
Spatial View of the Miscellaneous Unit and Waste Handling Facility



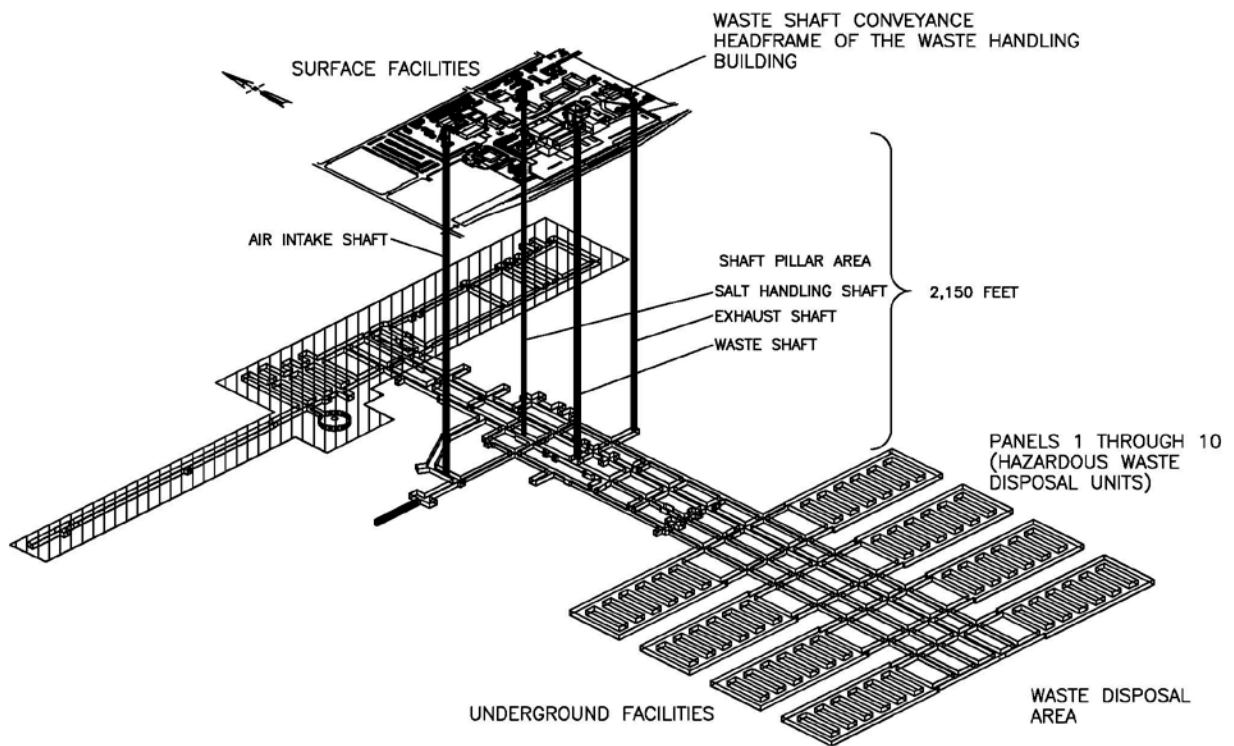
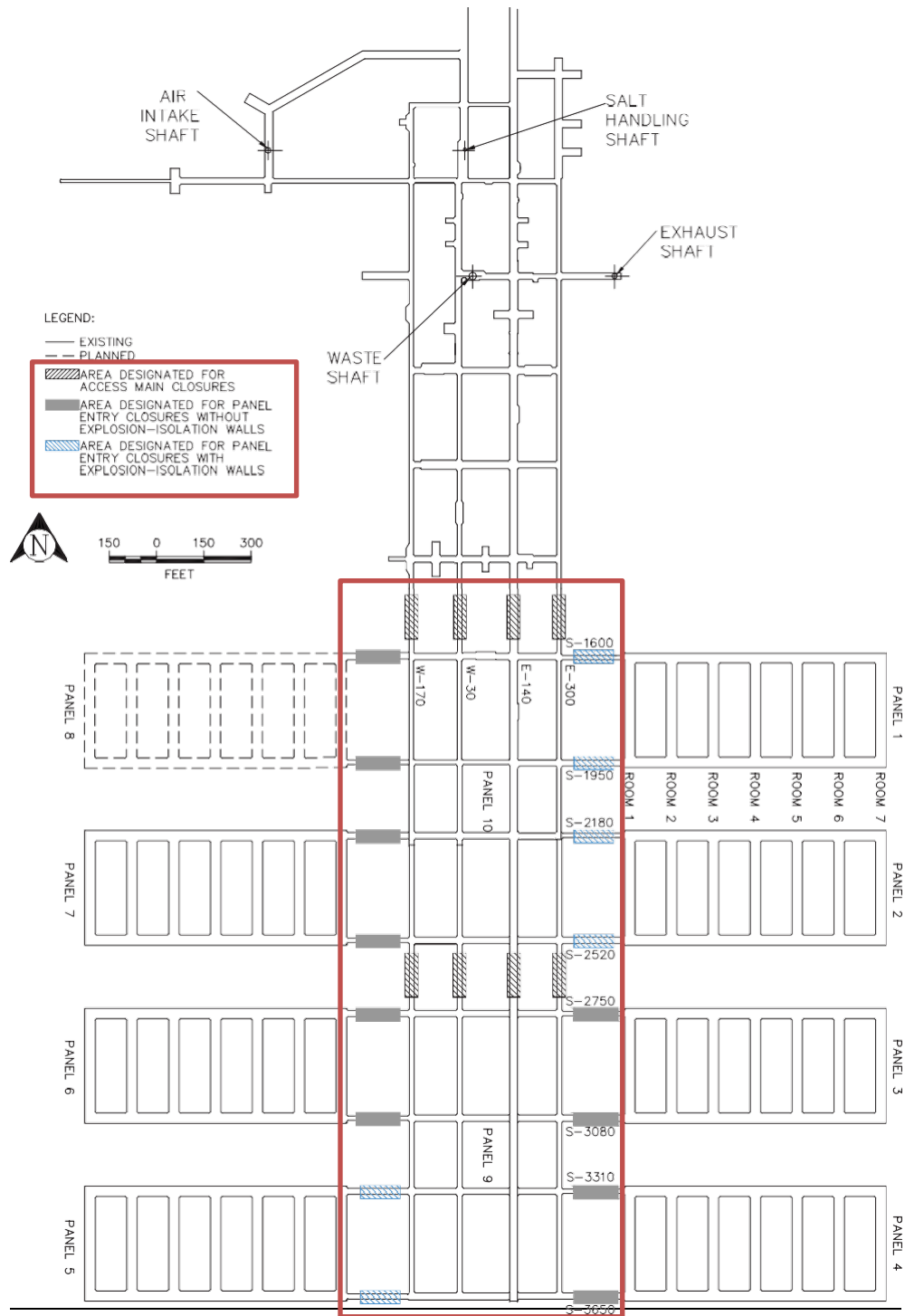


