

**ATTACHMENT M**  
**FIGURES**

#### DISCLAIMER

The figures presented in this attachment are illustrations and are for information purposes only.  
These figures are not to scale.

## ATTACHMENT M

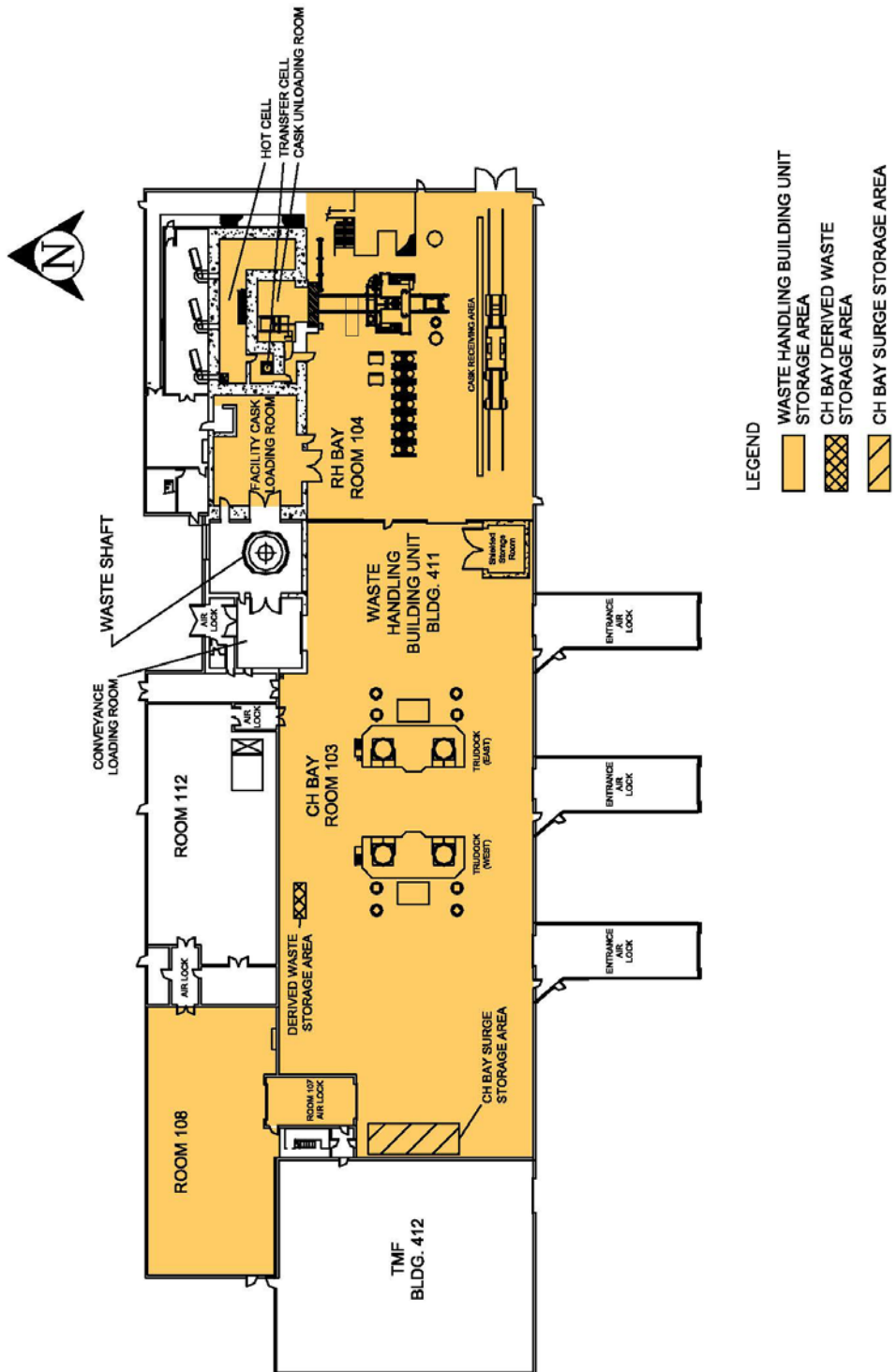
### FIGURES

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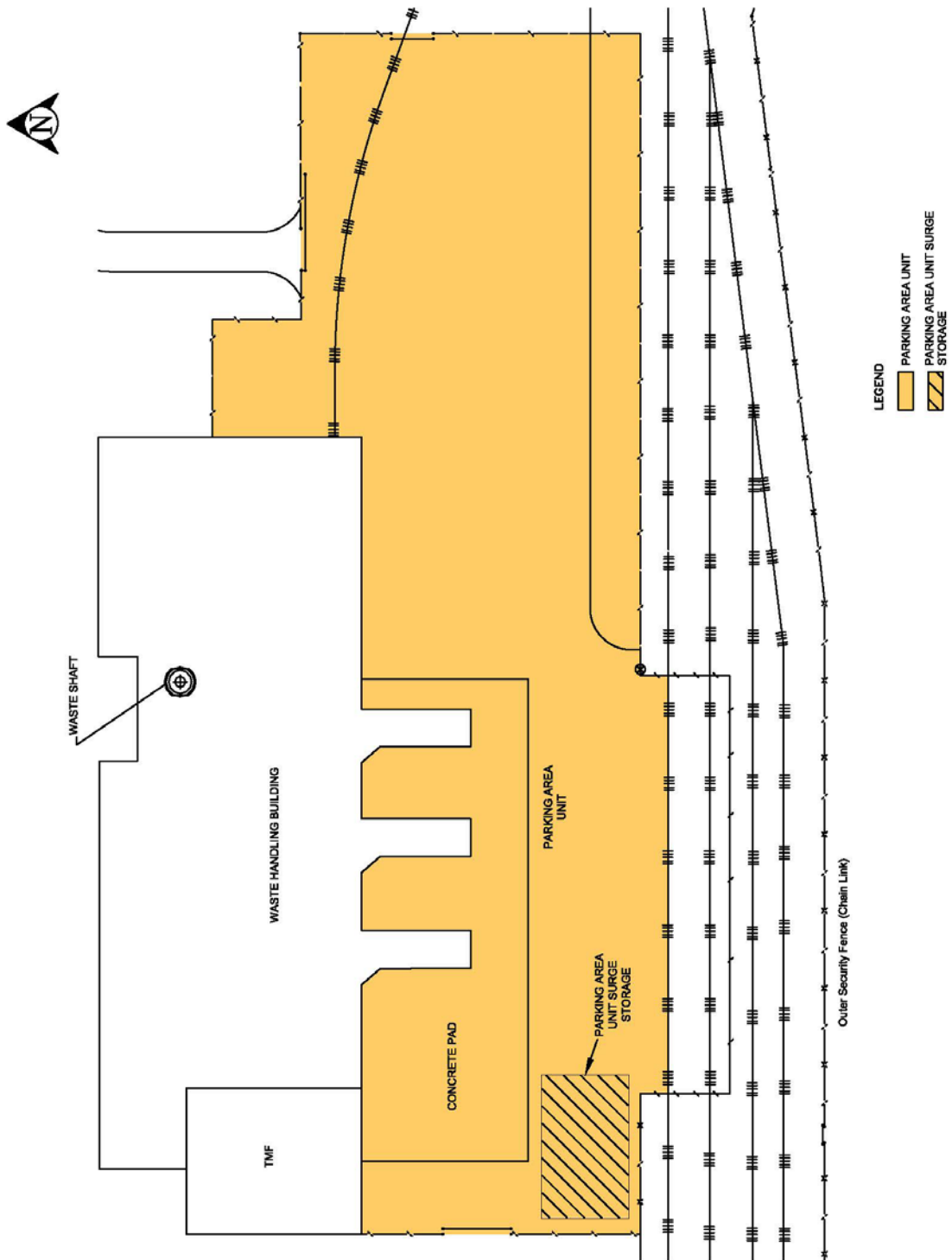
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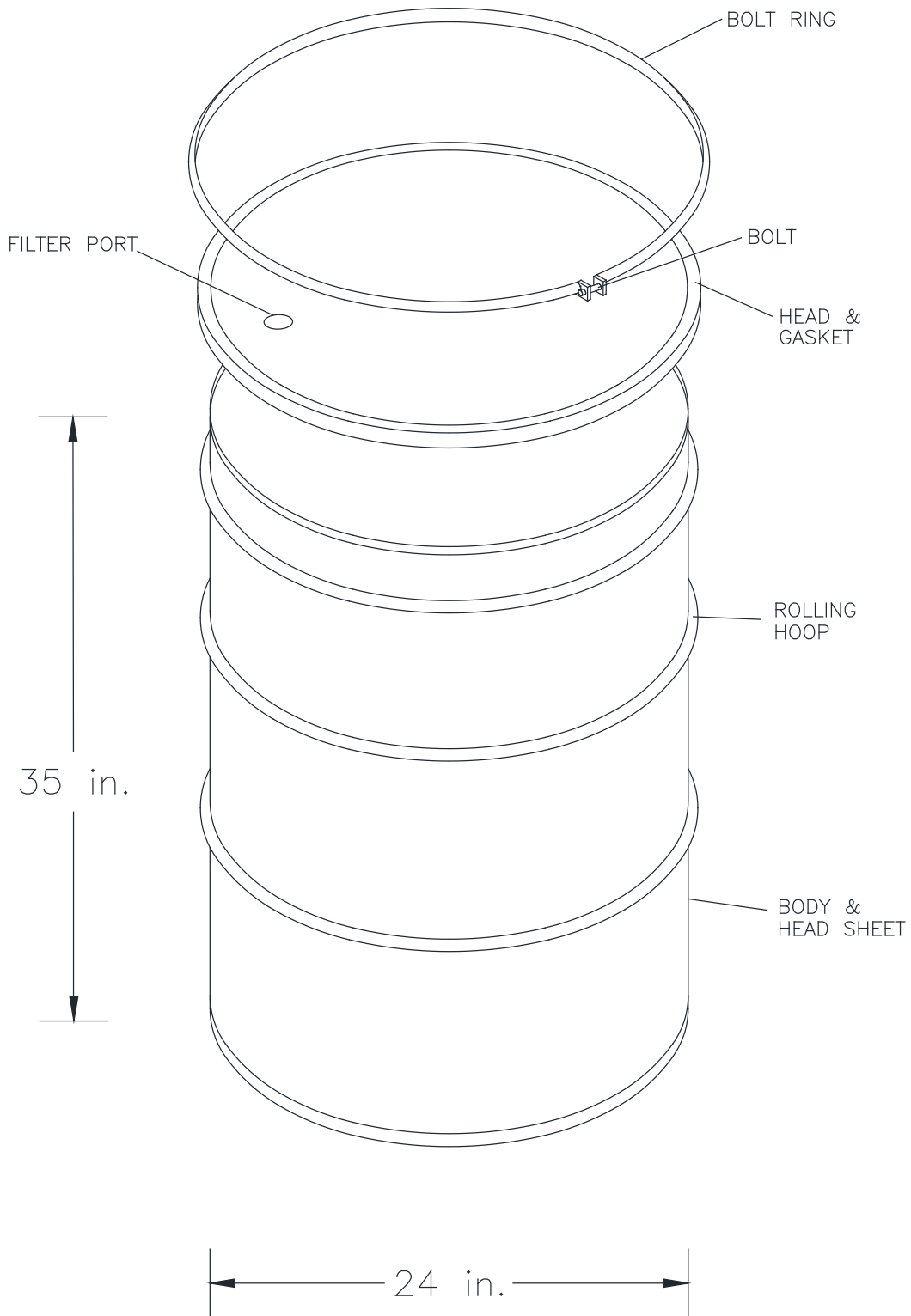
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**Figure M-1**  
**Waste Handling Building Unit – TRU Mixed Waste Container Storage and Surge Areas**

