



**Department of Energy**

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**AUG 29 2013**

Mr. John E. Kieling, Chief  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, New Mexico 87505-6303

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

Dear Mr. Kieling:

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

- Revise a Course Outline
- Revise Table and Panel Figures to Include Panel 7
- Update Descriptions Related to Type B Packages
- Update TRUPACT-II and HalfPACT Figures

We certify under penalty of law that this document and all attachments were prepared under our direction or supervision in accordance with 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. George T. Basabilvazo at (575) 234-7488.

Sincerely,

**//Original Signatures on File//**

Jose R. Franco, Manager  
Carlsbad Field Office

M. F. Sharif, Project Manager  
Nuclear Waste Partnership LLC

Enclosure

cc: w/enclosure

T. Kliphuis, NMED \* ED

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CBFO M&RC

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**Class 1 Permit Modification Notifications**

**Revise a Course Outline**

**Revise Table and Panel Figures to Include Panel 7**

**Update Descriptions Related to Type B Packages**

**Update TRUPACT-II and HalfPACT Figures**

**Waste Isolation Pilot Plant**

**Carlsbad, New Mexico**

**WIPP Permit Number - NM4890139088-TSDF**

**August 2013**

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## Overview of the Permit Modification Notifications

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

These PMNs are 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 PMNs in this document are necessary to notify the New Mexico Environment Department (**NMED**) of changes which impact the WIPP facility. These changes do 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 these PMNs. The 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.

**Appendix A**  
**Description of the Class 1 Permit Modification Notifications**

**Table 1. Class 1 Hazardous Waste Facility Permit Modification Notifications**

<b>Item No</b>	<b>Affected Permit Section</b>	<b>Change Description</b>	<b>Category</b>
1	Attachment F2	Revise the course outline, <i>Radiological Control Technician Site-Specific Academic Lessons</i> , in Permit Attachment F2 to allow Radiological Control Technicians (RCTs) students to test out of all or part of the courses listed in this outline.	B.5.b
2	Attachment K, Table K-4	Revised table to indicate that Panel 7 has been approved for use.	A.1
	Attachment A2, Figure A2-1	Revised figure to indicate that Panel 7 has been approved for use.	A.1
	Attachment A4, Figure A4-4	Revised figure to indicate that Panel 7 has been approved for use. Added legend, north arrow, and scale.	A.1
	Attachment A4, Figure A4-4a	Revised figure to indicate that Panel 7 has been approved for use. Added legend, north arrow, and scale.	A.1
	Attachment B3, Figure B3-2	Revised figure to indicate that Panel 7 has been approved for use.	A.1
	Attachment D, Figure D-3	Revised figure to indicate that Panel 7 has been approved for use.	A.1
	Attachment D, Figure D-5	Revised figure to indicate that Panel 7 has been approved for use. Added legend. Moved north arrow and scale to the top of the figure.	A.1
	Attachment D, Figure D-9	Revised figure to indicate that Panel 7 has been approved for use.	A.1
	Attachment G, Figure G-1	Revised figure to indicate that Panel 7 has been approved for use.	A.1
	Attachment G, Figure G-6	Revised figure to indicate that Panel 7 has been approved for use. Added marks for the H-16 and WIPP-19 boreholes. Moved the H-16 caption to the right.	A.1
	Attachment G2, Figure G2-1	Revised figure to indicate that Panel 7 has been approved for use.	A.1
	Attachment N, Figure N-1	Revised figure to indicate that Panel 7 has been approved for use. Added “existing” and “planned” to the legend. Added a scale and moved the north arrow. Added Panel 8 to the figure as “planned.”	A.1
3	Attachment A1, Section A1-1c(1)	Deleted “double-contained”	A.1
	Attachment A1, Section A1-1c(1)	Deleted “double-contained”	A.1
	Attachment A1, Section A1-1c(1)	Deleted “7.”	A.1
	Attachment A1, Section A1-1c(1)	Changed “inner vessel” to “Inner Containment Vessel (ICV)”	A.1
	Attachment A1, Section A1-1c(1)	Changed “inner vessel” to “ICV”	A.1
	Attachment A1, Section A1-1c(1)	Changed “inner vessel” to “ICV”	A.1
	Attachment A1, Section A1-1c(2)	Changed “inner containment vessel” to “ICV”	A.1
	Attachment A1, Section A1-1d(2)	Changed “, at which time” to “. Prior to unloading the packages from the trailer,”	A.1

Item No	Affected Permit Section	Change Description	Category
	Attachment A1, Section A1-1d(2)	Changed "inner vessel" to "ICV"	A.1
	Attachment A1, Section A1-1d(2)	Changed "outer containment vessel" to "Outer Confinement Vessel (OCV)"	A.1
	Attachment A1, Section A1-1d(2)	Changed "inner vessel" to "ICV"	A.1
	Attachment A1, A1-1d(3)	Changed "Upon arrival at the gate" to "Prior to unloading the cask from the trailer"	A.1
	Attachment A1, A1-1d(3)	Changed "inner containment vessel" to "ICV"	A.1
	Attachment A1, A1-1d(3)	Changed "inner containment vessel" to "ICV"	A.1
	Attachment A1, A1-1d(3)	Changed "inner vessel" to "ICV"	A.1
	Attachment A1, A1-1d(3)	Changed "inner vessel" to "ICV"	A.1
	Attachment A1, A1-1d(3)	Changed "inner vessel" to "ICV"	A.1
	Attachment A1, Section A1-1d(4)	Changed ", at which time" to ". Prior to unloading the packages from the trailer,"	A.1
	Attachment A1, Section A1-1d(4)	Changed "inner vessel" to "ICV"	A.1
	Attachment A1, Section A1-1d(4)	Changed "outer containment vessel" to "OCV"	A.1
	Attachment A1, Section A1-1d(4)	Changed "inner vessel" to "ICV"	A.1
	Attachment A1, Section A1-1e(1)	Changed "inner container vessel" to "ICV"	A.1
	Attachment A1, Section A1-1e(2)	Changed "inner containment vessel" to "ICV"	A.1
	Attachment A2, Section A2-2b	Change ", at which time" to ". Prior to unloading the packages from the trailer,"	A.1
	Attachment A4, Section A4-3	Changed "Upon receipt" to "Prior to unloading the packages from the trailer"	A.1
	Attachment A4, Section A4-3	Changed "Upon arrival" to "Prior to unloading the cask from the trailer"	A.1
	Attachment C, Section C-5b(1)	Changed "inner containment vessel" to "Inner Containment Vessel"	A.1
	Attachment G3, Table G3-2	Changed "Containment" to "Confinement"	A.1
4	Attachment A1, Figure A1-8a	Replaced with a more legible and updated drawing. Changed "Protective Structure/Impact Limiter" to "OUTER CONFINEMENT ASSEMBLY (OCA)" Changed "Honeycomb Dunnage" to "HONEYCOMB SPACER" Changed "Payload (55-gallon Drums or Standard Waste Boxes)" to "PAYLOAD ASSEMBLY (55-GAL DRUM SHOWN)" Changed "Locking ring (Typ)" and "Seals (Typ)" to "CLOSURE REGION (SEALS, LOCKING RING)" Changed "Outer Containment Vessel (OCV)" to "OUTER CONFINEMENT VESSEL (OCV)" Changed "Drum Pallet" to "PAYLOAD PALLET"	A.1

Item No	Affected Permit Section	Change Description	Category
		<p>Changed "Honeycomb Dunnage" to "HONEYCOMB SPACER"</p> <p>Added "LID LIFT POCKETS"</p> <p>Added "GUIDE TUBE"</p> <p>Added "FIRE CONSUMABLE VENT"</p> <p>Added "TIE-DOWN LUG"</p> <p>Added "THIS ILLUSTRATION FOR INFORMATIONAL PURPOSES ONLY NOT TO SCALE"</p> <p>Added "ø" before "8" to denote it is a diameter and not a length.</p> <p>Capitalized remaining labels.</p>	
	Attachment A1, Figure A1-8b	<p>Replaced with a more legible and updated figure drawing.</p> <p>Changed "Protective Stainless Steel Skin 3/8" Thick" to "OUTER CONFINEMENT ASSEMBLY (OCA)"</p> <p>Changed "Honeycomb Impact Limiter" to "HONEYCOMB SPACER"</p> <p>Deleted "Lytherm insulation 1/4" Thick"</p> <p>Changed "Inner Containment Vessel 72.60" I.D. 1/4" Thick" to "INNER CONTAINMENT VESSEL (ICV)"</p> <p>Changed "Outer Containment Vessel 73.60" I.D. 1/4" Thick" to "OUTER CONFINEMENT VESSEL (OCV)"</p> <p>Changed "Foam 10" Thick" to "FOAM"</p> <p>Changed "Honeycomb Impact Limiter" to "HONEYCOMB SPACER"</p> <p>Added "LID LIFT POCKETS"</p> <p>Added "GUIDE TUBE"</p> <p>Added "SLIPSHEET"</p> <p>Added "PAYLOAD ASSEMBLY (55-GAL DRUM SHOWN)"</p> <p>Added "CLOSURE REGION (SEALS, LOCKING RING)"</p> <p>Added "SLIPSHEET"</p> <p>Added "PAYLOAD PALLET"</p> <p>Added "FIRE CONSUMABLE VENT"</p> <p>Added "PAYLOAD SPACER"</p> <p>Added "TIE-DOWN LUG"</p> <p>Added "THIS ILLUSTRATION FOR INFORMATIONAL PURPOSES ONLY NOT TO SCALE"</p> <p>Added "ø" before "8" to denote it is a diameter and not a length.</p>	A.1



## Item 1

### Description

Revise the course outline, *Radiological Control Technician Site-Specific Academic Lessons*, in Permit Attachment F2 to allow Radiological Control Technicians (**RCTs**) students to test out of all or part of the courses listed in this outline.

### Basis

The change is classified as “*Changes in the training plan:…Other changes*” and is, therefore, a Class 1 notification pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.42, Appendix I, B.5.b).

### Discussion

The Permittees are modifying Permit Attachment F2 to allow RCT students with prior academic or facility training the option to take written and oral examinations covering all or a portion of the course-work listed in the course outline, *Radiological Control Technician Site-Specific Academic Lessons*. Much of the training received by RCTs at other facilities and the general equipment used by RCTs at other facilities may be the same as the training and equipment used at the WIPP facility, therefore, it is appropriate to allow students with this prior knowledge to test out of the courses listed in the subject course outline. The Radiological Control Manager will consider the previous training when authorizing personnel to test out of these courses.

A similar provision is currently allowed by the Permit in Attachment F2, *Radiological Control Technician Fundamental Academic Lessons*, which states: *Students may elect to test out of these courses with the Radiological Control Manager approval.*

This change is necessary to facilitate the use of temporary or contract RCT personnel to support periodic shipping campaigns from other U.S. Department of Energy locations (e.g., Los Alamos National Laboratory). This change allows such personnel to begin work sooner, depending on their prior knowledge and ability to test out of academic lessons. These changes do not impact the ability of the Permittees to continue to protect human health and the environment.

**Revised Permit Text**

**Attachment F2  
Training Course and Qualification Card Outlines**

**COURSE:** Radiological Control Technician Site-Specific Academic Lessons

**DURATION:** ≈88 hours

Students may elect to test out of all or some of these courses with approval from the Radiological Control Manager.

**PREREQUISITES:** Lesson specific

**SCOPE:** Lesson specific

## Item 2

### Description

This modification revises Permit Attachment K, Table K-4 and Permit figures A2-1, A4-4, A4-4a, B3-2, D-3, D-5, D-9, G-1, G-6, G2-1, and N-1 to indicate that Panel 7 has been approved by the NMED. The text “SWMU 013i Underground HWDU – Panel 7” is being added to Attachment K, Table K-4. The figures were updated by changing Panel 7 status from “planned” to “existing” hazardous waste disposal unit (HWDU). This is done by changing dashed lines to solid lines or by adding Panel 7 to respective figures. Additional editorial changes were made to some figures which included the following: added legend, north arrow, and scale to Figures A4-4 and A4-4a; added Panel legend (for existing and planned Panels) and moved north arrow and scale to top of Figure D-5; added borehole markers for boreholes H-16 and WIPP-19 and moved H-16 borehole caption to the right on Figure G-6. Also see the Table of Changes and the “clouded” figures in Appendix C of this PMN for a description of these changes.

### Basis

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

### Discussion

On July 16, 2013, the Permittees were notified by the NMED that Panel 7 had been constructed in compliance with the requirements of the Permit. Panel 7 is now available for waste emplacement. Figures A2-1, A4-4, A4-4a, B3-2, D-3, D-5, D-9, G-1, G-6, G2-1 and N-1 have been revised to show that Panel 7 is now authorized for waste disposal. The change removes the “dashed” lines and replaces them with “solid” lines in order to change the designation from “planned” HWDU to “existing” HWDU.

### Revised Permit Text:

The “clouded” Figures A2-1, A4-4, A4-4a, B3-2, D-3, D-5, D-9, G-1, G-6, G2-1 and N-1 are included in Appendix B to this PMN. The Revised Permit Figures are included in Appendix C to this PMN.

**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 HWDU - Panel 1	
SWMU 013d	Underground HWDU – Panel 2	
SWMU 013e	Underground HWDU – Panel 3	
SWMU 013f	Underground HWDU – Panel 4	
SWMU 013g	Underground HWDU – Panel 5	

SWMU 013h	Underground HWDU – Panel 6	
<u>SWMU 013i</u>	<u>Underground HWDU – Panel 7</u>	

### Item 3

#### Description

This modification updates descriptive text and terminology in Permit Attachments A1, A2, A4, C, and G3. The permit modification clarifies the text “at which time” relative to the sequence for performing security, radiological, and paperwork checks for arriving shipments of TRU mixed waste; deletes the terms “double-containment” from the TRUPACT-II and HalfPACT descriptions; and changes “containment” to “confinement” in other Permit text. An editorial change to the HalfPACT diameter from “7.8 ft” to “8 ft” is being made to the Permit to be consistent with the text in the Certificate of Compliance (**CoC**) for the TRUPACT-II and HalfPACT. Changes to the text regarding references to “Inner Containment Vessel” or its acronym “**ICV**” are being made to make their usage consistent throughout the Permit.

#### Basis

These changes are classified by the Permittees as an “Administrative and information change” and are, therefore, Class 1 modifications pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.42, Appendix I, A.1).

The change regarding the text “at which time” clarifies the meaning of this requirement for the purposes of implementation and is administrative in nature. It does not reduce the number or type of receipt checks that waste shipments undergo at the WIPP facility.

The change regarding the descriptive information for the TRUPACT-II and HalfPACT does not impact the ability of the TRUPACT-II or HalfPACT to provide secondary containment for the hazardous waste it contains. The “double-containment” and “confinement” are descriptive terms that apply to a radiological/transportation requirement for Type-B shipping containers. The application of these terms to the TRUPACT-II and HalfPACT has been changed by the Nuclear Regulatory Commission (**NRC**) who licenses these packages for the transportation of radioactive materials. The Permittees are changing this descriptive information and terminology in the Permit to align with the approved CoC.

#### Discussion

The Permit requires incoming shipping packages to undergo security, radiological, and documentation checks. The Permit uses the terminology “at which time” or “Upon arrival at the gate” which implies the activities must be performed simultaneously. This is not possible since only security checks are required at the gate. Radiological and documentation checks occur in the Parking Area Unit, where the trained personnel and required equipment are located, prior to unloading. The language is clarified to prescribe that the checks occur prior to unloading the packages from the trailers regardless of the location.

The CoC for the TRUPACT-II and HalfPACT contact-handled TRU mixed waste packages was recently revised to change language related to double-containment to single-containment. The CoC was updated to incorporate changes made to the Nuclear Regulatory Commission (**NRC**) regulations in 2004 (Federal Register Volume 69, Number 16, January 26, 2004, Item 17). To make the language in the WIPP Permit consistent with the CoC, the descriptive text in the WIPP Permit requires update. The NRC approved CoC may be found at (<http://pbadupws.nrc.gov/docs/ML1317/ML13170A446.html>). Previously, both the inner and outer vessels of the TRUPACT-II and the HalfPACT were required to provide containment for

radionuclides. The 2004 NRC rule change eliminated the requirement for two containment vessels. The amended CoC now stipulates that the inner vessel (referred to as the ICV) provide containment and the outer vessel (referred to as the outer confinement vessel (**OCV**)) provide confinement. Because the Permit describes the TRUPACT-II and HalfPACT in the terms used in the CoC, it is necessary to change these descriptions to be consistent with the newly issued CoC. The term “containment” used in the CoC applies strictly to “containing” radionuclides within the sealed transportation package. In the context of the Resource Conservation and Recovery Act (**RCRA**) the term “containment” generally refers to preventing the spill or release of hazardous waste. In the Permit, containment is provided by the approved waste containers described in Permit Part 3. During the storage of hazardous waste, secondary containment is provided by the Waste Handling Building (**WHB**) floor for waste stored in the WHB and the TRUPACT-II, HalfPACT, TRUPACT-III, and RH-72B shipping packages for waste stored in the Parking Area Unit. The ability of the TRUPACT-II and HalfPACT assemblies to provide the required RCRA secondary containment is not changed as the result of the NRC actions.