Figure B3-1
Spatial View of the WIPP Facility



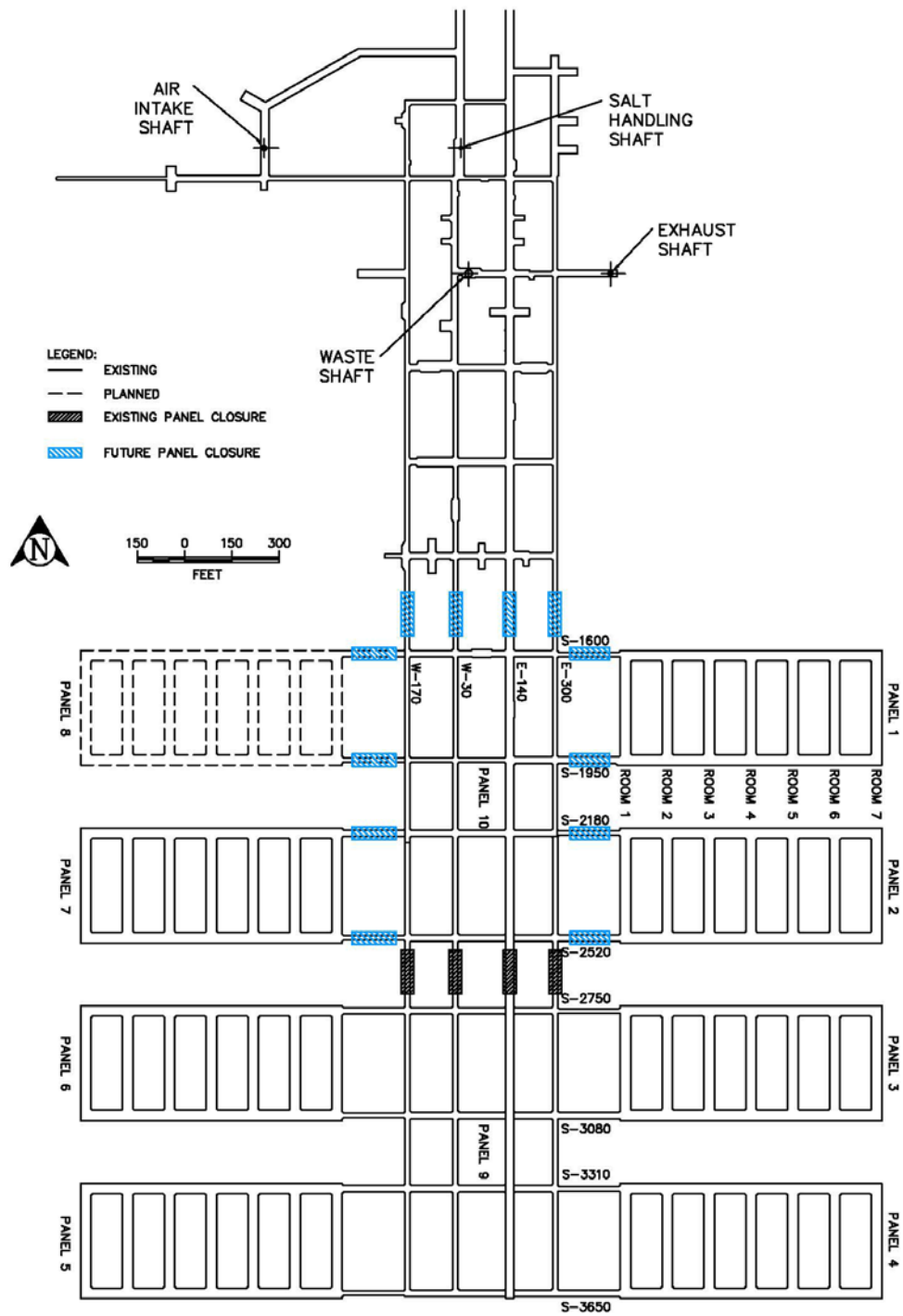
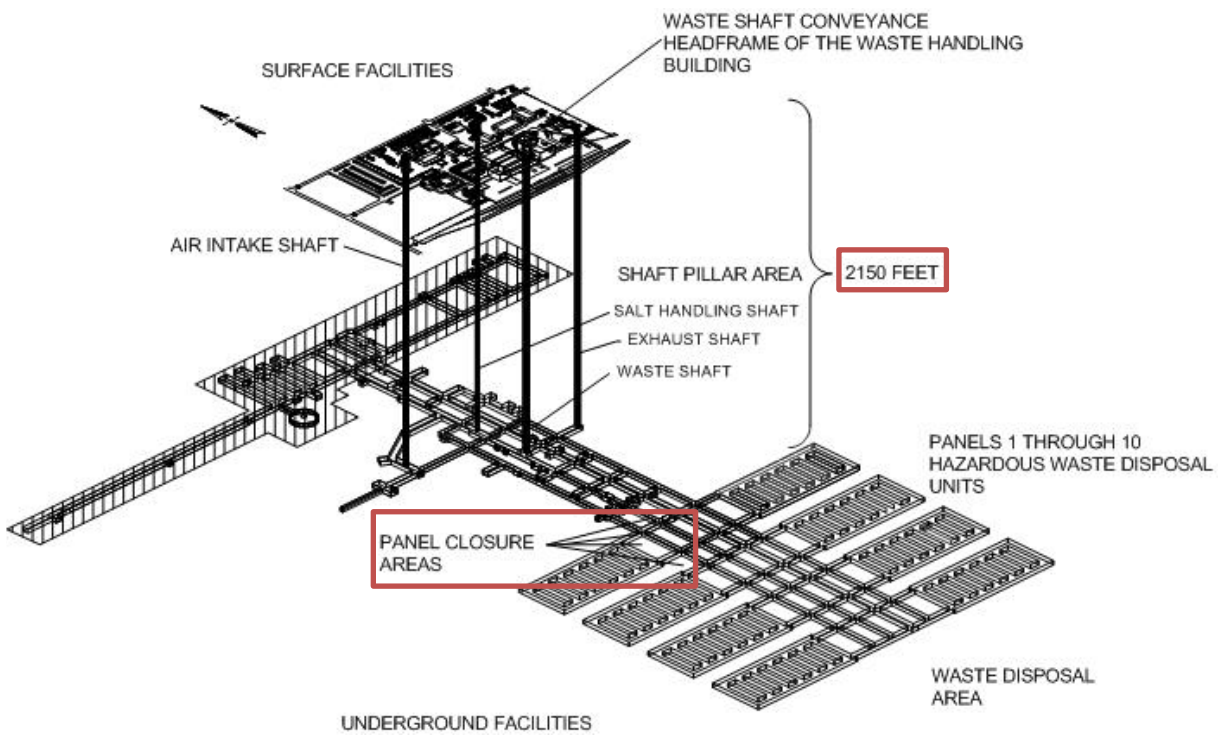