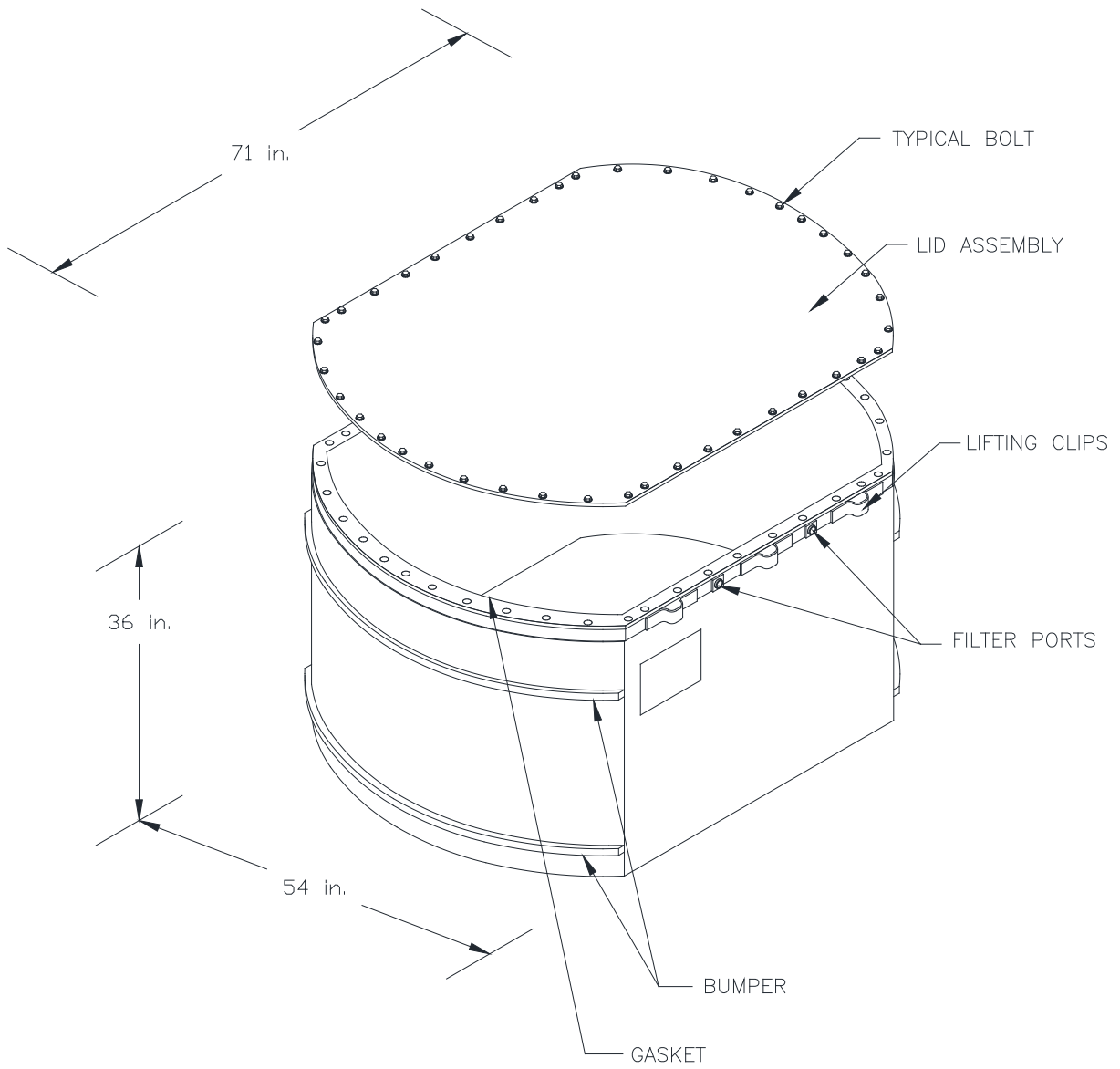


**Figure M-2**  
**Parking Area Unit – TRU Mixed Waste Container Storage and Surge Areas**

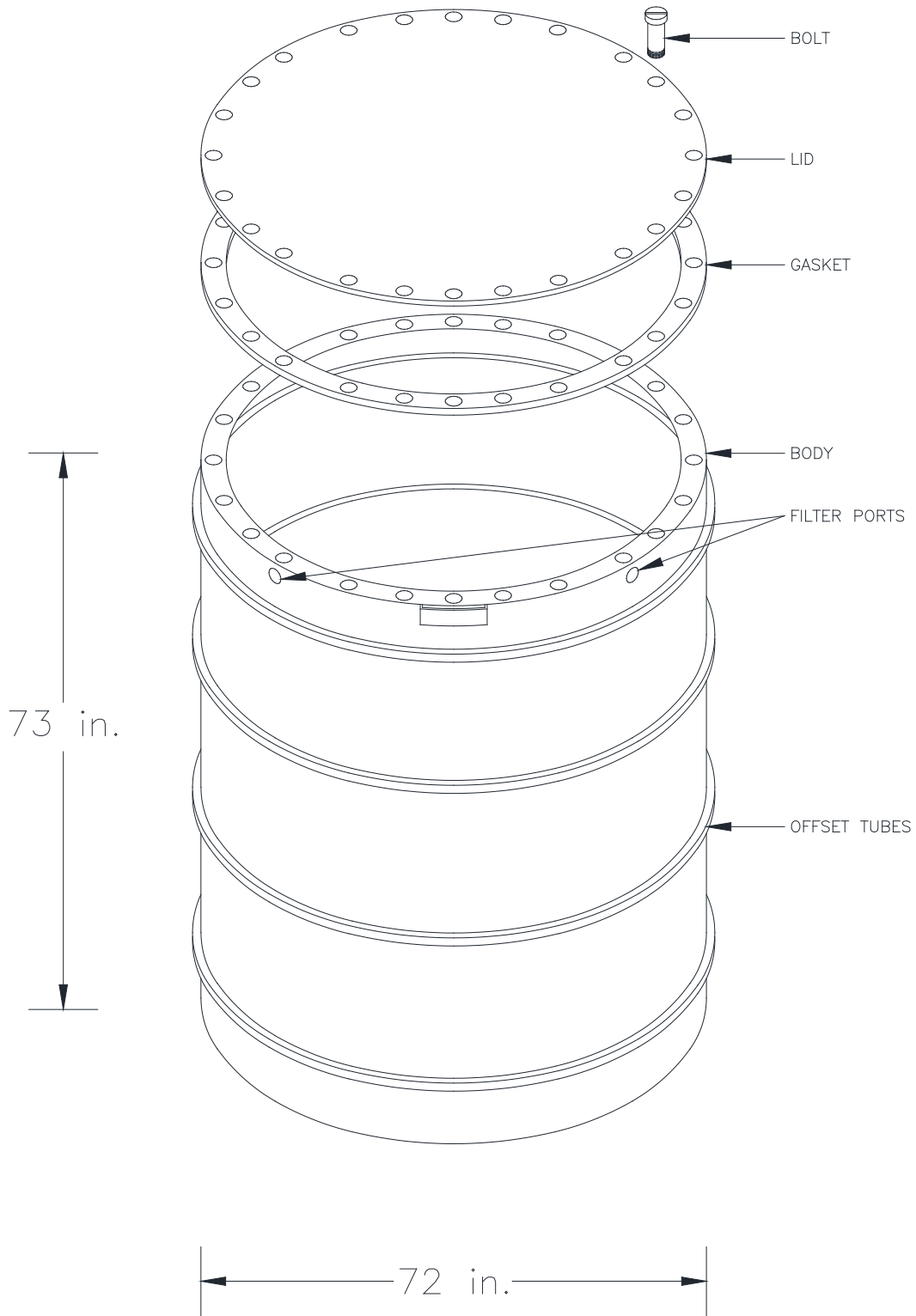


**Figure M-3**  
**Standard 55-Gallon Drum (Typical)**

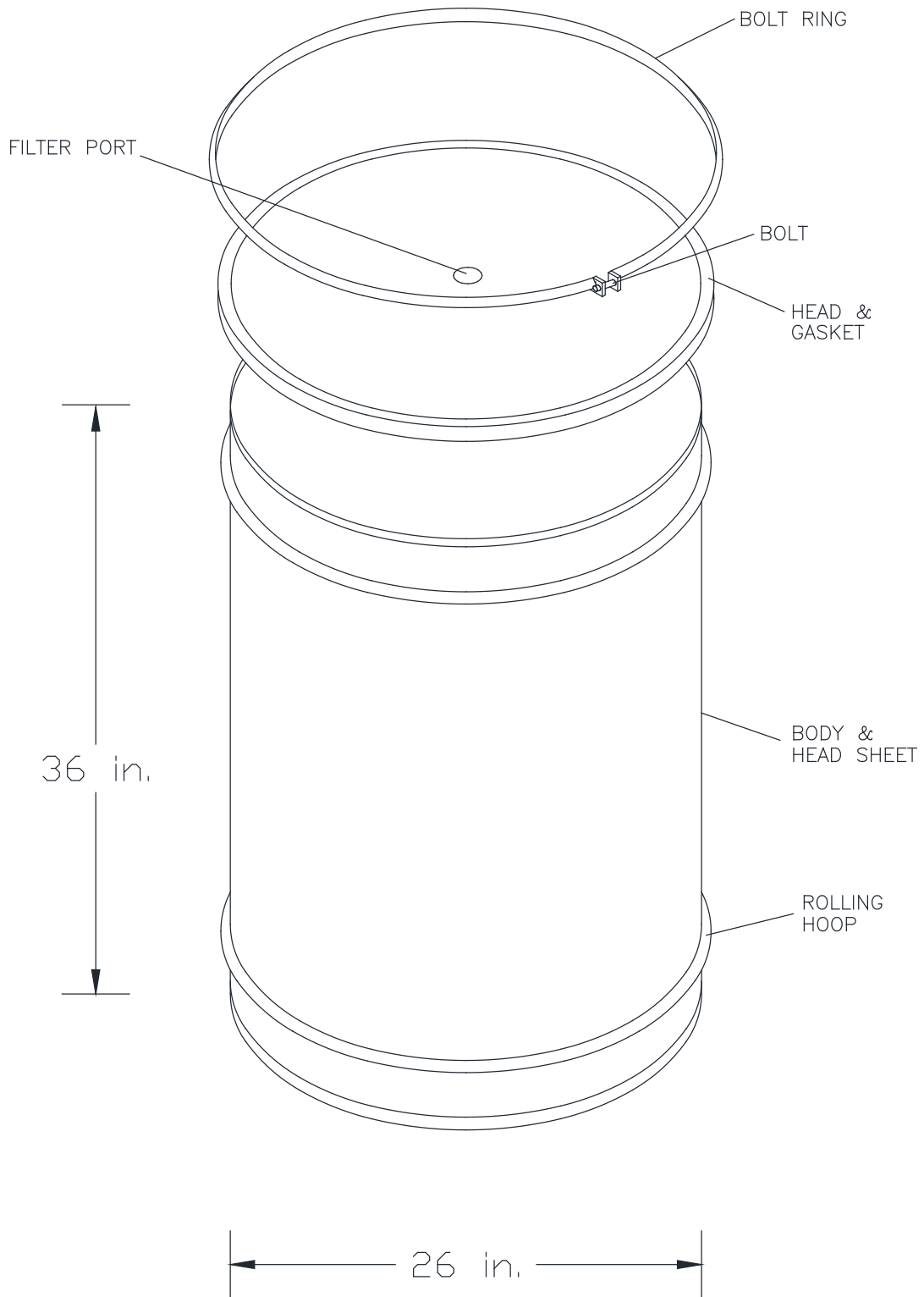




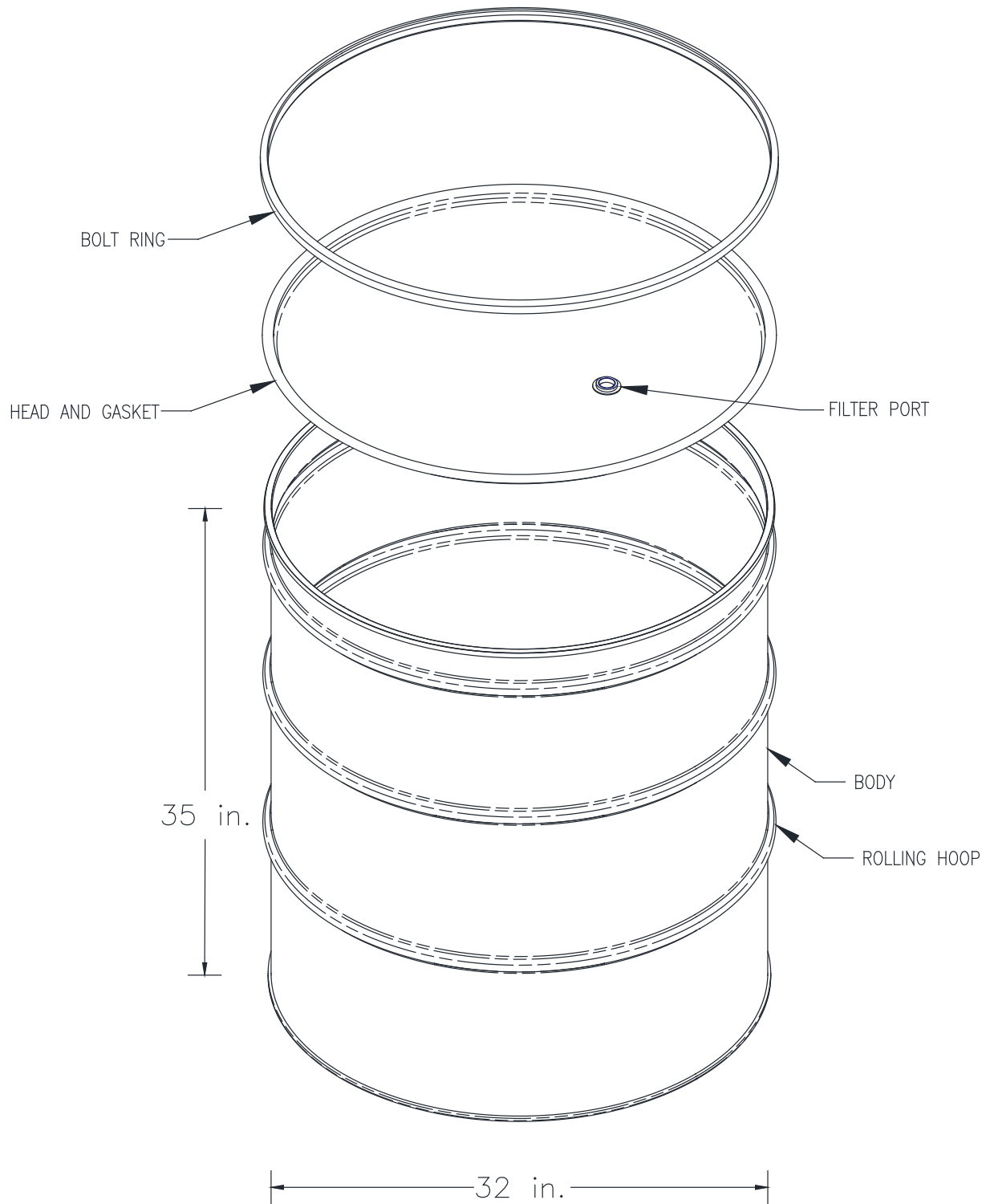
**Figure M-4**  
**Standard Waste Box**



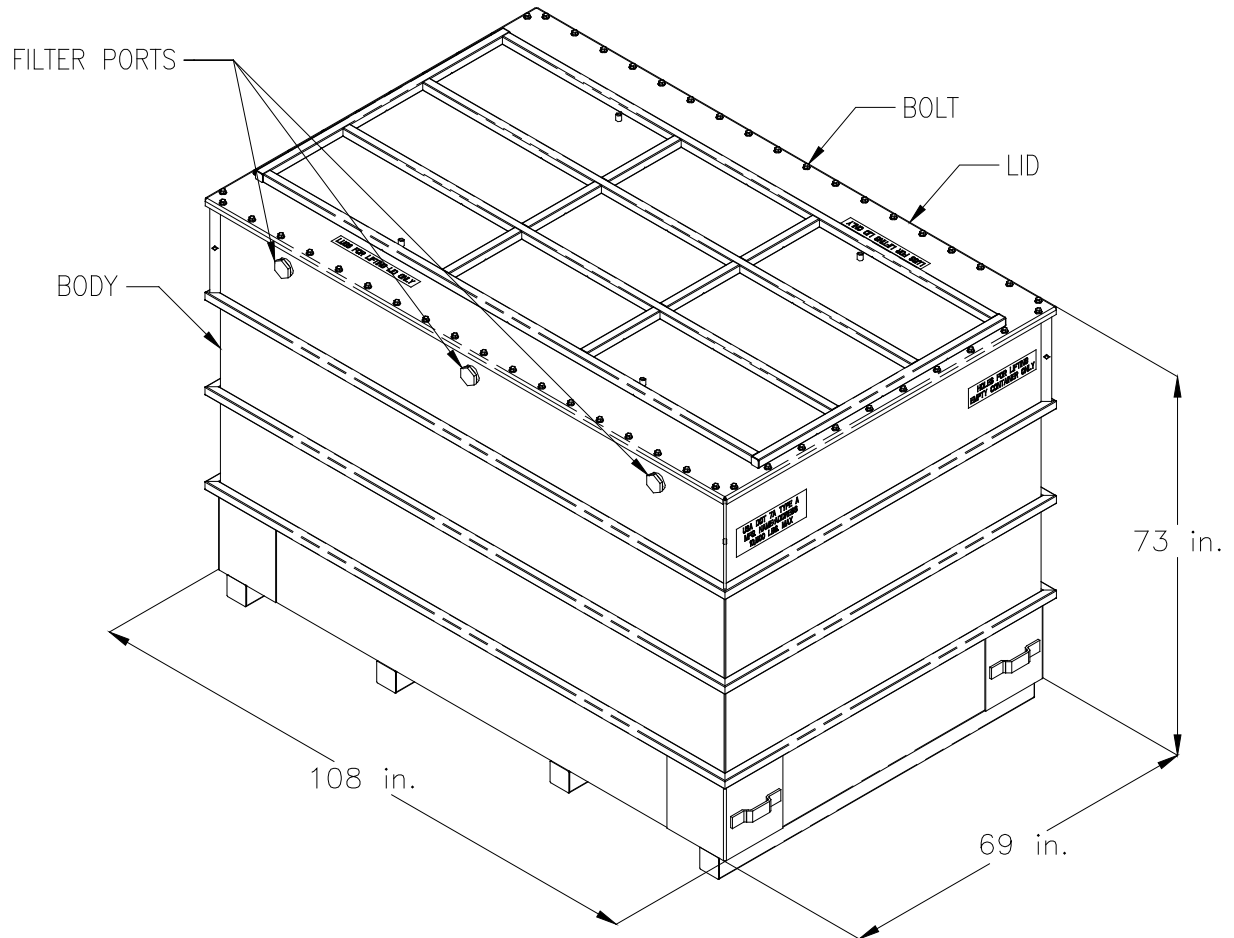
**Figure M-5  
Ten-Drum Overpack**



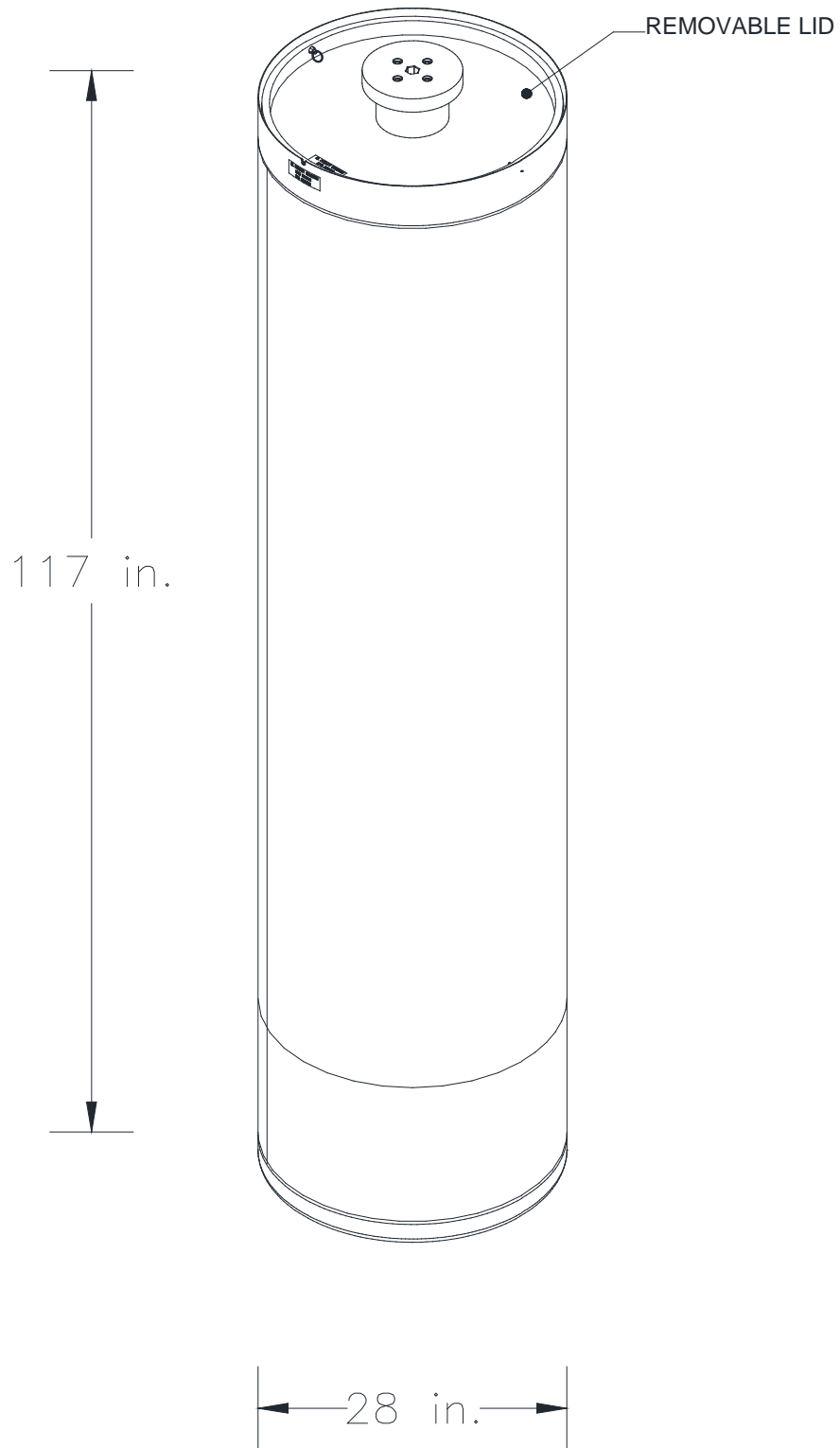
**Figure M-6**  
**85-Gallon Drum**



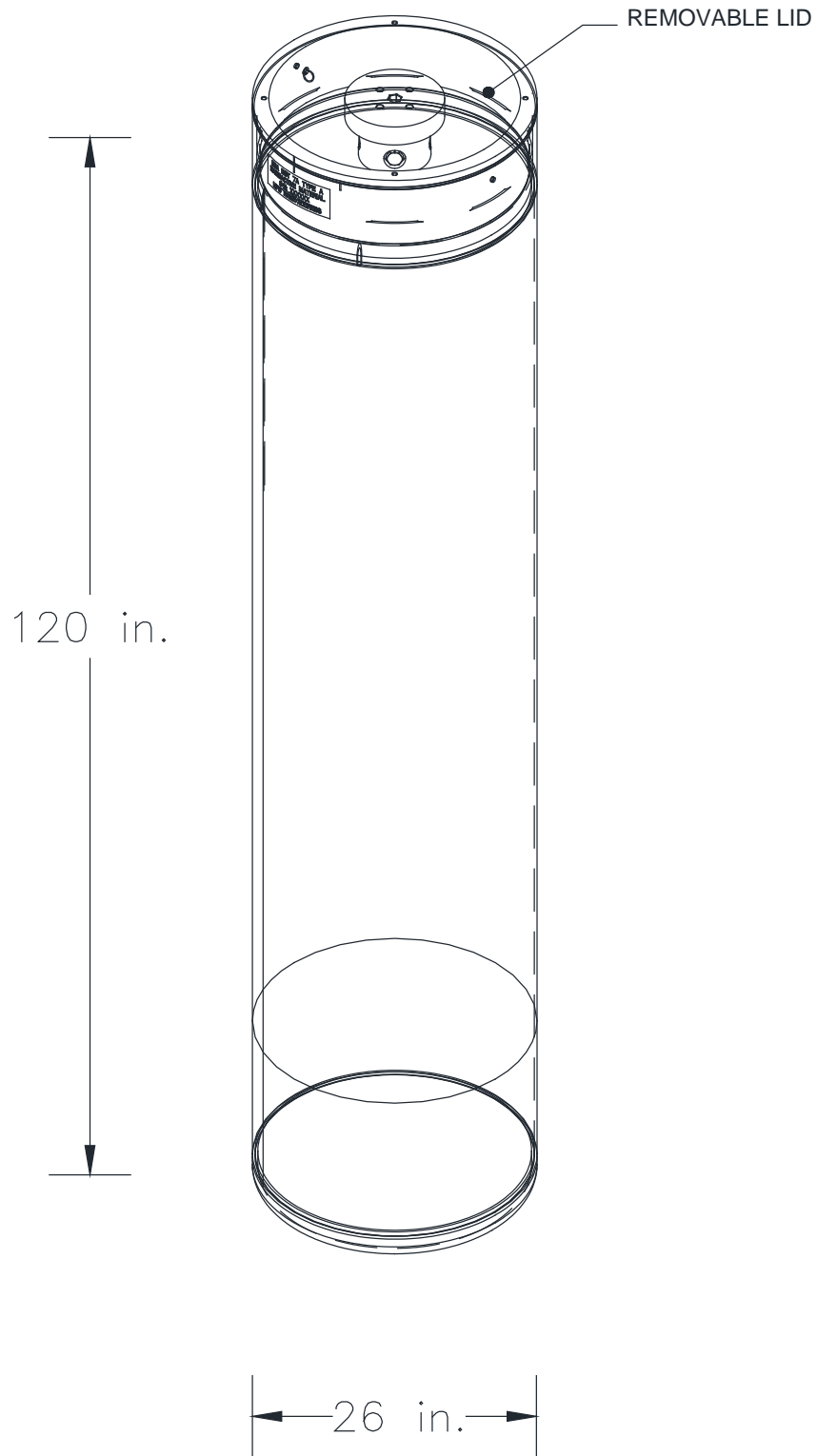
**Figure M-7**  
**100-Gallon Drum**



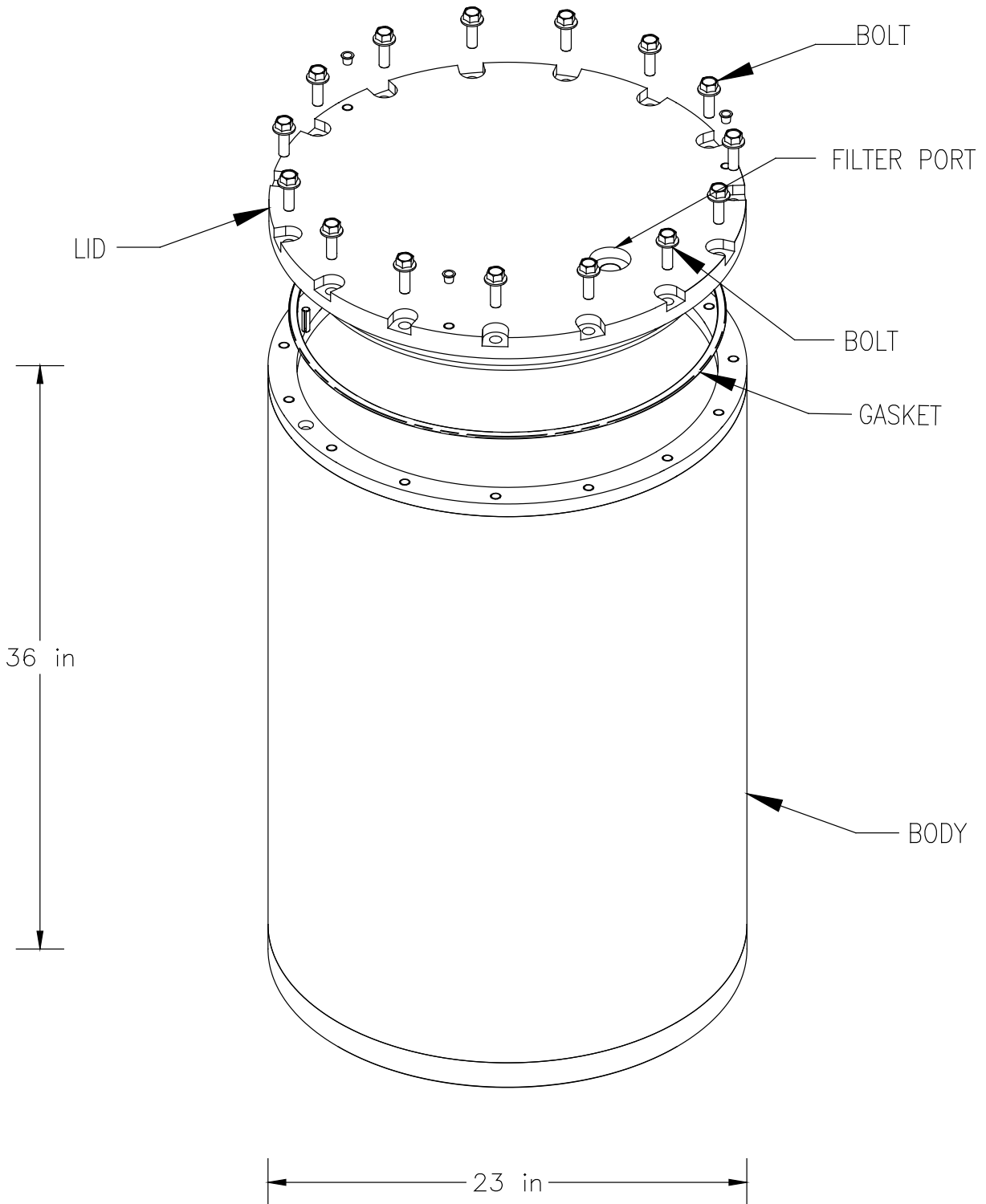
**Figure M-8**  
**Typical Standard Large Box 2**



**Figure M-9**  
**Facility Canister Assembly**



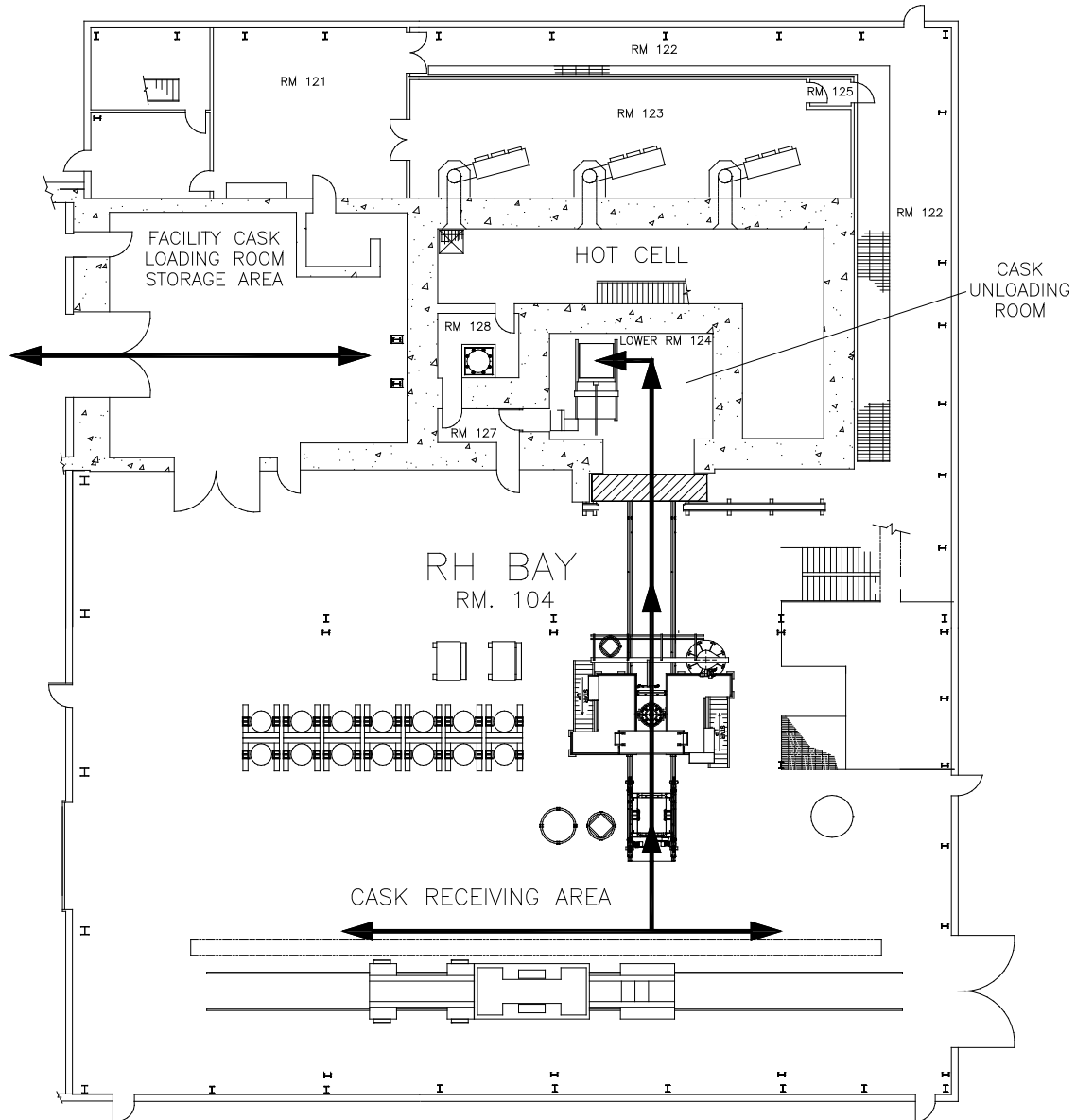
**Figure M-10**  
**RH-TRU 72-B Canister Assembly**



**Figure M-11**  
**Typical Shielded Container**



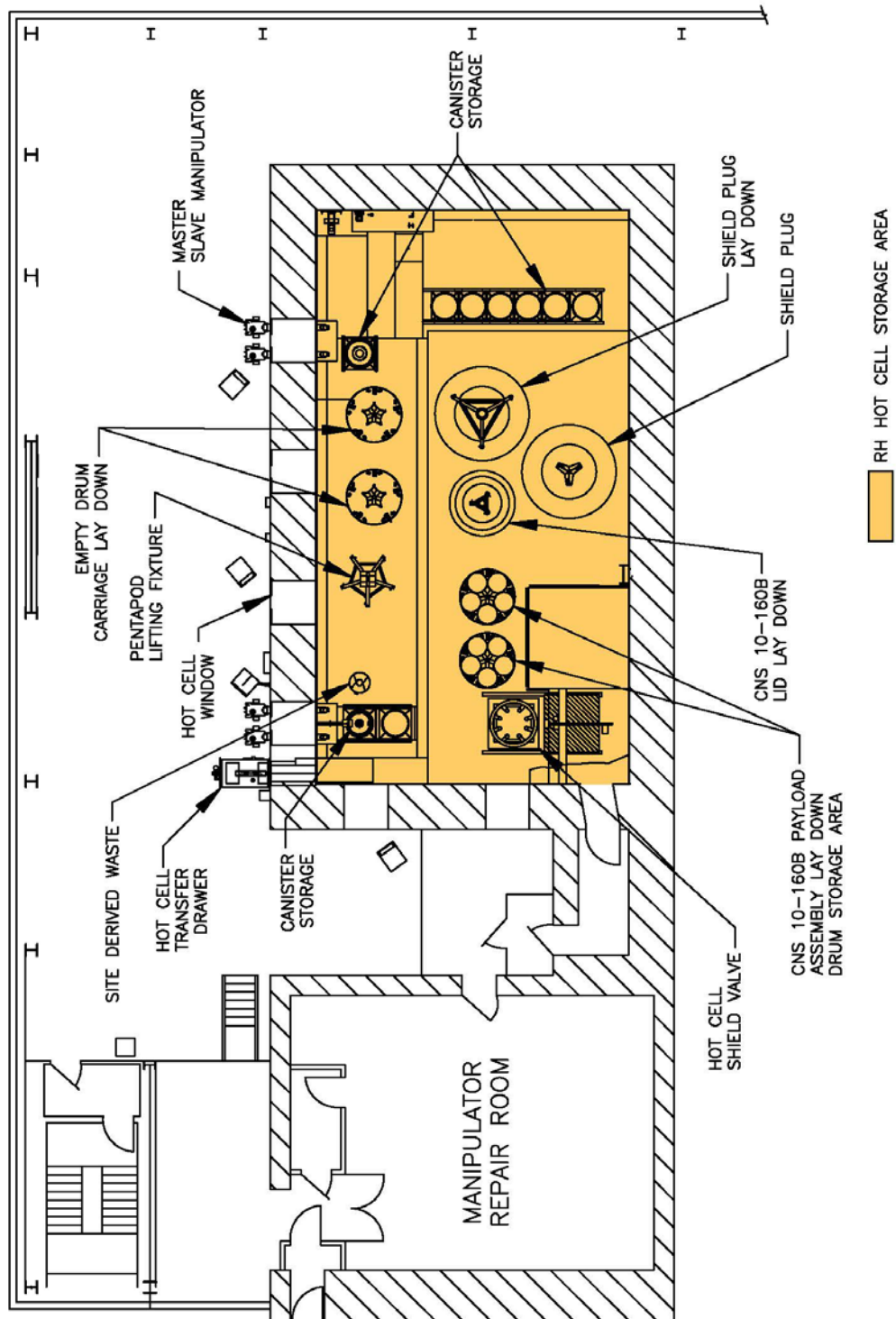




← RH BAY WASTE TRANSPORT ROUTES

NOTE: RH BAY FLOOR, HOT CELL – LOWER FLOOR, AND CASK LOADING ROOM CONSIDERED 0 FOOT ELEVATION

**Figure M-13**  
**RH Bay Ground Floor and Waste Transport Routes**



**Figure M-14**  
**RH Hot Cell Storage Area**

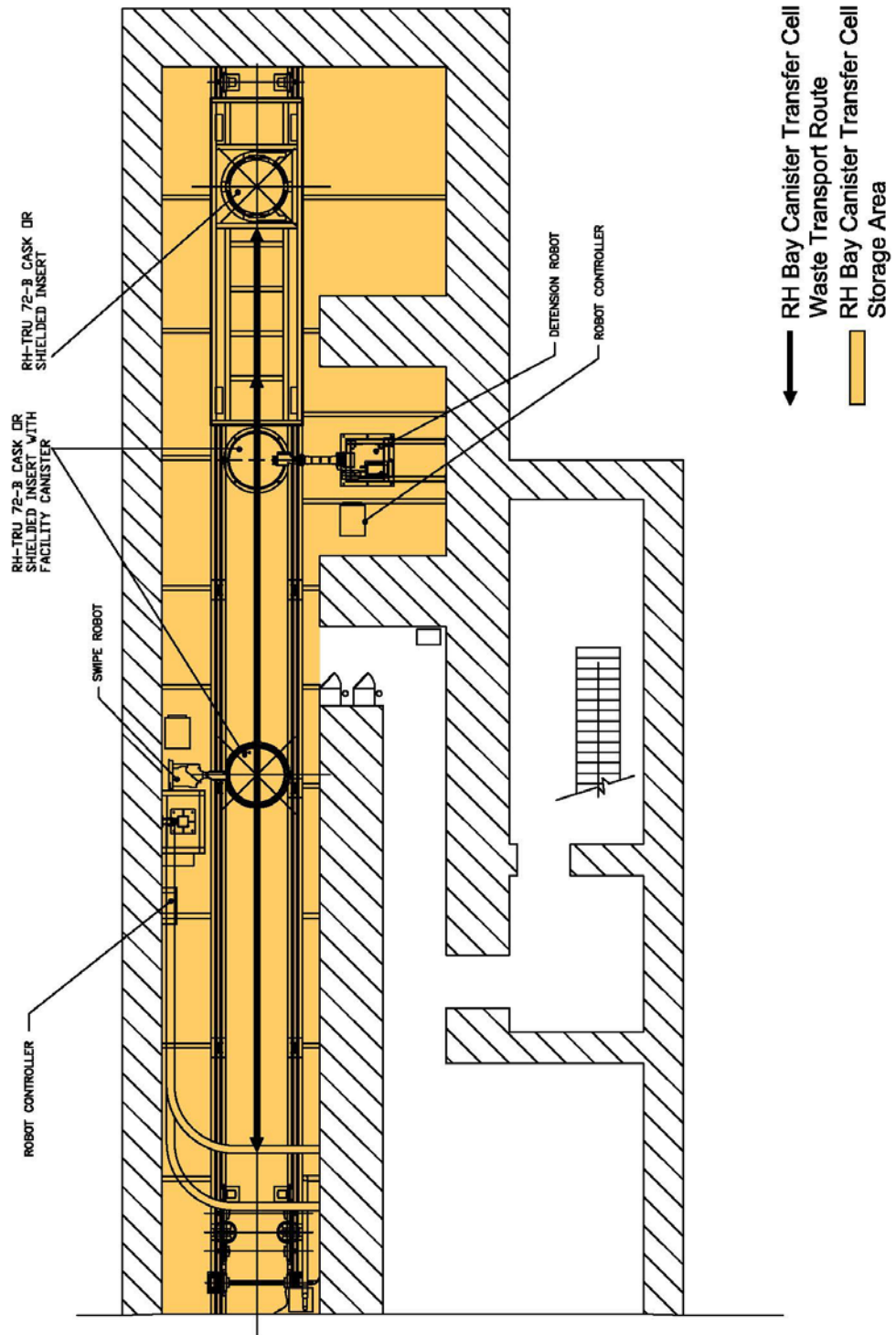


Figure M-15  
RH Canister Transfer Cell Storage Area and Waste Transport Route

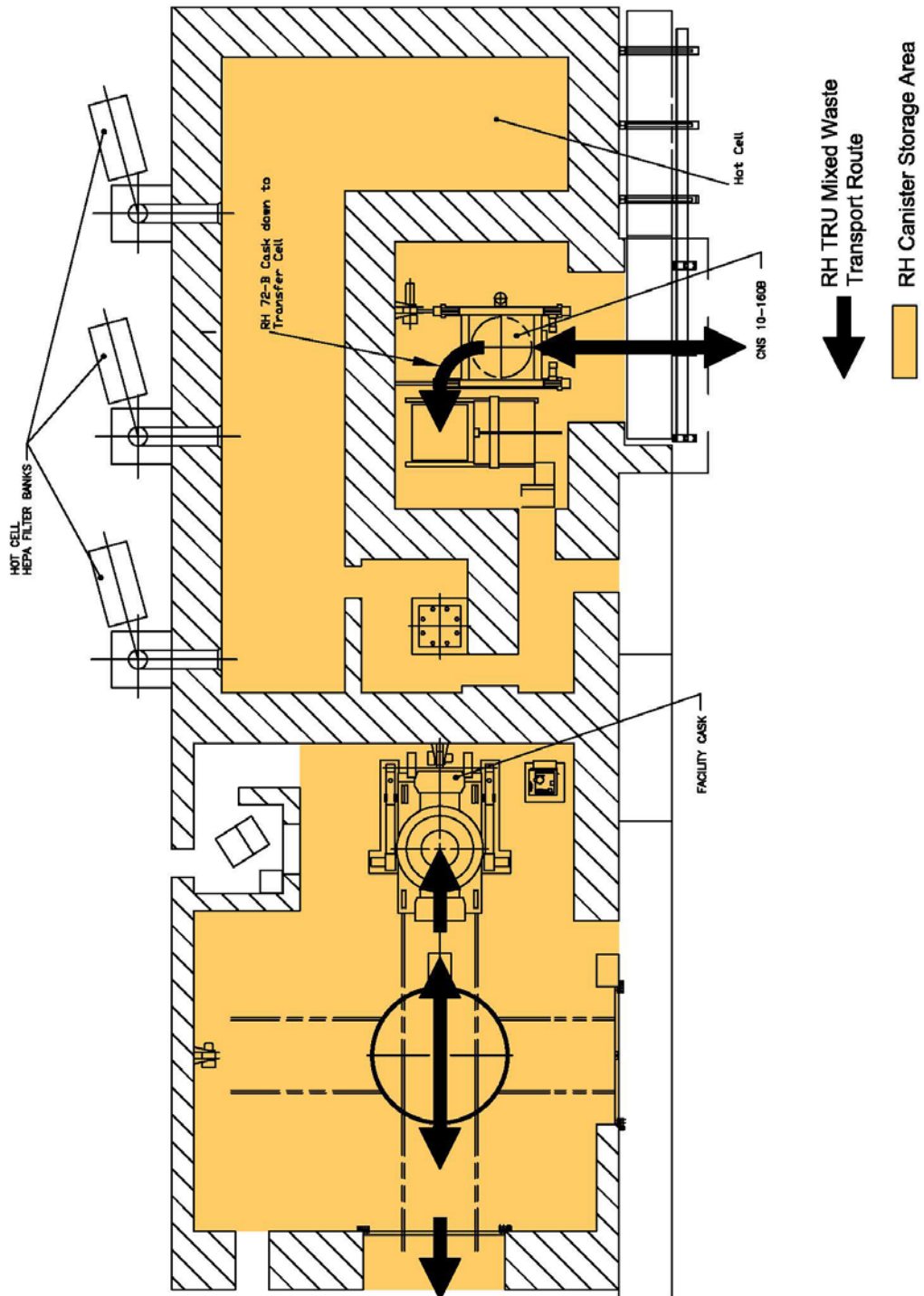


Figure M-16  
RH Facility Cask Loading Room and Cask Unloading Storage Area and Waste Transport Route