An editorial change in the diameter of the HalfPACT from “7.8 ft” to “8 ft” is required to correct a typographical error and make it consistent with the diameter of the TRUPACT-II and Figure A1-8b. Also, the language related to the ICV is being made consistent throughout the Permit. This change will clarify the frequent reference to an “inner vessel.”

## Revised Permit Text:

### A1-1c(1) Waste Handling Building Container Storage Unit (WHB Unit)

#### TRUPACT-II Type B Packaging

The TRUPACT-II (Figure A1-8a) is a ~~double-contained~~ cylindrical shipping container 8 ft (2.4 m) in diameter and 10 ft (3 m) high. It meets NRC Type B shipping container requirements and has successfully completed rigorous container-integrity tests. The payload consists of approximately 7,265 lbs (3,300 kg) gross weight in up to fourteen 55-gal (208-L) drums, eight 85-gal (322-L) drums, six 100-gal (379-L) drums, two SWBs, or one TDOP.

#### HalfPACT Type B Packaging

The HalfPACT (Figure A1-8b) is a ~~double-contained~~ right cylindrical shipping container 7.8 ft (2.4 m) in diameter and 7.6 ft (2.3 m) high. It meets NRC Type B shipping container requirements and has successfully completed rigorous container-integrity tests. The payload consists of approximately 7,600 lbs (3,500 kg) gross weight in up to seven 55-gal (208-L) drums, one SWB, or four 85-gallon drums.

#### Casks

The RH-TRU 72-B cask (Figure A1-20) is a cylinder designed to meet U.S. Department of Transportation (**DOT**) Type B shipping container requirements. It consists of a separate ~~inner vessel~~ Inner Containment Vessel (ICV) within a stainless steel, lead-shielded outer cask protected by impact limiters at each end, made of stainless steel skins filled with polyurethane foam. The ~~inner vessel~~ ICV is made of stainless steel and provides an internal containment boundary and a cavity for the payload. Neither the outer cask nor the ~~inner vessel~~ ICV is vented. Payload capacity of each RH-TRU 72-B shipping cask is 8,000 lbs (3,628 kg). The payload consists of a canister of RH TRU mixed waste, which may contain up to 31.4 ft<sup>3</sup> (0.89 m<sup>3</sup>) of directly loaded waste or waste in smaller containers.

### A1-1c(2) Parking Area Container Storage Unit (Parking Area Unit)

The Nuclear Regulatory Commission (**NRC**) Certificate of Compliance requires that sealed Contact-Handled or Remote-Handled Packages which contain waste be vented every 60 days to avoid unacceptable levels of internal pressure. During normal operations the maximum residence time of any one container in the Parking Area Unit is typically five days. Therefore, during normal waste handling operations, no Contact-Handled or Remote-Handled Packages will require venting while located in the Parking Area Unit. Any off-normal event which results in the need to store a waste container in the Parking Area Unit for a period of time approaching fifty-nine (59) days shall be handled in accordance with Section A1-1e(2) of this Permit Attachment. Under no circumstances shall a Contact-Handled or Remote-Handled Package be stored in the Parking Area Unit for more than fifty-nine (59) days after the date that the ~~inner containment vessel~~ ICV of the Contact-Handled or Remote-Handled Package was sealed at the generator site.

#### A1-1d(2) CH TRU Mixed Waste Handling

CH TRU mixed waste containers will arrive by tractor-trailer at the WIPP facility in sealed shipping containers (e.g., TRUPACT-IIs, HalfPACTs, or TRUPACT-IIIs) (see Figure A1-12), at which time, Prior to unloading the packages from the trailer, they will undergo security and radiological checks and shipping documentation reviews. A forklift will remove the Contact-Handled Packages which will be transported by forklift or Yard Transfer Vehicle through an air lock that is designed to maintain differential pressure in the WHB. The forklift will place the shipping containers at either one of the two TRUDOCKs in the TRUDOCK Storage Area of the WHB Unit or the Yard Transfer Vehicle will locate the TRUPACT-III at the bolting station in Room 108. An external survey of the Contact-Handled Package inner vessel ICV (Figure A1-8a and A1-8b) will be performed as the outer containment vessel Outer Confinement Vessel (OCV) lid is removed. The inner vessel ICV lid or closure lid will be lifted under the Vent Hood System (VHS), and the contents will be surveyed during and after this process is complete. The VHS<sup>1</sup> is attached to the Contact-Handled Package to provide atmospheric control and confinement of headspace gases at their source. It also prevents potential personnel exposure and facility contamination due to the spread of radiologically contaminated airborne dust particles and minimizes personnel exposure to VOCs.

#### A1-1d(3) RH TRU Mixed Waste Handling

The RH TRU mixed waste that is not in a shielded container will be received in the RH-TRU 72-B cask or CNS 10-160B cask loaded on a trailer, as illustrated in process flow diagrams in Figures A1-26 and A1-27, respectively. These are shown schematically in Figures A1-28 and A1-29. Remote-Handled TRU mixed waste received in shielded containers will be managed and stored as CH TRU mixed waste. Upon arrival at the gate Prior to unloading the cask from the trailer, external radiological surveys, security checks, shipping documentation reviews are performed and the Uniform Hazardous Waste Manifest is signed. The generator's copy of the Uniform Hazardous Waste Manifest is returned to the generator. Should the results of the contamination survey exceed acceptable levels, the shipping cask and transport trailer remain outside the WHB in the Parking Area Unit, and the appropriate radiological boundaries (i.e., ropes, placards) are erected around the shipping cask and transport trailer. A determination will be made whether to return the cask to the originating site or to decontaminate the cask.

#### RH-TRU 72-B Cask Unloading

The Cask Transfer Car then moves the RH-TRU 72-B cask to a work stand in the RH Bay. The work stand allows access to the head area of the RH-TRU 72-B cask for conducting radiological surveys, performing physical inspections or minor maintenance, and decontamination, if necessary. The outer lid bolts on the RH-TRU 72-B cask are removed, and the outer lid is removed to provide access to the lid of the cask inner containment vessel ICV. The RH-TRU 72-B cask is moved into the Cask Unloading Room by a Cask Transfer Car and is positioned under the Cask Unloading Room Bridge Crane. The Cask Unloading Room Bridge Crane attaches to the RH-TRU 72-B cask and lifts and suspends the RH-TRU 72-B cask to clear the Cask Transfer Car. The RH-TRU 72-B cask is aligned over the Cask Unloading Room port.

The Cask Unloading Room shield valve is opened, and the cask is lowered through the port into the Transfer Cell Shuttle Car. The Cask Unloading Room Bridge Crane is unhooked and retracted, and the Cask Unloading Room shield valve is closed. After the cask is lowered into the Transfer Cell Shuttle Car, the bolts on the lid of the cask inner containment vessel ICV are loosened by a robotic Manipulator. The Transfer Cell Shuttle Car is then aligned directly under



the Transfer Cell shield valve in preparation for removing the ~~inner vessel~~ ICV lid and transferring the canister to the Facility Cask. Operations in the Transfer Cell are monitored by closed-circuit video cameras.

Using the remotely-operated fixed 6.25 Ton Grapple Hoist in the Facility Cask Loading Room, the ~~inner vessel~~ ICV lid is lifted clear of the RH-TRU 72-B cask, and the robotic Manipulator takes swipe samples and places them in a swipe delivery system for counting outside the Transfer Cell. If found to be contaminated above acceptable levels, the Permittees have the option to decontaminate or return the RH TRU Canister to the generator/storage site or another site for remediation. If no contamination is found, the Transfer Cell Shuttle Car moves a short distance, and the ~~inner vessel~~ ICV lid is lowered onto a stand on the Transfer Cell Shuttle Car. The canister is transferred to the Facility Cask as described below.

#### A1-1d(4) Handling Waste in Shielded Containers

Remote-Handled TRU mixed waste received at the WIPP facility in shielded containers will be managed, stored, and emplaced as CH TRU mixed waste using the CH TRU mixed waste handling equipment described in this Permit. Shielded containers with RH TRU mixed waste will arrive by tractor-trailer at the WIPP facility in sealed HalfPACTs, ~~at which time~~ Prior to unloading the packages from the trailer, they will undergo security and radiological checks and shipping documentation reviews. Consistent with the handling of HalfPACT shipping packages in Section A1-1d(2), a forklift will remove the HalfPACT and transport it into the WHB and place the HalfPACT at either one of the two TRUDOCKs in the TRUDOCK Storage Area of the WHB Unit.

An external survey of the HalfPACT ~~inner vessel~~ ICV will be performed as the ~~outer containment vessel~~ OCV lid is removed. The ~~inner vessel~~ ICV lid or closure lid will be lifted under the VHS, and the contents will be surveyed during and after this process is complete. A description of the VHS and criteria that are applied if radiological contamination is detected are discussed in Section A1-1d(2).

#### A1-1e(1) WHB Unit

The waste containers in storage will be inspected visually or by closed-circuit television camera prior to each movement and, at a minimum, weekly, to ensure that the waste containers are in good condition and that there are no signs that a release has occurred. Waste containers will be visually inspected for physical damage (severe rusting, apparent structural defects, signs of pressurization, etc.) and leakage. If a primary waste container is not in good condition, the Permittees will overpack the container, repair/patch the container in accordance with 49 CFR §173 and §178 (e.g., 49 CFR §173.28), or return the container to the generator. This visual inspection of CH TRU mixed waste containers shall not include the center drums of 7-packs and waste containers positioned such that visual observation is precluded due to the arrangement of waste assemblies on the facility pallets. If waste handling operations should stop for any reason with containers located at the TRUDOCK while still in the Contact-Handled Package, primary waste container inspections will not be accomplished until the containers of waste are removed from the Contact-Handled Package. If the lid to the Contact-Handled Package ~~inner container vessel~~ ICV is removed, radiological checks (swipes of Contact-Handled Package inner surfaces) will be used to determine if there is contamination within the Contact-Handled Package. Such contamination could indicate a waste container leak or spill. Using radiological surveys, a detected spill or leak of a radioactive contamination from a waste container will also be assumed to be a hazardous waste spill or release.

#### A1-1e(2)      Parking Area Unit

Inspection of waste containers is not possible when the containers are in their shipping container (e.g., casks, TRUPACT-II or HalfPACTs). Inspections can be accomplished by bringing the shipping containers into the WHB Unit and opening them and lifting the waste containers out for inspection. The DOE, however, believes that removing containers strictly for the purposes of inspection results in unnecessary worker exposures and subjects the waste to additional handling. The DOE has proposed that waste containers need not be inspected at all until they are ready to be removed from the shipping container for emplacement underground. Because shipping containers are sealed and are of robust design, no harm can come to the waste while in the shipping containers and the waste cannot leak or otherwise be released to the environment. Contact-Handled or Remote-Handled Packages shall be opened every 60 days for the purposes of venting, so that the longest waste would be uninspected would be for 60 days from the date that the inner containment vessel ICV of the Contact-Handled or Remote-Handled Package was closed at the generator site. Venting the Contact-Handled or Remote-Handled Packages involves removing the outer lid and installing a tool in the port of the inner lid.

#### A2-2b      Geologic Repository Process Description

##### CH TRU Mixed Waste Emplacement

CH TRU mixed waste containers and shielded containers will arrive by tractor-trailer at the WIPP facility in sealed shipping containers, at which time Prior to unloading the packages from the trailer, they will undergo security and radiological checks and shipping documentation reviews. The trailers carrying the shipping containers will be stored temporarily at the Parking Area Container Storage Unit (Parking Area Unit).

#### A4-3      Waste Handling Building Traffic

CH TRU mixed waste will arrive by tractor-trailer at the WIPP facility in sealed Contact Handled Packages. ~~Upon receipt~~ Prior to unloading the packages from the trailer, security checks, radiological surveys, and shipping documentation reviews will be performed. A forklift or Yard Transfer Vehicle will remove the Contact Handled Packages and transport them a short distance through an air lock that is designed to maintain differential pressure in the WHB. The forklift or Yard Transfer Vehicle will place the shipping containers at one of the two TRUPACT-II unloading docks (**TRUDOCK**) inside the WHB or, in the case of the TRUPACT-III, at the payload transfer station in Room 108.

RH TRU mixed waste will arrive at the WIPP facility in a payload container contained in a shielded cask loaded on a tractor-trailer. ~~Upon arrival~~ Prior to unloading the cask from the trailer, radiological surveys, security checks, and shipping documentation reviews will be performed, and the trailer carrying the cask will be moved into the Parking Area or directly into the RH Bay of the Waste Handling Building Unit.

C-5b(1) Examination of the EPA Uniform Hazardous Waste Manifest and Associated Waste Tracking Information

The WWIS will maintain waste container receipt and emplacement information provided by the Permittees. It will include, among other items, the following information associated with each container of TRU mixed waste:

- Package ~~inner containment vessel~~ Inner Containment Vessel or shipping cask closure date
- Package (container or canister) receipt date
- Overpack identification number (if appropriate)
- Package (container or canister) emplacement date
- Package (container or canister) emplacement location

**Table G3-2**  
**Radiological Surveys During CH TRU Mixed Waste Processing (TRUPACT-II/HalfPACT)**

Step in CH TRU Mixed Waste Processing	Surface Contamination Survey	Dose Rate Survey	Large Area Wipes <sup>a</sup>
Contact Handled Package Outer Containment <del>Confinement</del> Assembly ( <b>OCA</b> ) lid interior and top of Inner Containment Vessel ( <b>ICV</b> ) lid	X		X
Contact Handled Package quick connect and vent port	X		
As ICV lid is raised		X	
ICV lid interior and top of payload	X		X
Payload assembly, guide tubes, standard waste box ( <b>SWB</b> ) connecting devices	X		
As payload assembly is raised, including bottom of payload		X	
After placement of payload on facility pallet	X		X

<sup>a</sup> Surface contamination surveys of Contact Handled Packages are performed in accordance with Procedure WP 12-HP1100, which stipulates that all such work be performed under a Radiation Work Permit (**RWP**). The RWP will only stipulate large area wipes when necessary and not as a routine measure.

## Item 4

### Description

The figures for the TRUPACT-II (Figure A1-8a) and HalfPACT (Figure A1-8b) are being replaced with more legible and updated drawings. The changes to Figure A1-8a include changing "Protective Structure/Impact Limiter" to "OUTER CONFINEMENT ASSEMBLY (OCA)," "Honeycomb Dunnage" to "HONEYCOMB SPACER," "Payload (55-gallon Drums or Standard Waste Boxes)" to "PAYLOAD ASSEMBLY (55-GAL DRUM SHOWN)," "Locking ring (Typ)" and "Seals (Typ)" to "CLOSURE REGION (SEALS, LOCKING RING)," "Outer Containment Vessel (OCV)" to "OUTER CONFINEMENT VESSEL (OCV)," "Drum Pallet" to "PAYLOAD PALLET," "Honeycomb Dunnage" to "HONEYCOMB SPACER." This modification adds "LID LIFT POCKETS," "GUIDE TUBE," "FIRE CONSUMABLE VENT," "TIE-DOWN LUG," "THIS ILLUSTRATION FOR INFORMATIONAL PURPOSES ONLY NOT TO SCALE" and "ø" before "8" to denote it is a diameter and not a length. The changes to Figure A1-8b include changing "Protective Stainless Steel Skin 3/8" Thick" to "OUTER CONFINEMENT ASSEMBLY (OCA)" and "Honeycomb Impact Limiter" to "HONEYCOMB SPACER," "Inner Containment Vessel 72.60" I.D. 1/4" Thick" to "INNER CONTAINMENT VESSEL (ICV)," "Outer Containment Vessel 73.60" I.D. 1/4" Thick" to "OUTER CONFINEMENT VESSEL (OCV)," "Foam 10" Thick" to "FOAM" and "Honeycomb Impact Limiter" to "HONEYCOMB SPACER." This modification deletes "Lytherm insulation 1/4" Thick." This modification adds "LID LIFT POCKETS," "GUIDE TUBE," "SLIPSHEET," "PAYLOAD ASSEMBLY (55-GAL DRUM SHOWN)," "CLOSURE REGION (SEALS, LOCKING RING)," "SLIPSHEET," "PAYLOAD PALLET," "FIRE CONSUMABLE VENT," "PAYLOAD SPACER," "TIE-DOWN LUG," "THIS ILLUSTRATION FOR INFORMATIONAL PURPOSES ONLY NOT TO SCALE" and "ø" before "8" to denote it is a diameter and not a length. Also, the remaining labels were capitalized for clarity.