Figure B3-2
Repository Horizon



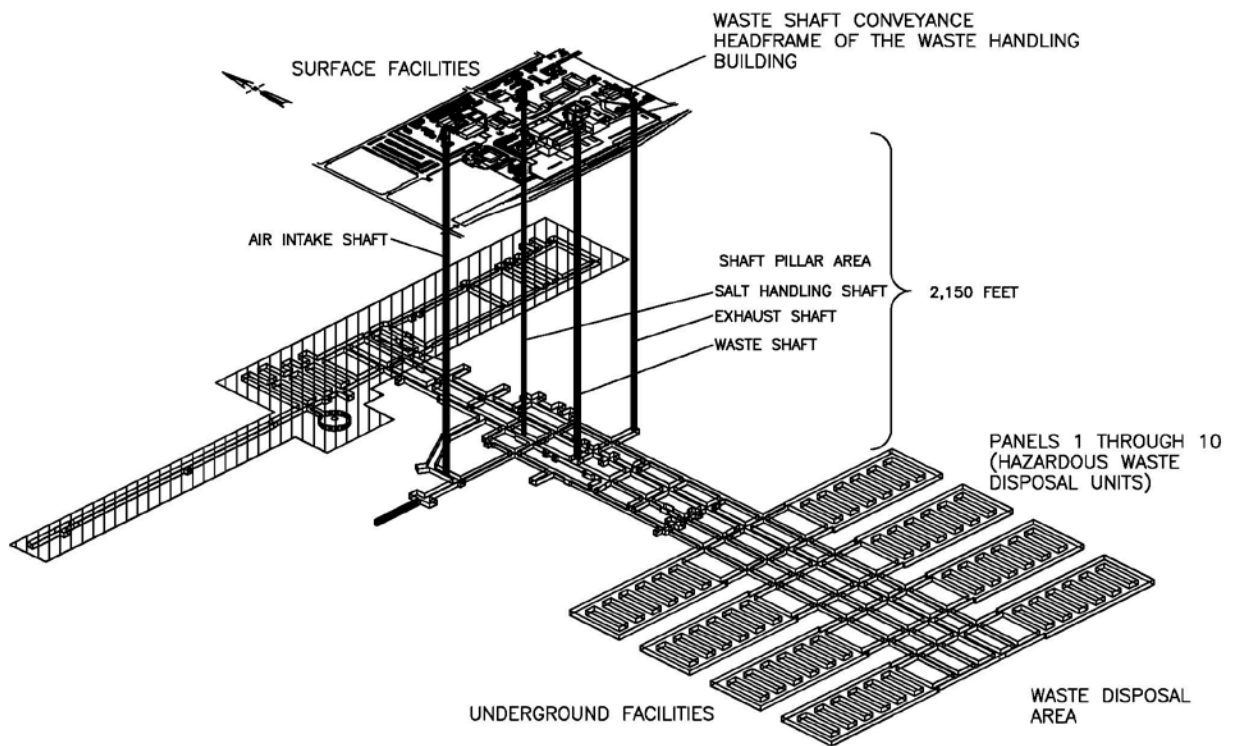
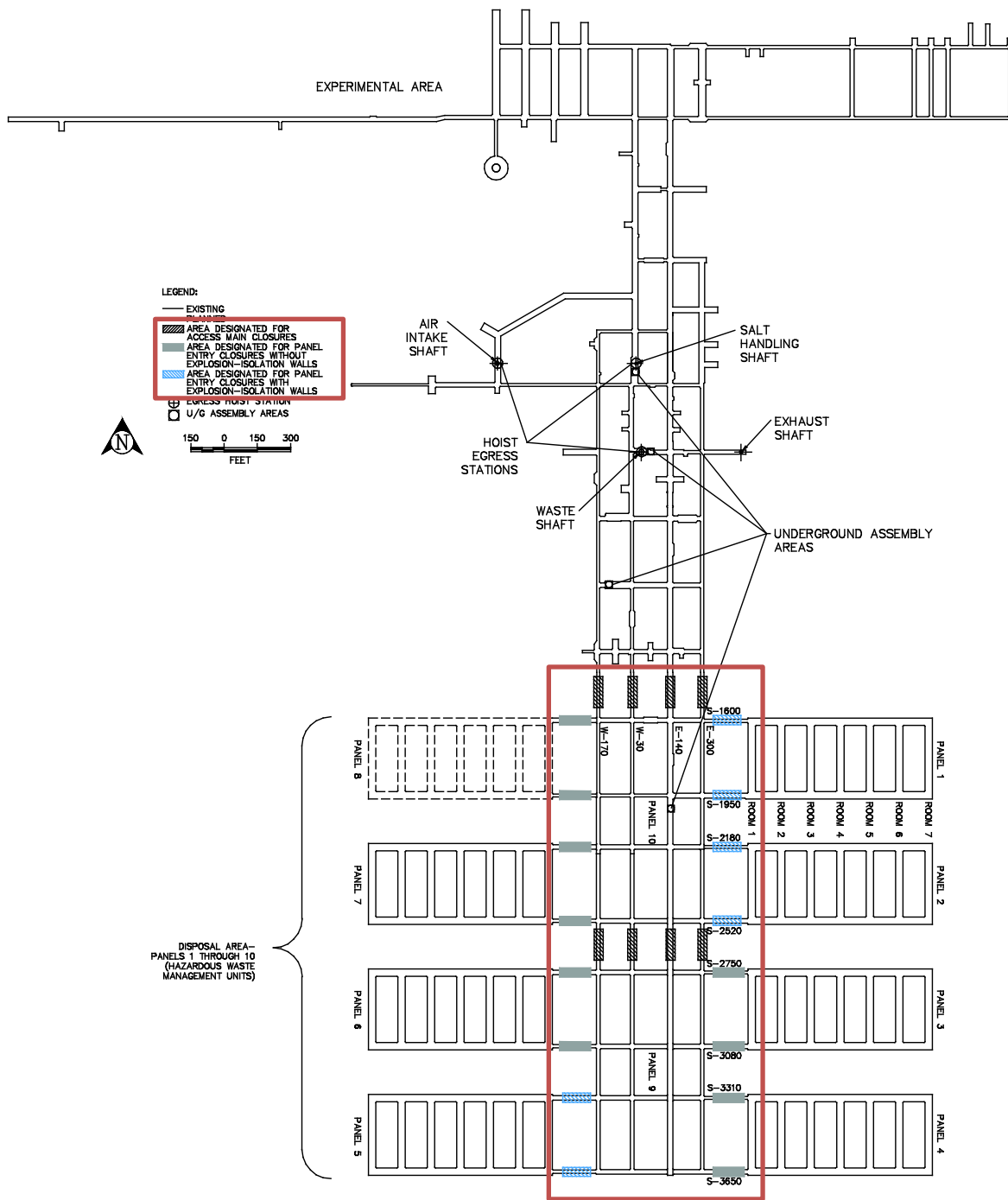