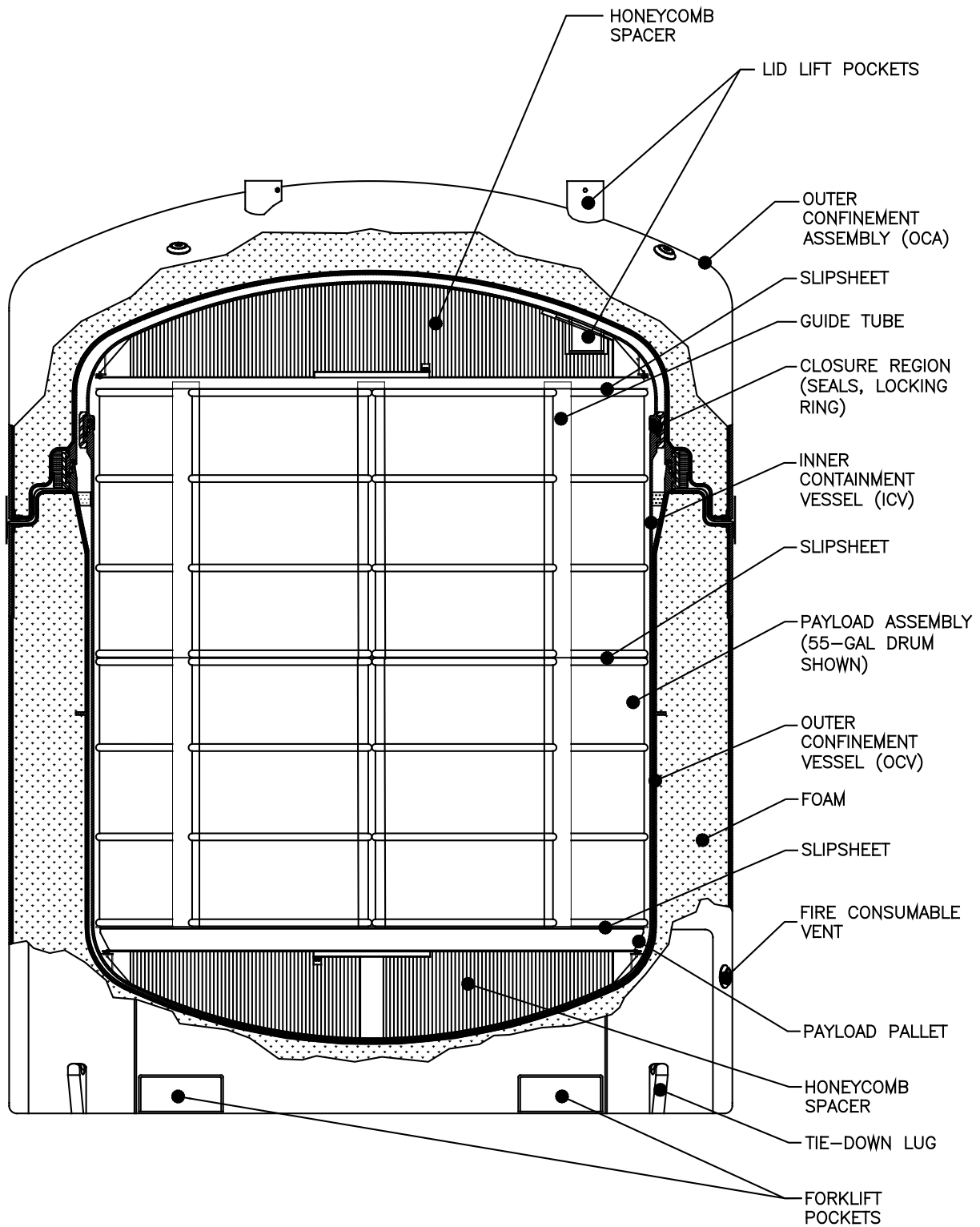


Figure M-17  
TRUPACT-II Type B Shipping Container

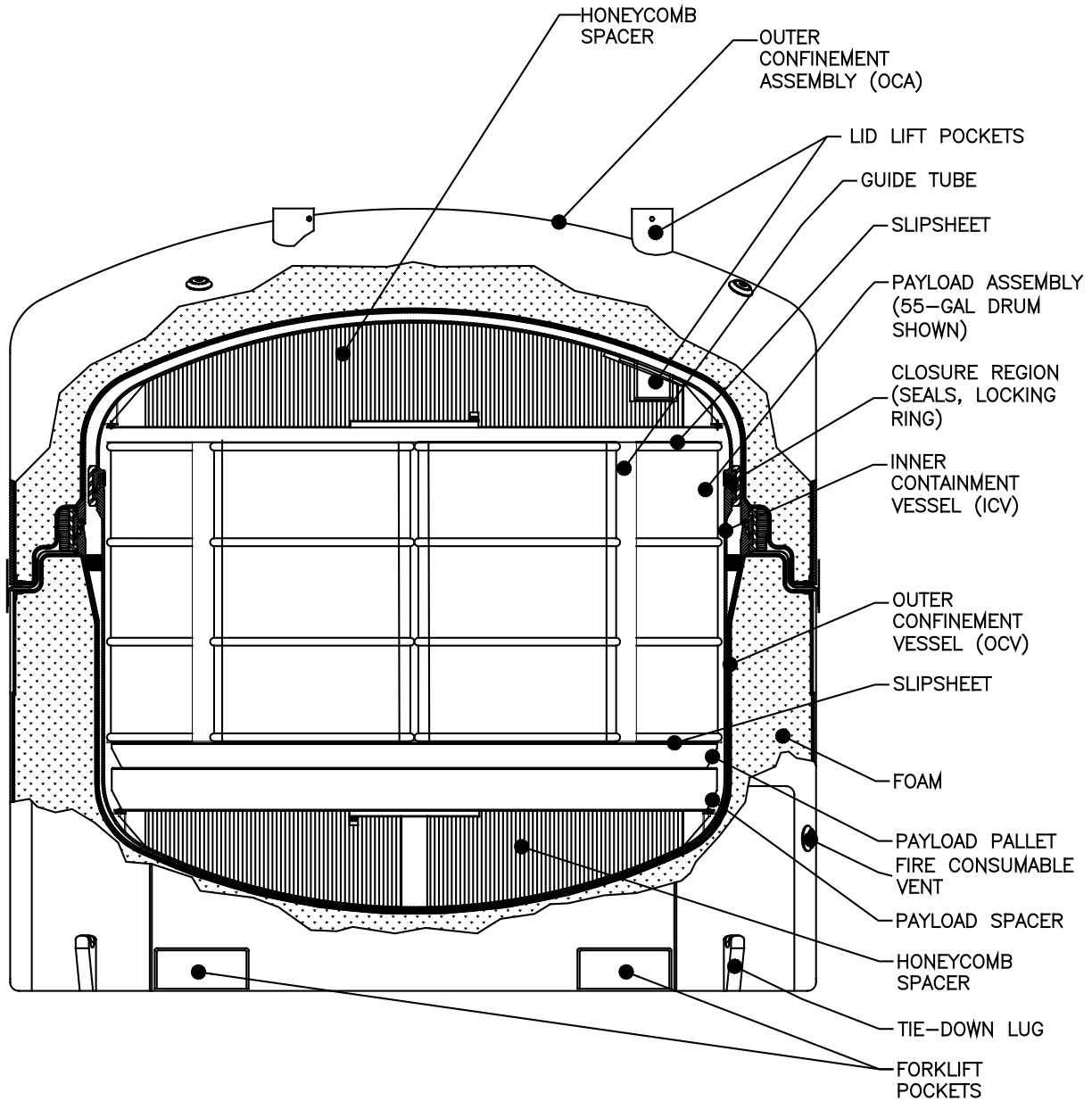
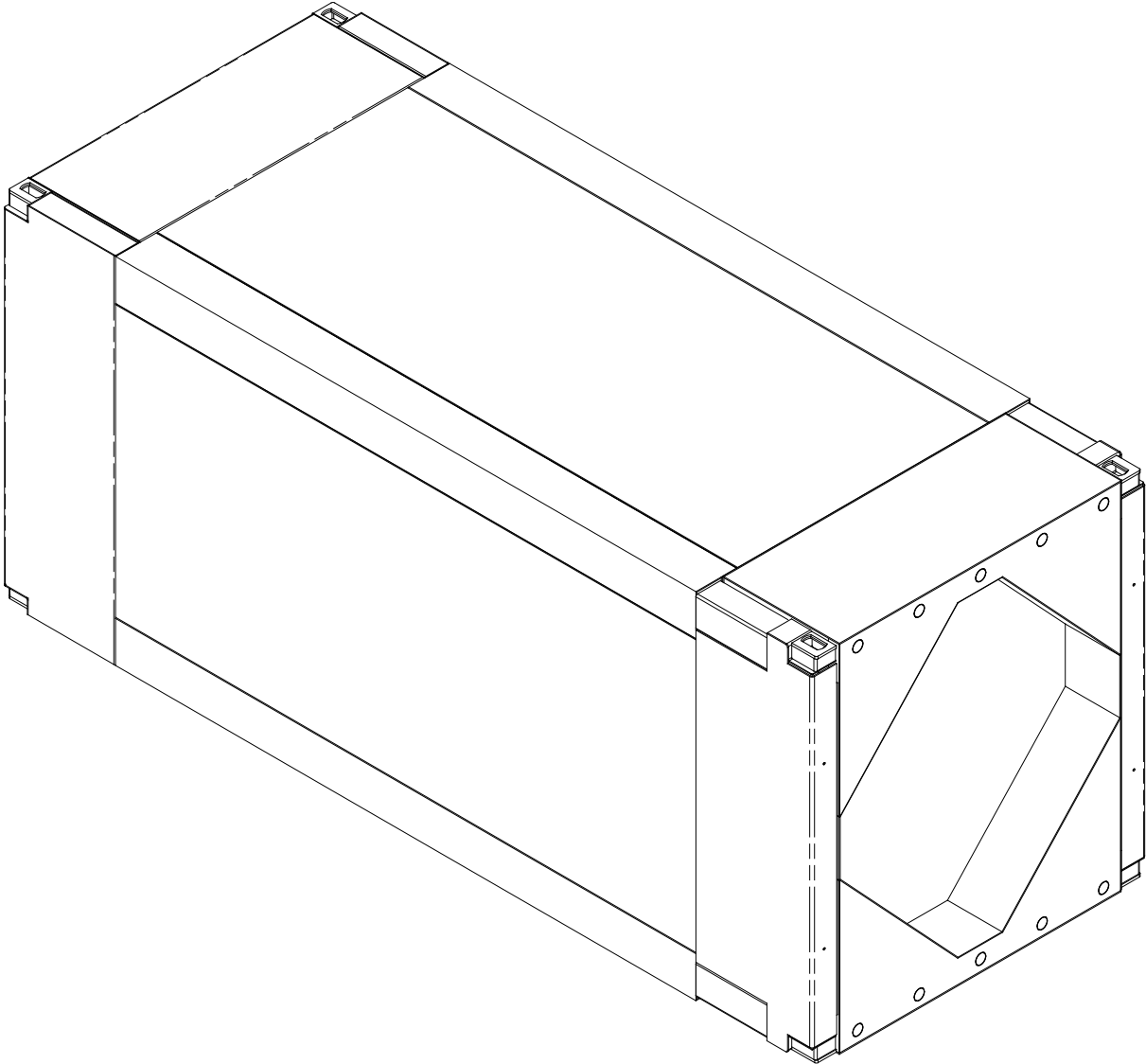
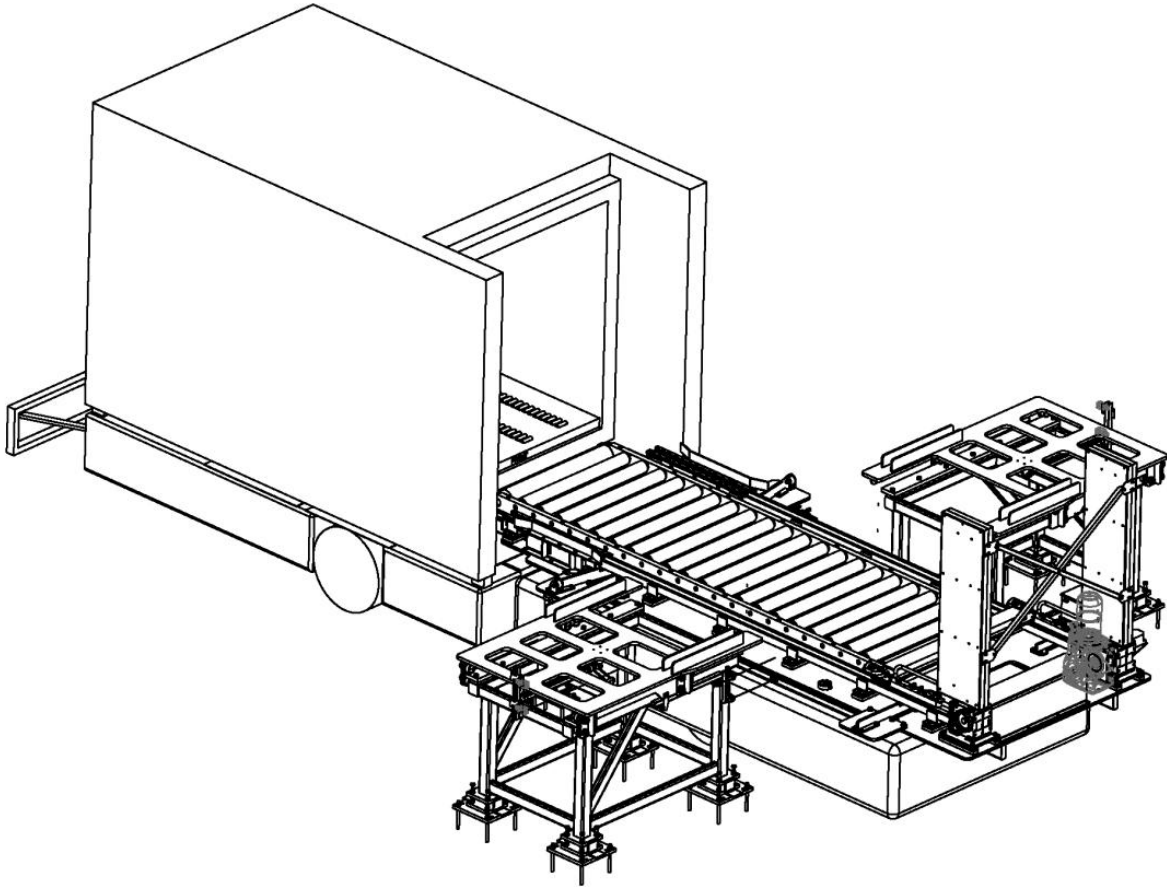


Figure M-18  
Typical HalfPACT Type B Shipping Container

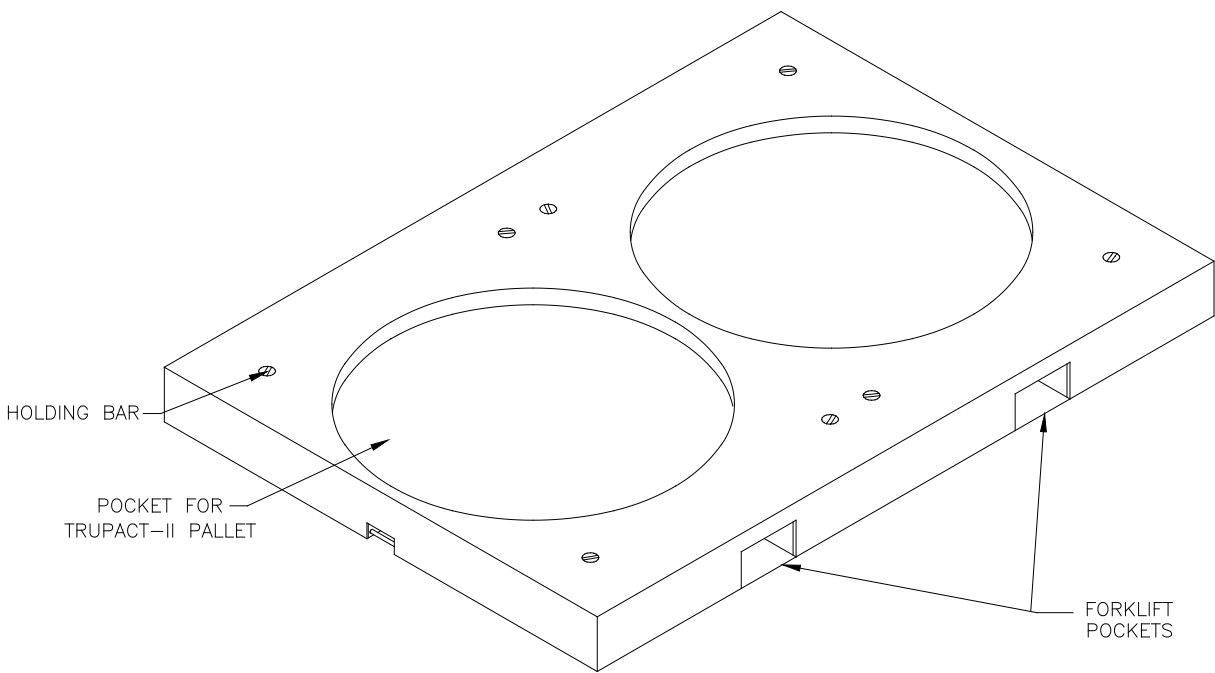


**Figure M-19**  
**Typical TRUPACT-III Type B Shipping Container**

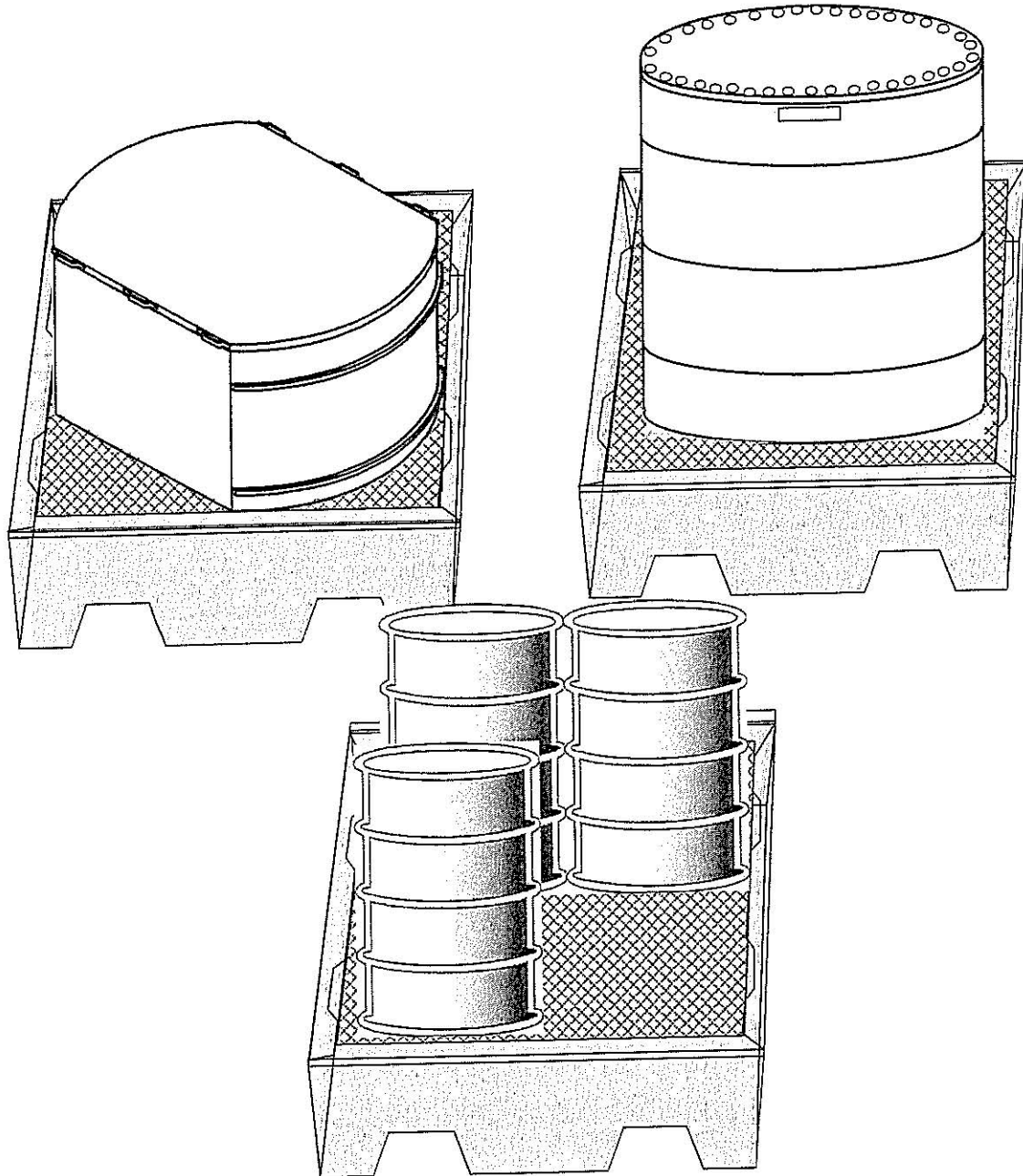




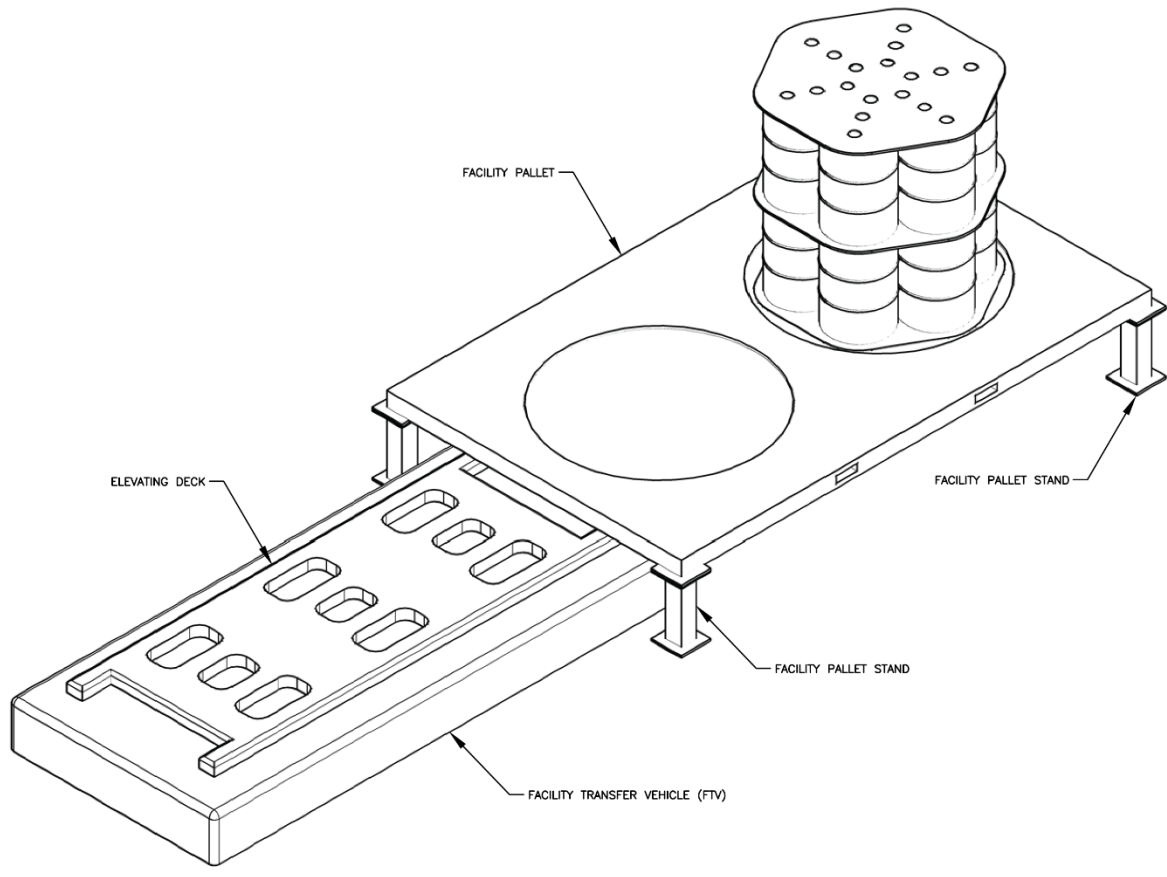
**Figure M-20**  
**Payload Transfer Station**



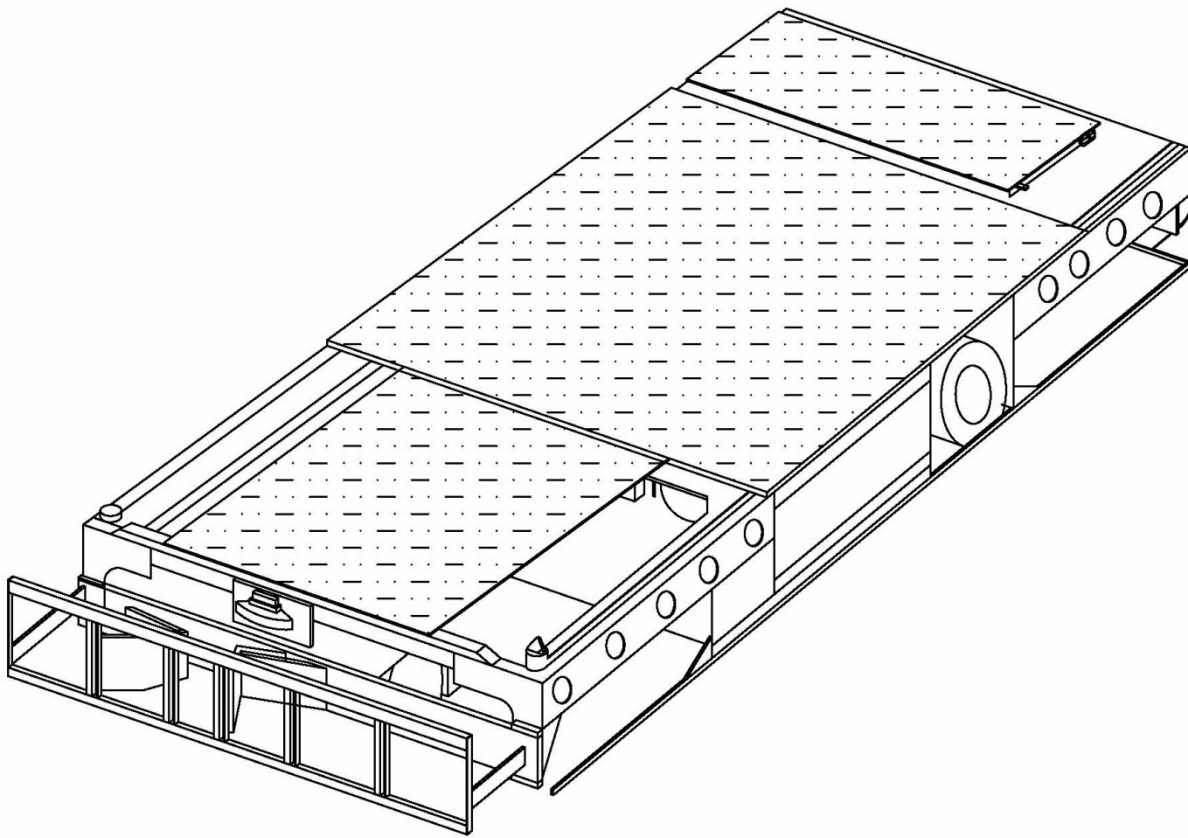
**Figure M-21  
Facility Pallet**



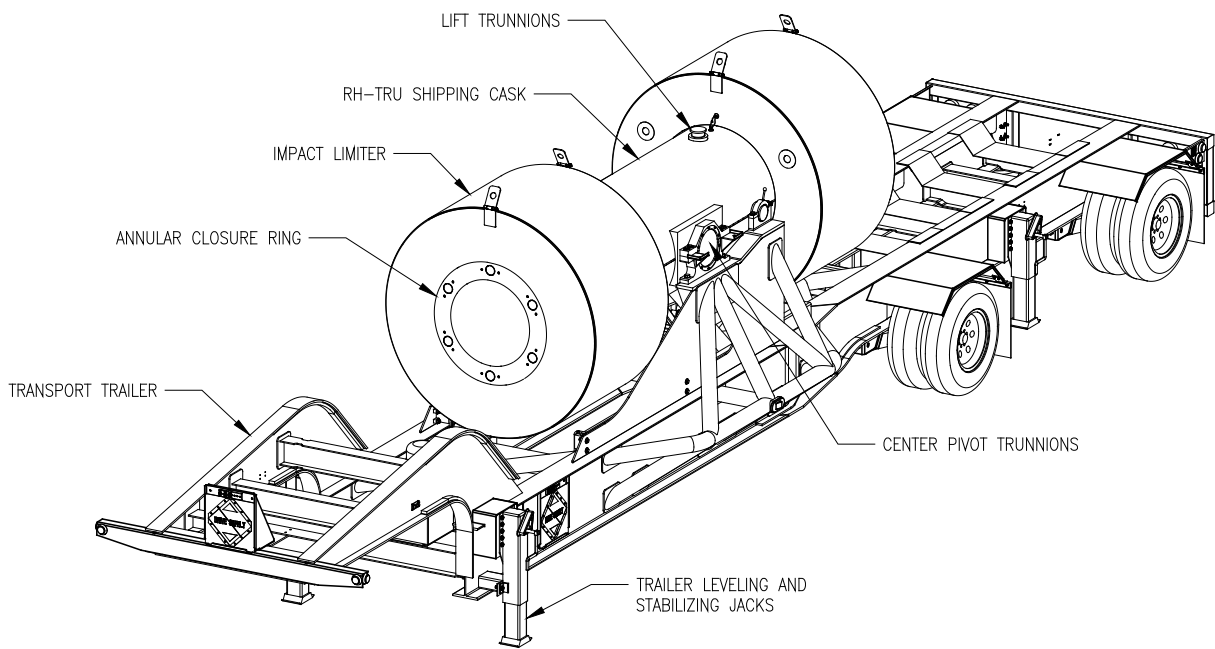
**Figure M-22**  
**Typical Containment Pallet**



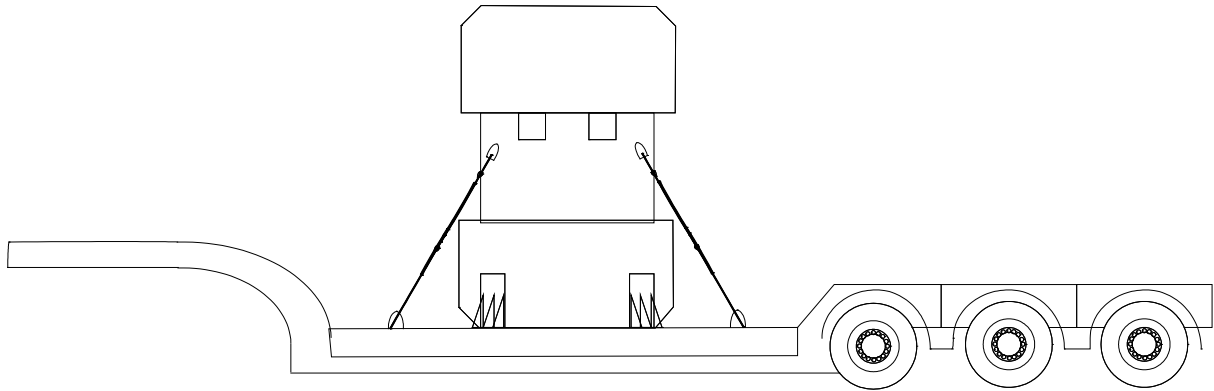
**Figure M-23**  
**Facility Transfer Vehicle, Facility Pallet, and Typical Pallet Stand**



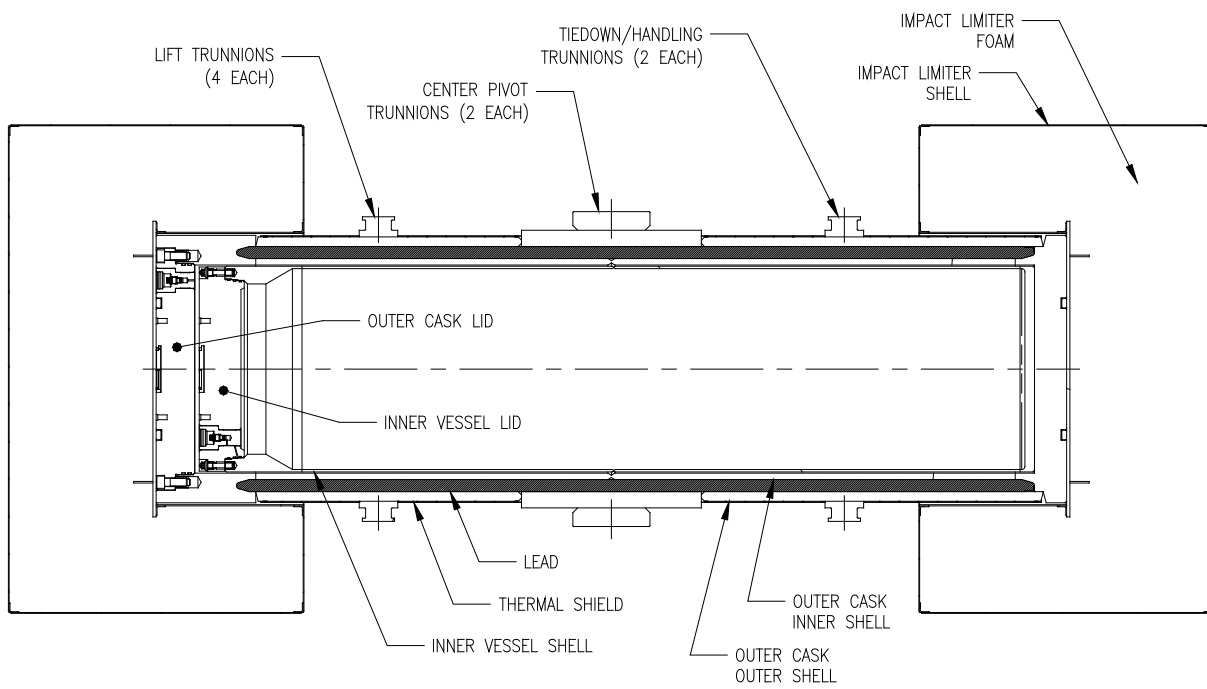
**Figure M-24**  
**Typical Yard Transfer Vehicle**