### Basis

These changes are classified by the Permittees as an "Administrative and information change" and are, therefore, Class 1 modifications pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.42, Appendix I, A.1).

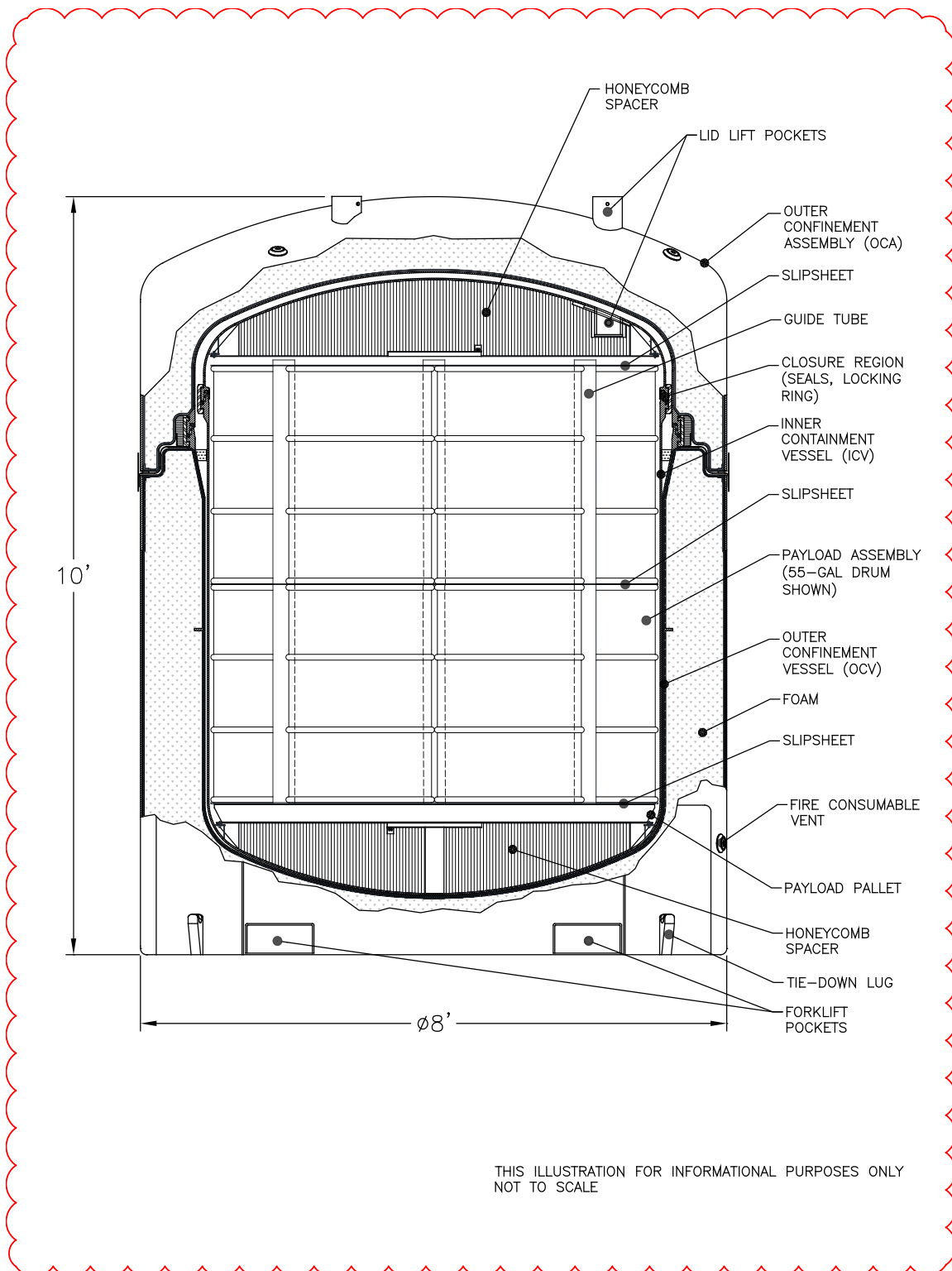
### Discussion

The figures for the TRUPACT-II (Figure A1-8a) and HalfPACT (Figure A1-8b) are being replaced with more legible and updated drawings. The changes regarding the OCV coincide with the changes made in Item 1 pertaining to the OCV. Appendix B to this PMN contains the "clouded" Revised Permit Figures. Appendix C to this PMN contains the Revised Permit Figures.

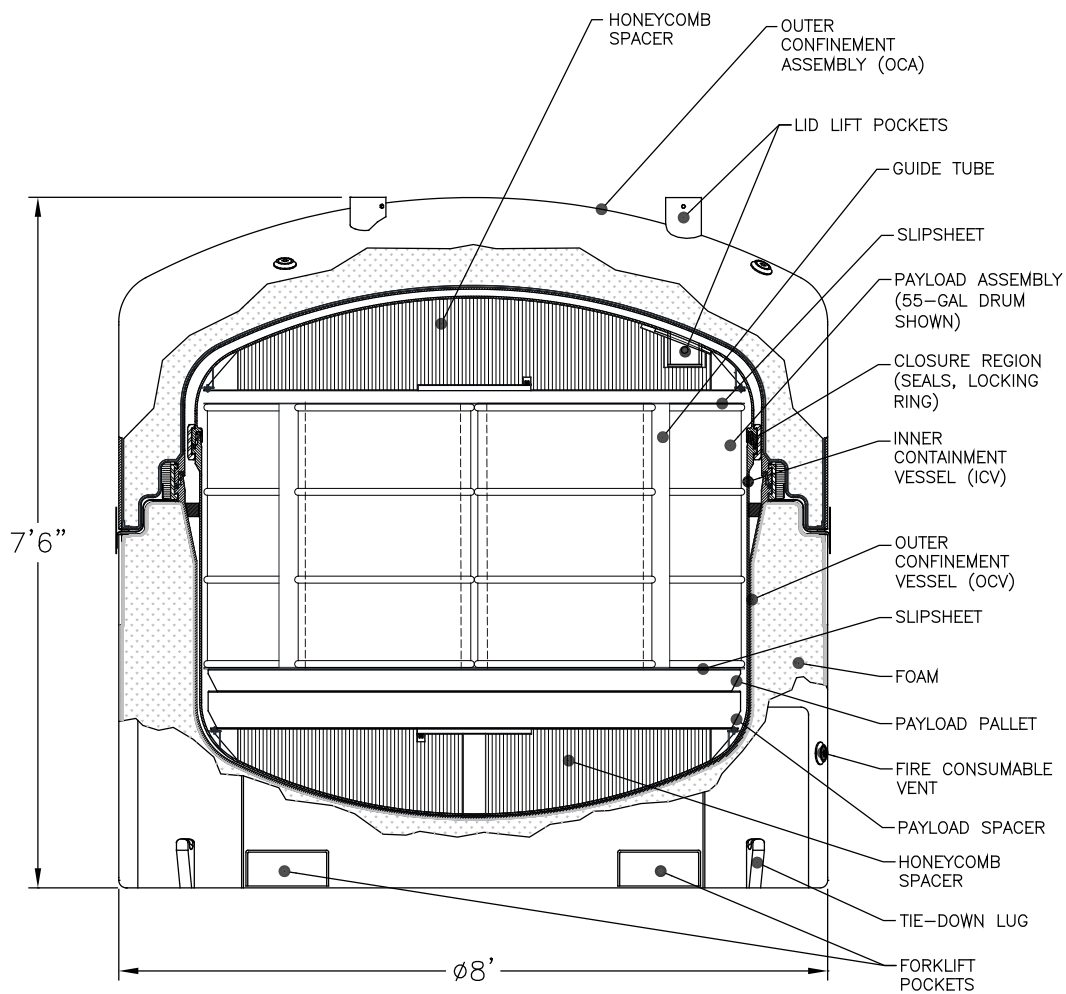
### Revised Permit Text:

The "clouded" Figures A1-8a and A1-8b are included in Appendix B to this PMN. The Revised Permit Figures are included in Appendix C to this PMN.

**Appendix B**  
**“Clouded” Revised Permit Figures**



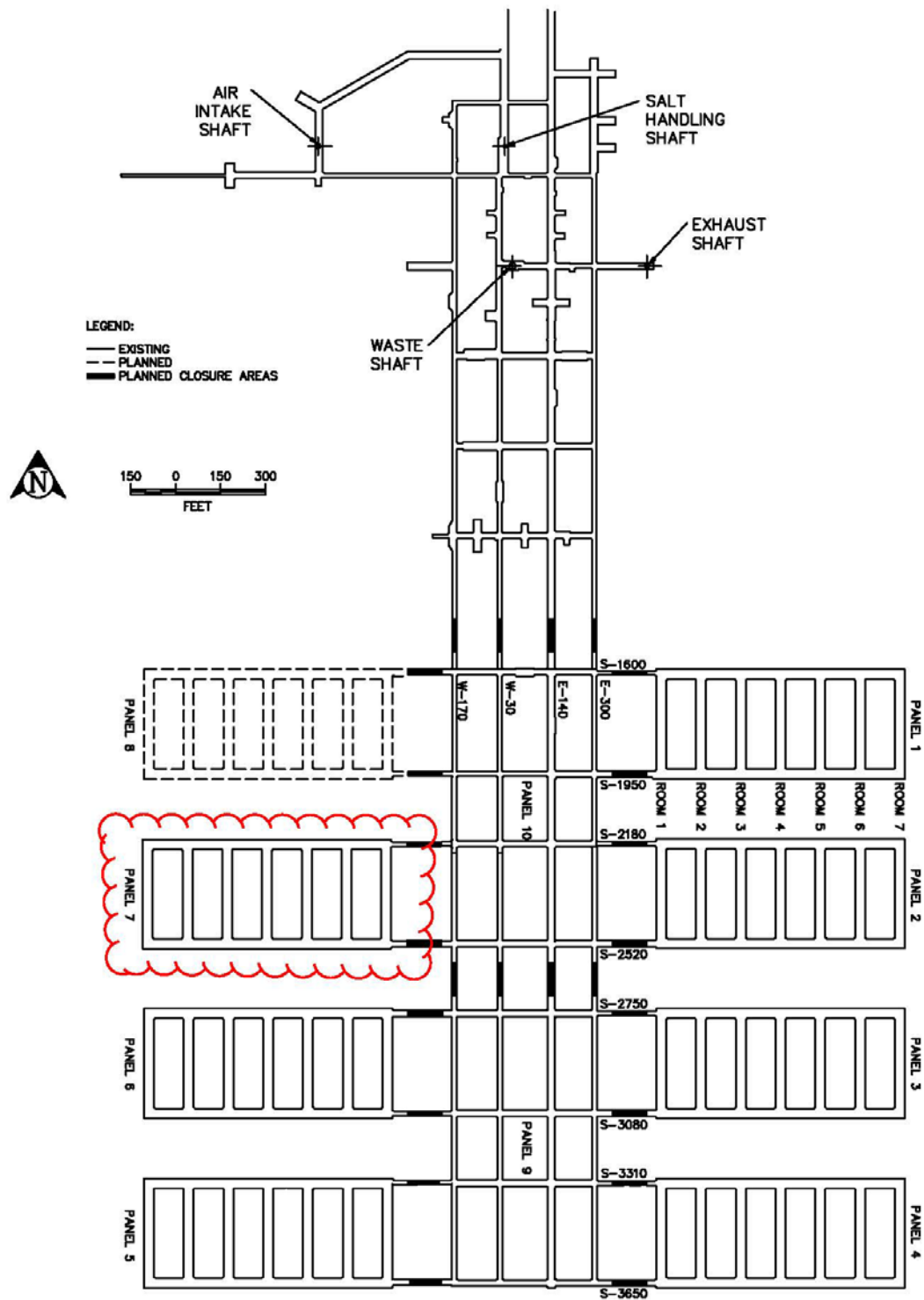
**Figure A1-8a**  
**TRUPACT-II Shipping Container for CH Transuranic Mixed Waste (Schematic)**



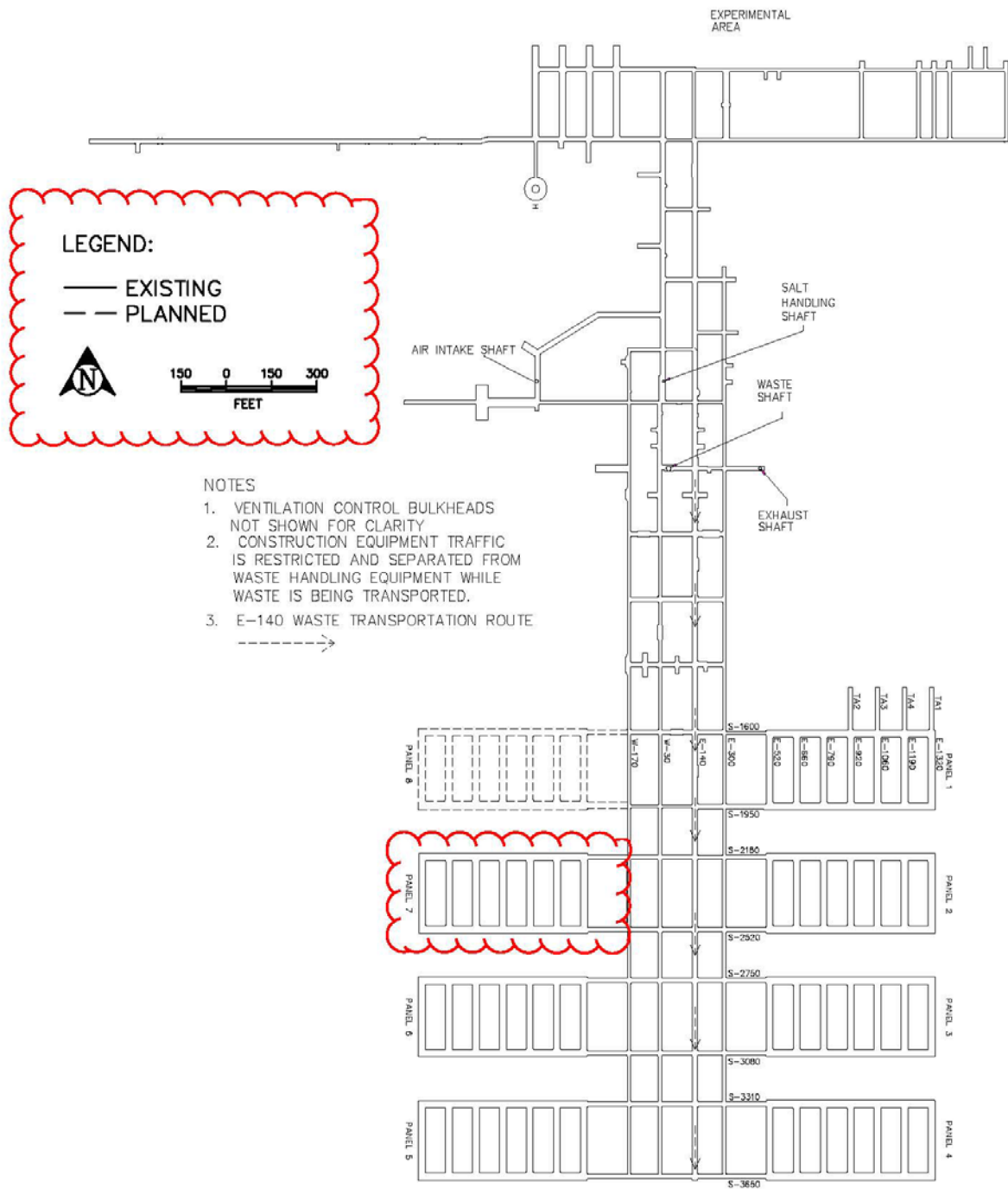
THIS ILLUSTRATION FOR INFORMATIONAL PURPOSES ONLY  
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**Figure A1-8b**  
**Typical HalfPACT Shipping Container for CH Transuranic Mixed Waste (Schematic)**