Figure D-2
Spatial View of the WIPP Facility



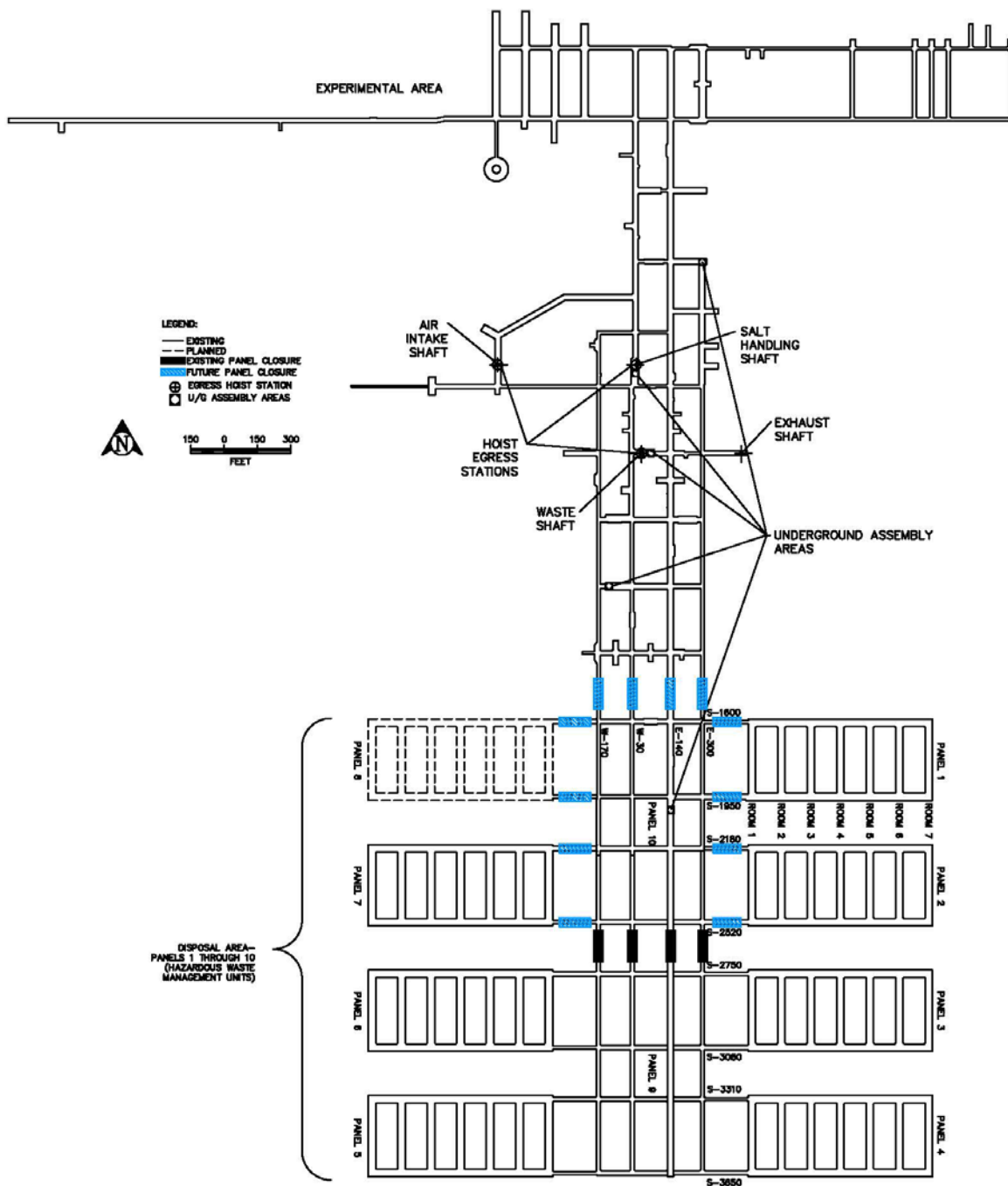