**Figure M-25**  
**RH TRU 72-B Shipping Cask on Trailer**

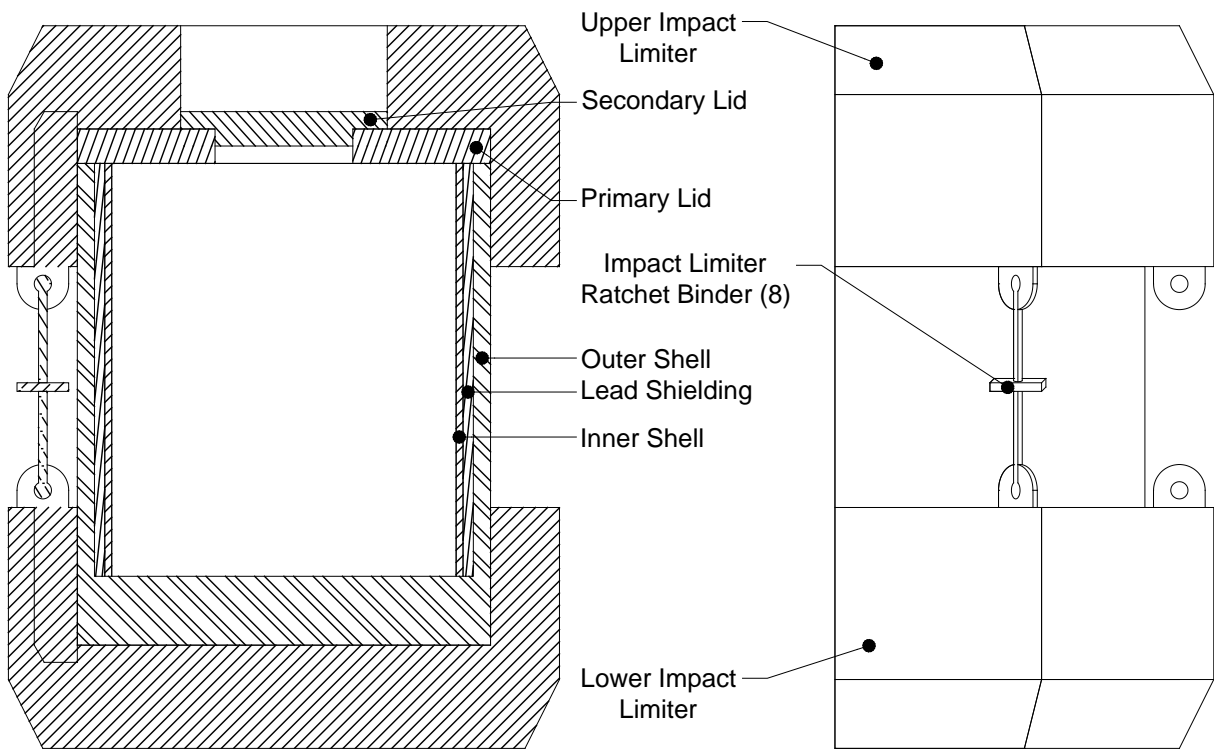


**Figure M-26**  
**CNS 10-160B Shipping Cask on Trailer**

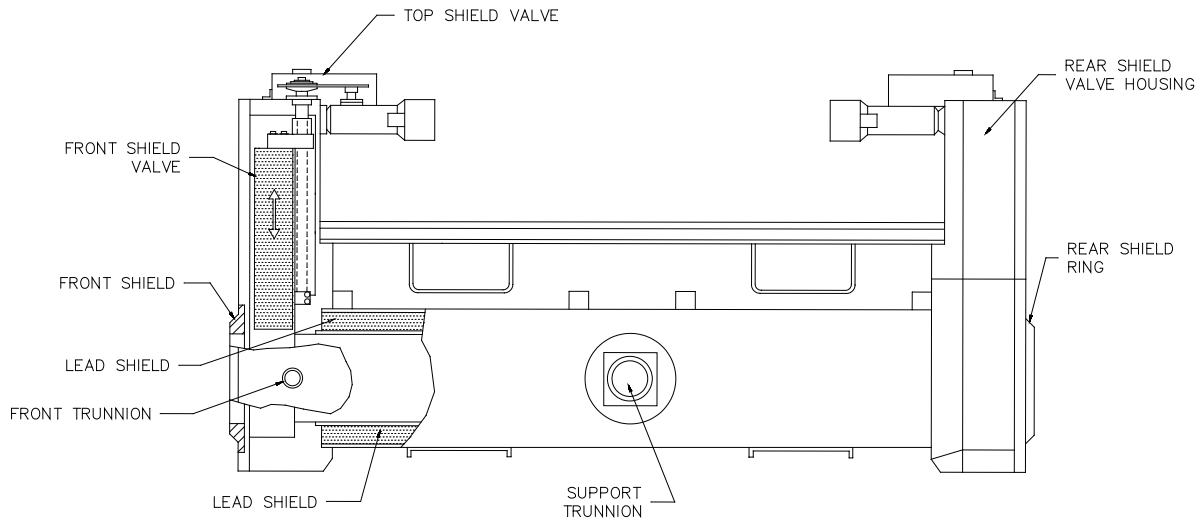


**Figure M-27**  
**RH-TRU 72-B Type B Shipping Cask**

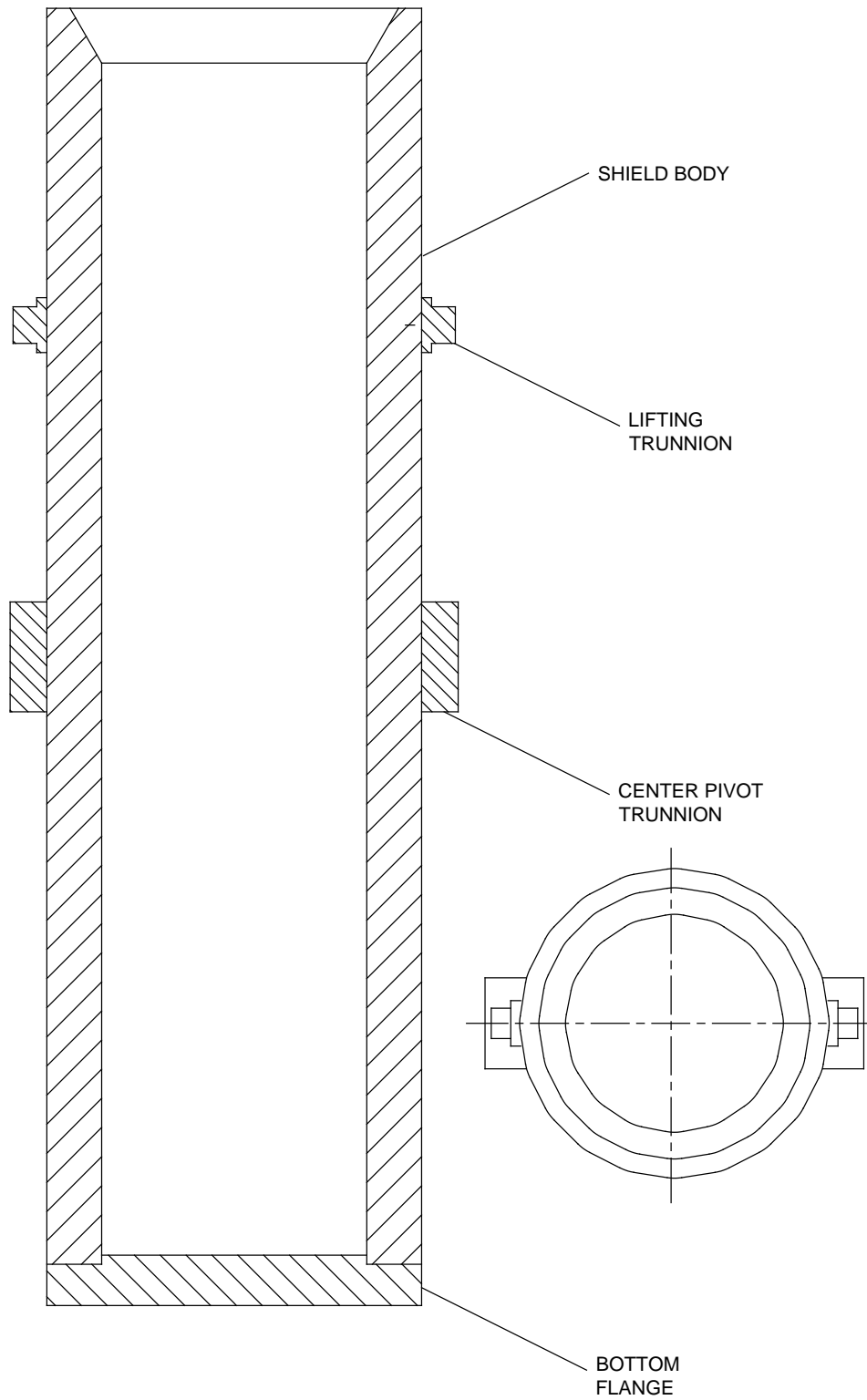




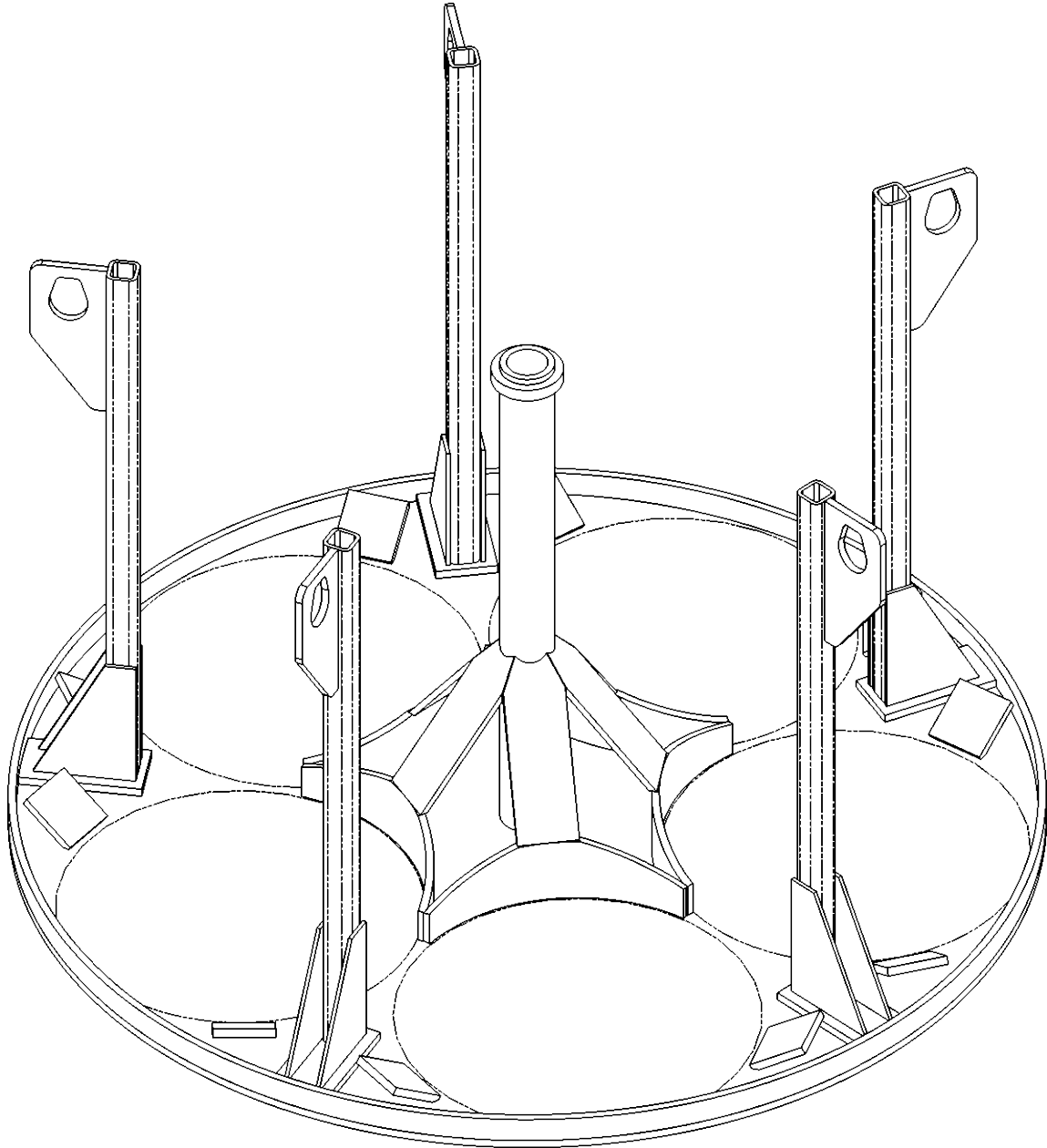
**Figure M-28**  
**CNS 10-160B Type B Shipping Cask**



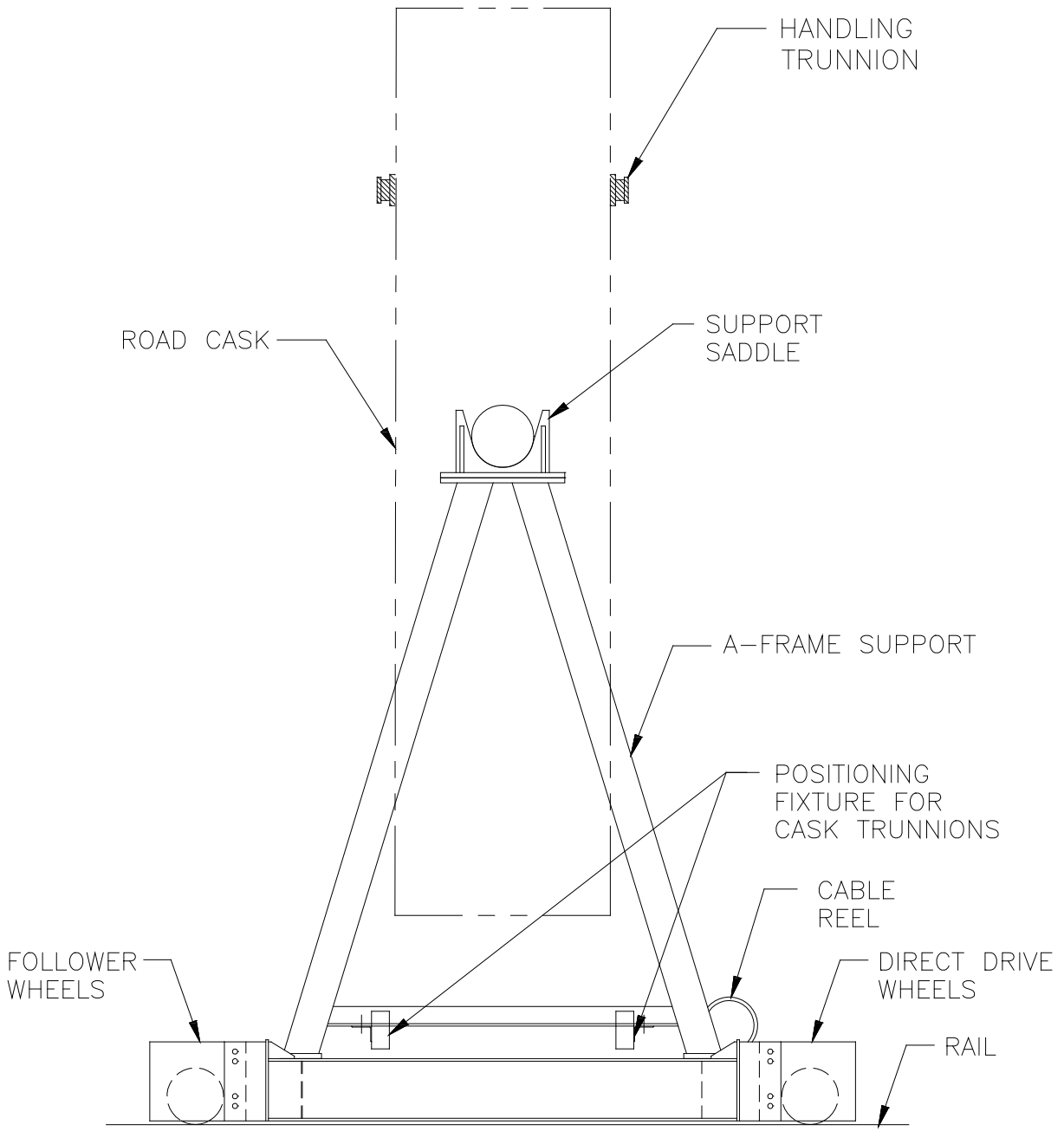
**Figure M-29**  
**RH Transuranic Waste Facility Cask and Light Weight Facility Cask**



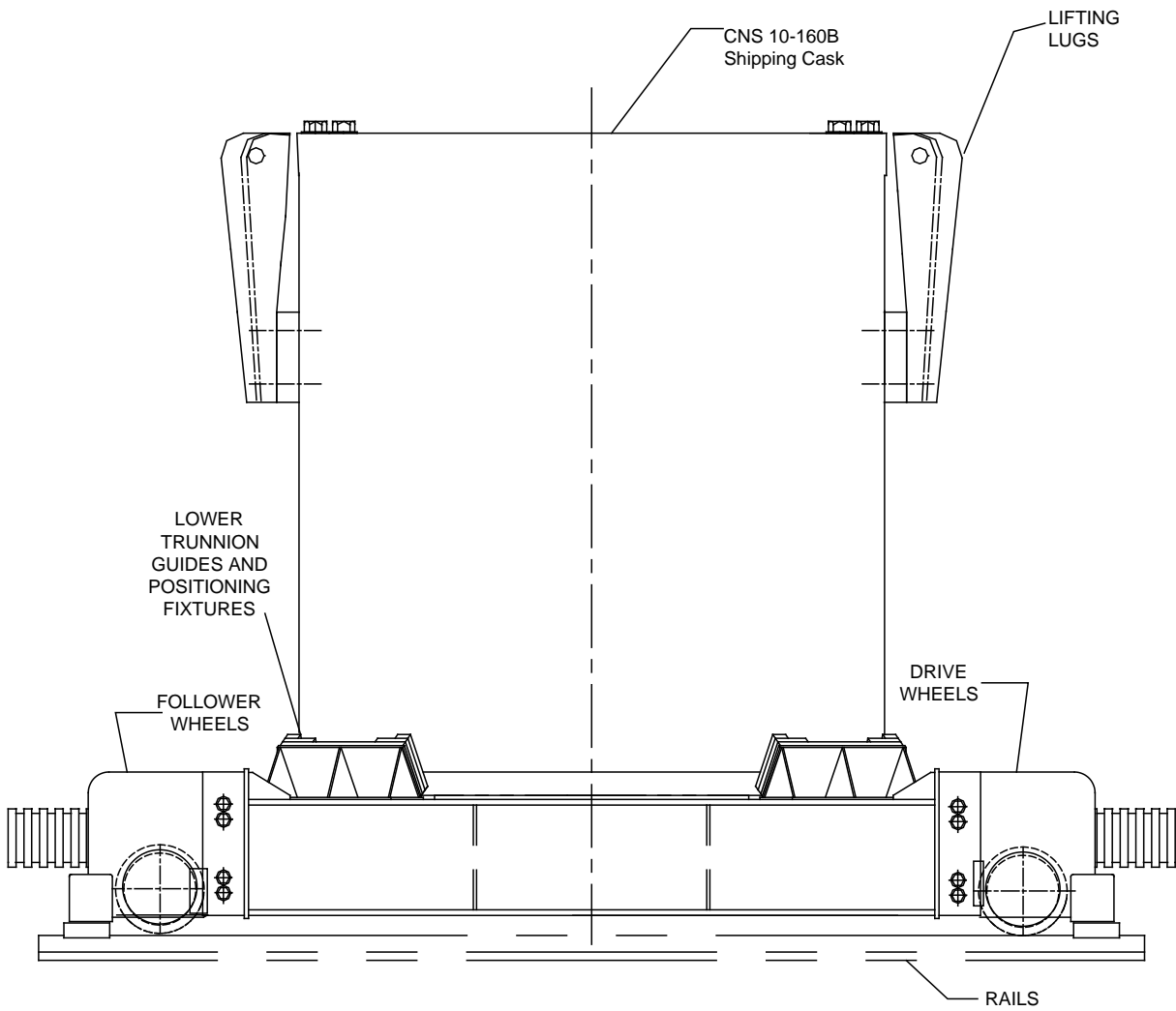
**Figure M-30**  
**RH Shielded Insert Assembly**



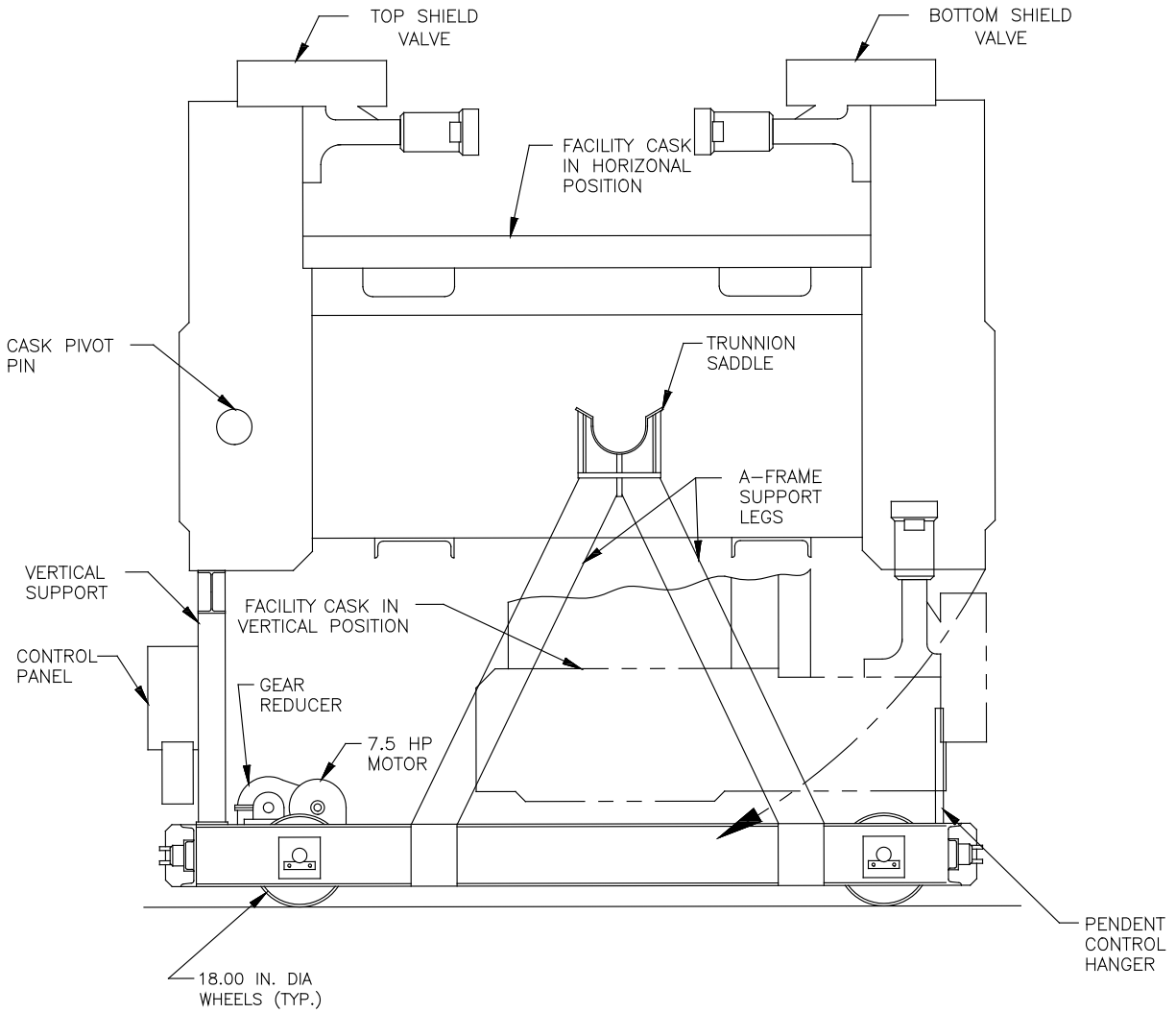
**Figure M-31**  
**CNS 10-160B Drum Carriage**



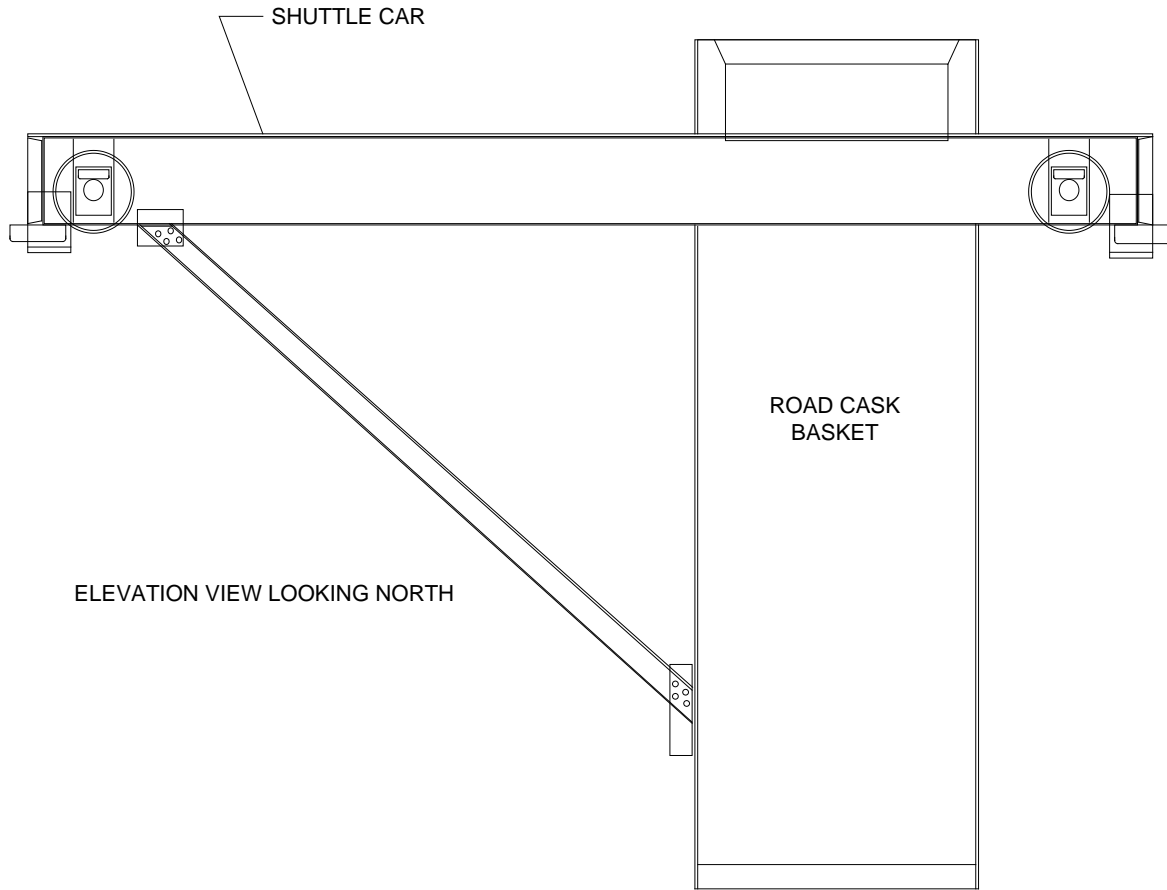
**Figure M-32**  
**RH-TRU 72-B Cask Transfer Car**