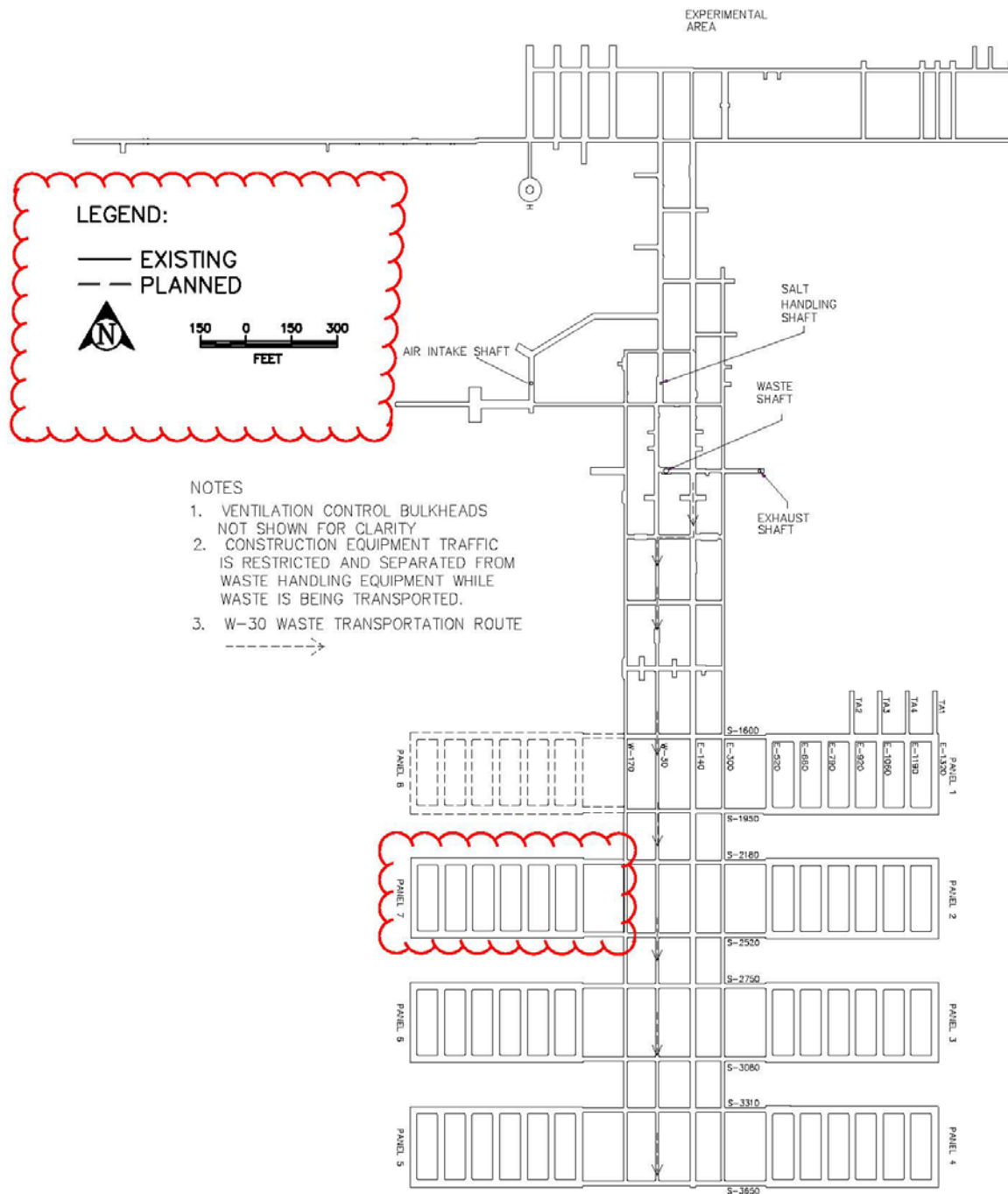




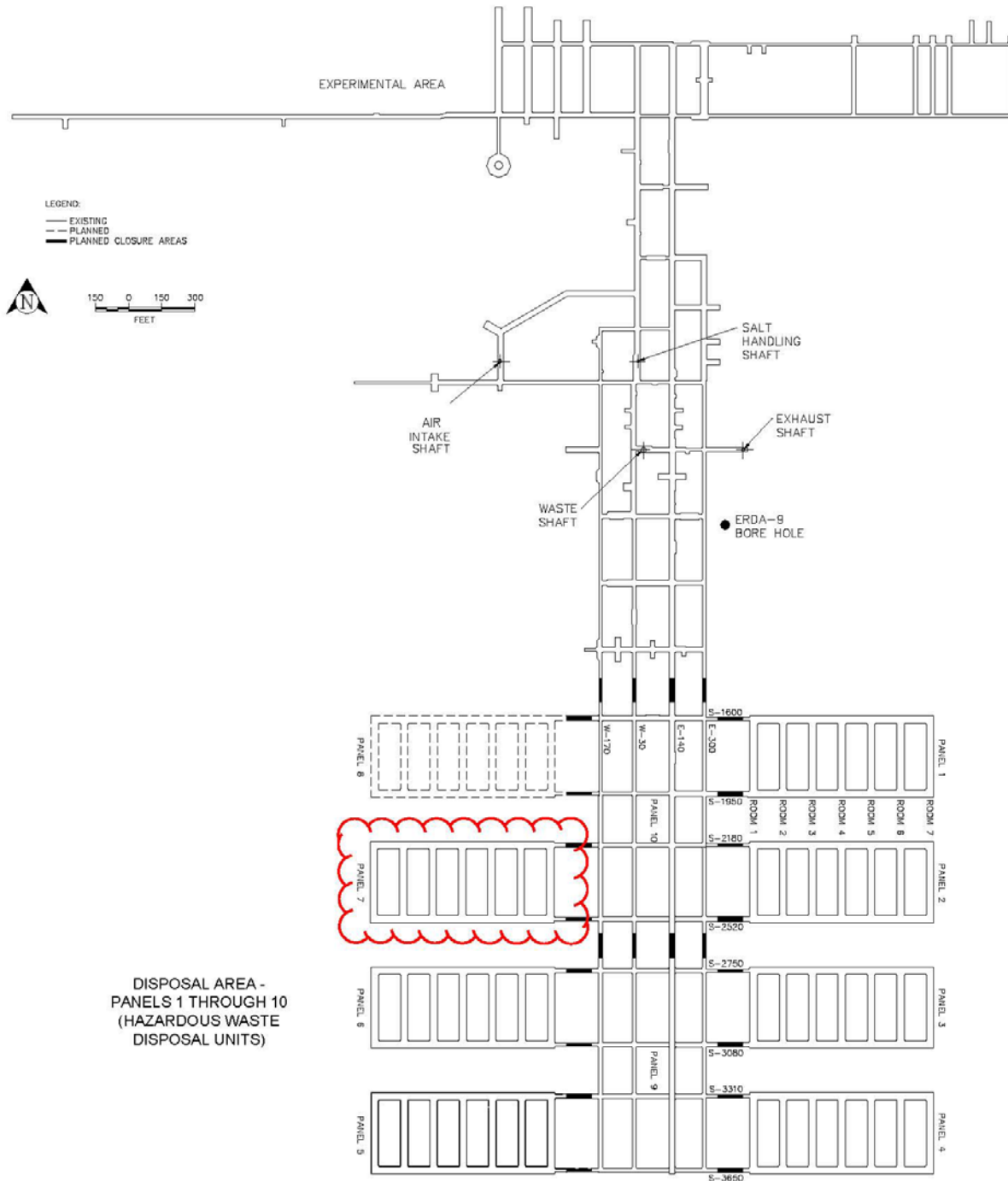
**Figure A2-1**  
**Repository Horizon**



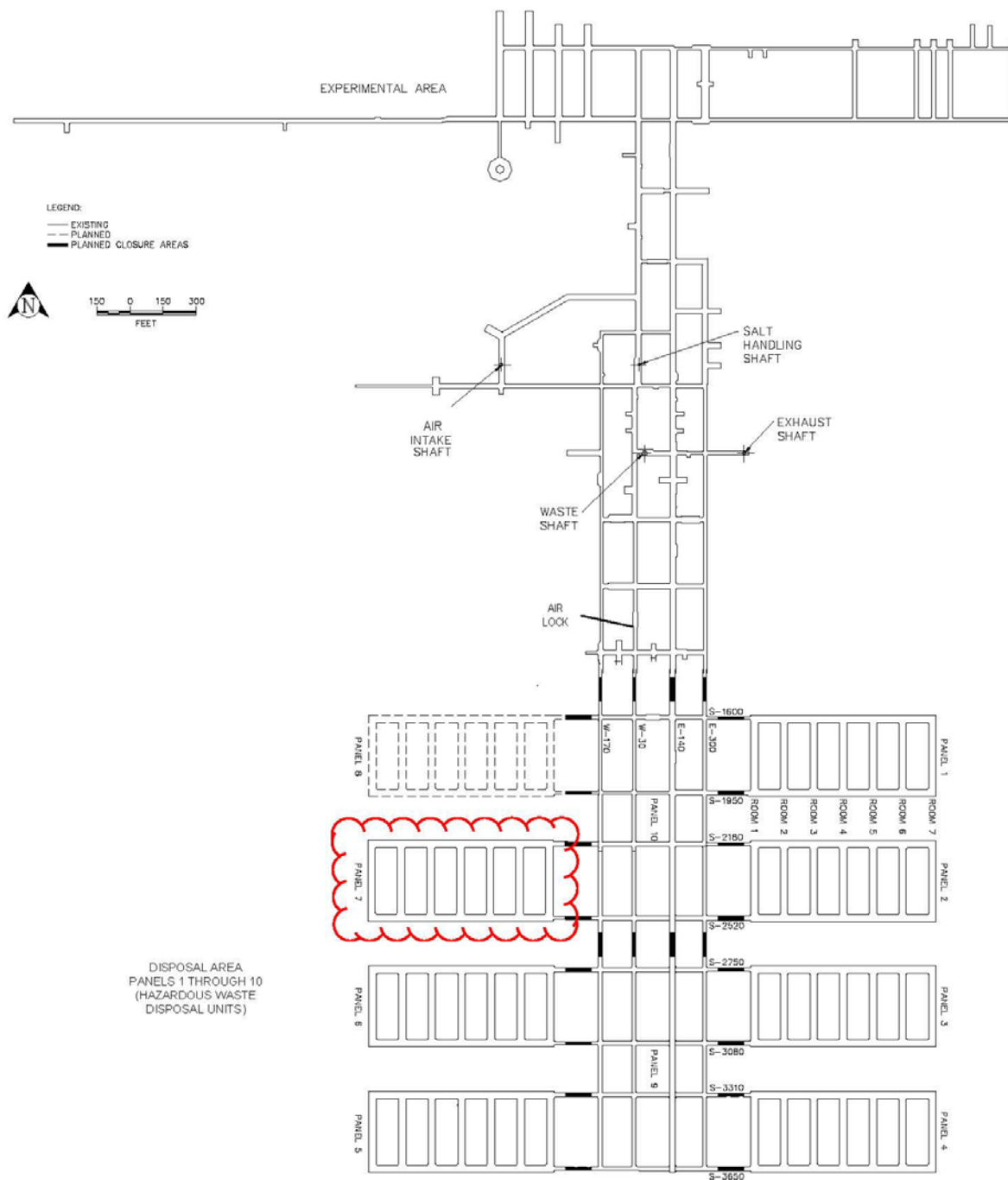
**Figure A4-4**  
**Typical Underground Transport Route Using E-140**



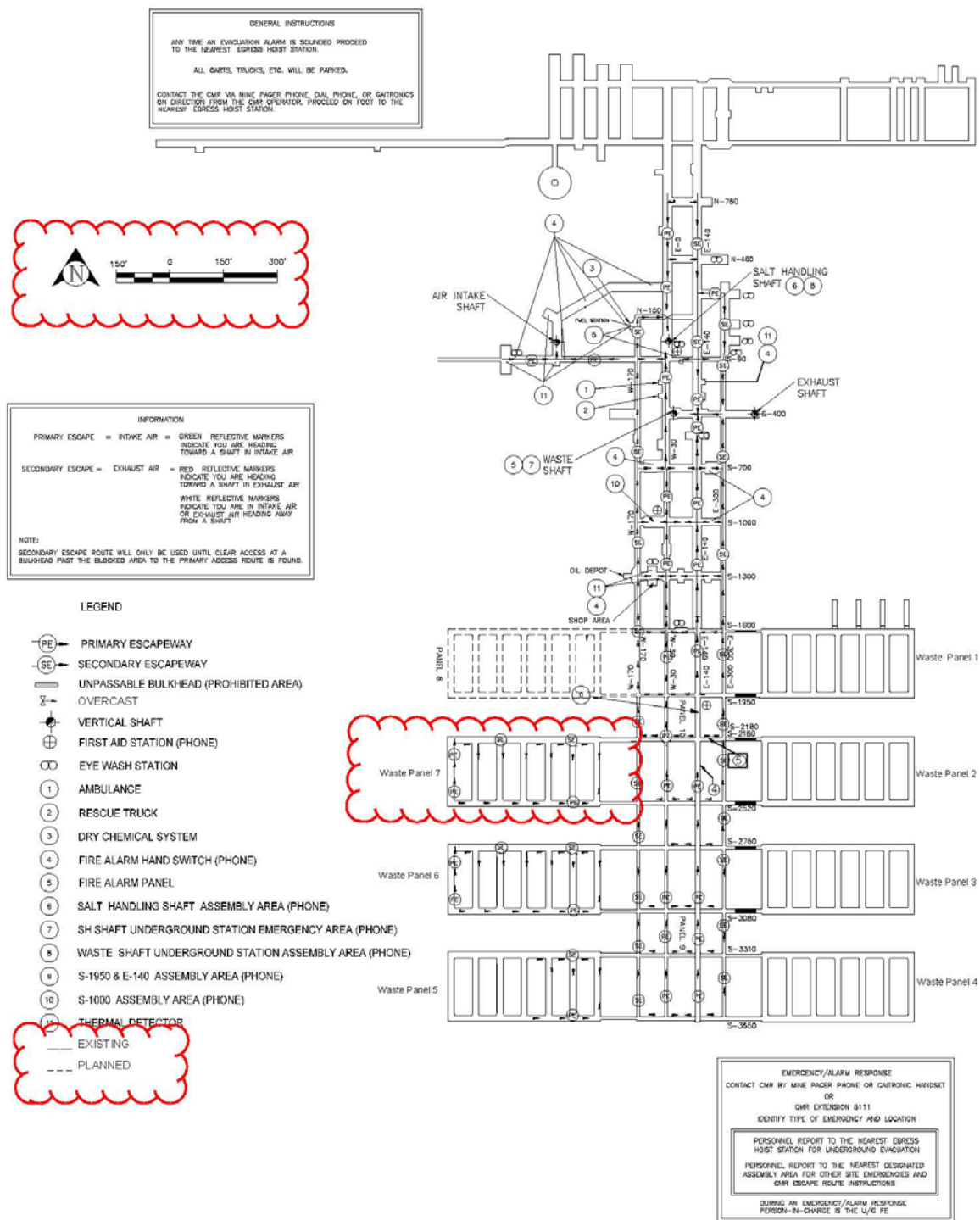
**Figure A4-4a**  
**Typical Underground Transport Route Using W-30**



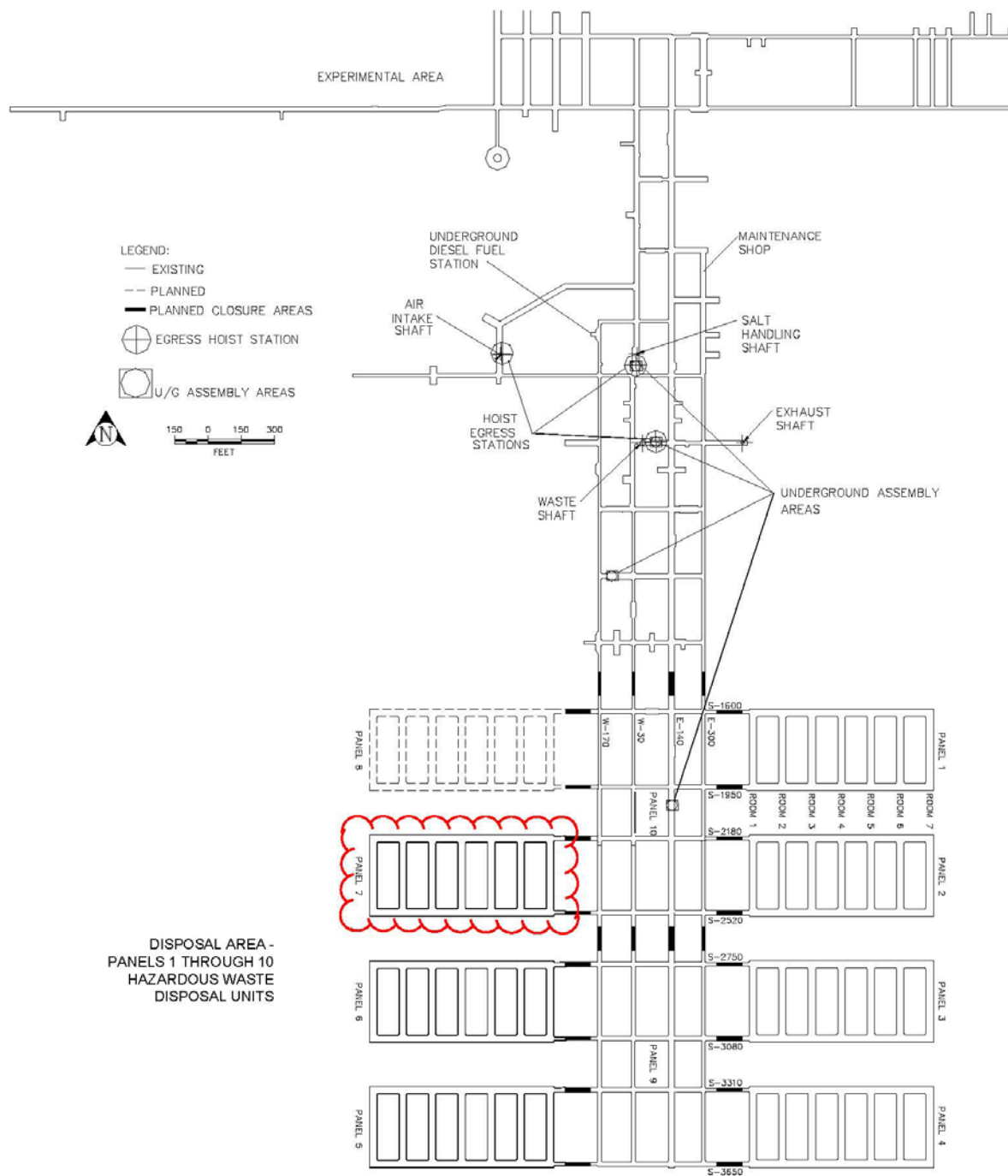
**Figure B3-2**  
**Repository Horizon**