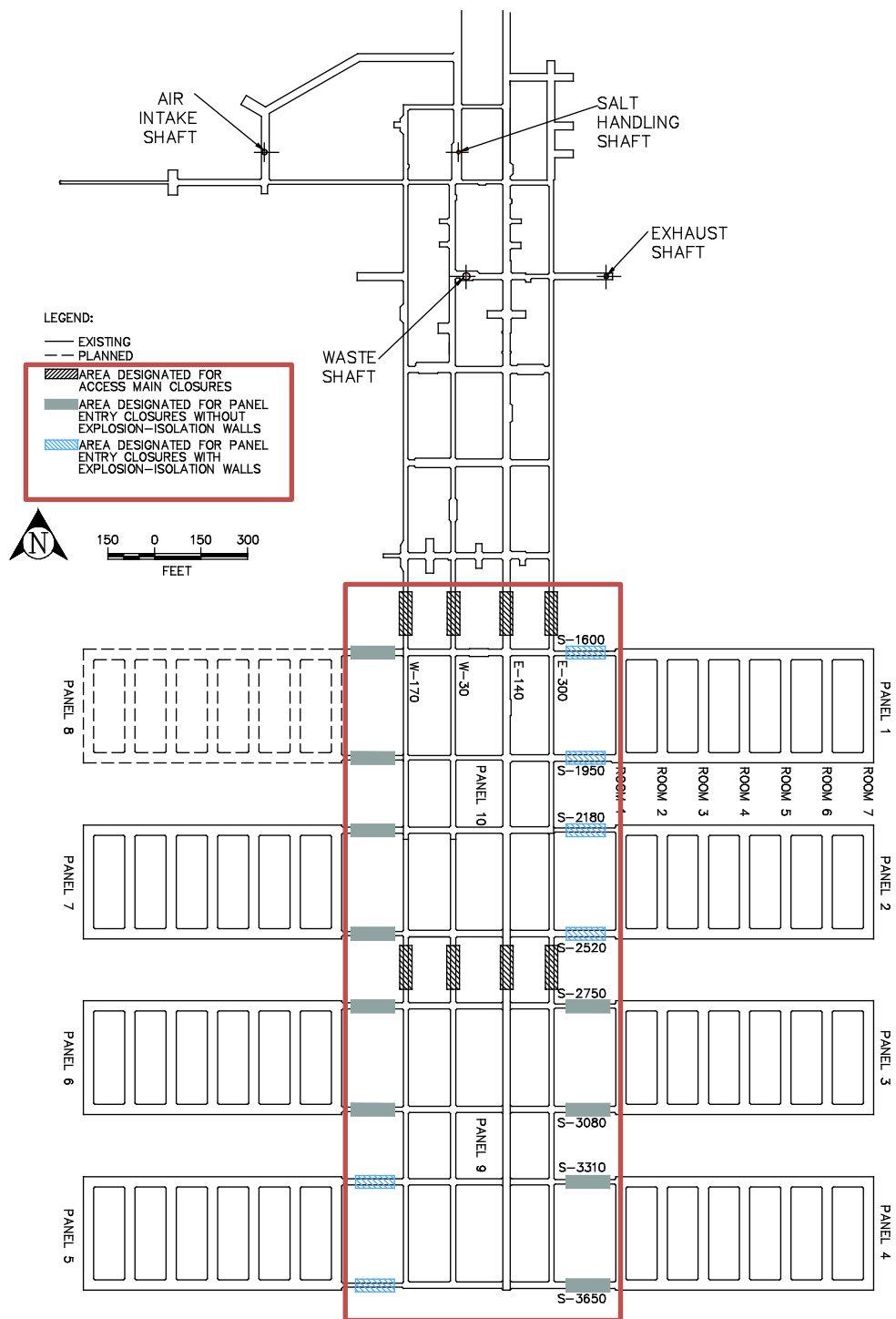
Figure D-7
Designated Underground Assembly Areas