**Figure M-33**  
**CNS 10-160B Cask Transfer Car**

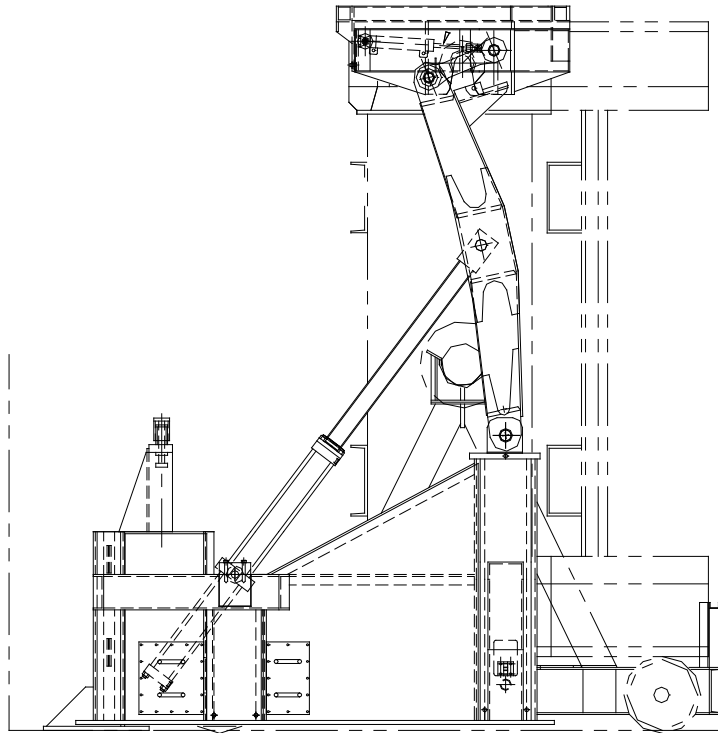


**Figure M-34**  
**RH Facility Cask Transfer Car (Side View)**

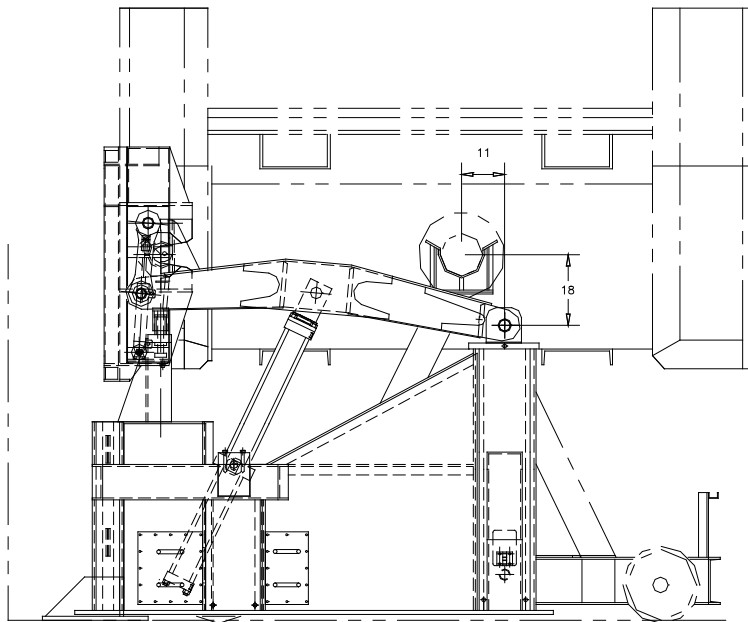


**Figure M-35**  
**Transfer Cell Shuttle Car**



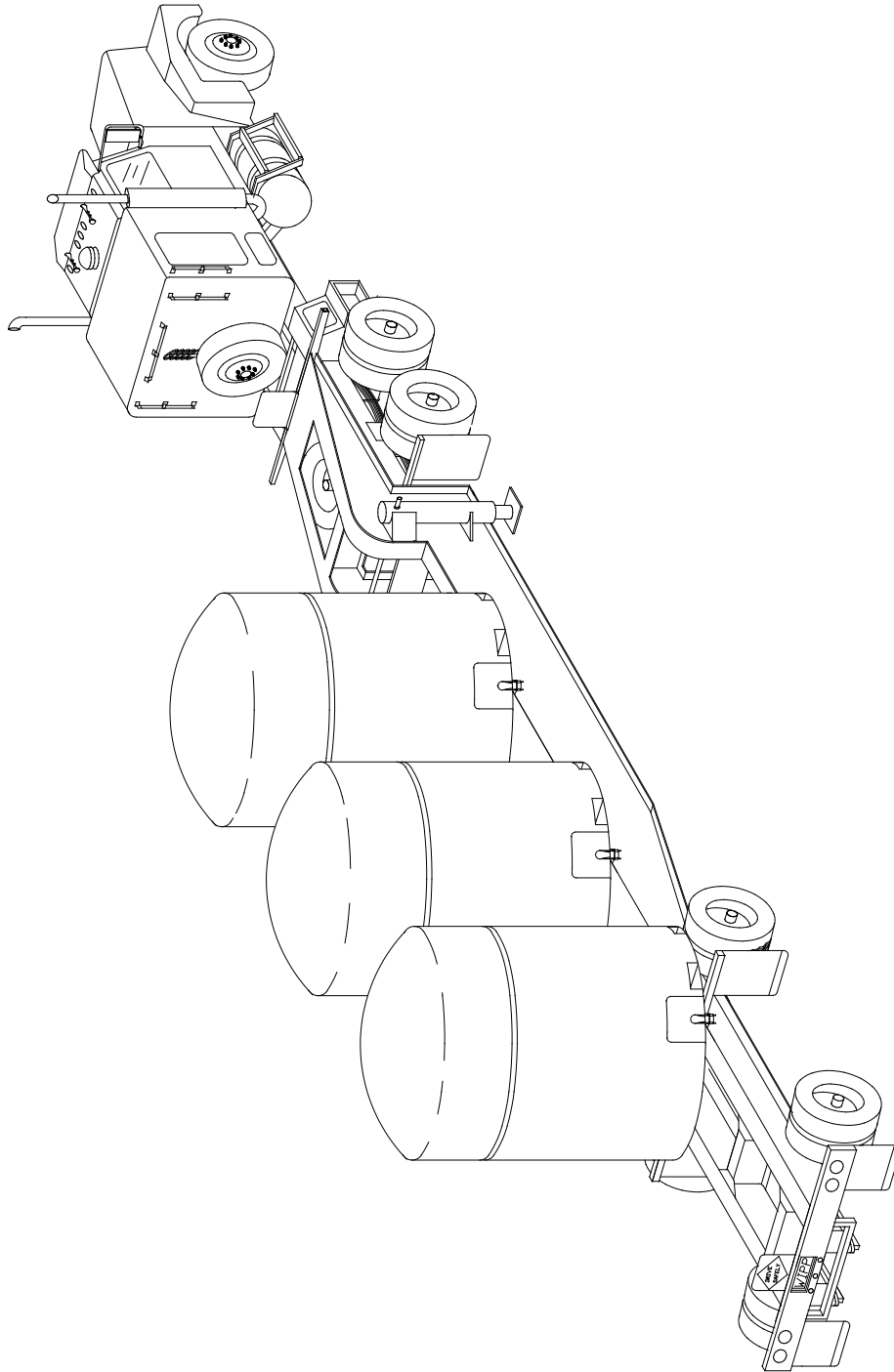


FRONT ELEVATION  
CASK VERTICAL

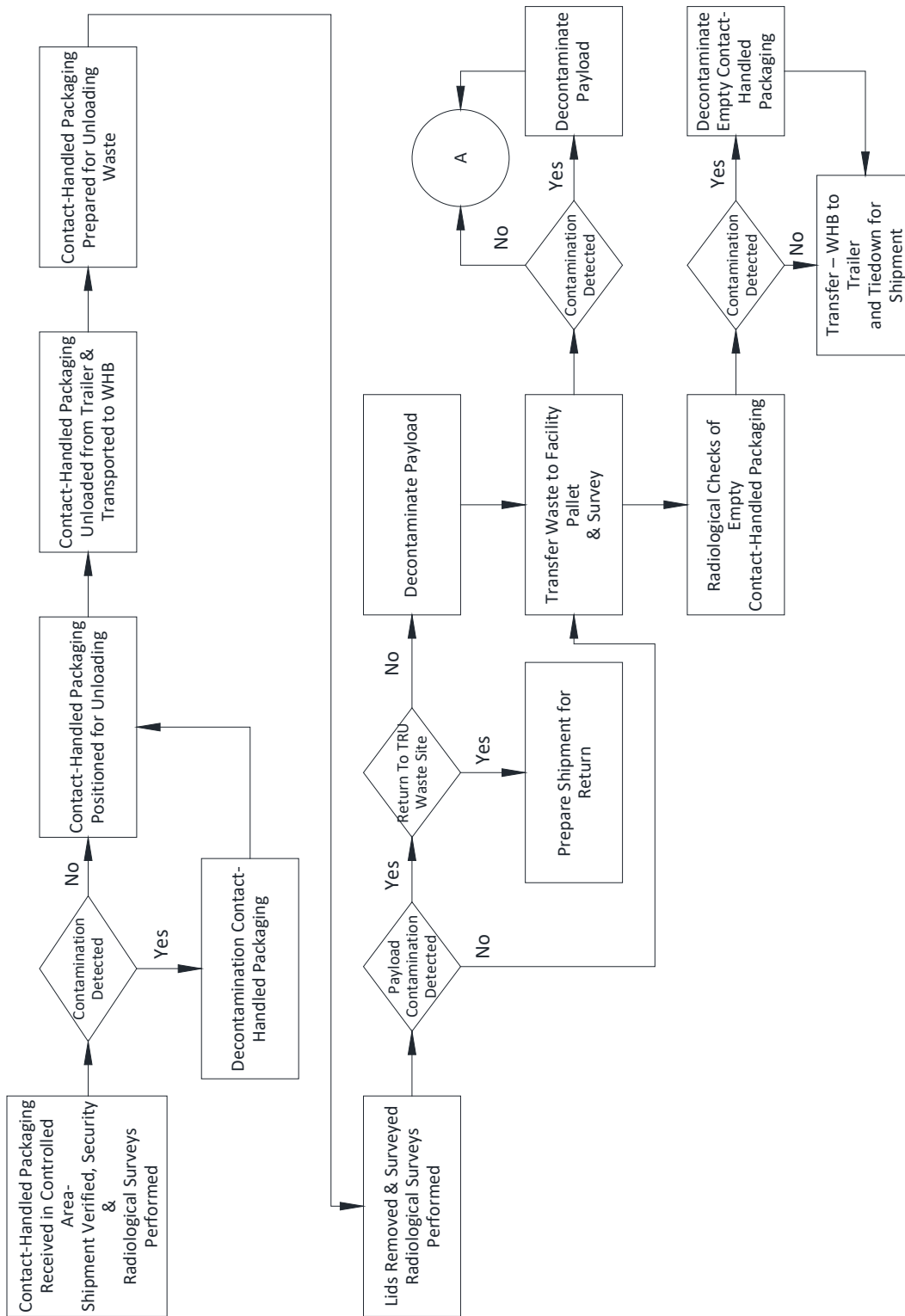


FRONT ELEVATION  
CASK HORIZONTAL

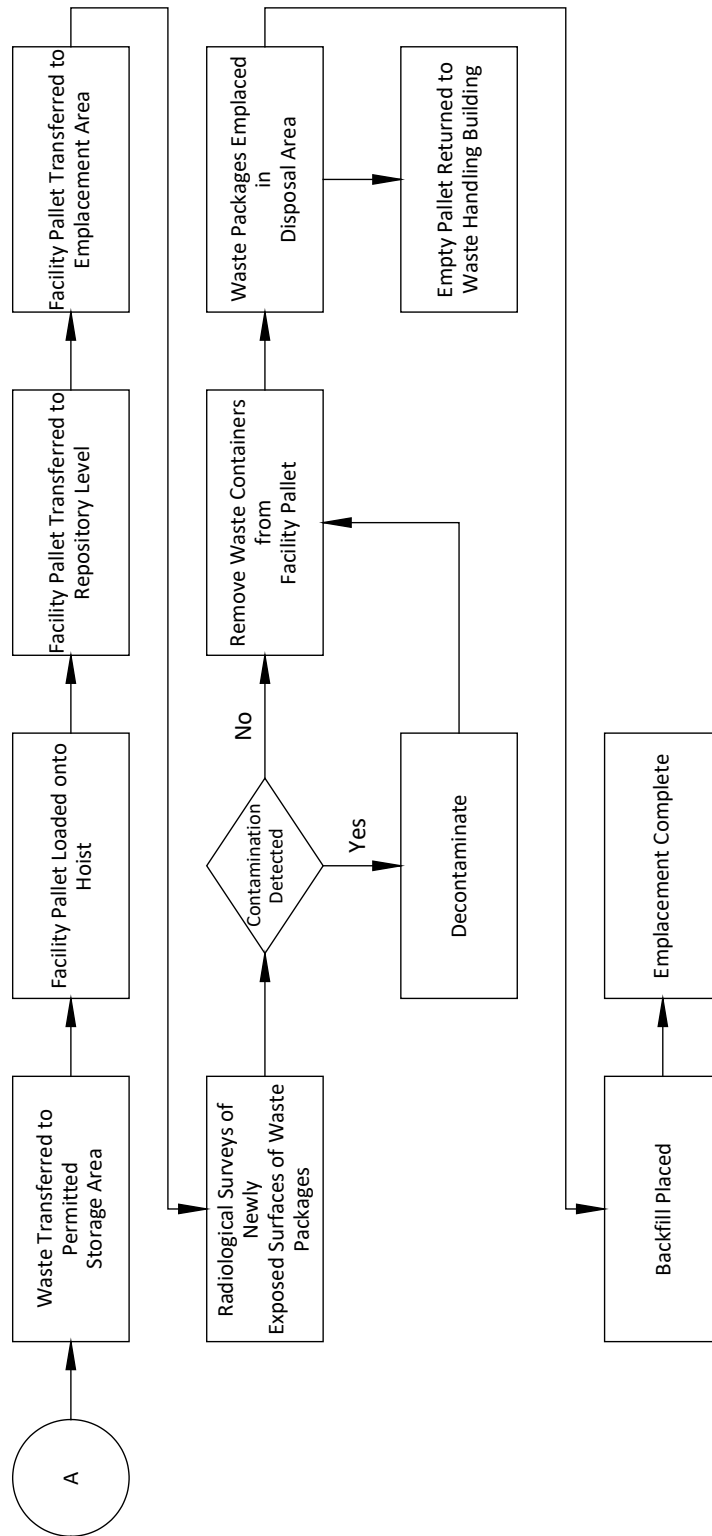
**Figure M-36**  
**Facility Cask Rotating Device**



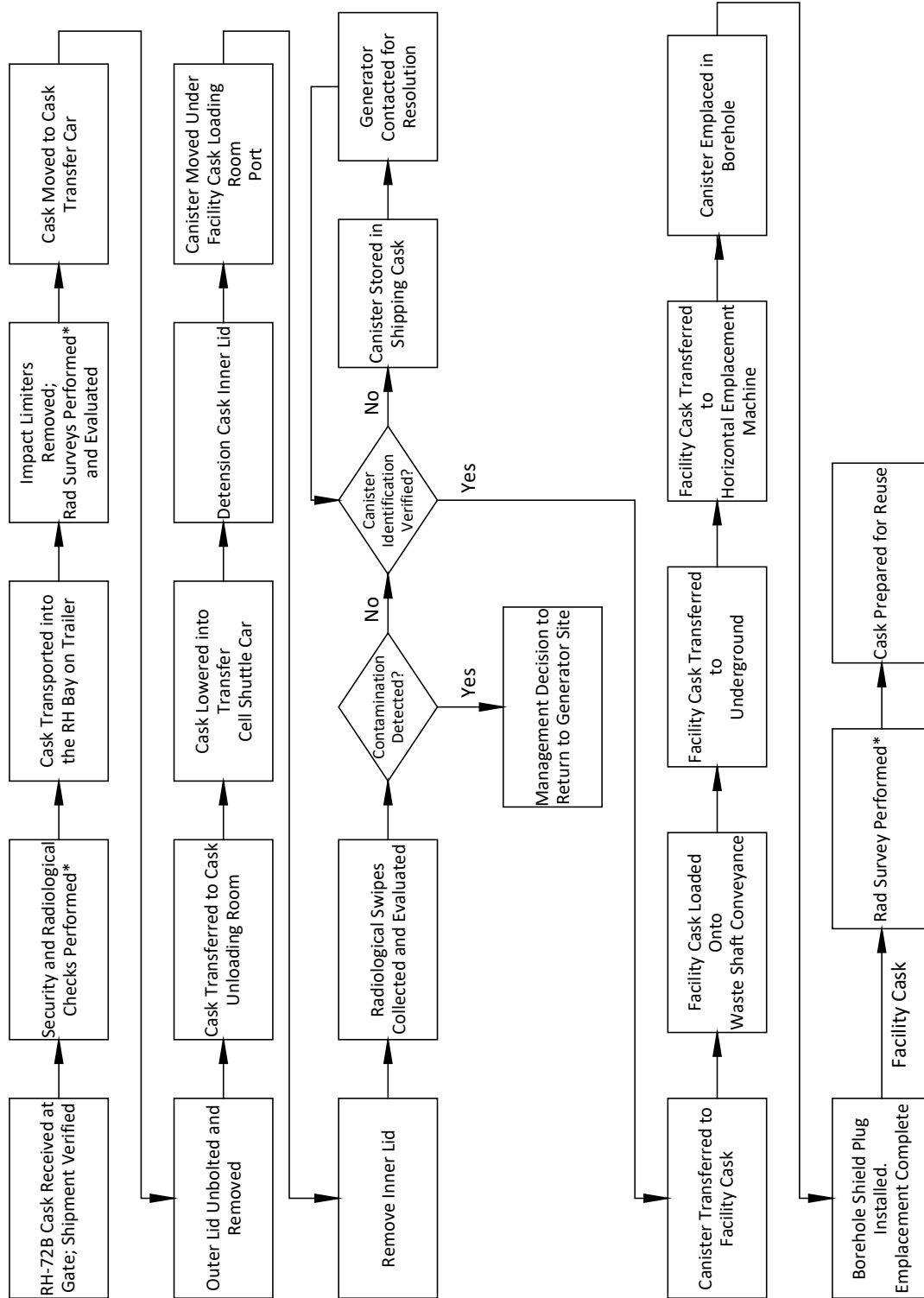
**Figure M-37**  
**TRUPACT-II Containers on Trailer**



**Figure M-38**  
**WIPP Facility Surface and Underground CH Transuranic Mixed Waste Process Flow Diagram**

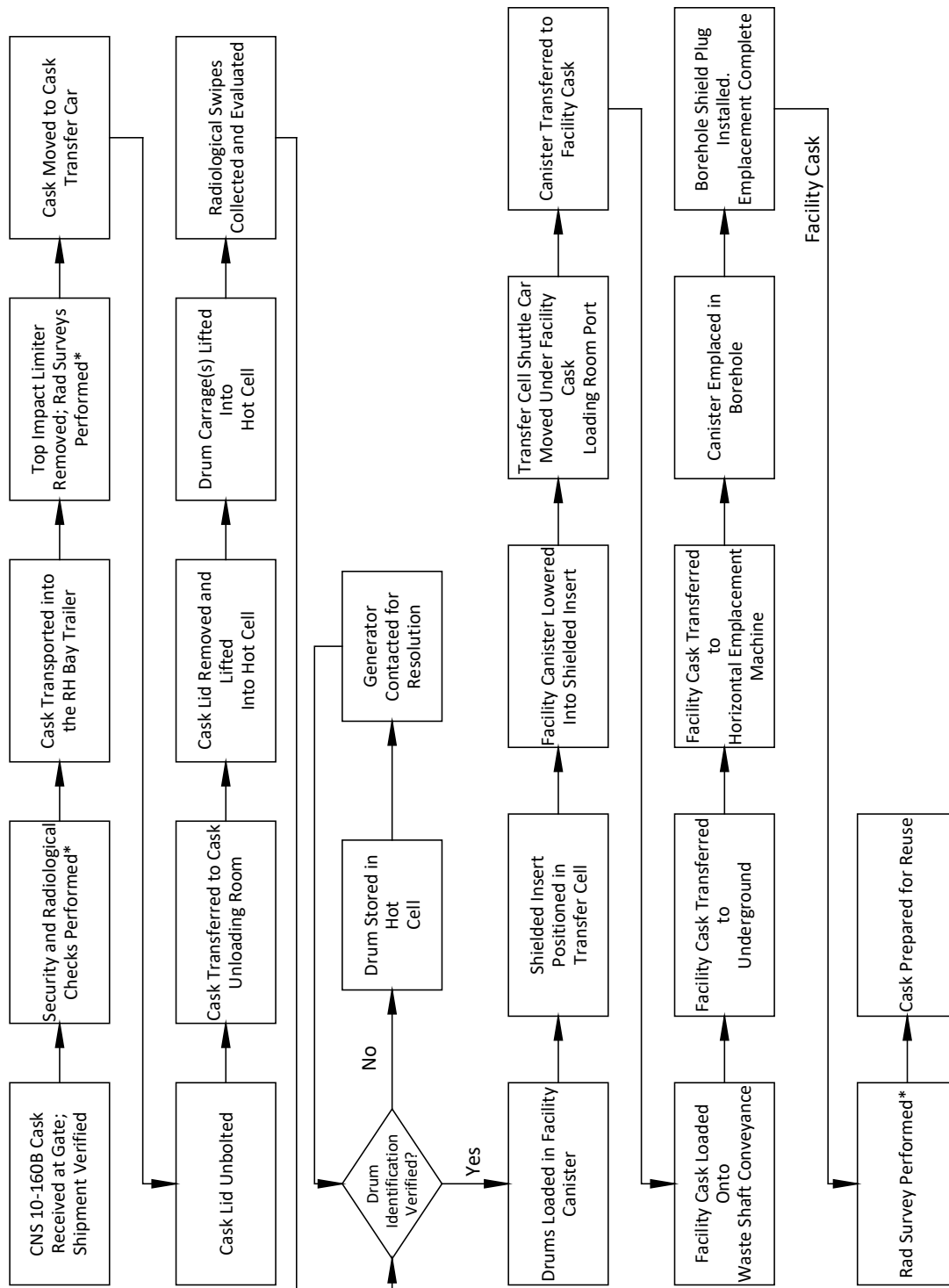


**Figure M-39**  
**WIPP Facility Surface and Underground CH Transuranic Mixed Waste Process Flow Diagram**  
**(Continued)**



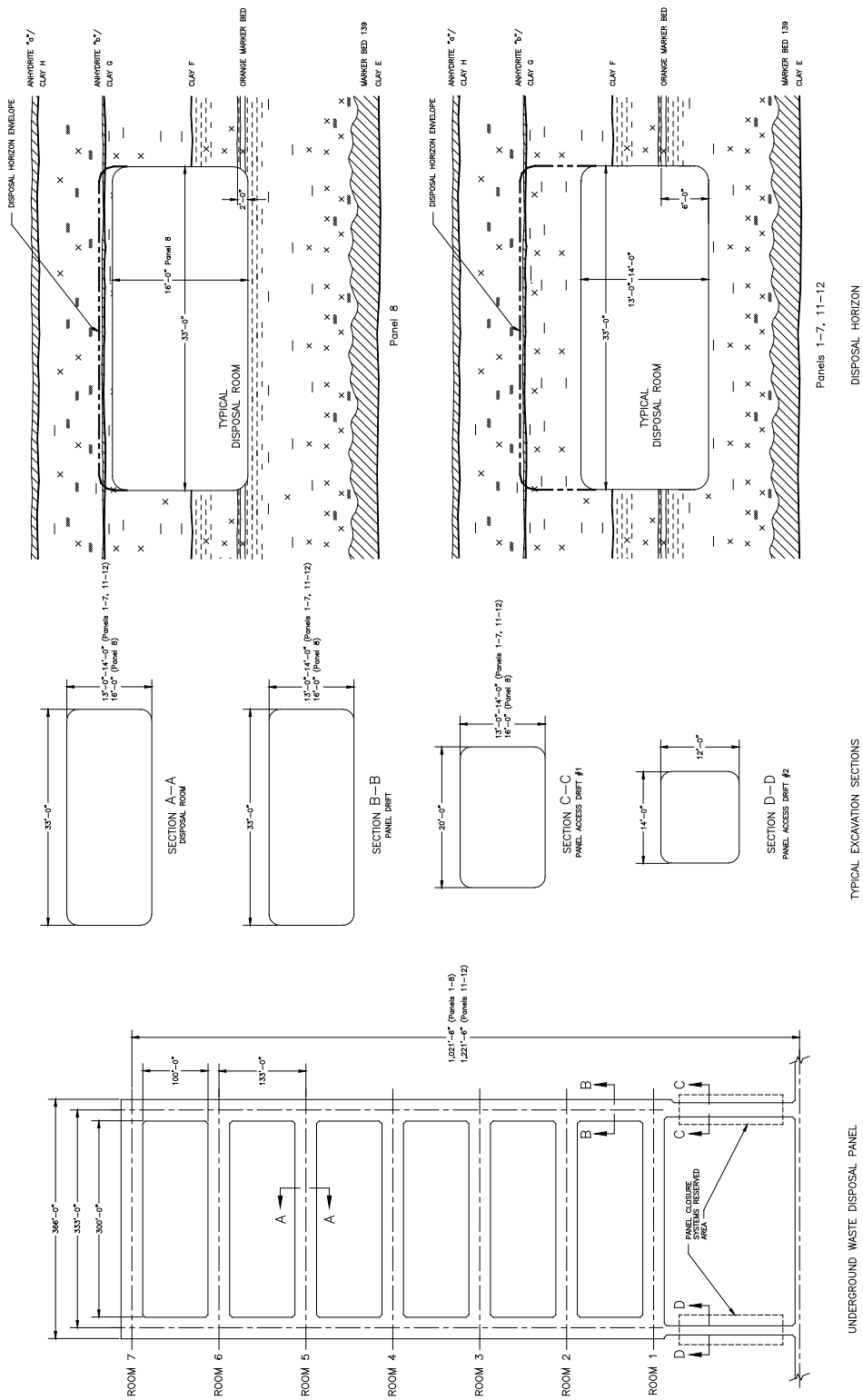
\* If radiological surveys or swipes reveal cask contamination, the cask will be decontaminated.

**Figure M-40**  
**Surface and Underground RH Transuranic Mixed Waste Process Flow Diagram for RH-TRU 72-B Shipping Cask**

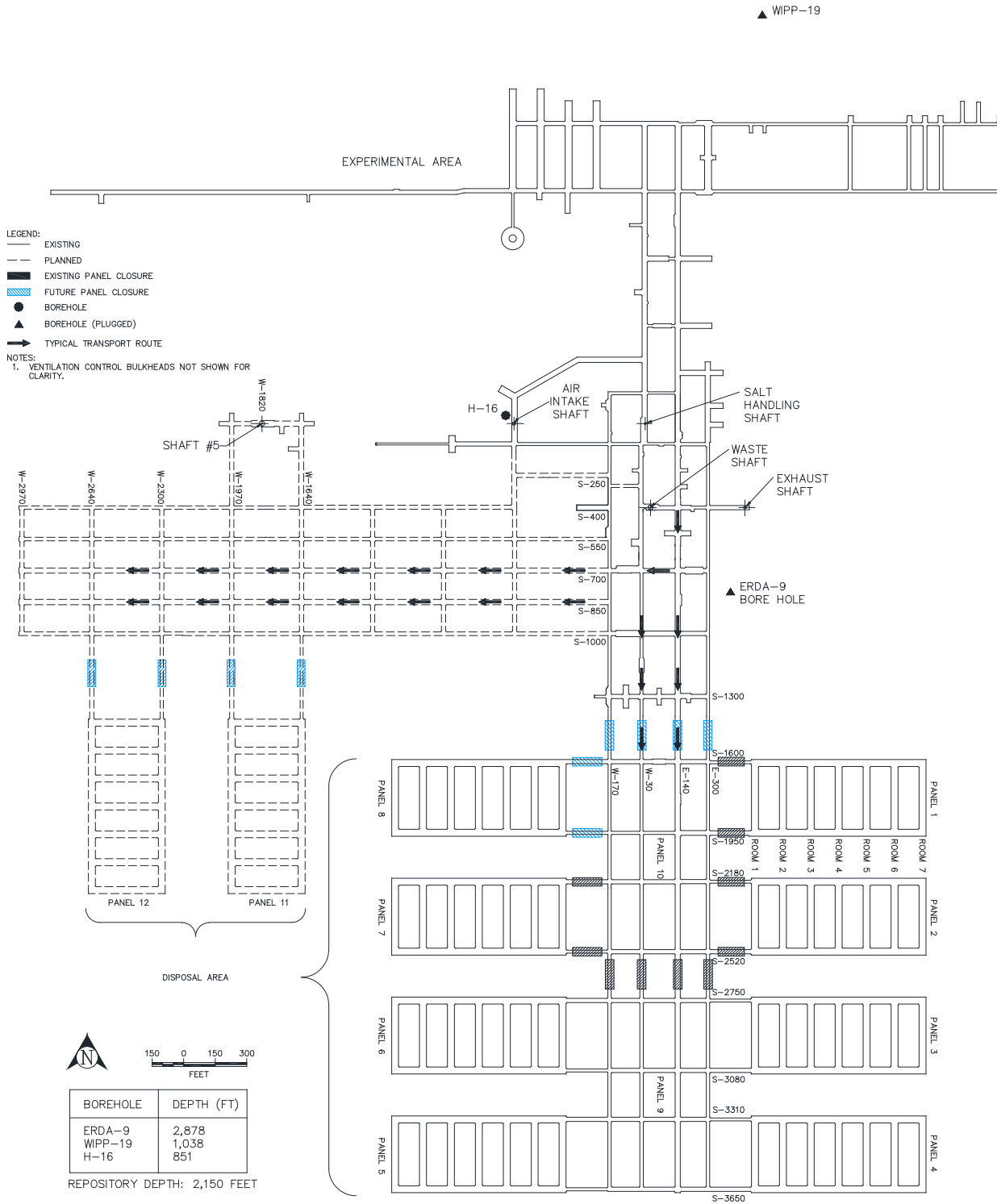


**Figure M-41**  
**Surface and Underground RH Transuranic Mixed Waste Process Flow Diagram for CNS 10-160B Shipping Cask**

\*If radiological surveys or swipes reveal cask contamination, the cask will be decontaminated.

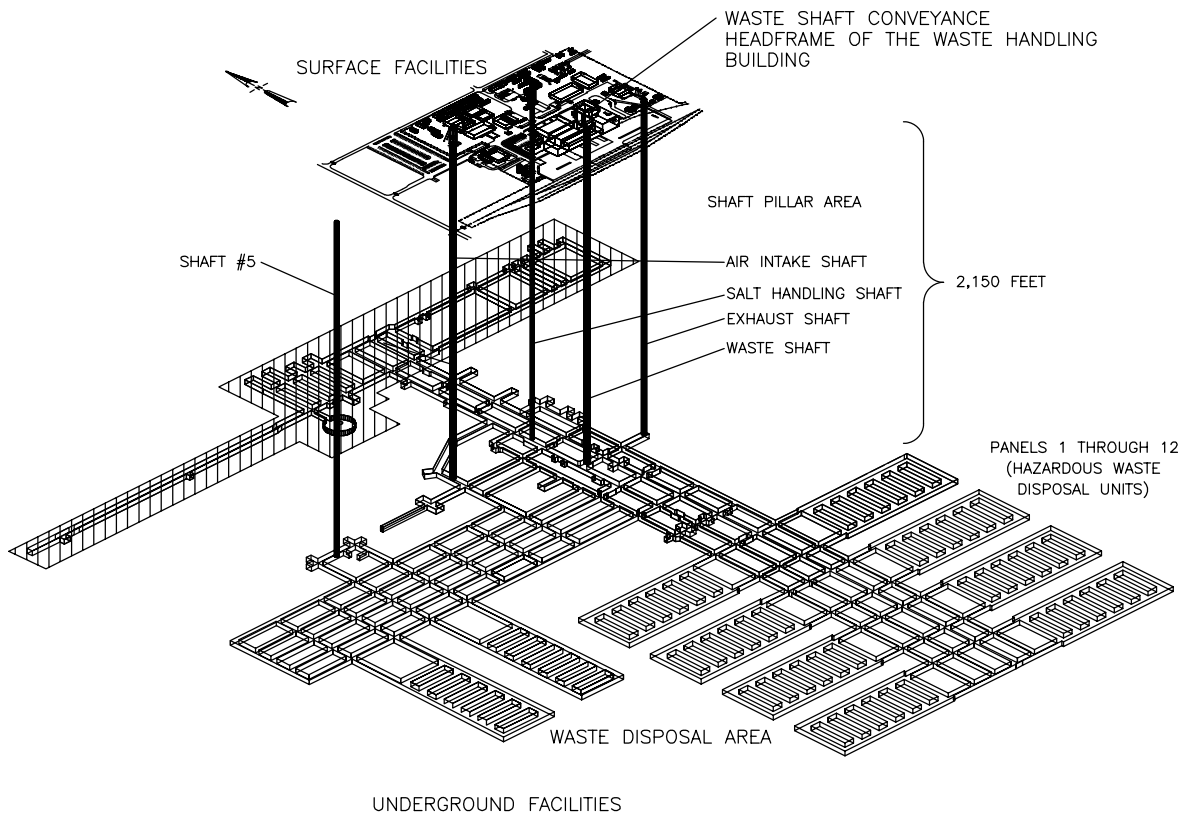


**Figure M-42**  
**Typical Disposal Panel**

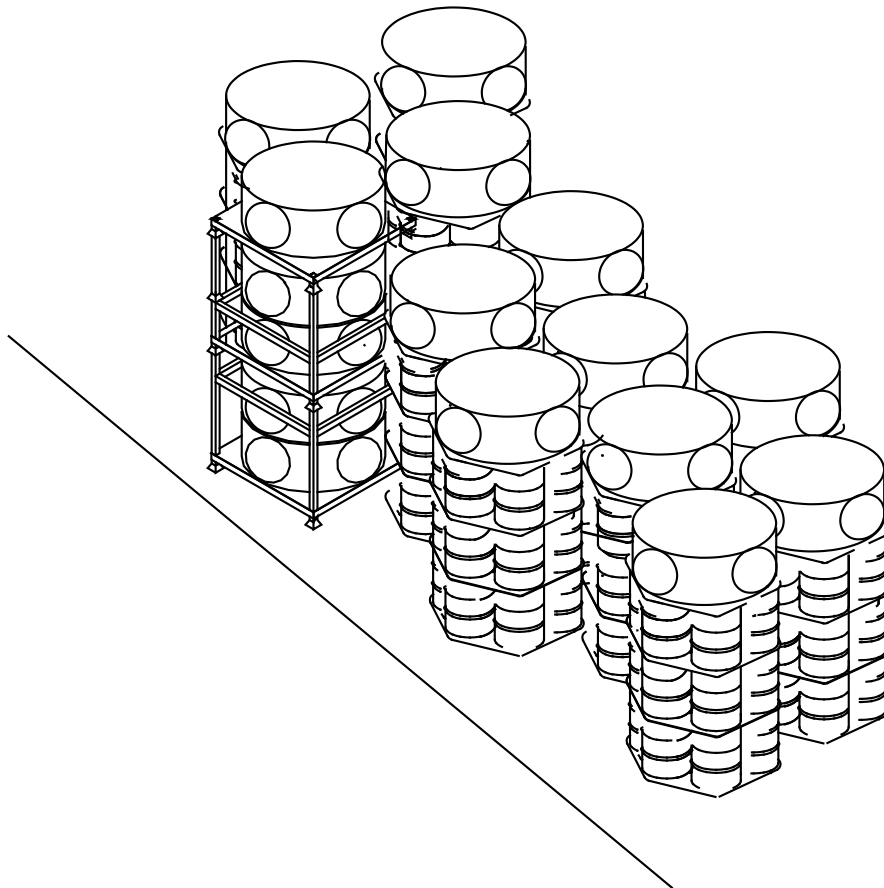
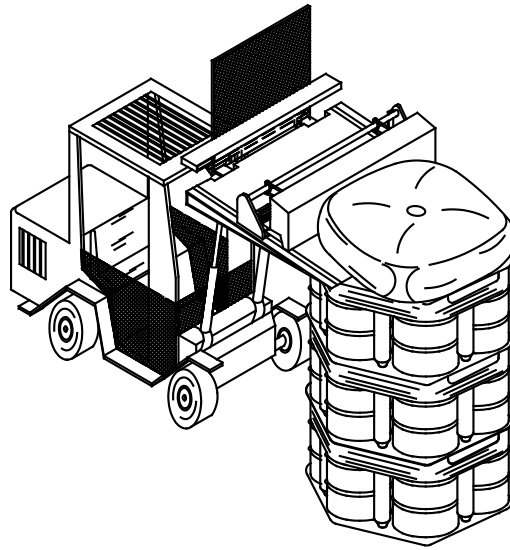