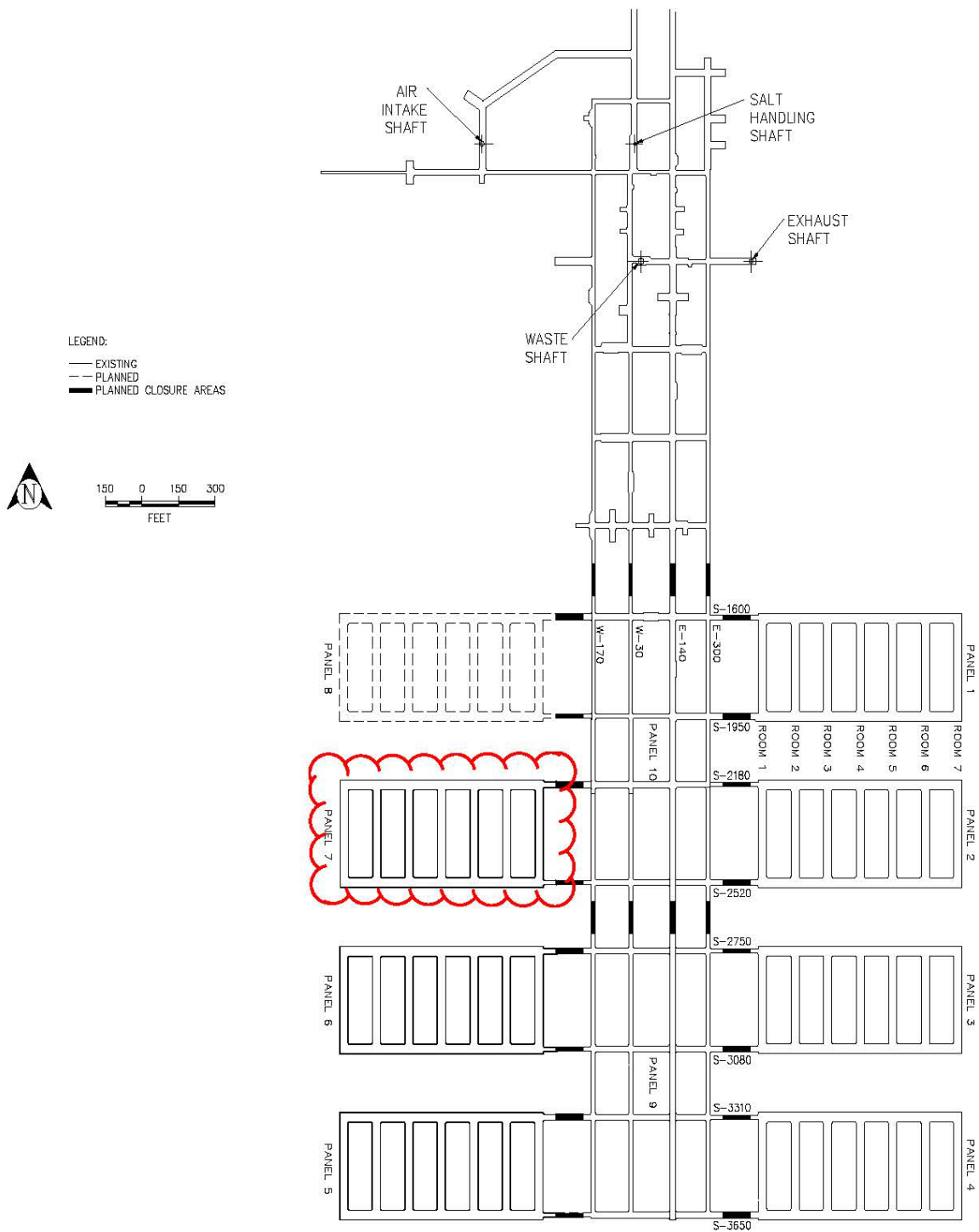
**Figure D-3**  
**WIPP Underground Facilities**