ATTACHMENT G

CLOSURE PLAN

LIST OF FIGURES

Figure	Title
Figure G-1	Location of Underground HWDUs and Anticipated Closure WPC Locations
Figure G-2	WIPP Panel Closure Schedule
Figure G-3	WIPP Facility Final Closure 84-Month Schedule
Figure G-4	Bulkhead and ROM Salt Locations
Figure G-4a	Typical Substantial Barrier and Bulkhead
Figure G-5	Typical Disposal Panel
Figure G-6	Approximate Locations of Boreholes in Relation to the WIPP Underground



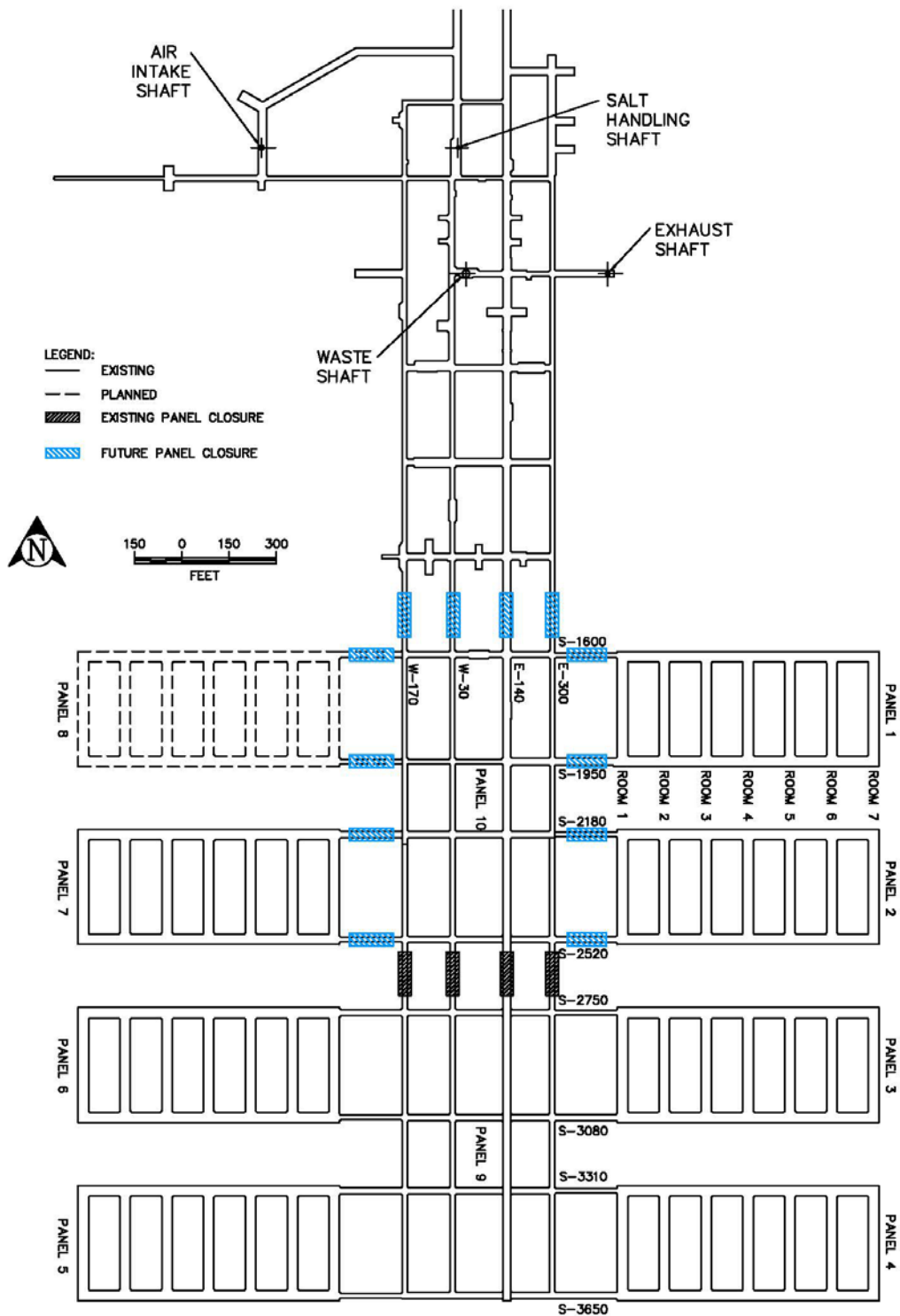


Figure G-1
Location of Underground HWDUs and Anticipated WPC Locations

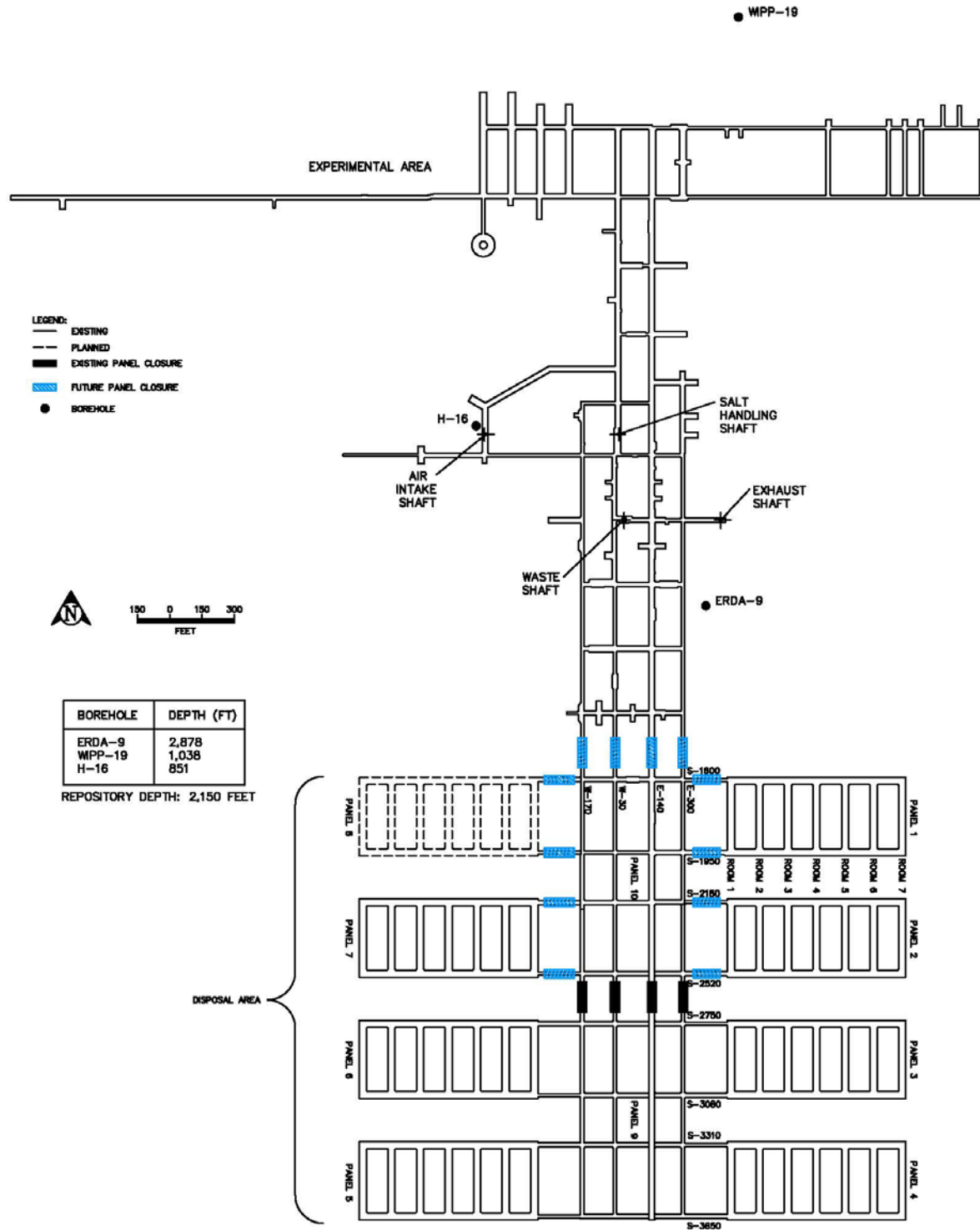
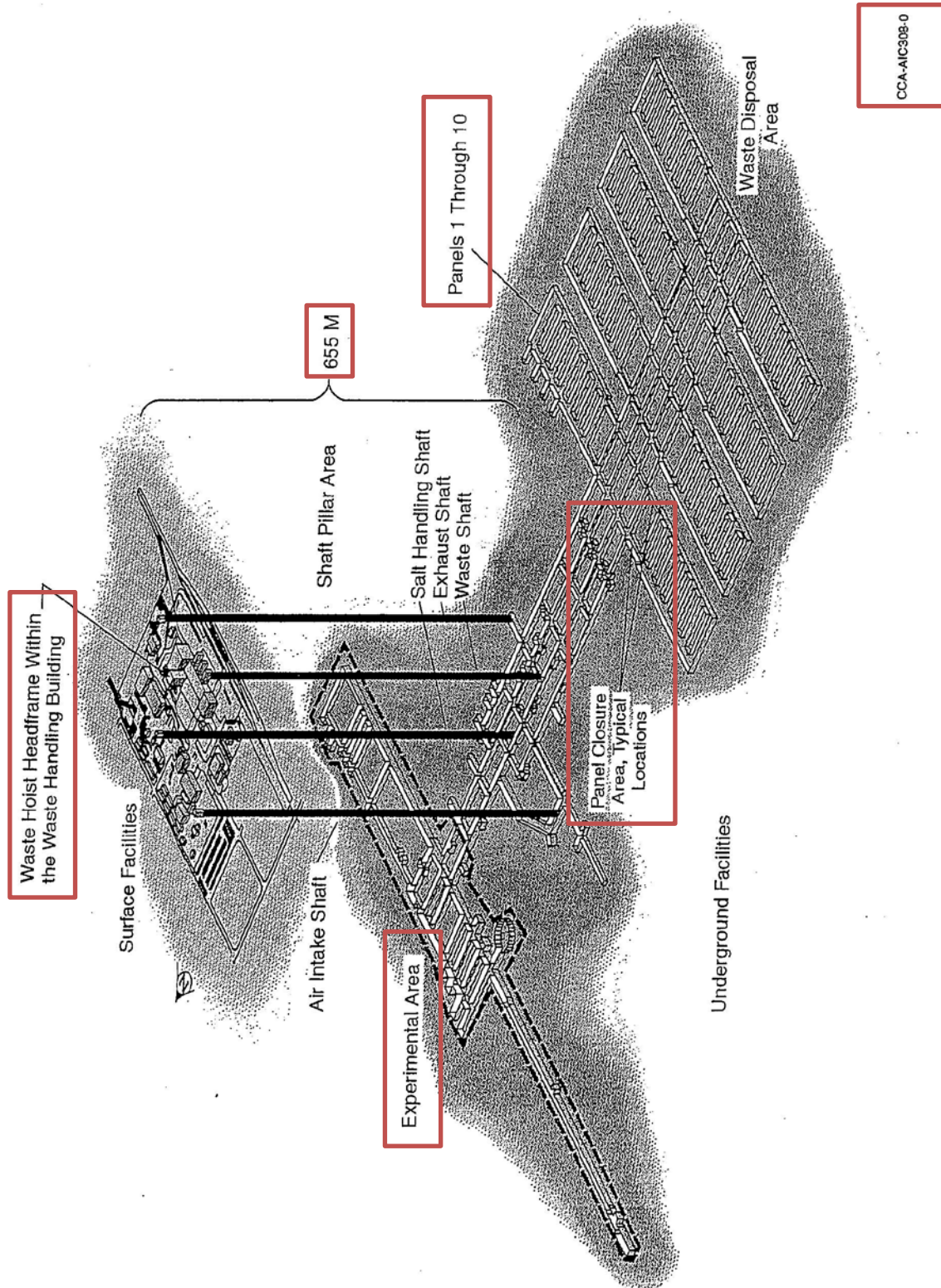