**Figure M-43**  
**Repository Horizon and Underground Waste Transport Routes**

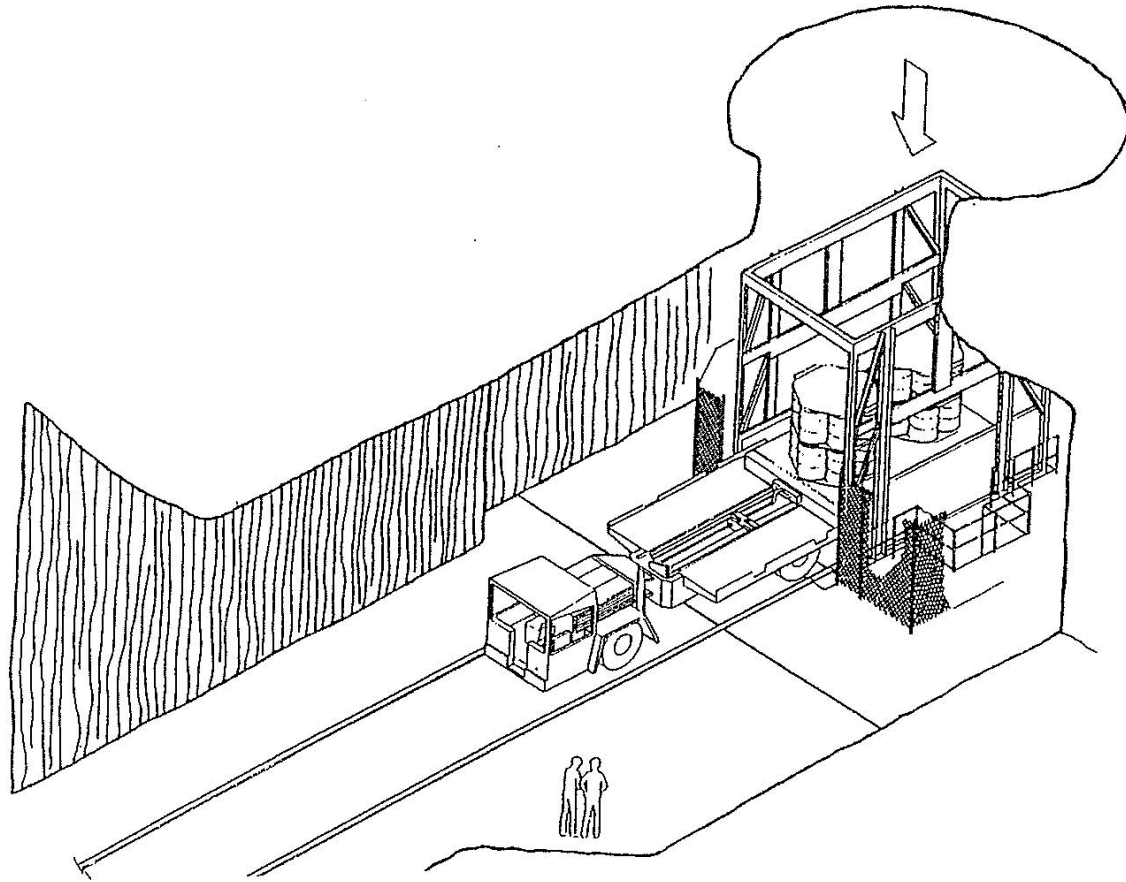




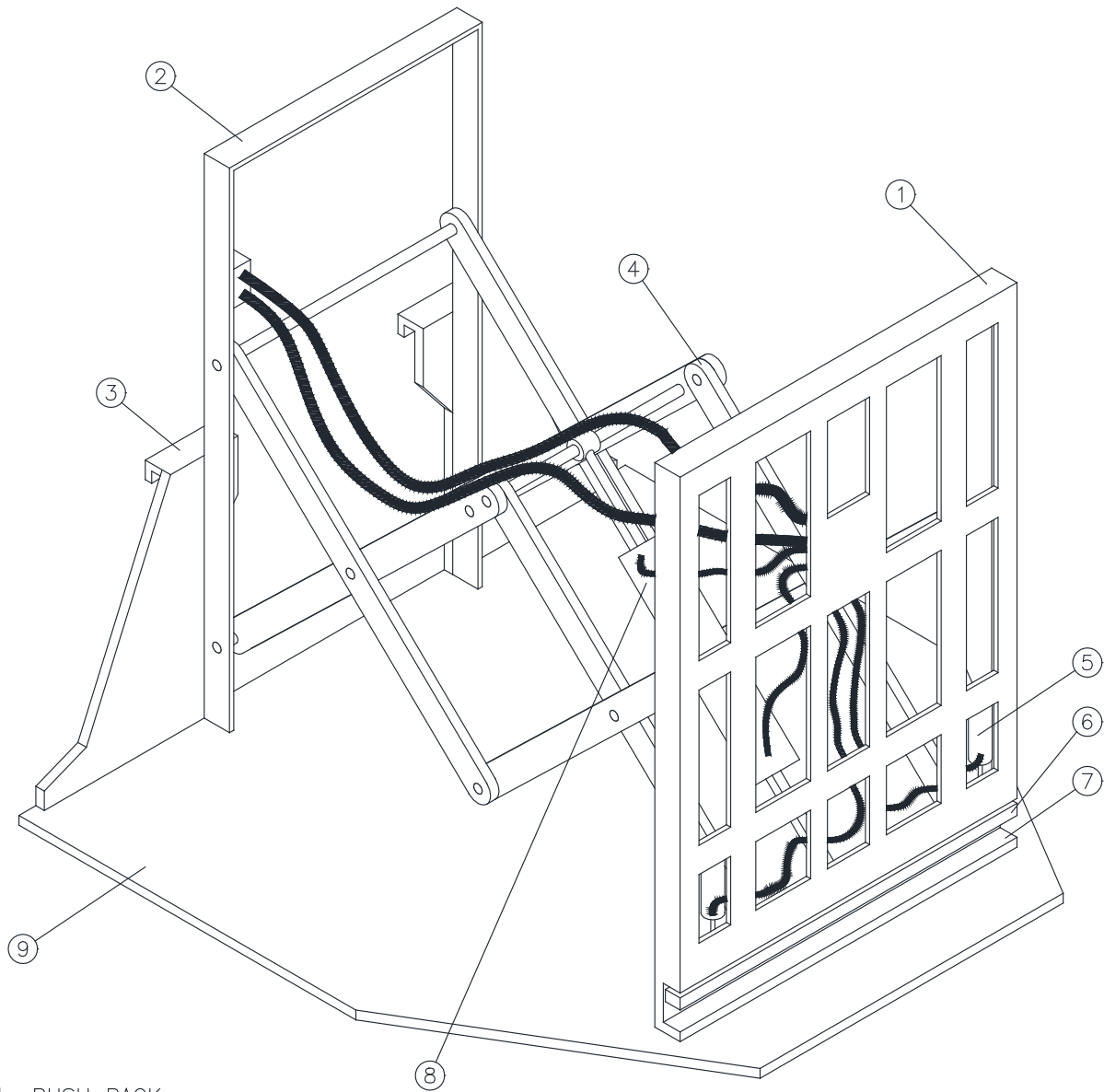
**Figure M-44**  
**Spatial View of the Miscellaneous Unit and Waste Handling Facility**



**Figure M-45**  
**Typical MgO Backfill Sacks Emplaced on Drum Stacks and Emplacement Configurations**

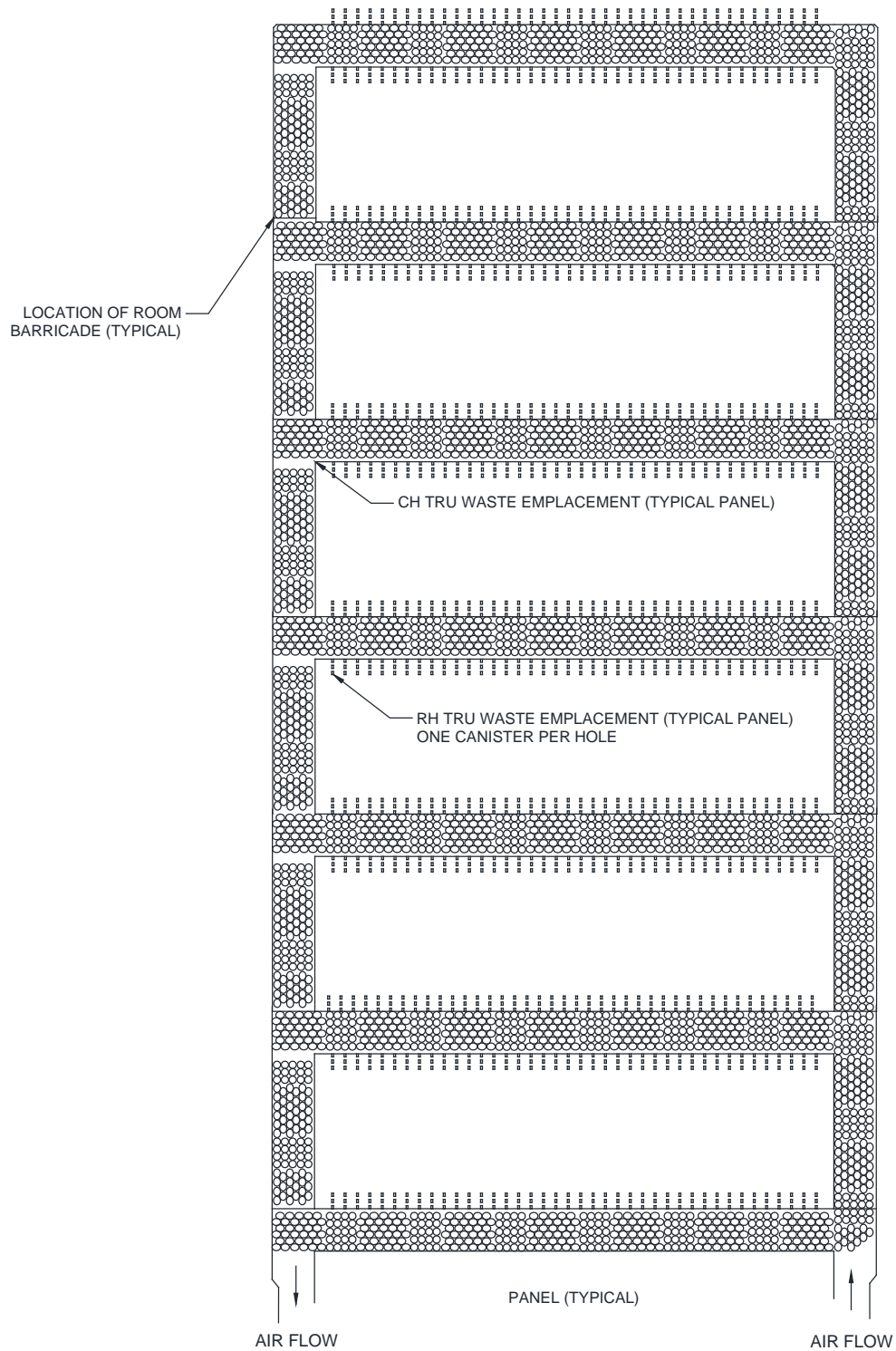


**Figure M-46**  
**Waste Transfer Cage to Transporter**



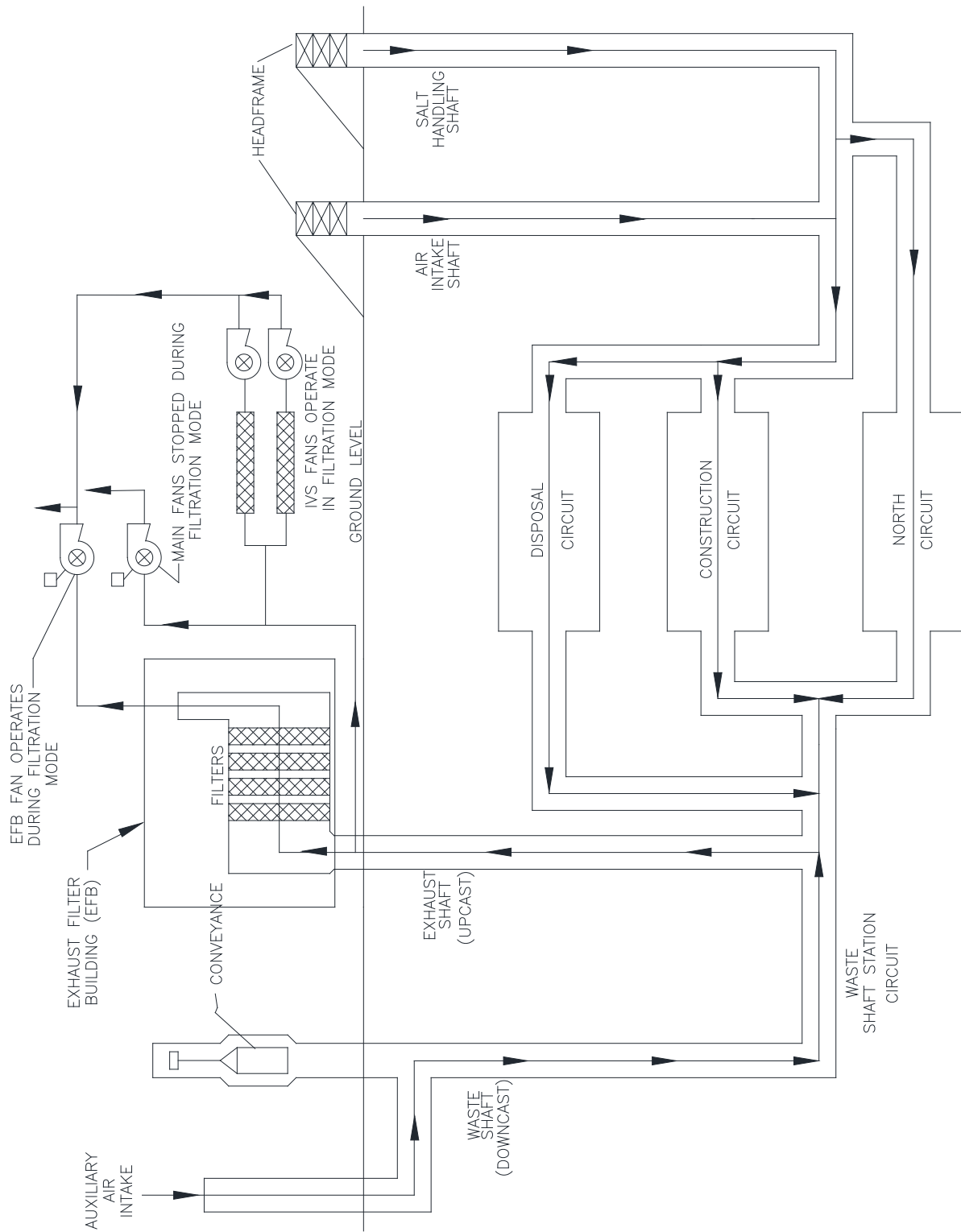
1. PUSH RACK
2. BASE ASSEMBLY
3. UPPER RETAINER
4. LINKAGE ASSEMBLY
5. GRIPPER CYLINDER
6. GRIPPER BAR
7. GRIPPER JAW
8. PUSH CYLINDER
9. PLATFN

**Figure M-47**  
**Push-Pull Attachment to Forklift to Allow Handling of Waste Containers**

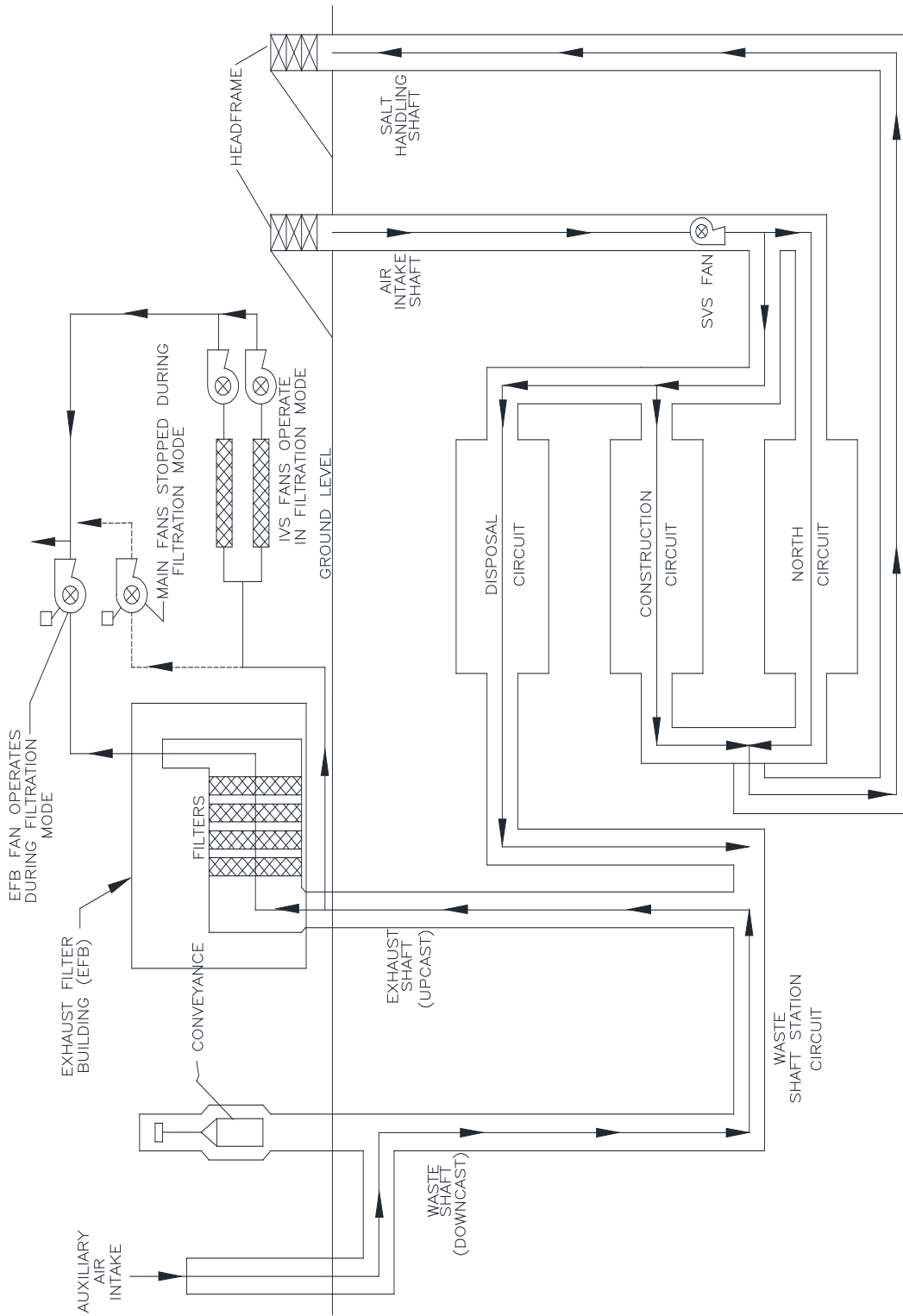


NOTE: MgO will be emplaced as necessary

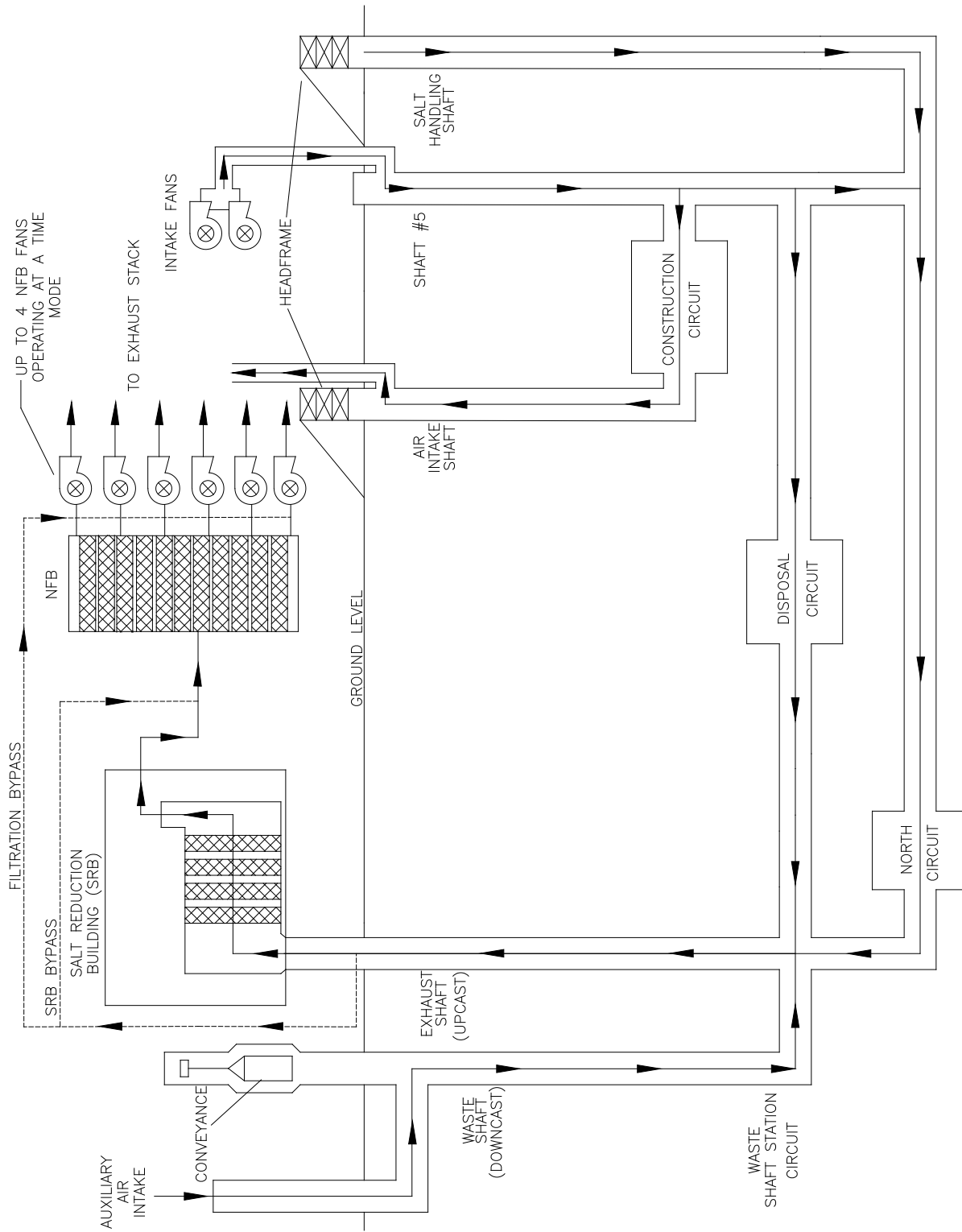
**Figure M-48**  
**Typical RH and CH TRU Mixed Waste Container Disposal Configuration**