**Figure D-5**  
**Underground Emergency Equipment Locations and Underground Evacuation Routes**

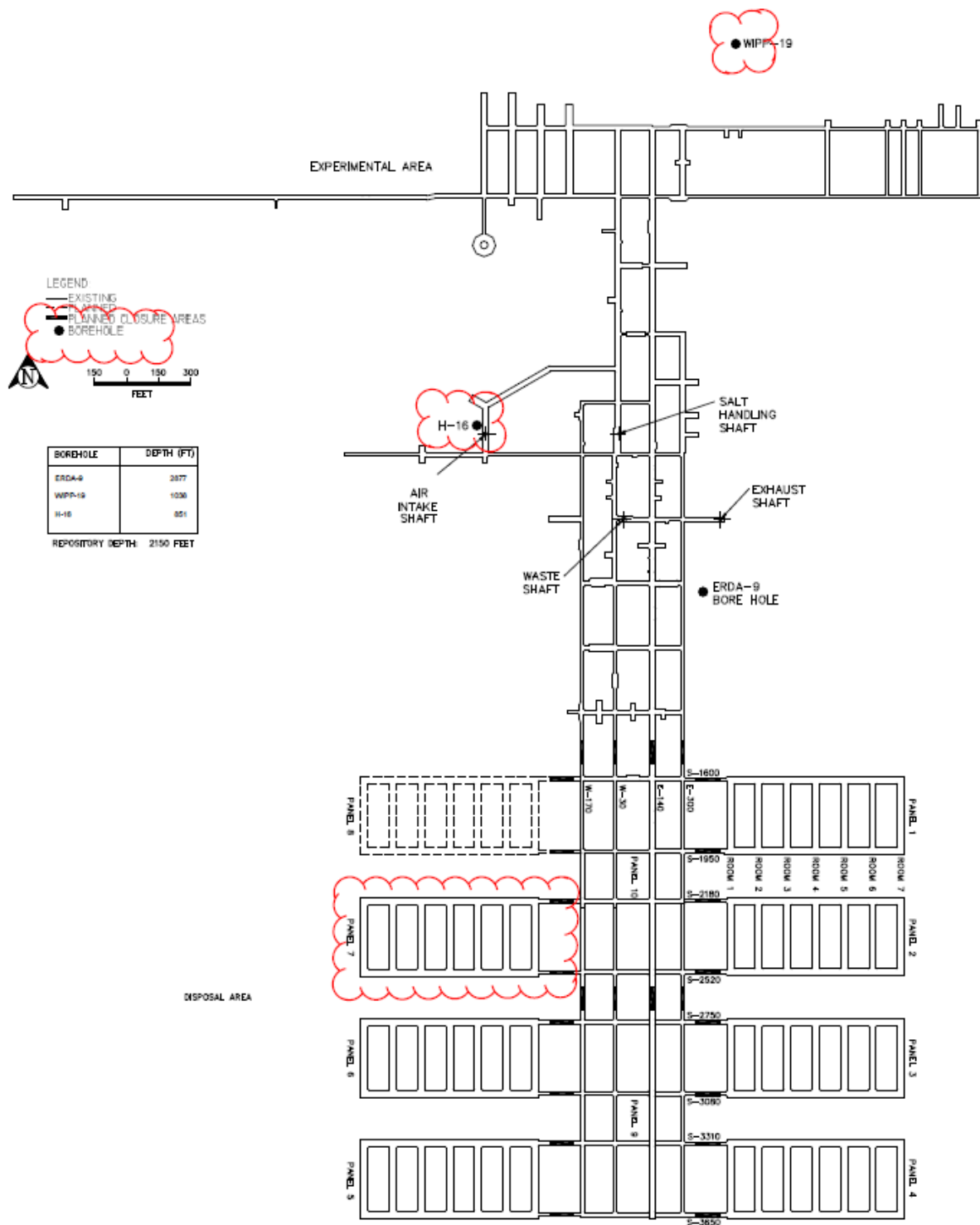


**Figure D-9**  
**Designated Underground Assembly Areas**

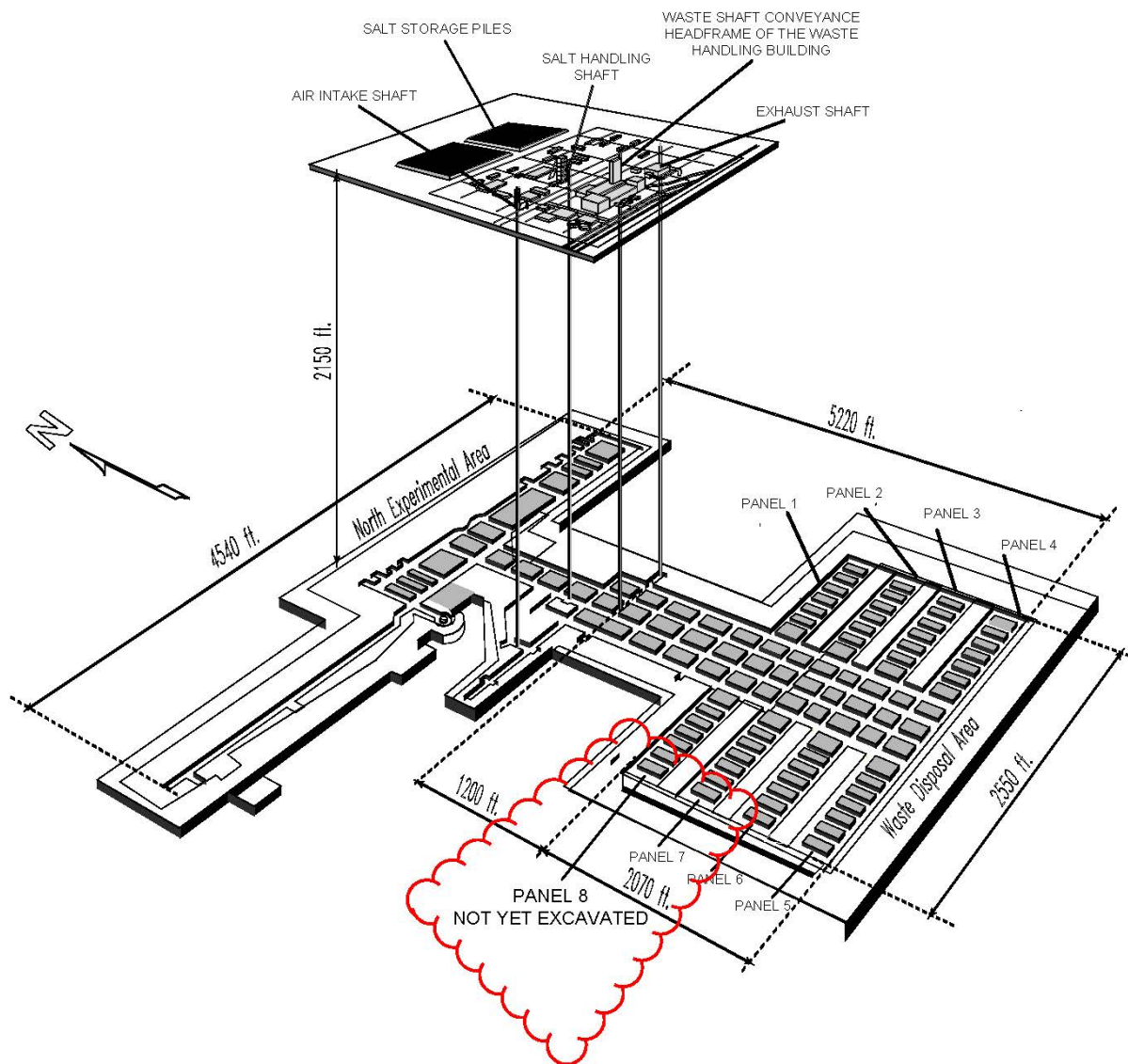


**Figure G-1**  
**Location of Underground HWDUs and Anticipated Closure Locations**





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



**Figure G2-1**  
**View of the WIPP Underground Facility**

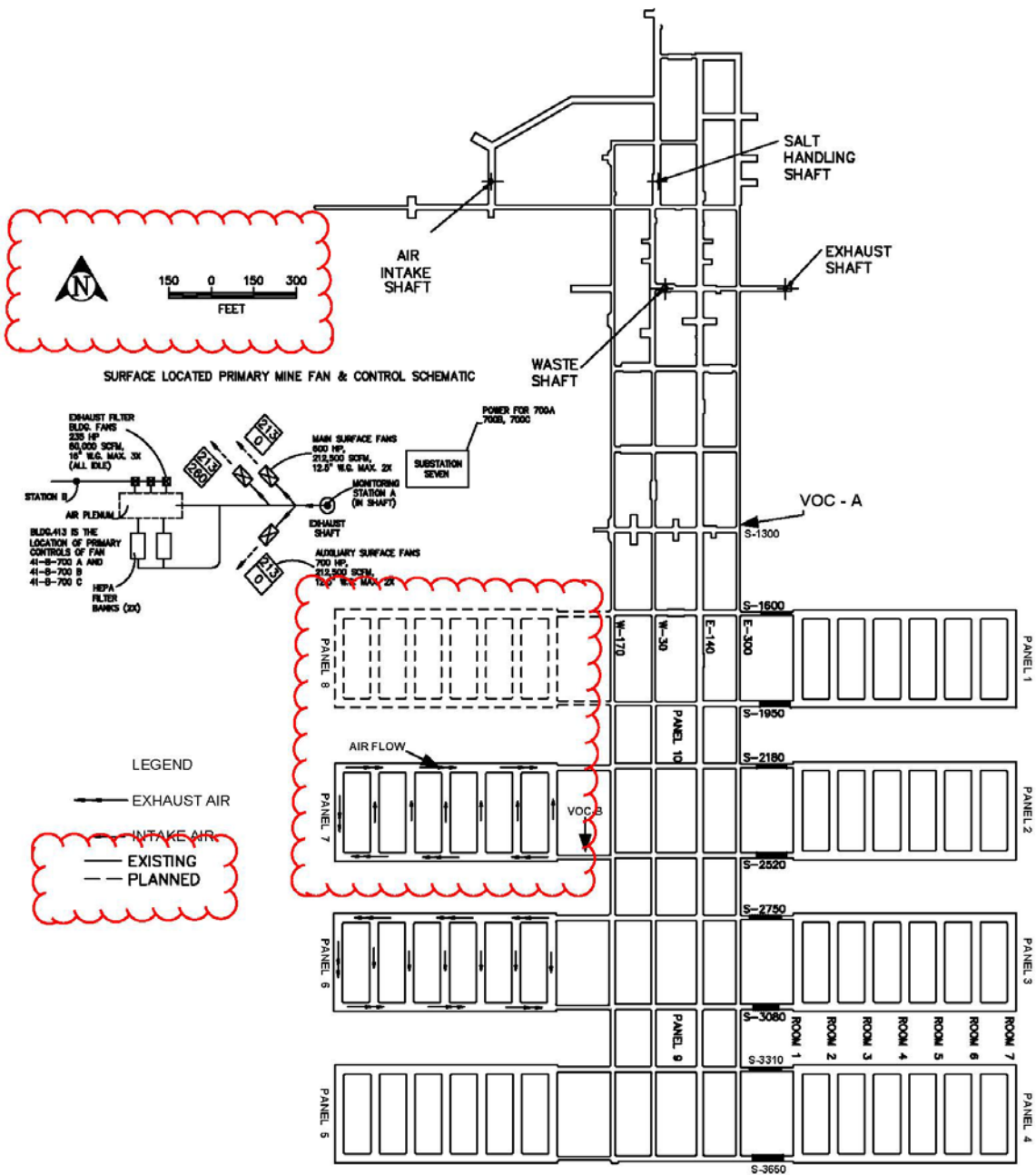
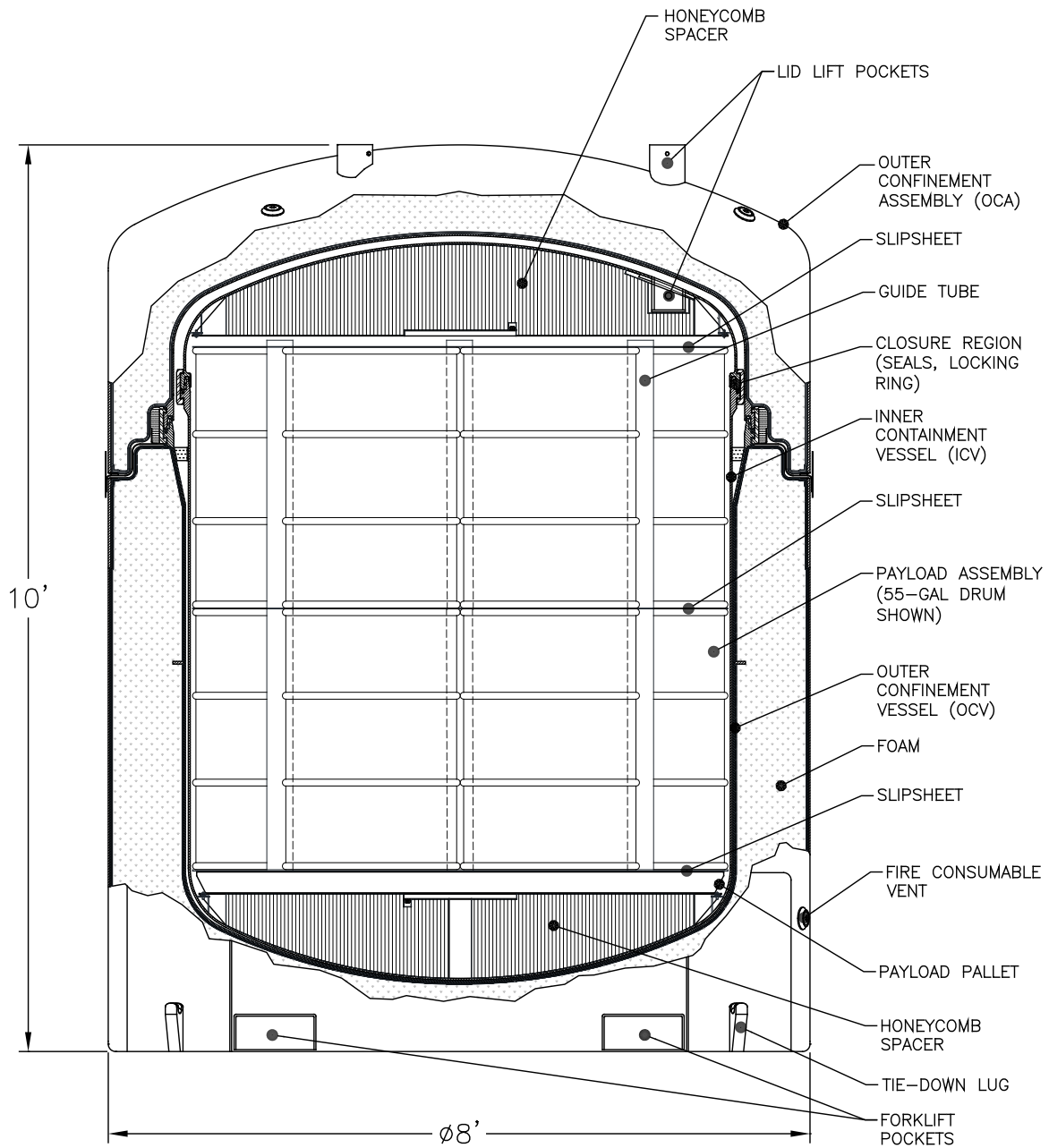


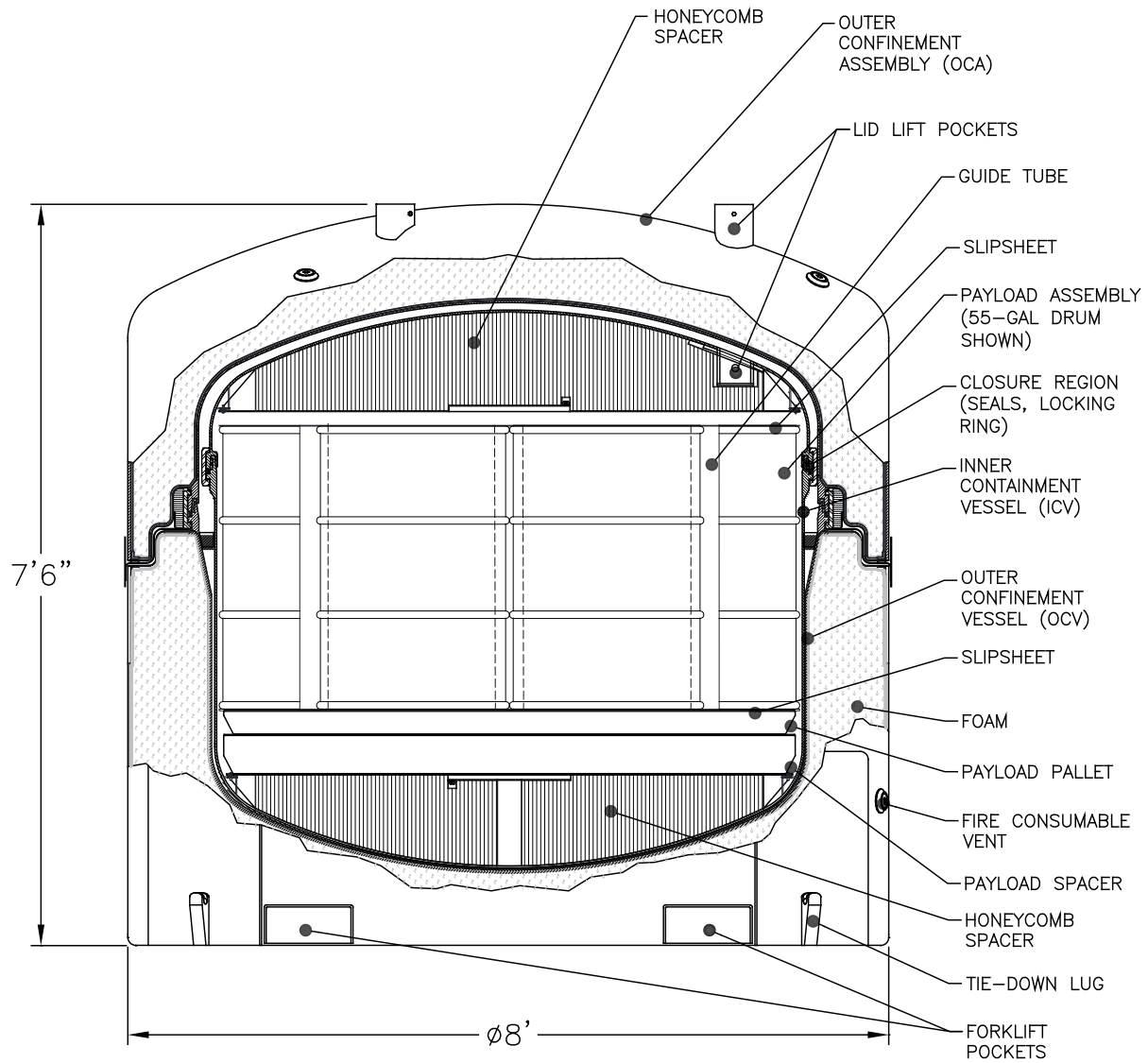
Figure N-1  
Panel Flow Area

**Appendix C**  
**Revised Permit Figures**



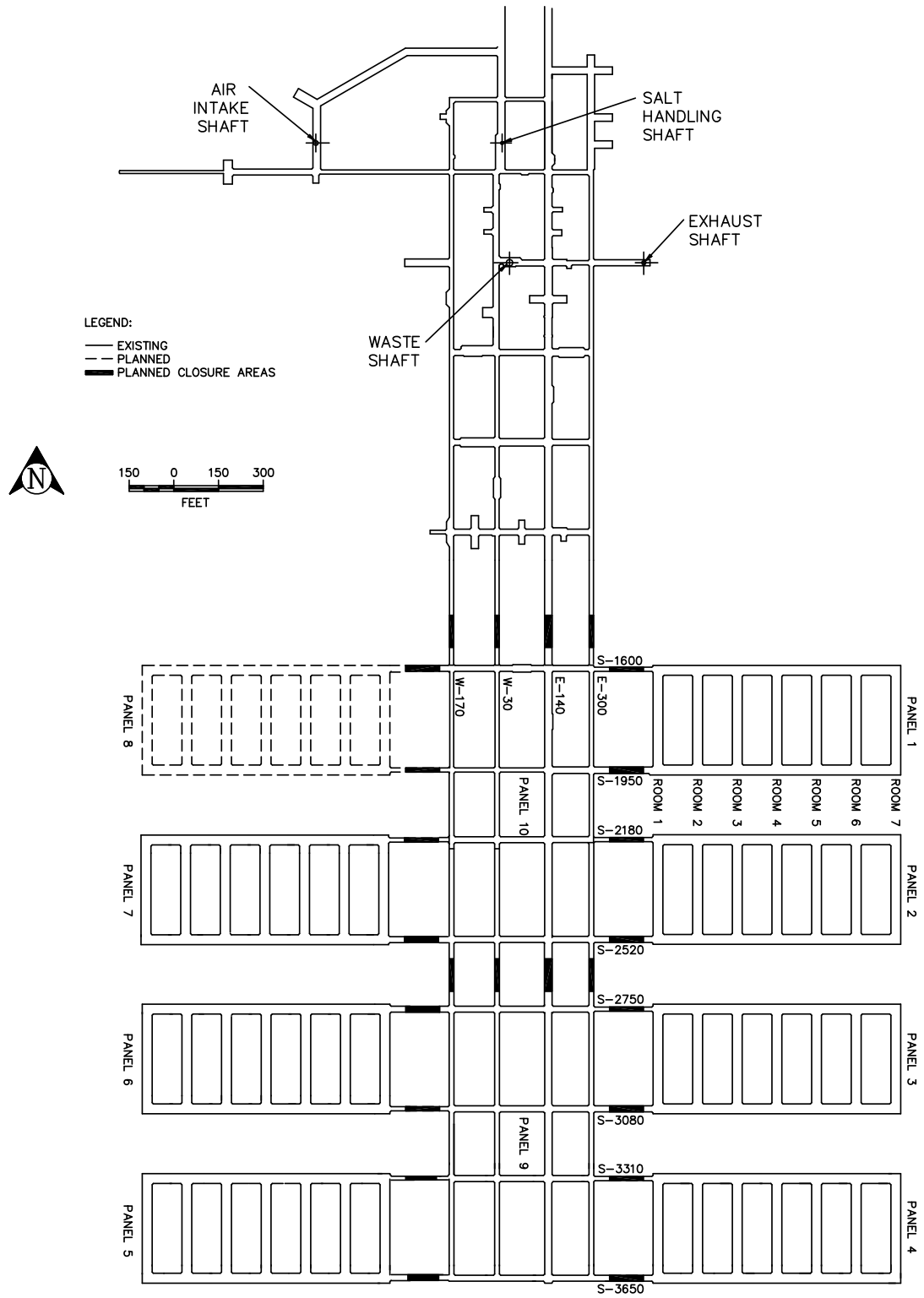
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**Figure A1-8a**  
**TRUPACT-II Shipping Container for CH Transuranic Mixed Waste (Schematic)**

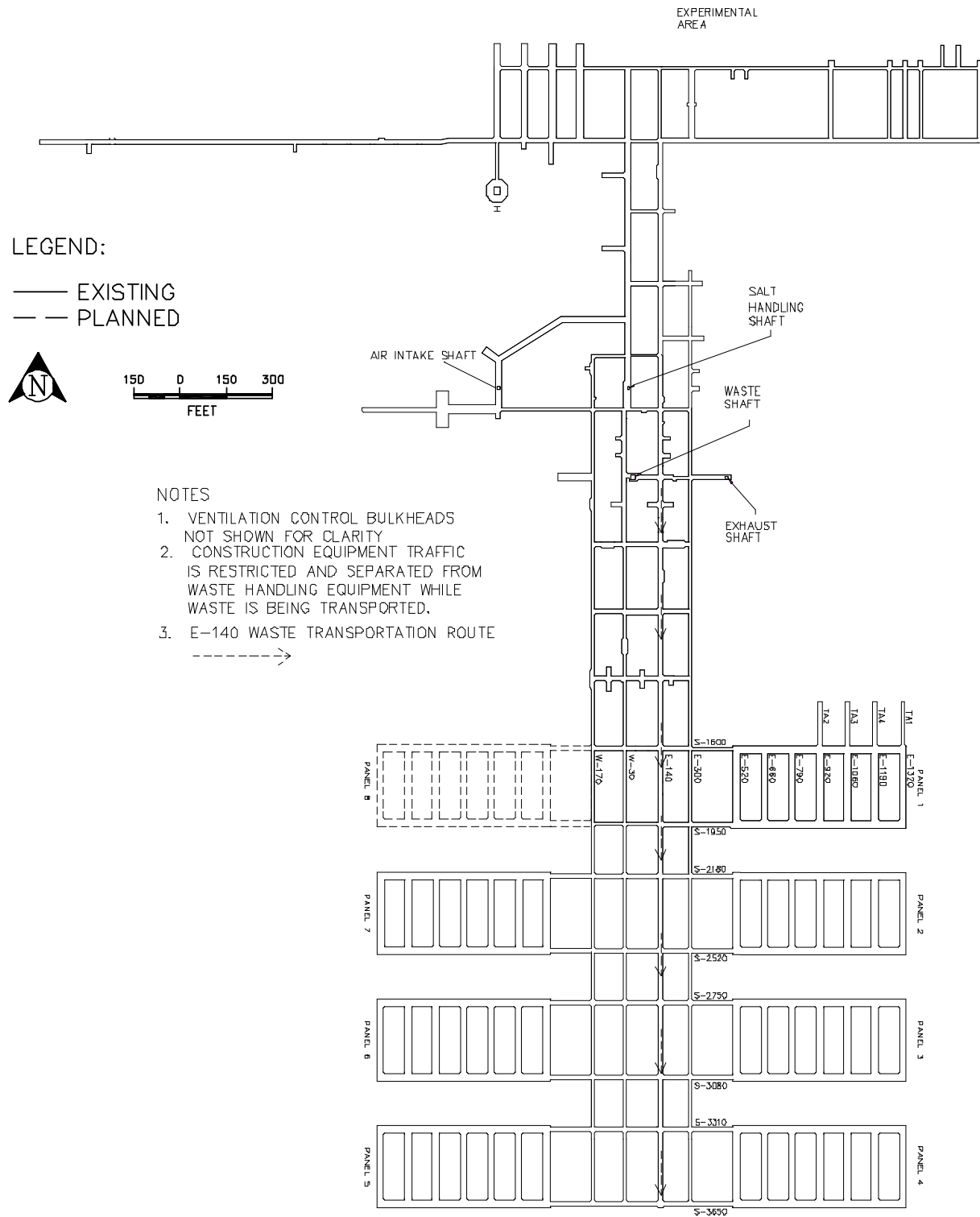


THIS ILLUSTRATION FOR INFORMATIONAL PURPOSES ONLY  
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**Figure A1-8b**  
**Typical HalfPACT Shipping Container for CH Transuranic Mixed Waste (Schematic)**