Figure G-6
Approximate Locations of Boreholes in Relation to the WIPP Underground



CCA-AIC308-0

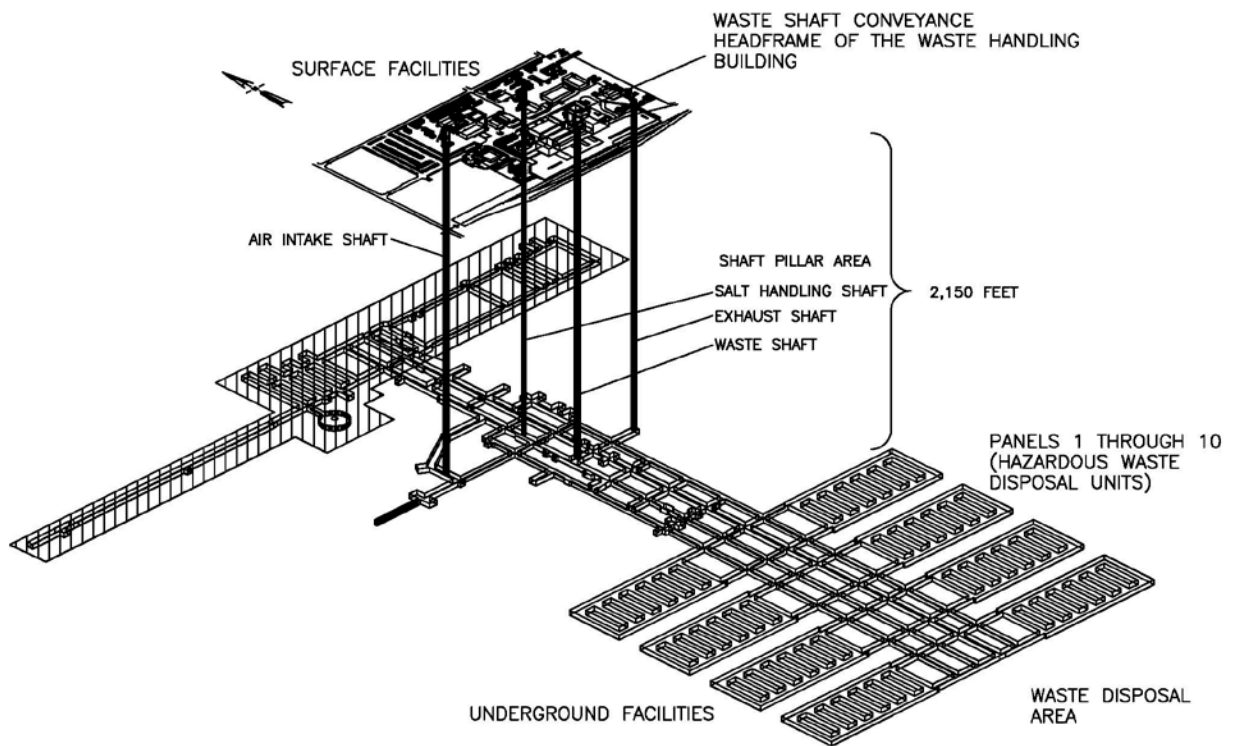


Figure H1-1
Spatial View of WIPP Surface and Underground Facilities