**Figure M-49**  
**Underground Ventilation System Airflow**

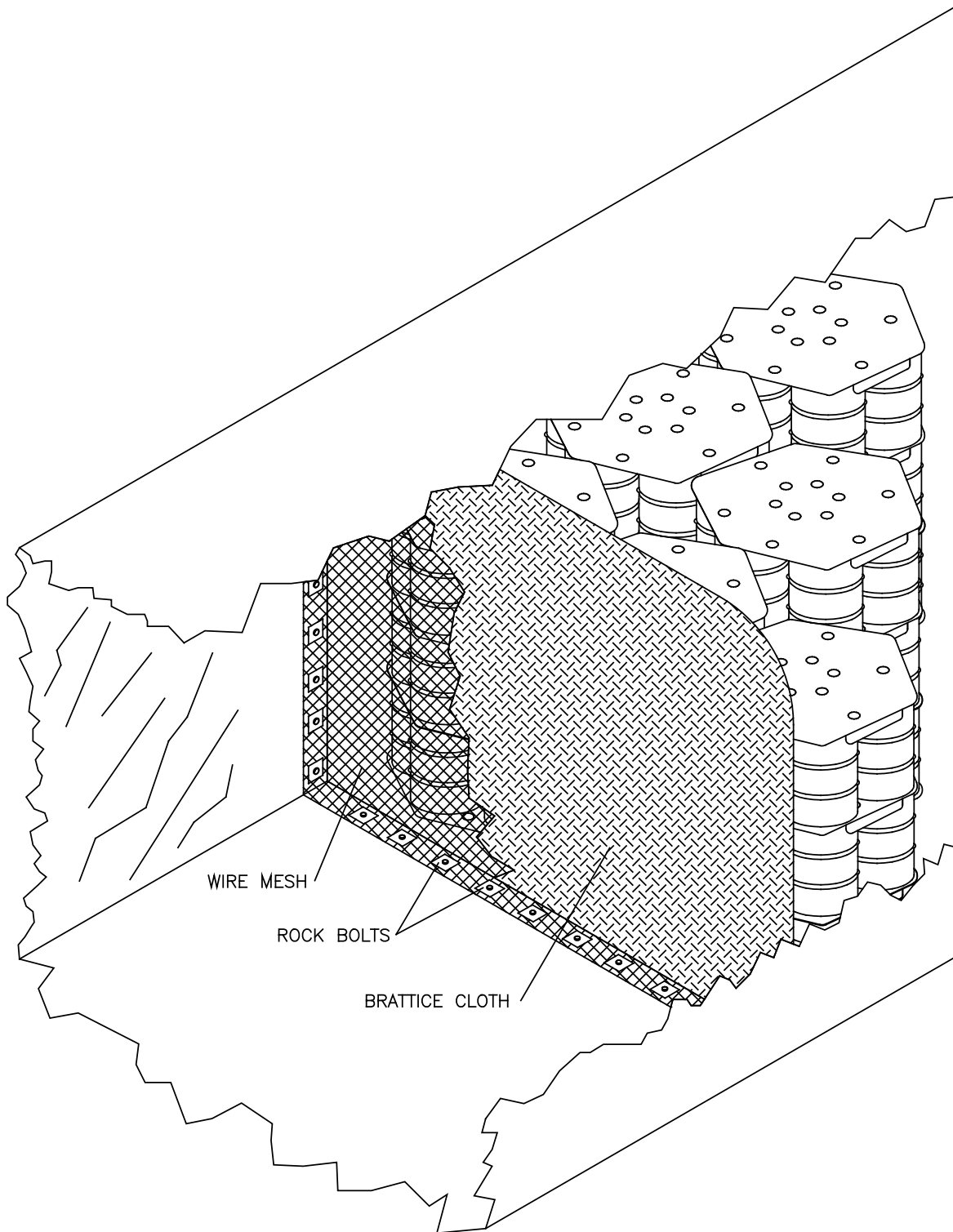


**Figure M-50**  
**Underground Ventilation System Airflow (with SVS)**

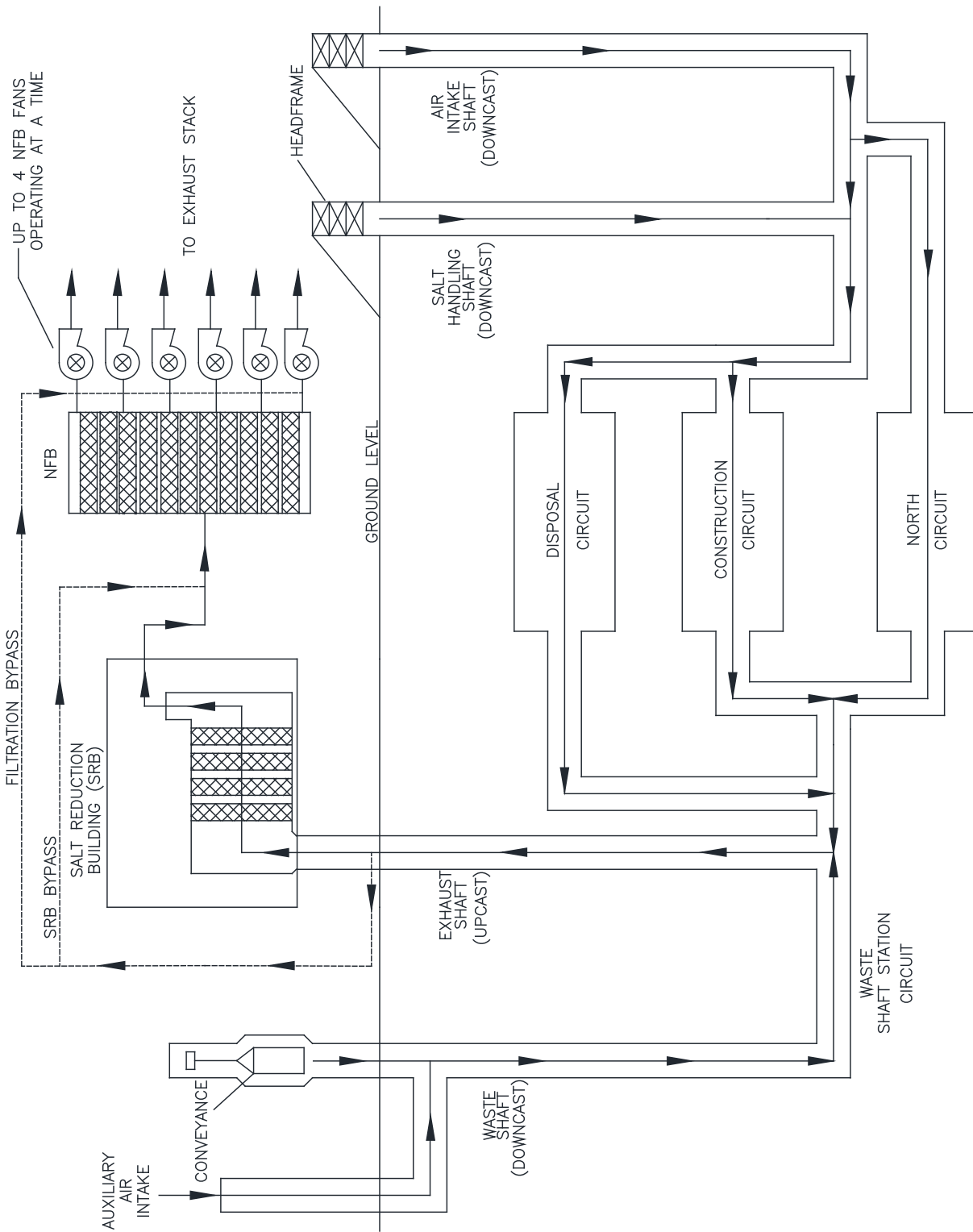


**Figure M-51**  
**Underground Ventilation System Airflow (with S#5)**

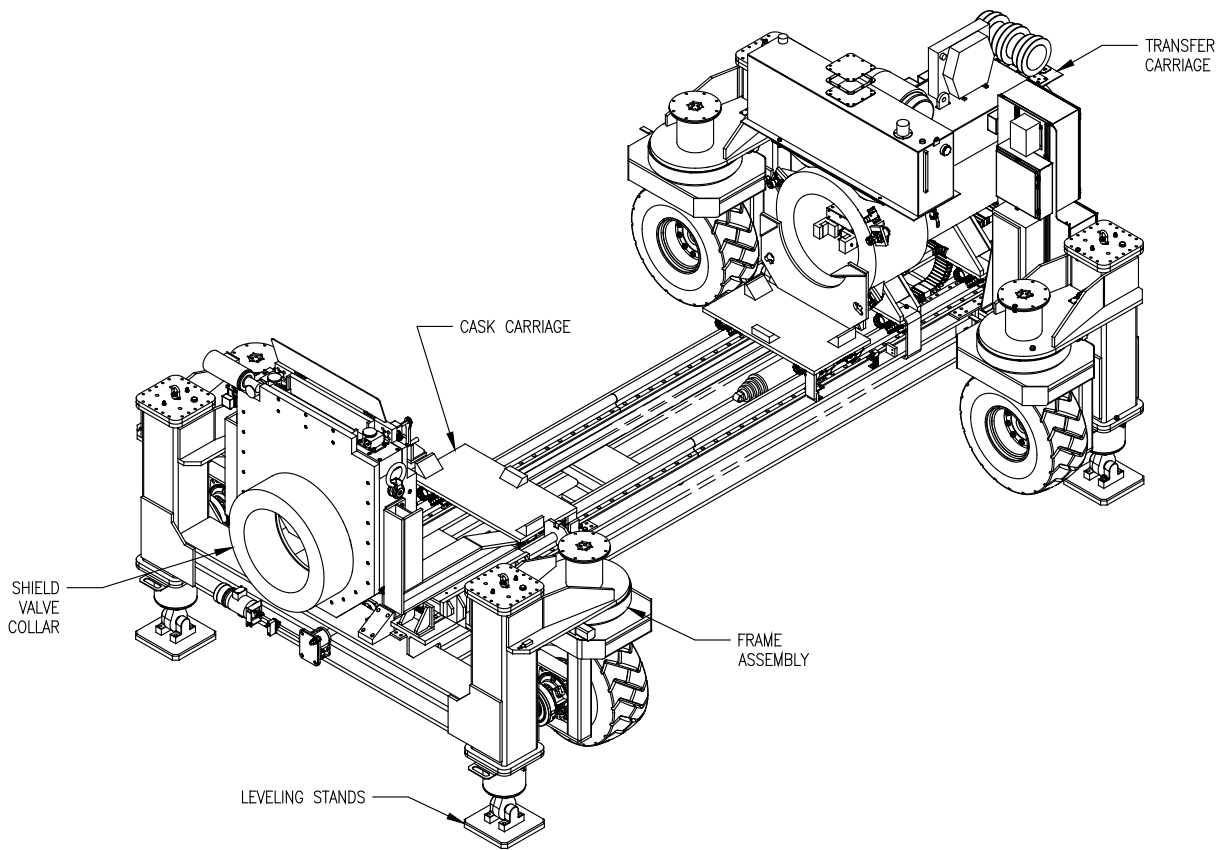




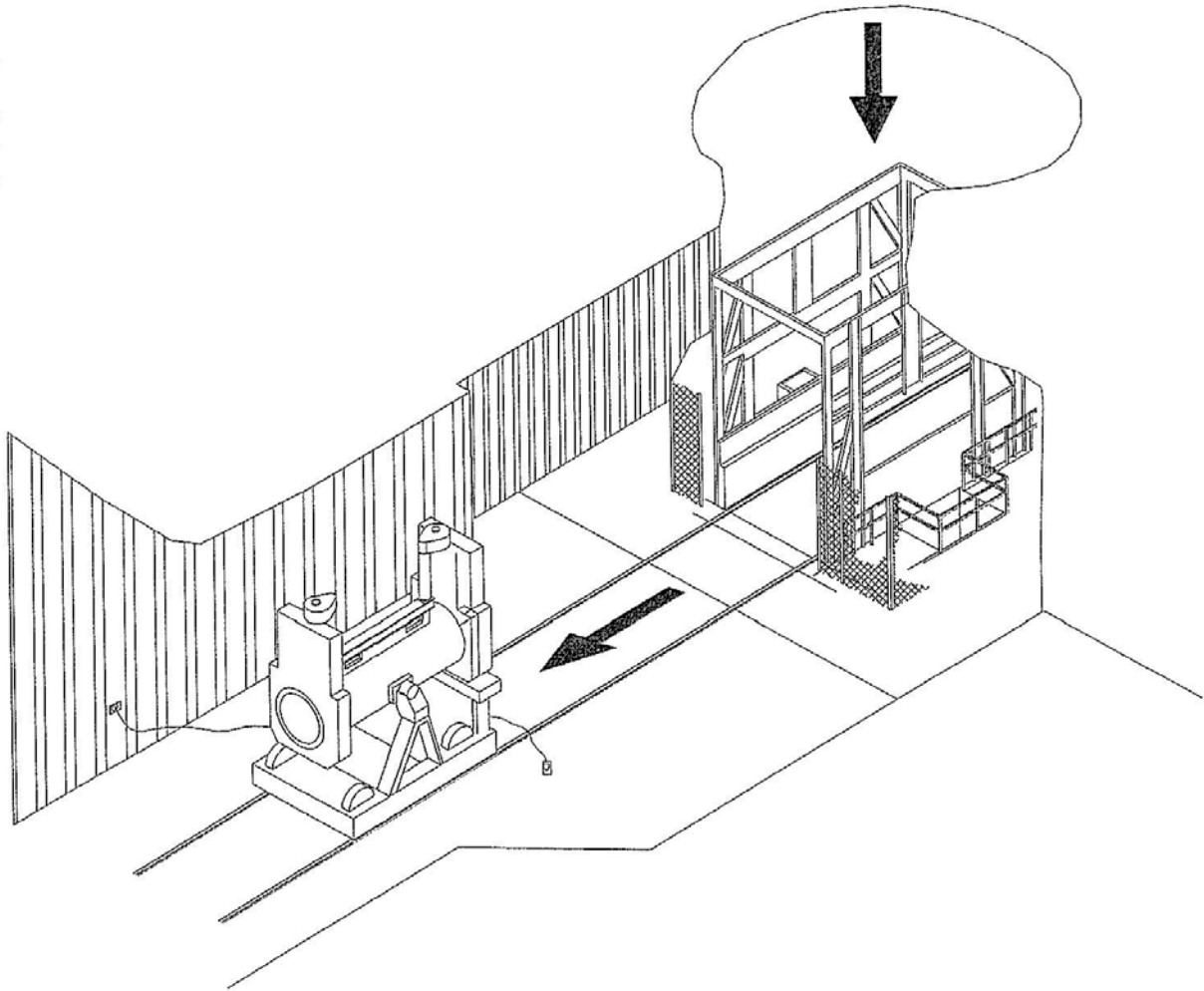
**Figure M-52**  
**Typical Room Barricade**



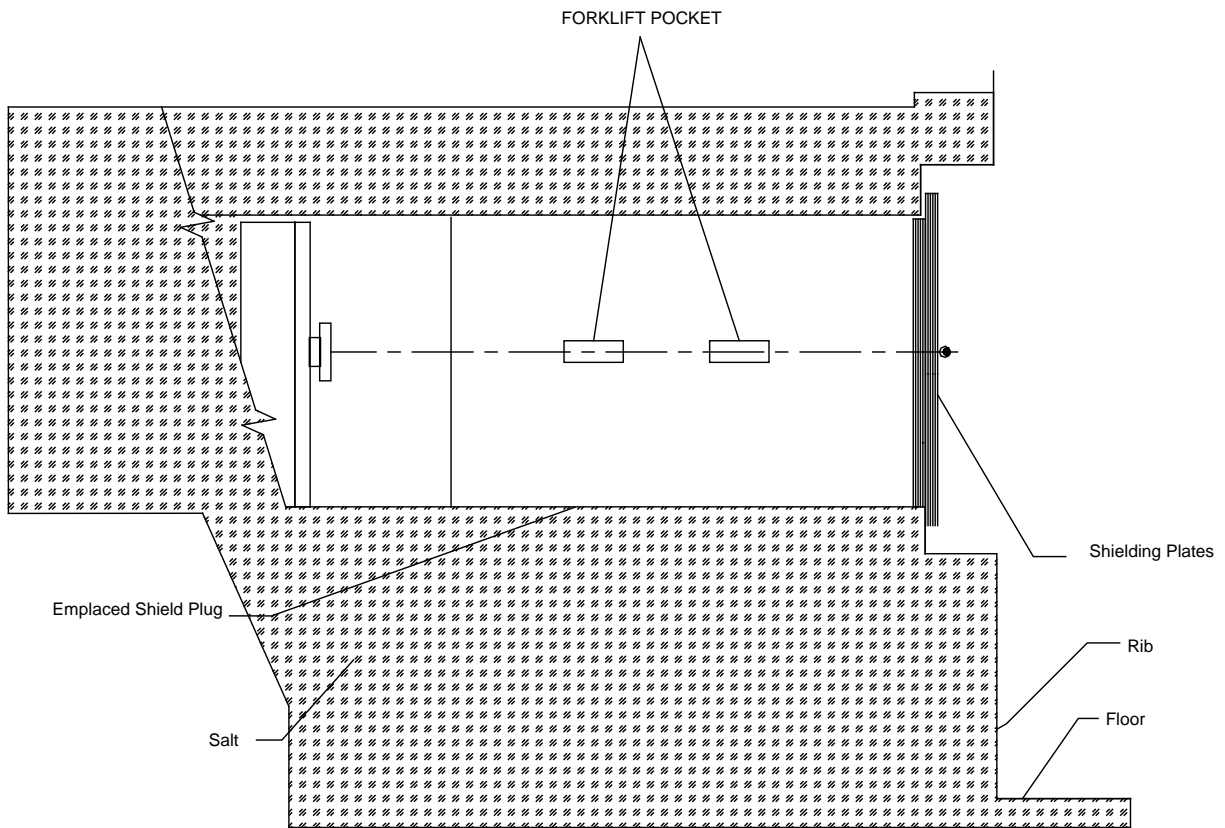
**Figure M-53**  
**Underground Ventilation System Airflow (with Building 416)**



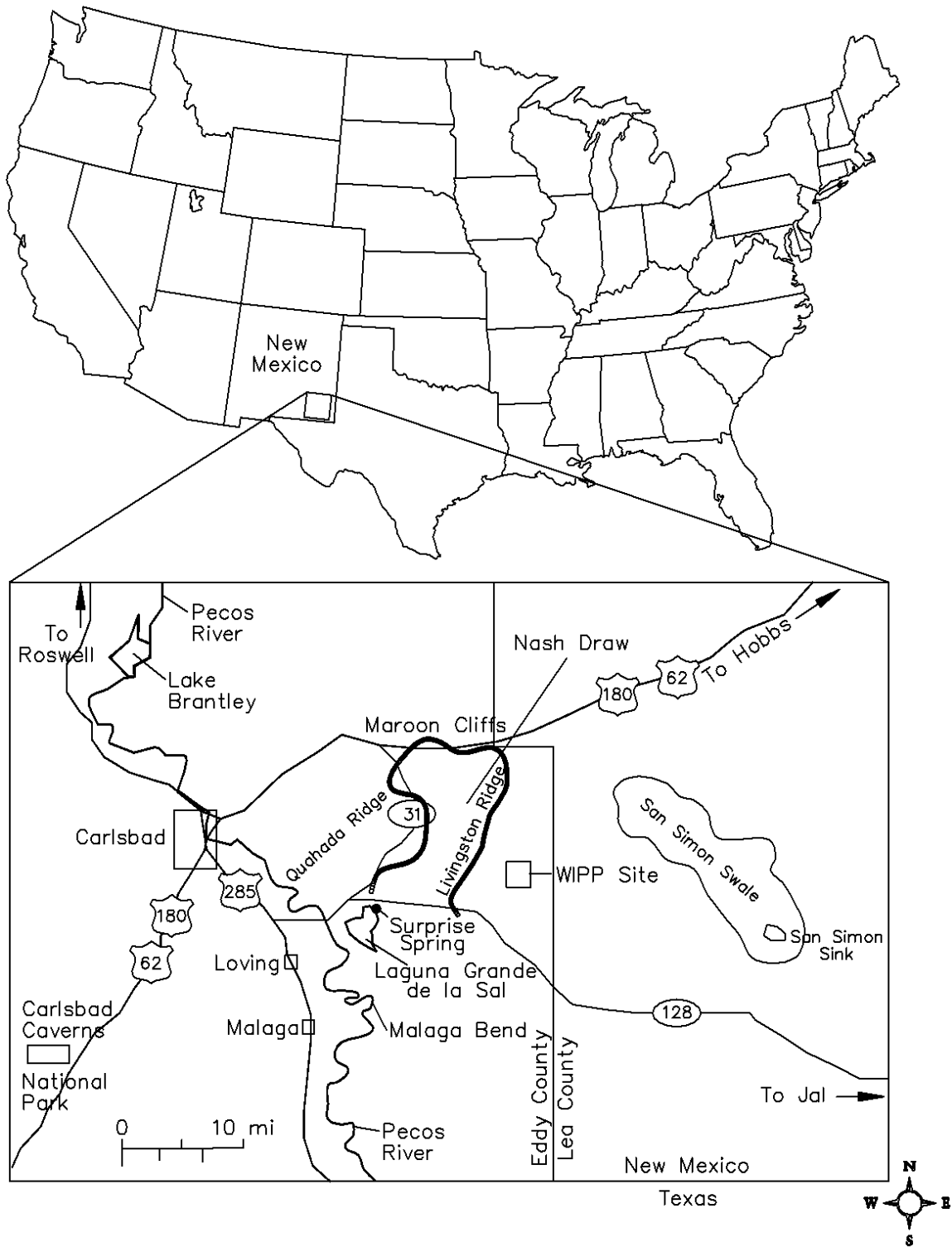
**Figure M-54**  
**Typical RH Emplacement Equipment**



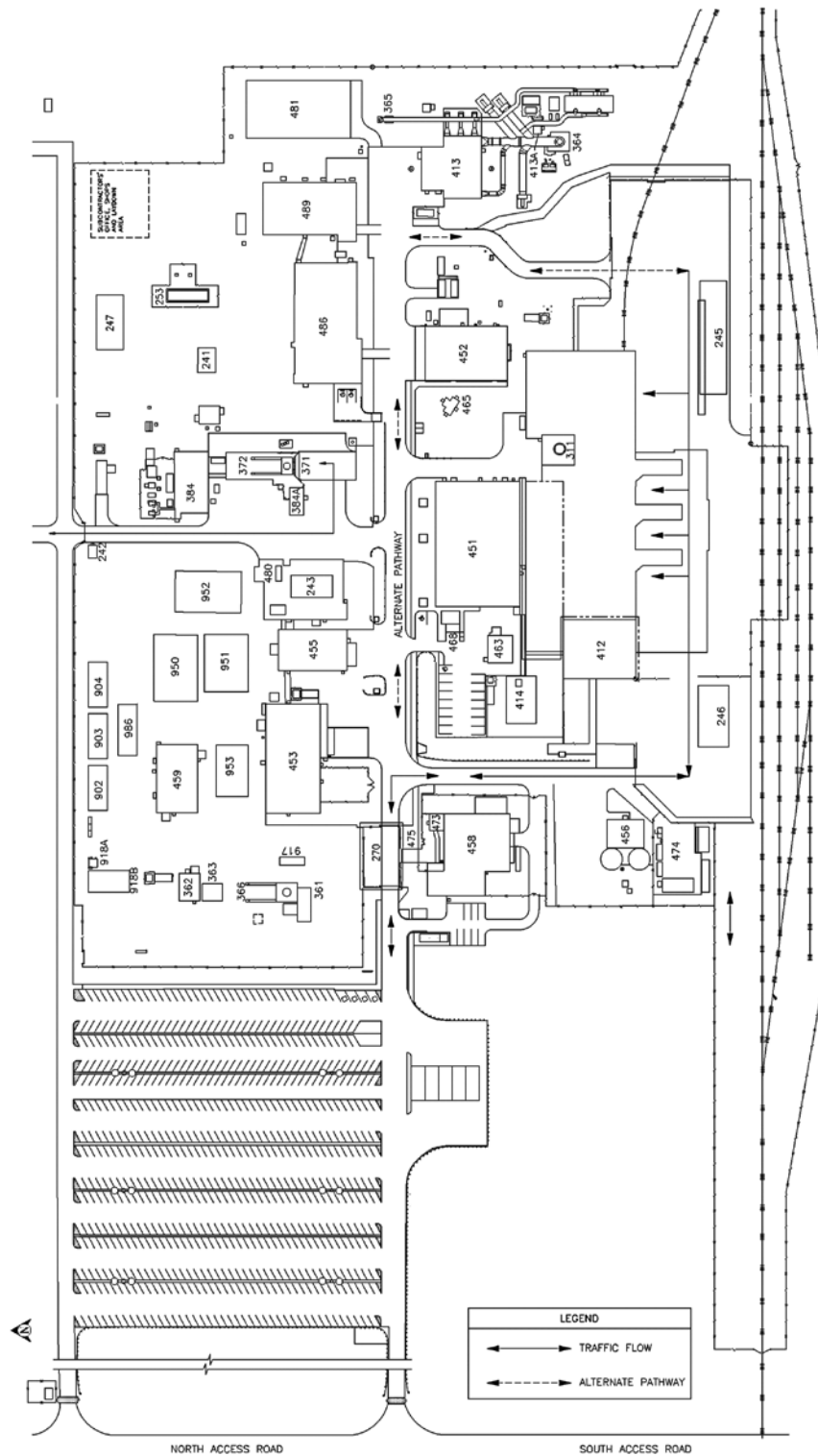
**Figure M-55**  
**RH TRU Waste Facility Cask Unloading from Waste Shaft Conveyance**



**Figure M-56**  
**Section of Borehole Showing the RH Shield Plug and Supplemental Shielding Plate(s)**

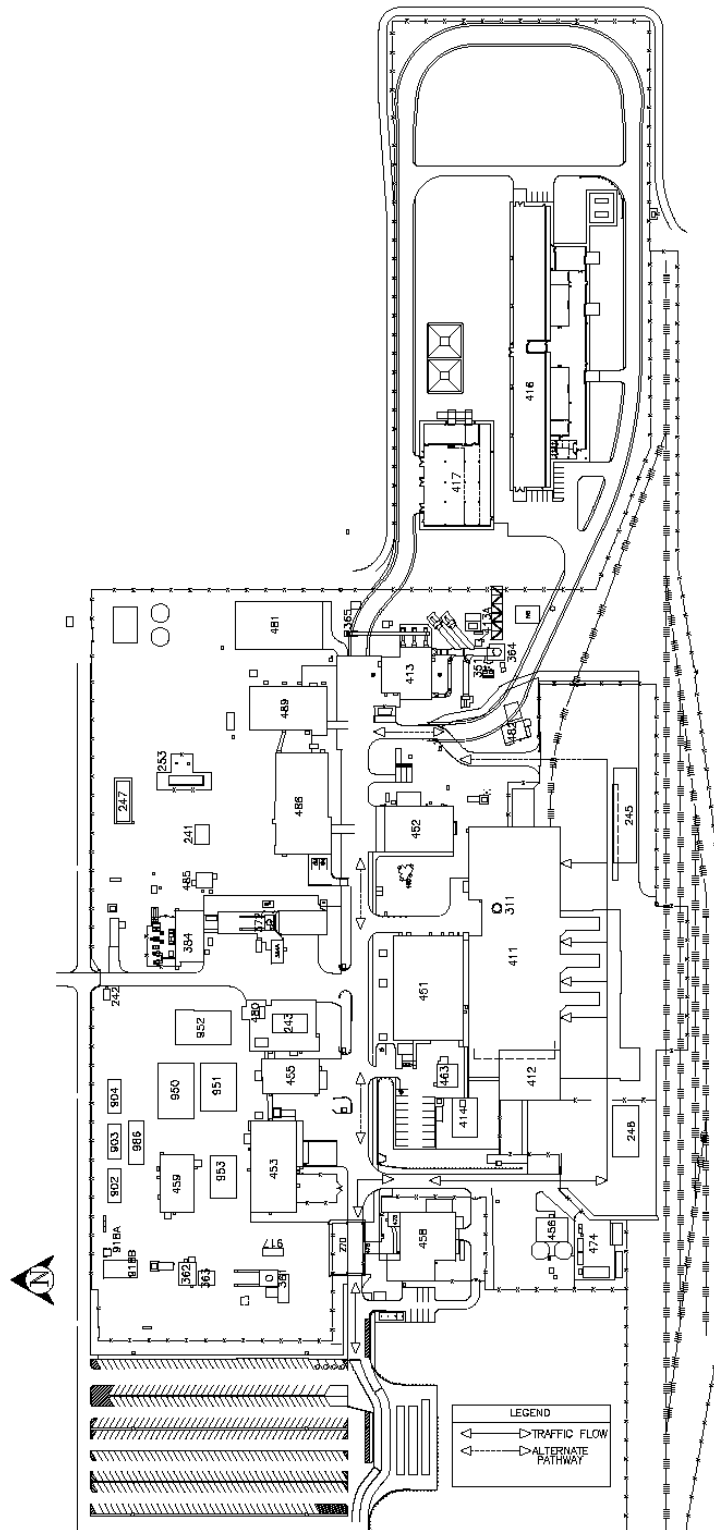


**Figure M-57**  
**General Location of the WIPP Facility**



(see Figure D-1 for legend of the surface buildings)

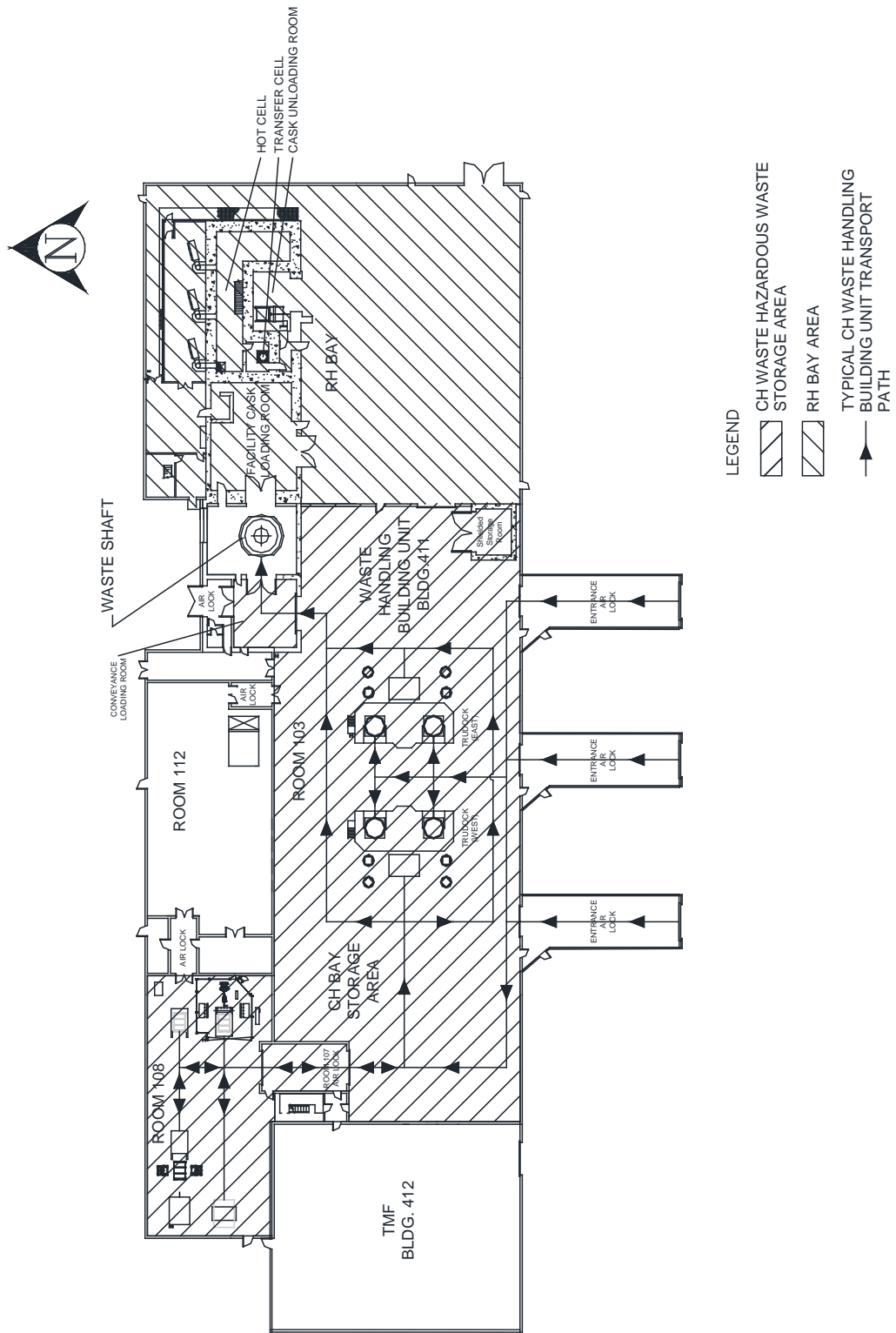
**Figure M-58**  
**WIPP Traffic Flow Diagram**



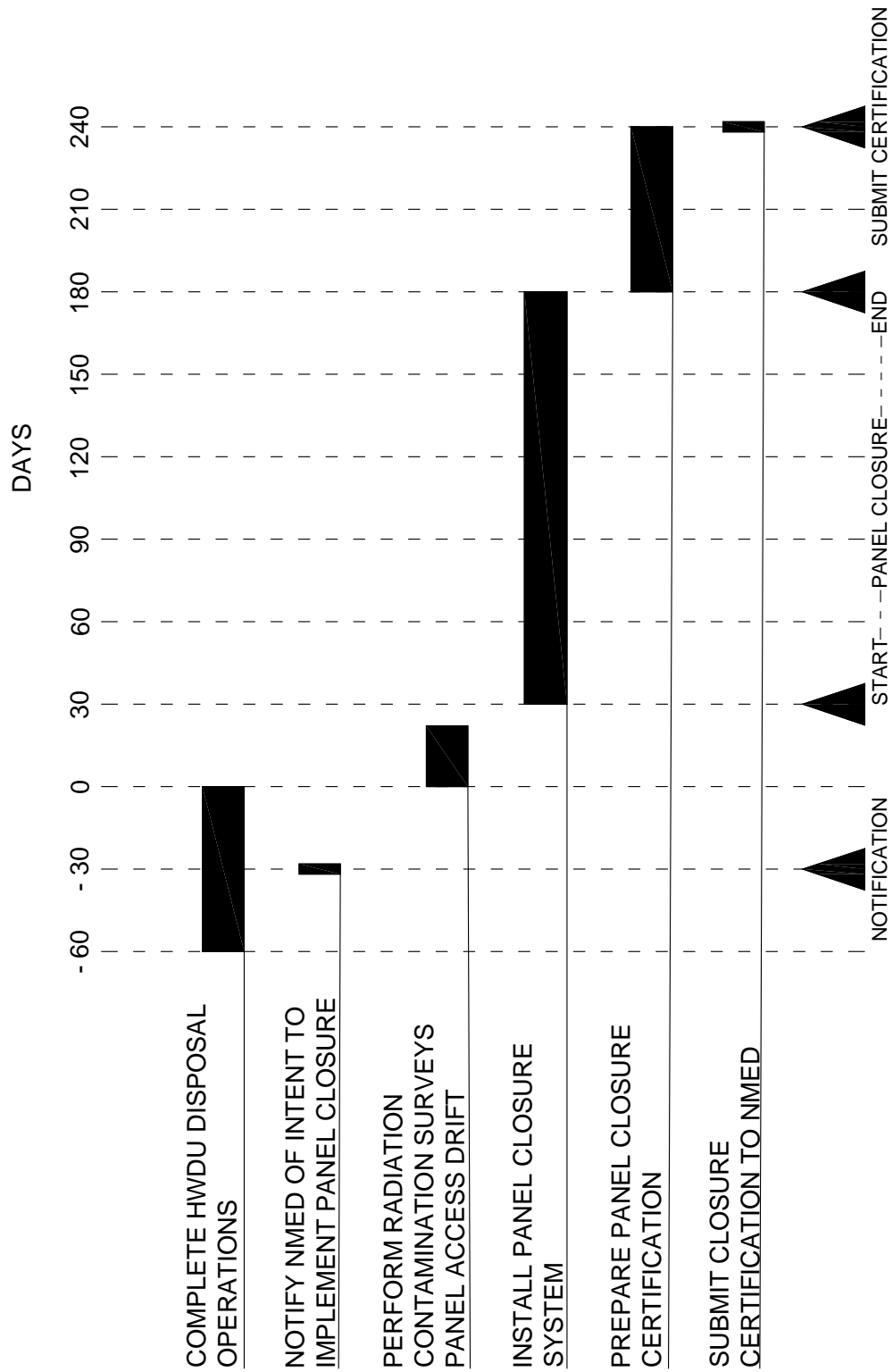
(see Figure D-1-NFB for legend of the surface buildings)