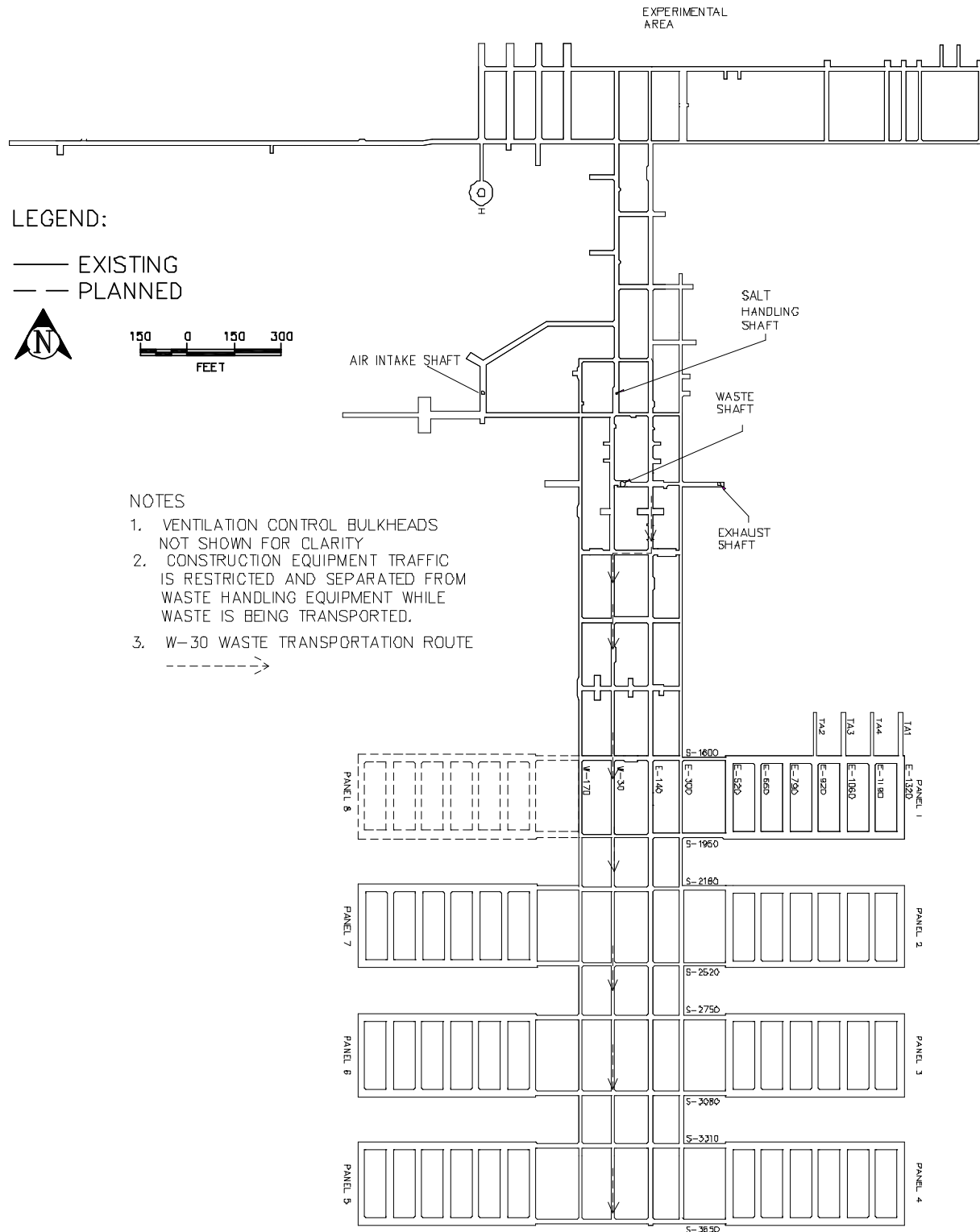


**Figure A2-1**  
**Repository Horizon**

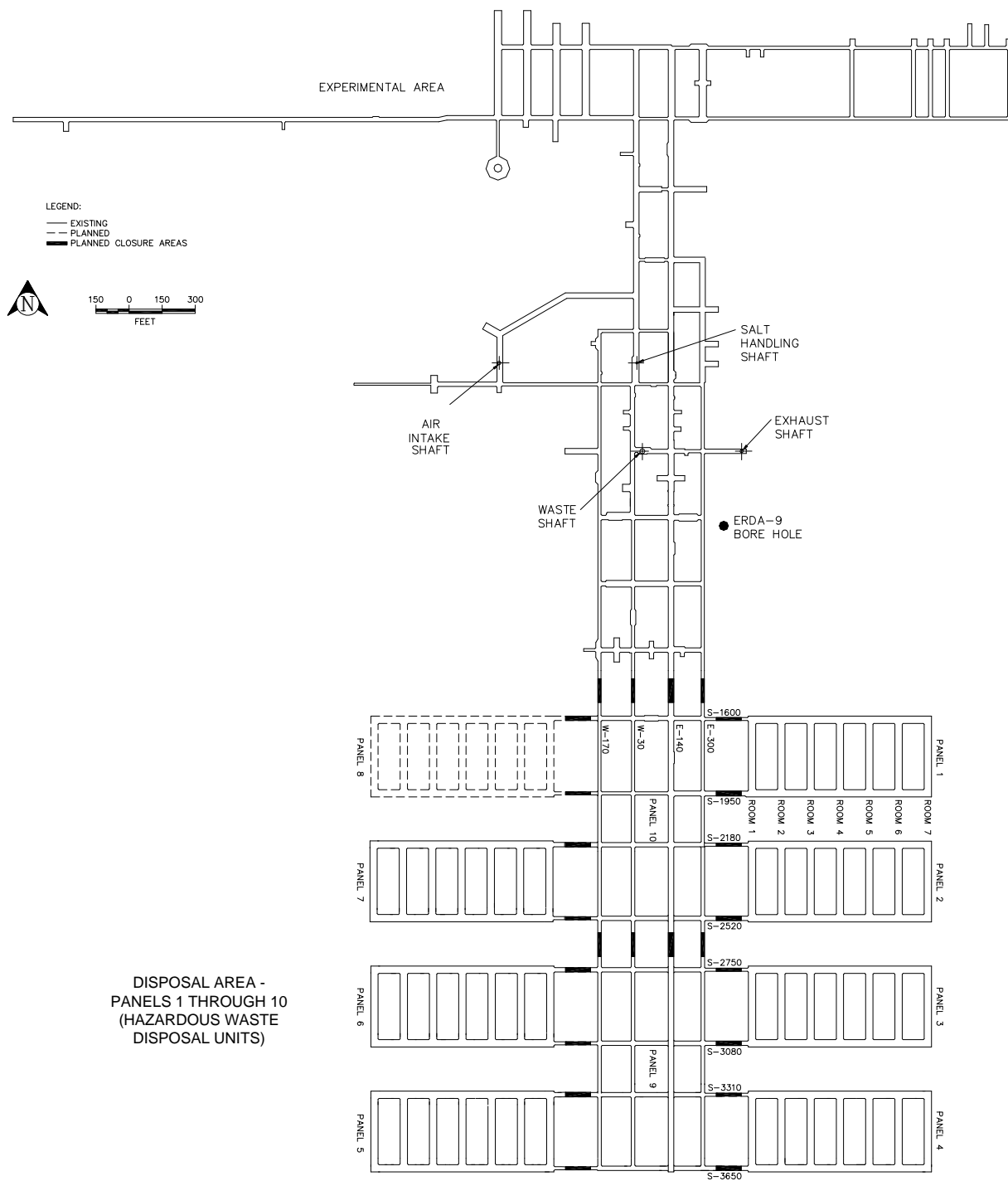


**Figure A4-4**  
**Typical Underground Transport Route Using E-140**

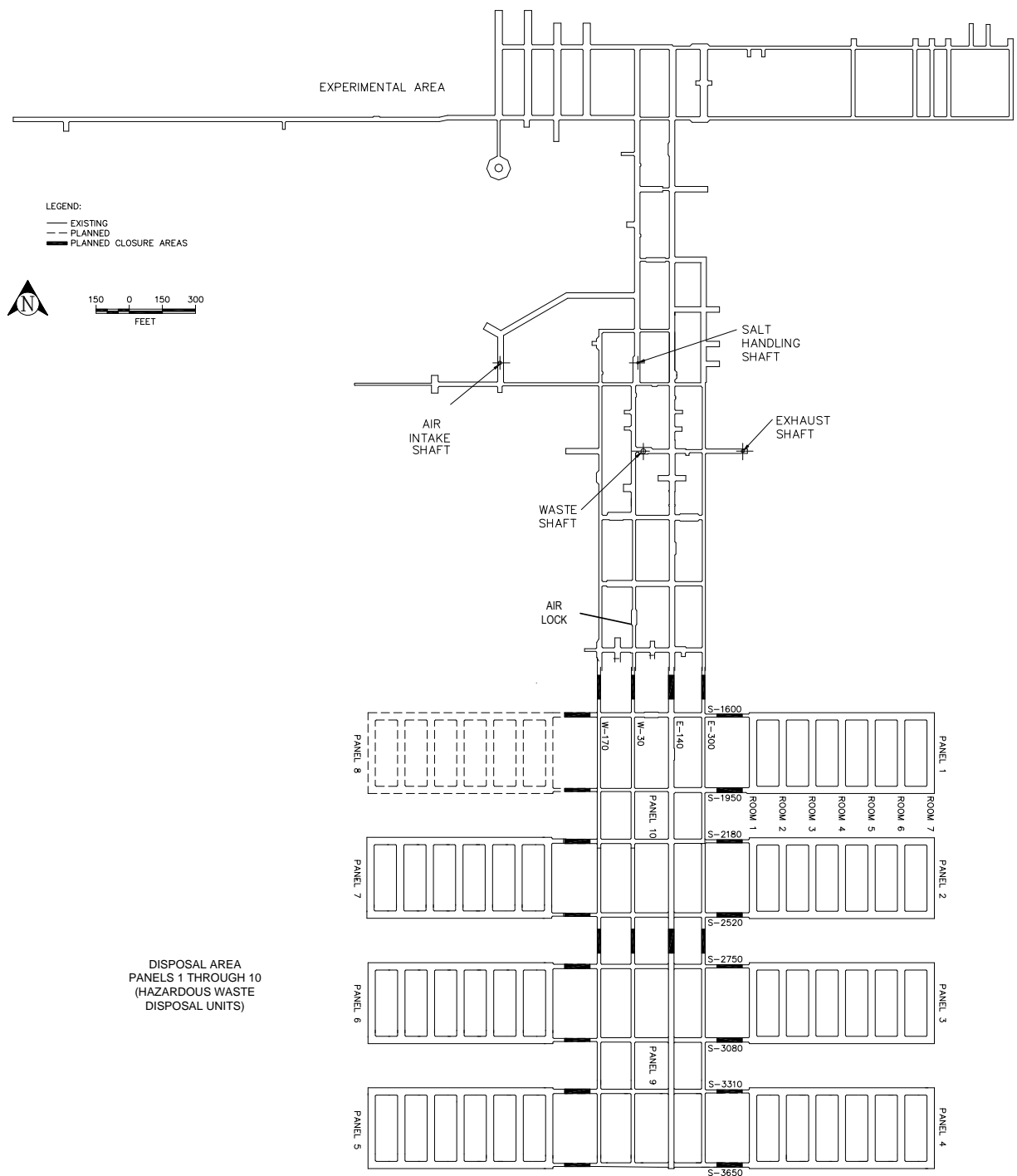




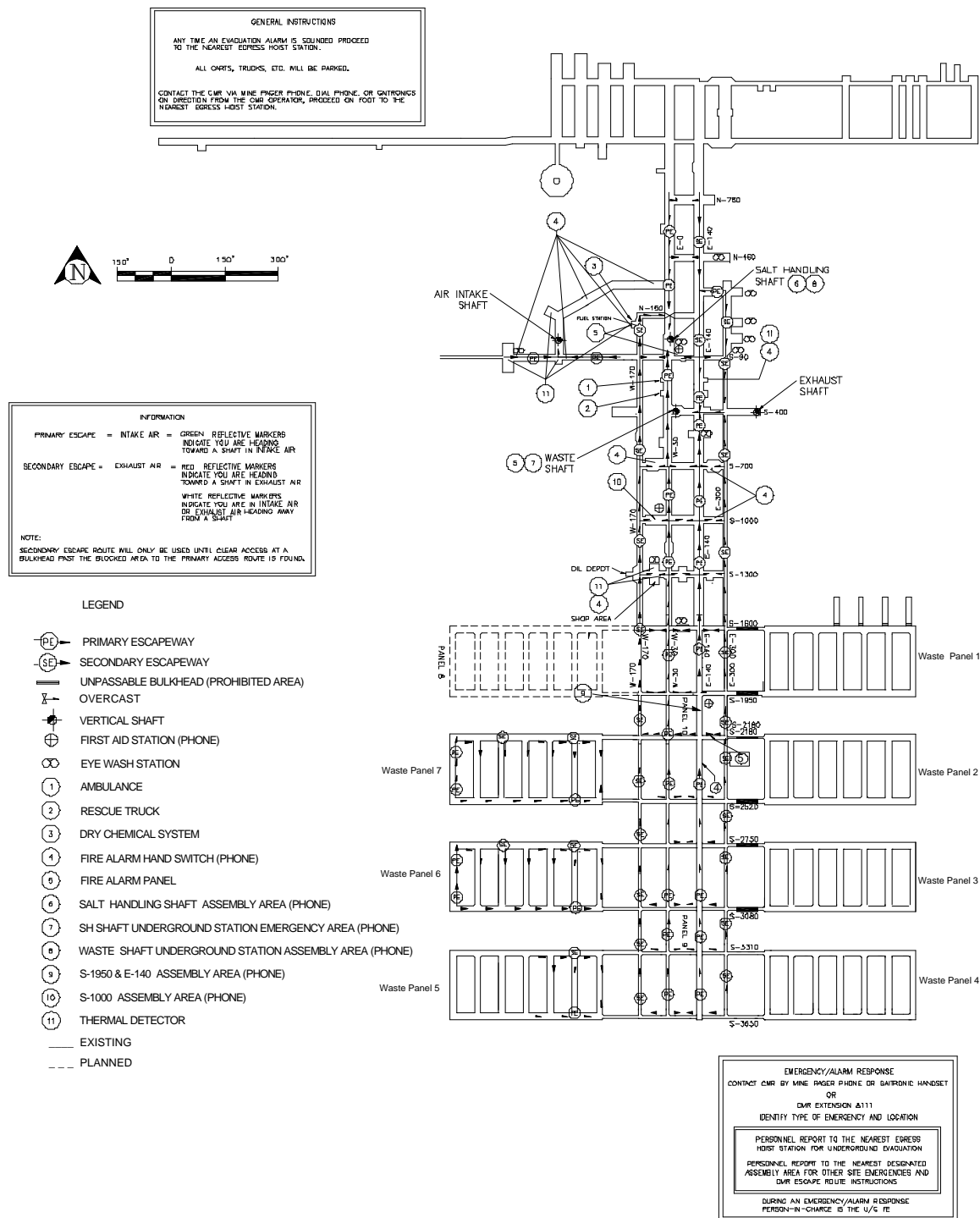
**Figure A4-4a**  
**Typical Underground Transport Route Using W-30**



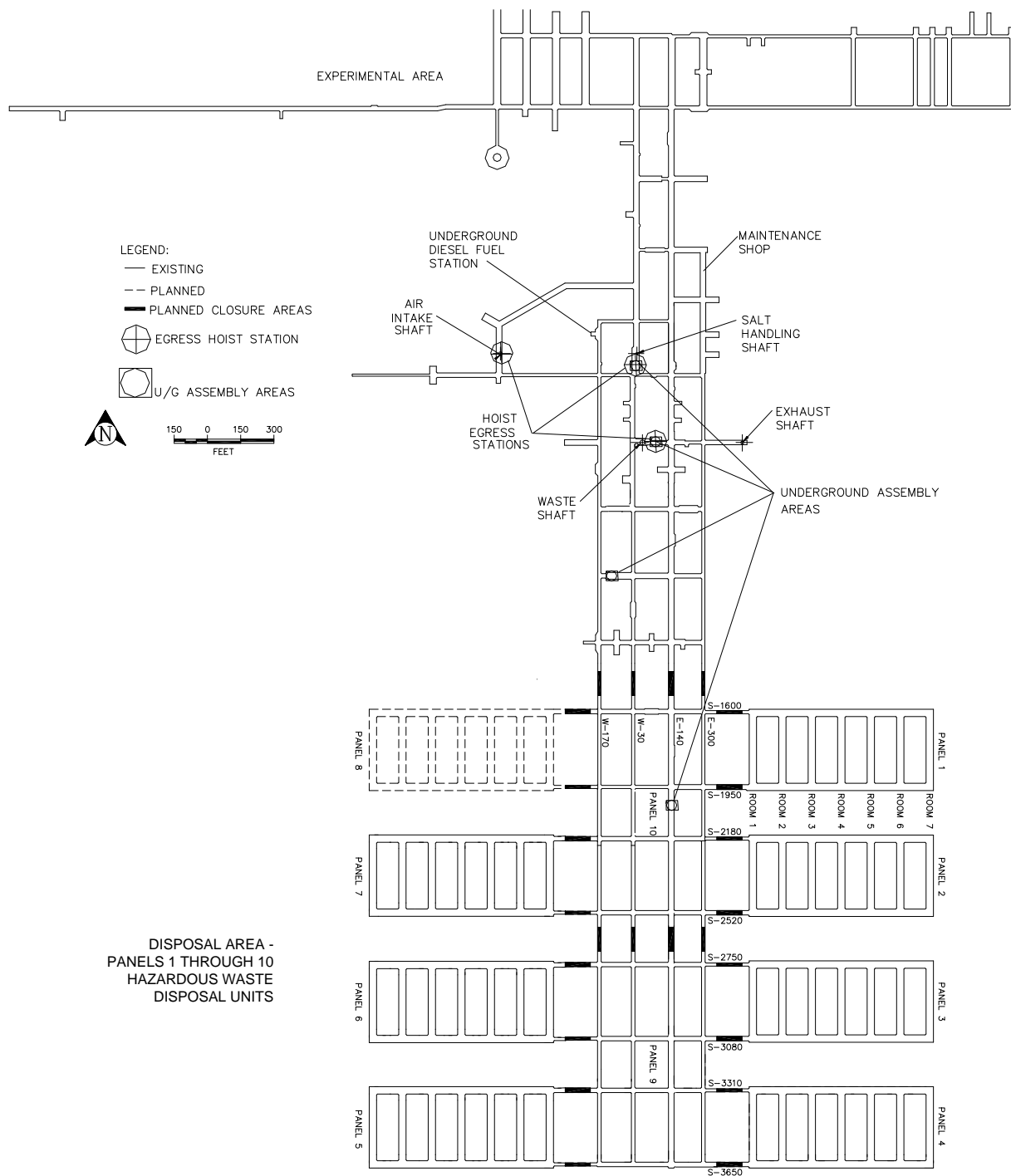
**Figure B3-2**  
**Repository Horizon**

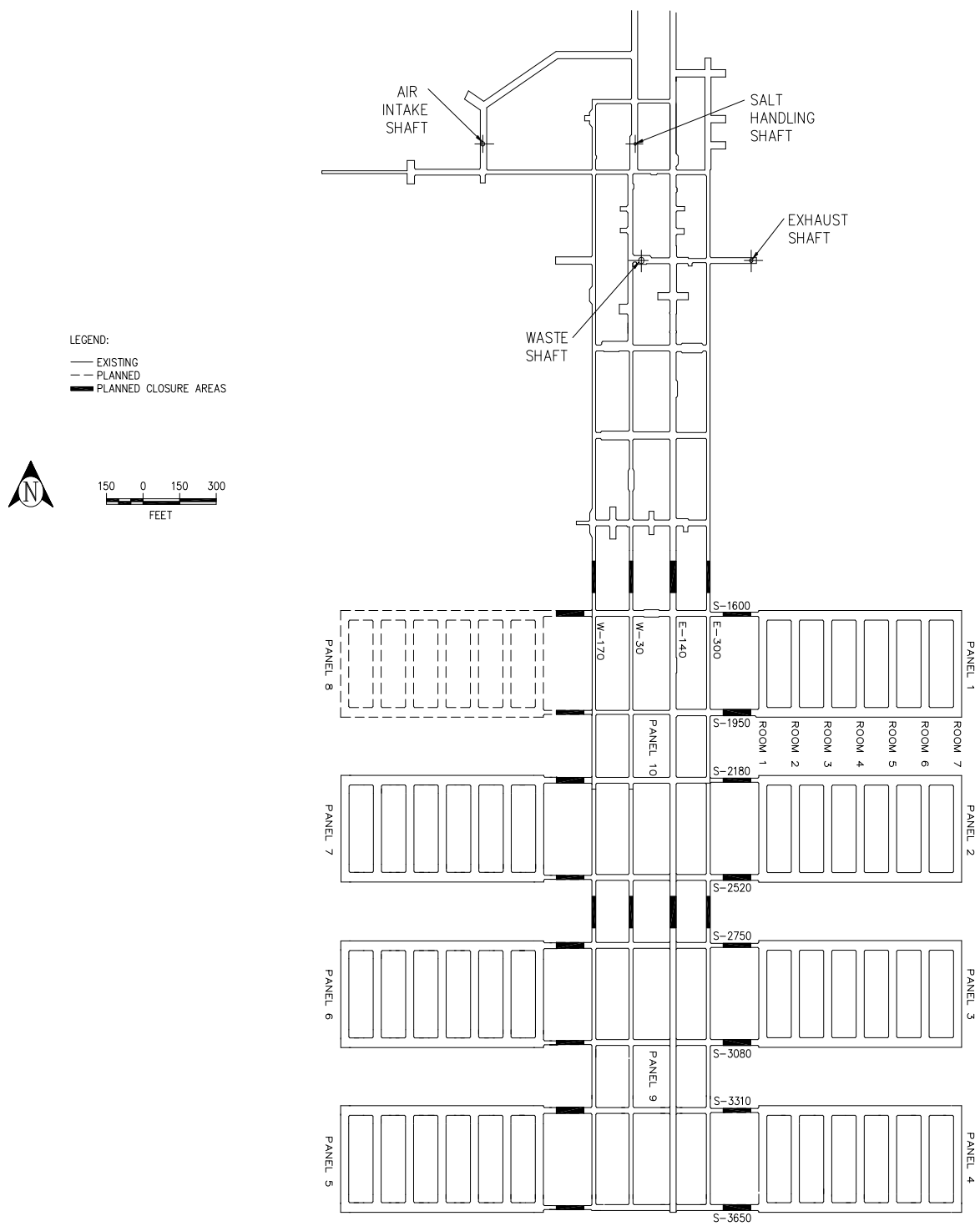


**Figure D-3**  
**WIPP Underground Facilities**

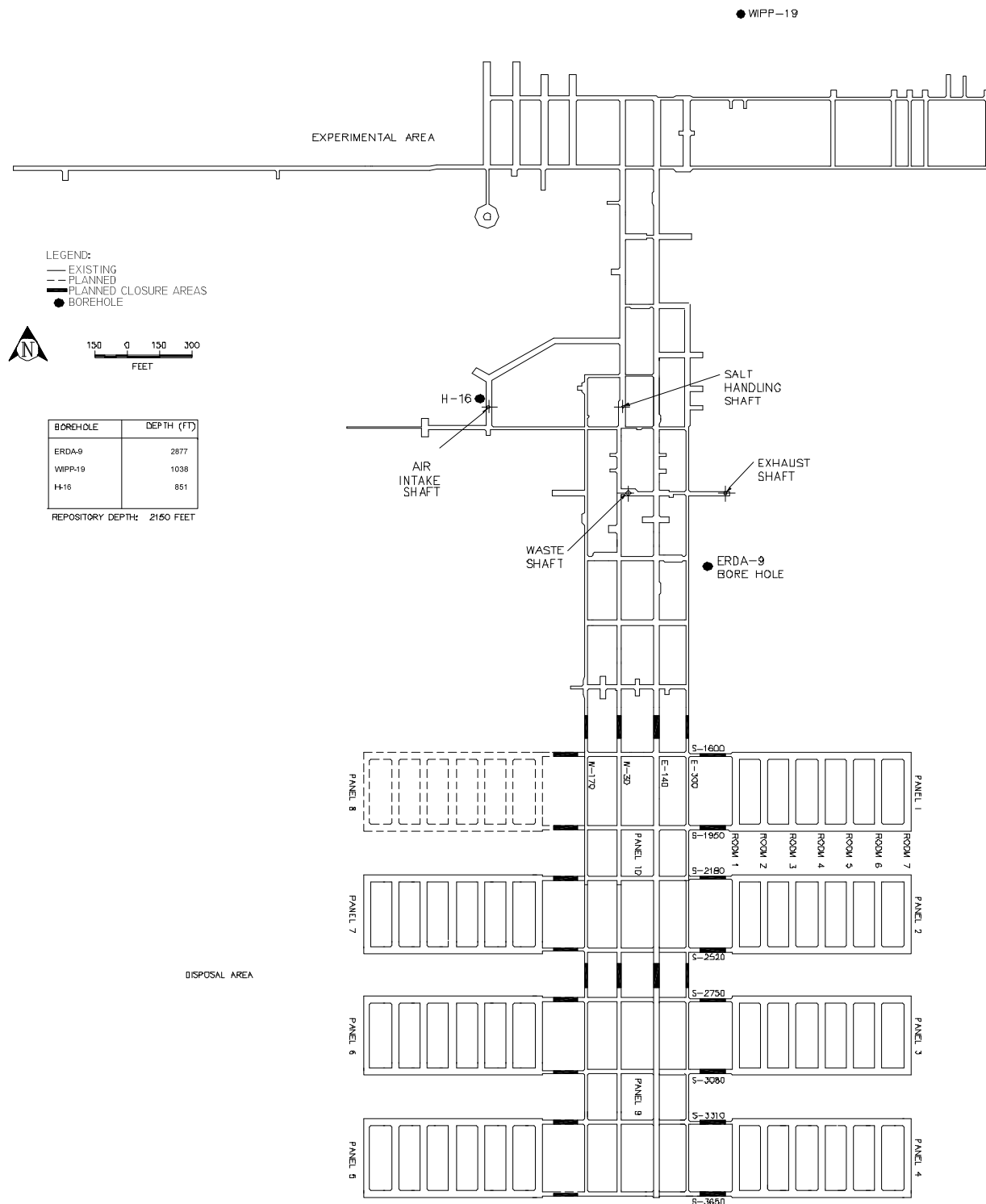


**Figure D-5**  
**Underground Emergency Equipment Locations and Underground Evacuation Routes**

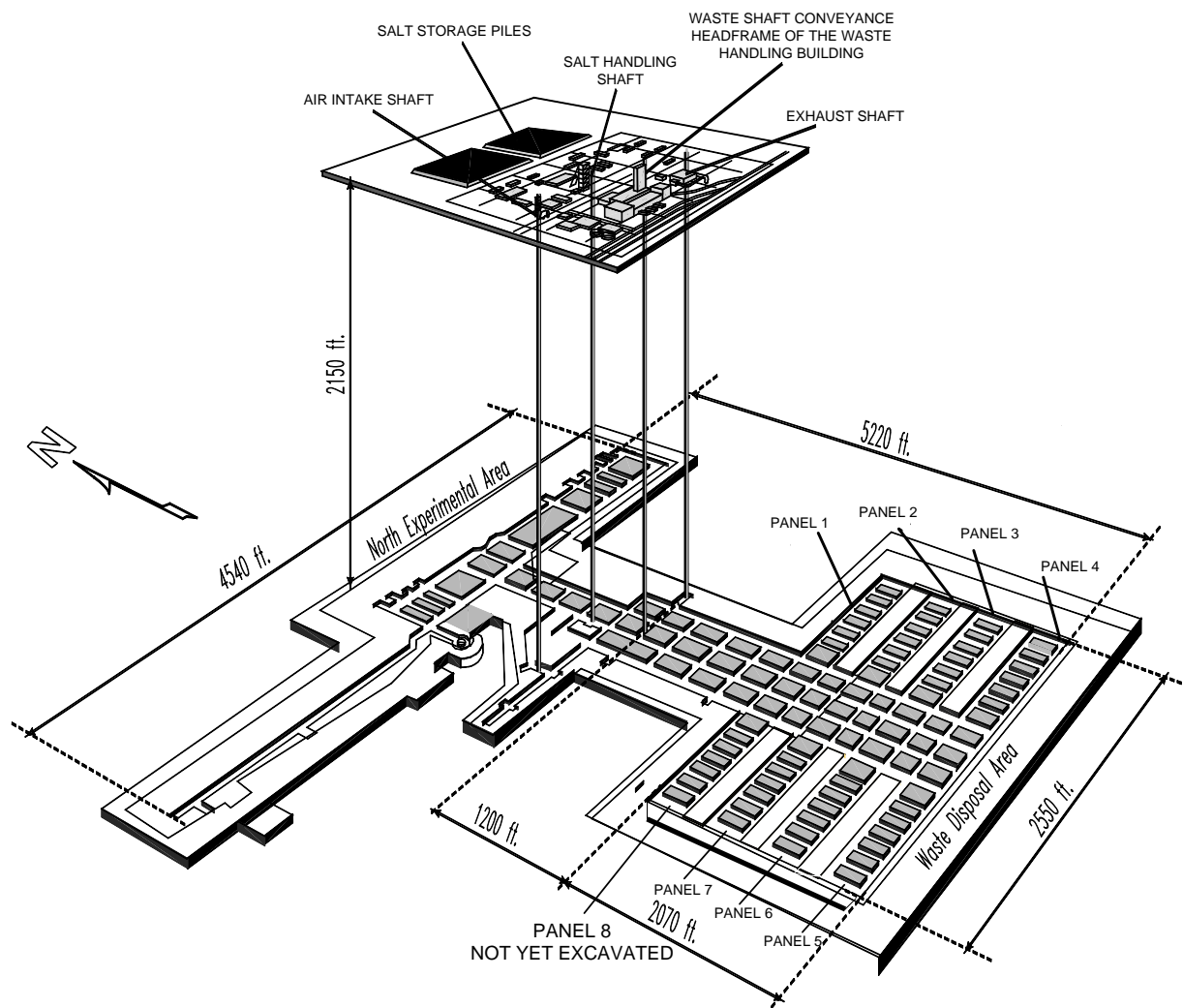




**Figure G-1**  
**Location of Underground HWDUs and Anticipated Closure Locations**

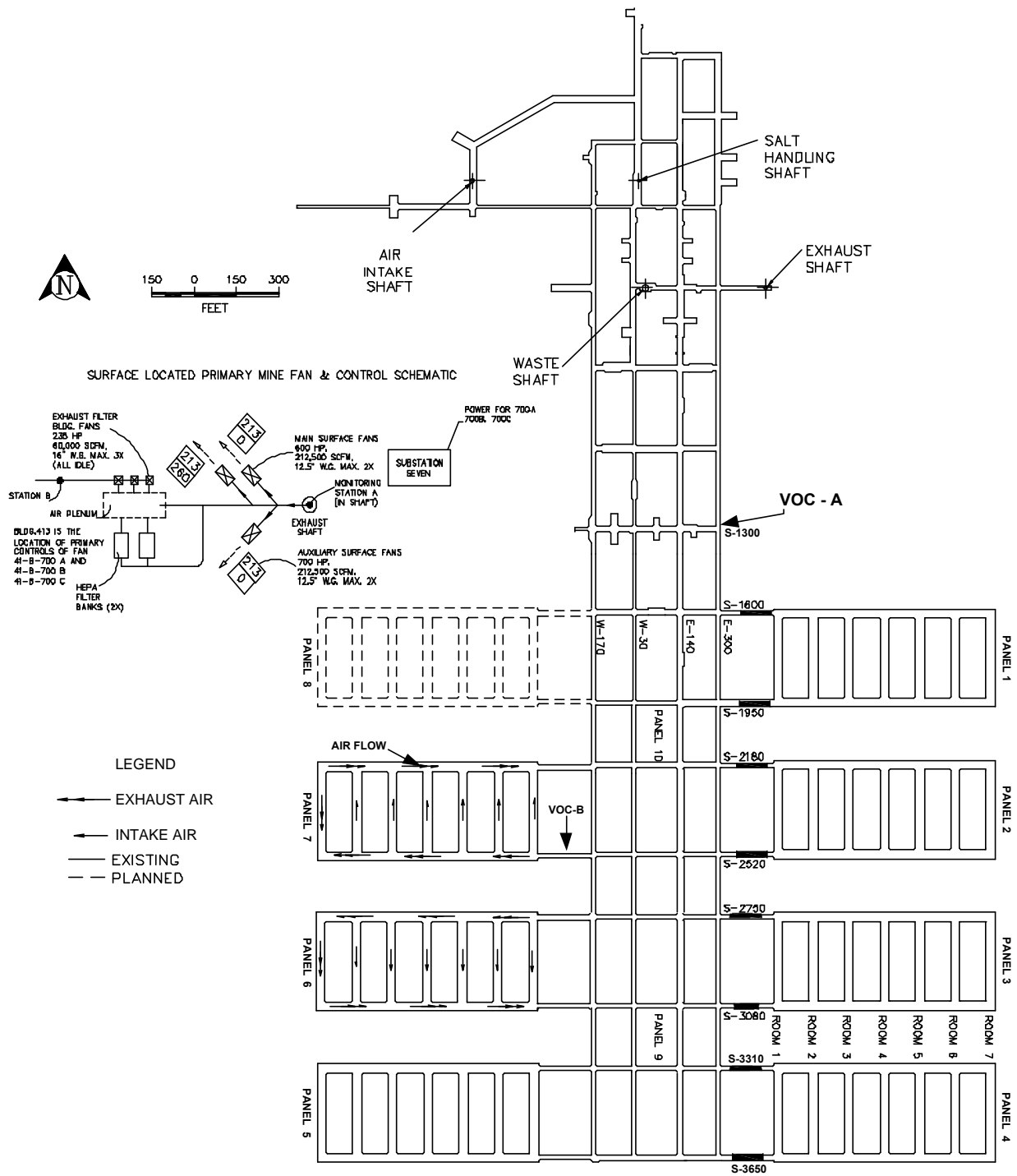


**Figure G-6**  
**Approximate Location of Boreholes in Relation to the WIPP Underground**



**Figure G2-1**  
**View of the WIPP Underground Facility**





**Figure N-1  
Panel Flow Area**