**Figure M-59**  
**WIPP Traffic Flow Diagram with Building 416**

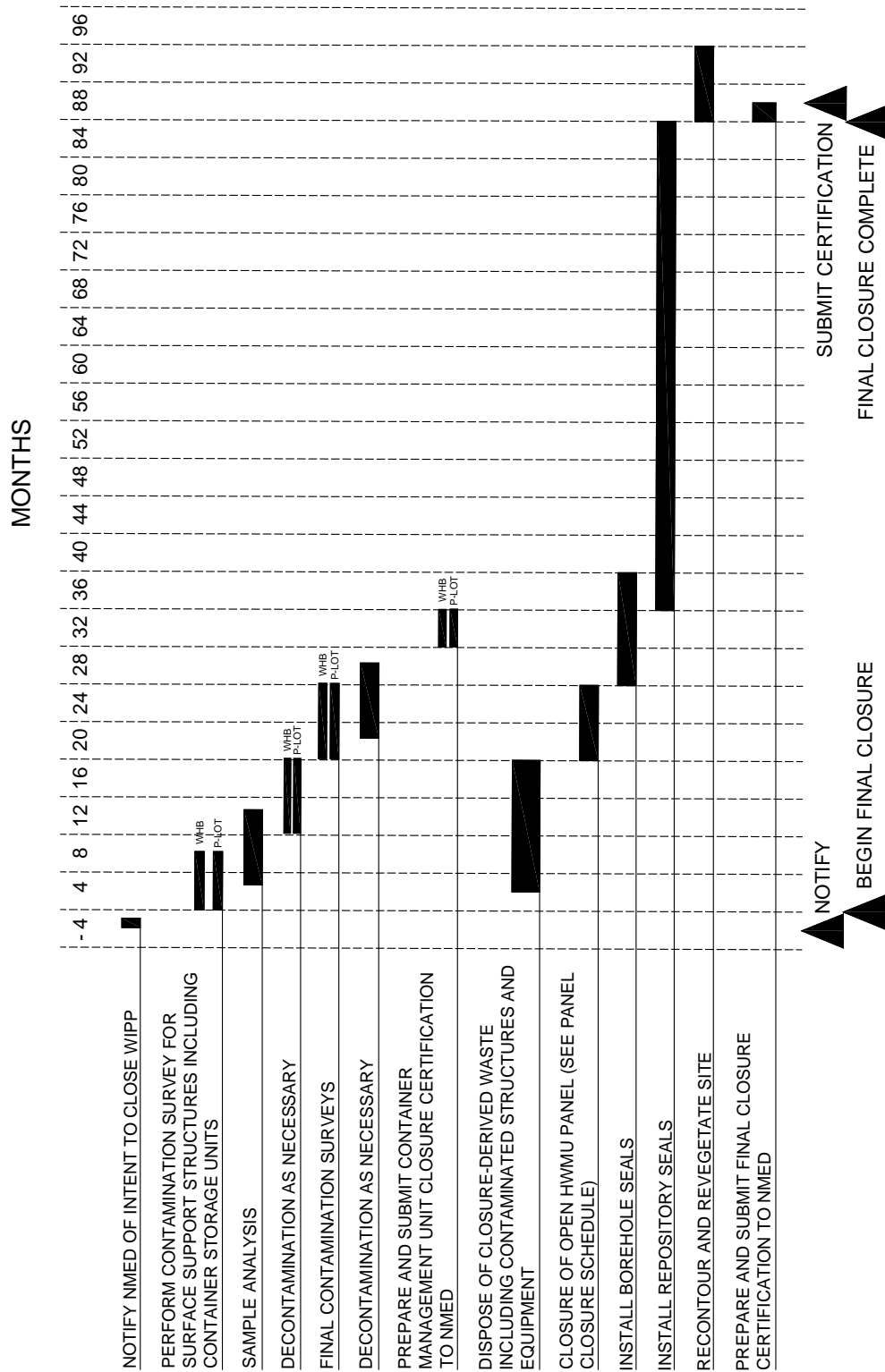




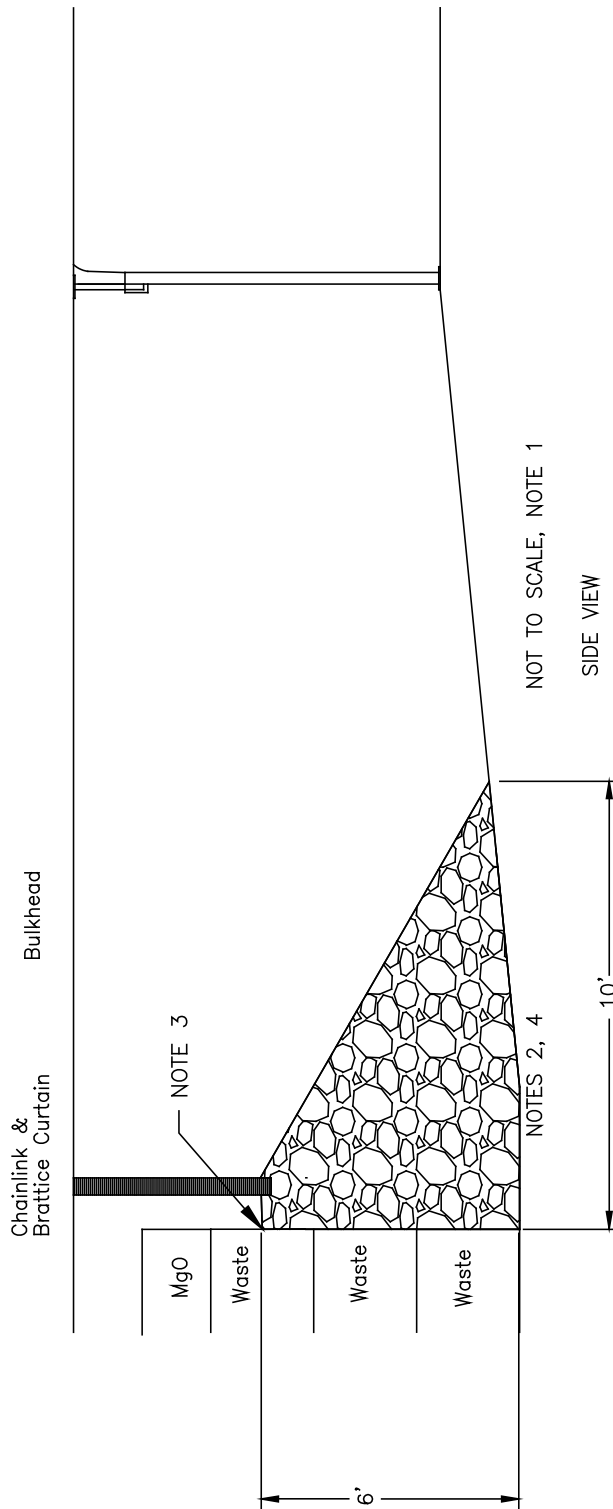
**Figure M-60**  
 Typical CH Mixed Waste Transport Routes in Waste Handling Building - Container Storage Unit



**Figure M-61**  
**WIPP Panel Closure Schedule**



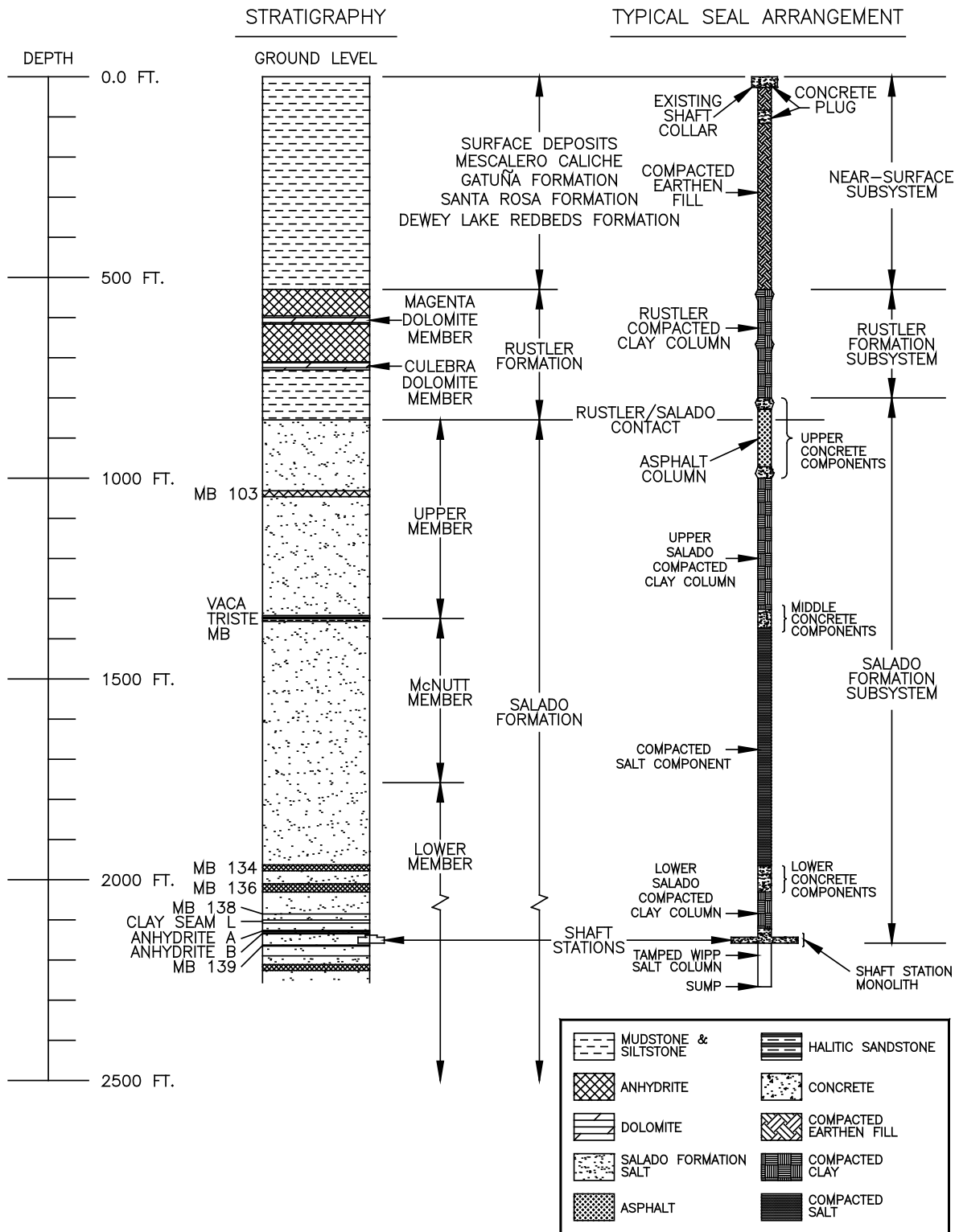
**Figure M-62**  
**WIPP Facility Final Closure 84-Month Schedule**



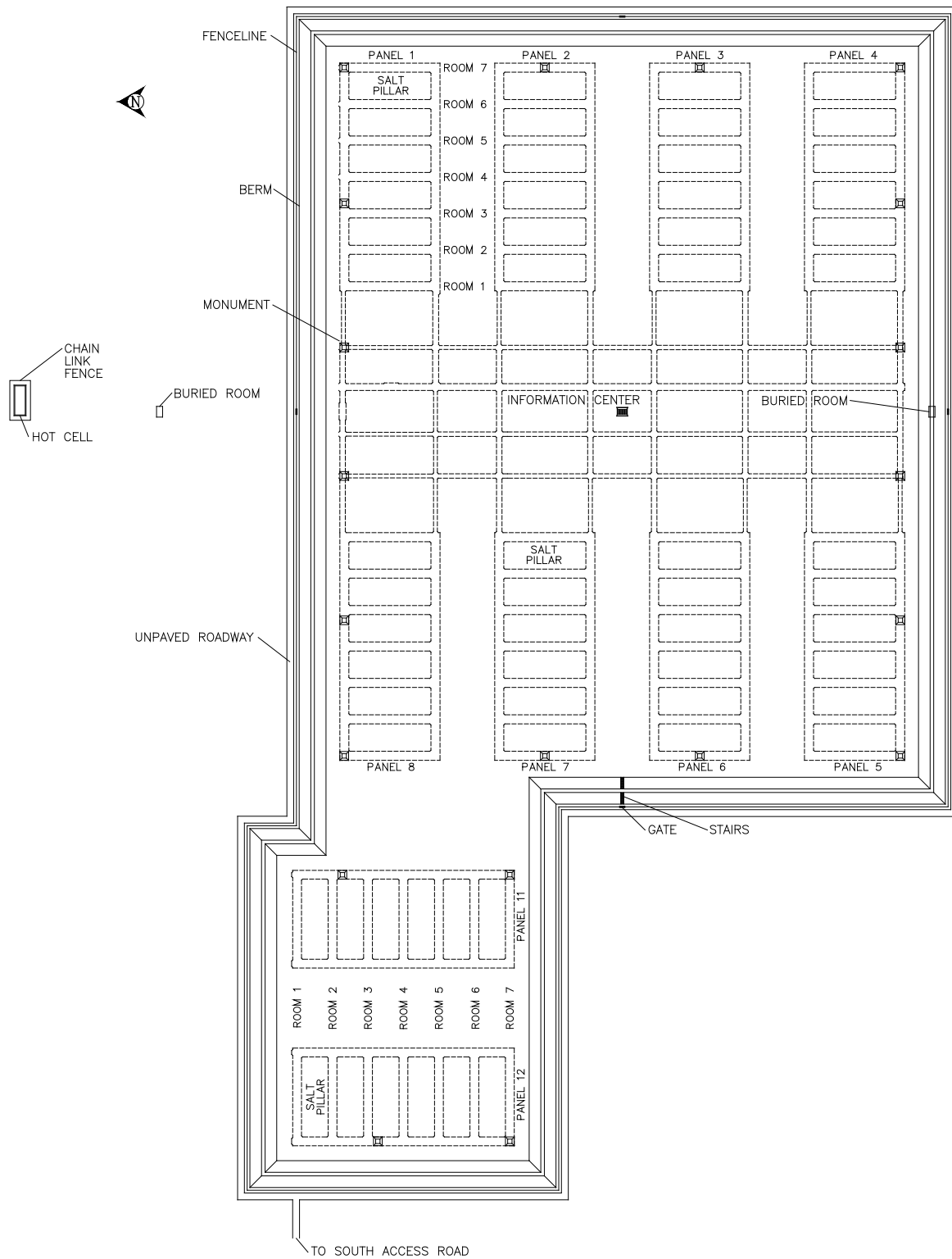
NOTES

1. CONFIGURATION AND PLACEMENT OF THE SUBSTANTIAL BARRIER AND THE BULKHEAD DICTATED BY AS-FOUND (FIELD) CONDITIONS, AS DESIGNATED BY THE COGNIZANT ENGINEER.
2. SUBSTANTIAL BARRIER MATERIAL WILL CONSIST OF RUN-OF-MINE SALT OR OTHER SUITABLE NON-FLAMMABLE MATERIAL AS DESIGNATED BY THE COGNIZANT ENGINEER.
3. SUBSTANTIAL BARRIER MATERIAL SHOULD BE AGAINST THE WASTE FACE. THE HEIGHT OF THE SUBSTANTIAL BARRIER NEAR THE WASTE WILL BE AT LEAST EQUAL TO THE HEIGHT OF THE BOTTOM OF THE TOP ROW OF WASTE.
4. DIMENSIONS INDICATED ARE MINIMUMS. THE HEIGHT OF THE SUBSTANTIAL BARRIER IS MEASURED AT THE WASTE FACE. THE LENGTH OF THE SUBSTANTIAL BARRIER IS MEASURED FROM THE BOTTOM OF THE WASTE FACE TO THE TOE OF THE SUBSTANTIAL BARRIER MATERIAL.

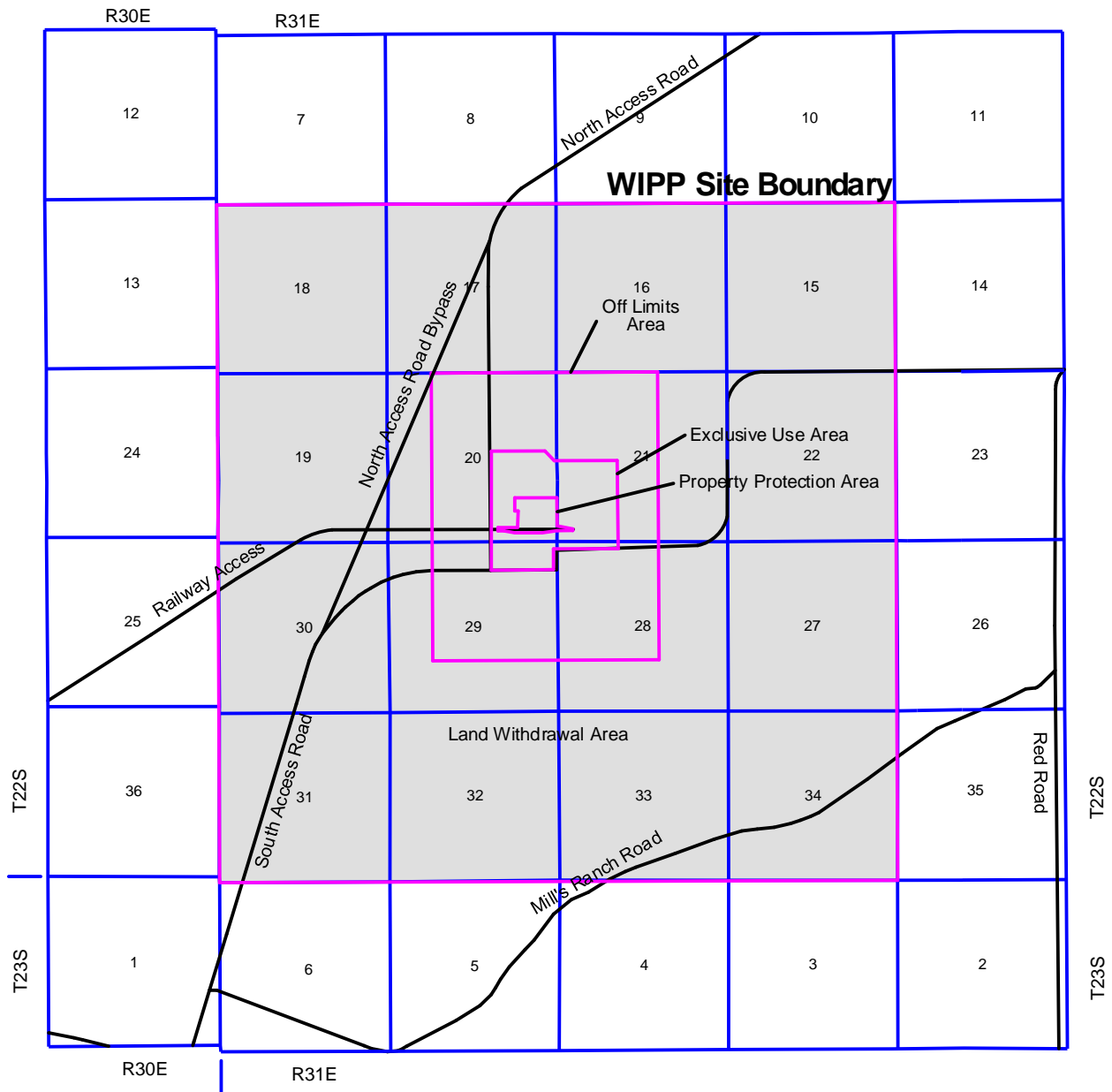
**Figure M-63**  
**Typical Substantial Barrier and Bulkhead**



**Figure M-64**  
**Typical Shaft Sealing System**



**Figure M-65**  
**Perimeter Fenceline and Roadway**

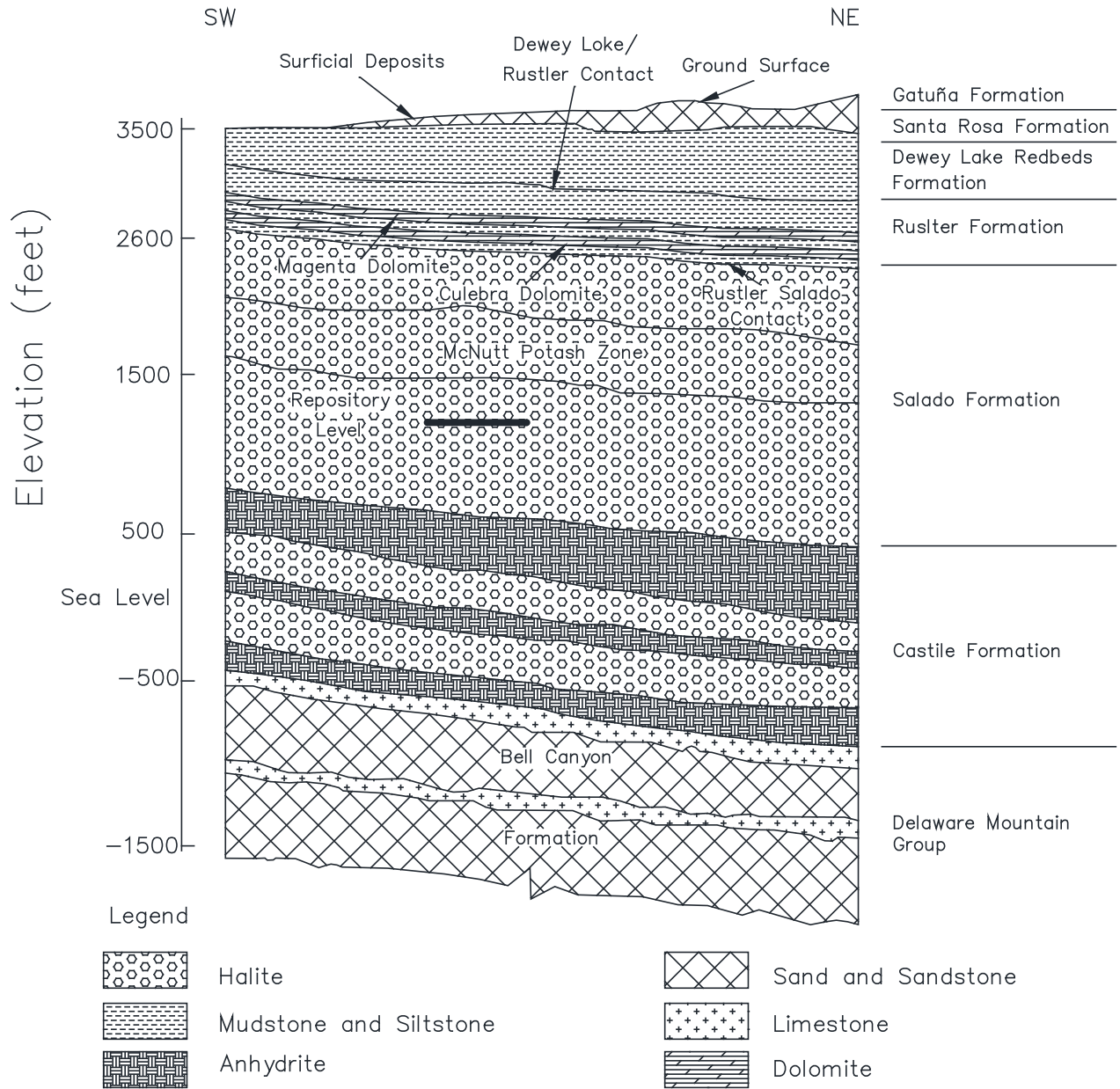


**Figure M-66**  
**WIPP Facility Boundaries Showing 16-square-Mile Land Withdrawal Boundary**

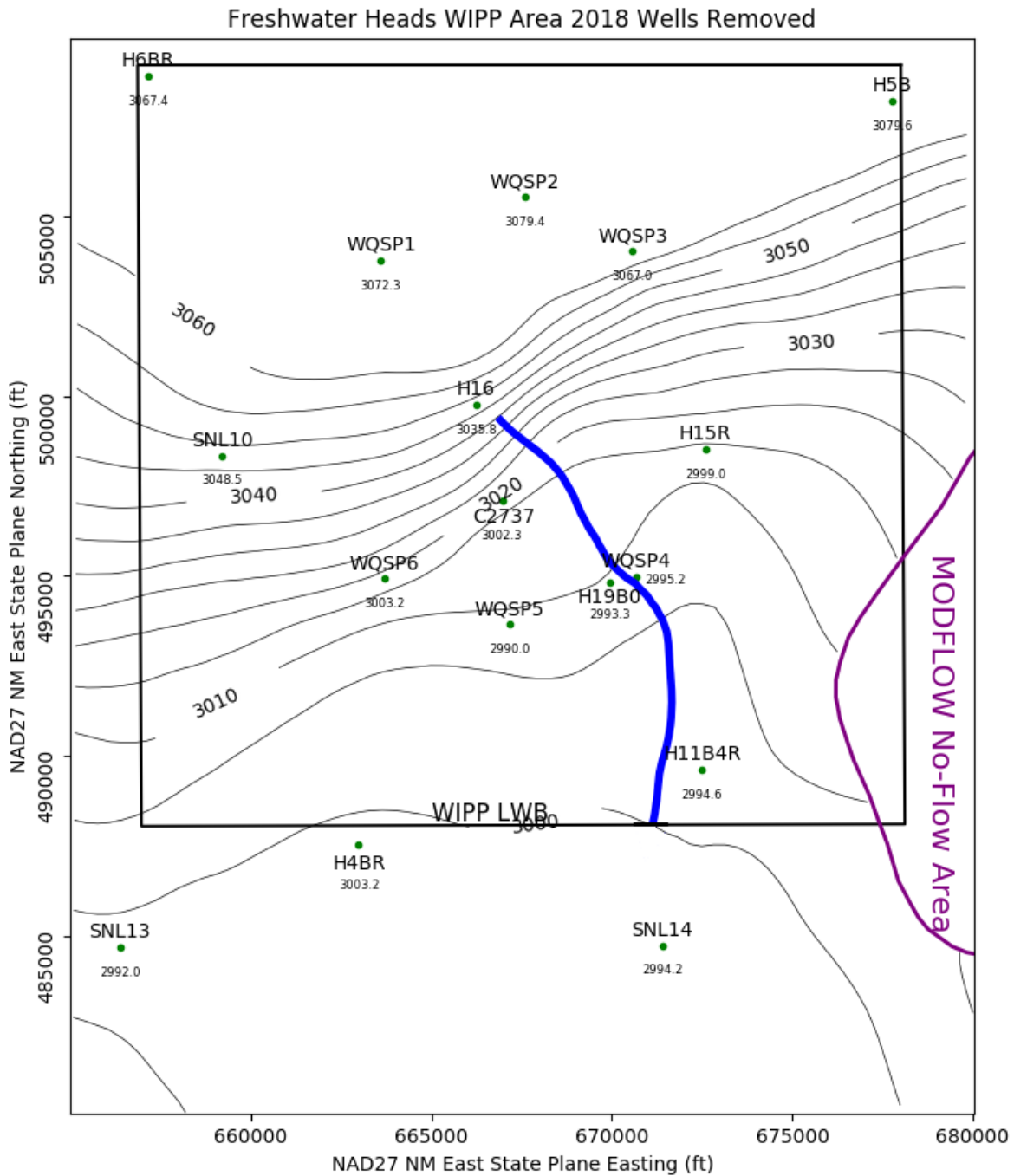
SYSTEM	SERIES	GROUP	FORMATION	MEMBER	
RECENT	RECENT		SURFICIAL DEPOSITS		
QUATERNARY	PLEISTOCENE		MESCALERO CALICHE		
			GATUÑA		
TERTIARY	MID-PLIOCENE		OGALLALA		
TRIASSIC		DOCKUM	SANTA ROSA		
PERMIAN	OCHOAN	DOCKUM	DEWEY LAKE REDBEDS		
			RUSTLER	FORTY-NINER	
				MAGENTA DOLOMITE	
				TAMARISK	
				CULEBRA DOLOMITE	
				LOS MEDAÑOS	
			SALADO	UPPER	
				MCNUTT POTASH	
				LOWER	
	CASTILE				
	GUADALUPIAN	DELAWARE MOUNTAIN	BELL CANYON		
			CHERRY CANYON		
			BRUSHY CANYON		

**Figure M-67**  
**Site Geologic Column**



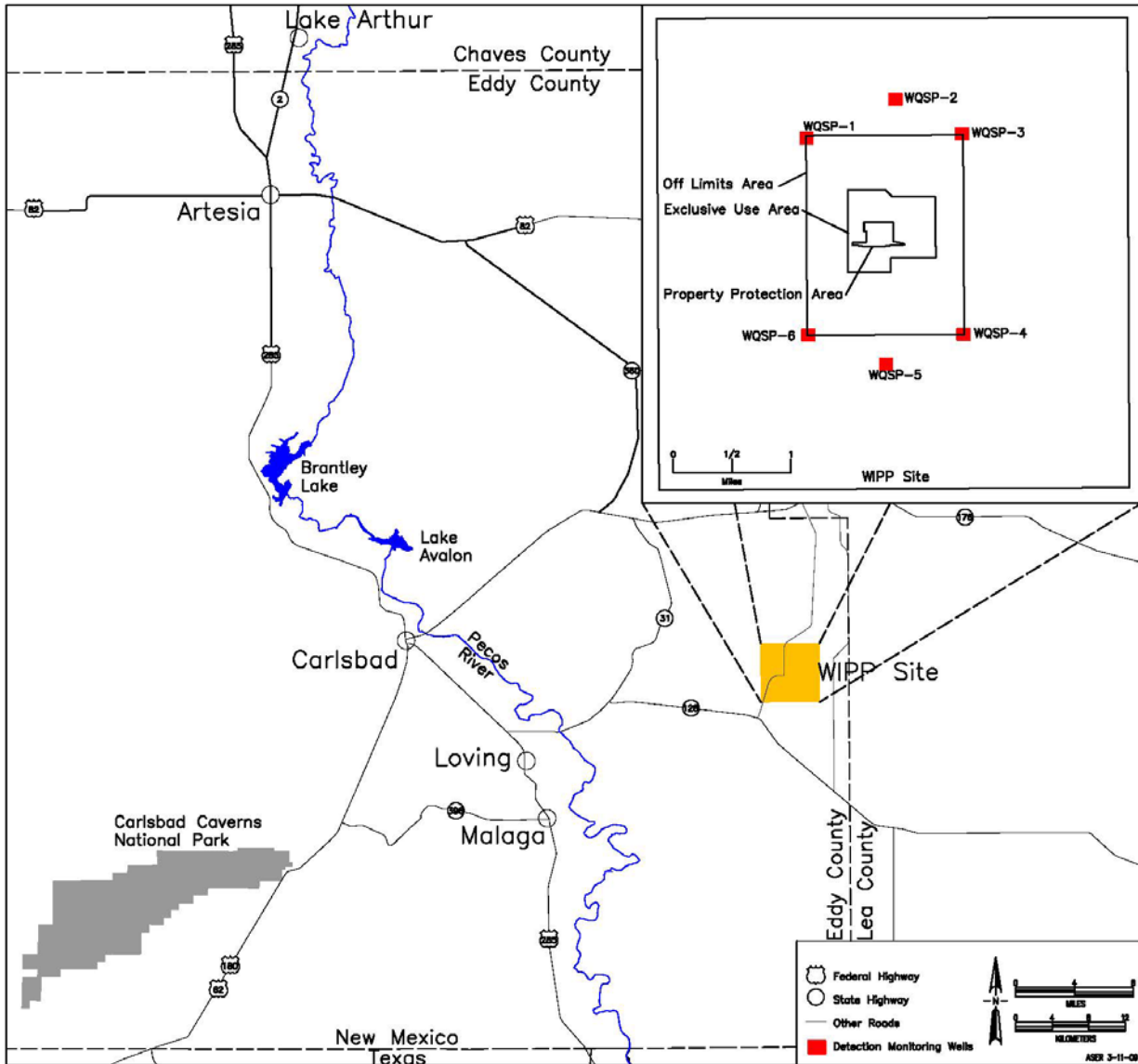


**Figure M-68**  
**Generalized Stratigraphic Cross Section above the Bell Canyon Formation at the WIPP Site**



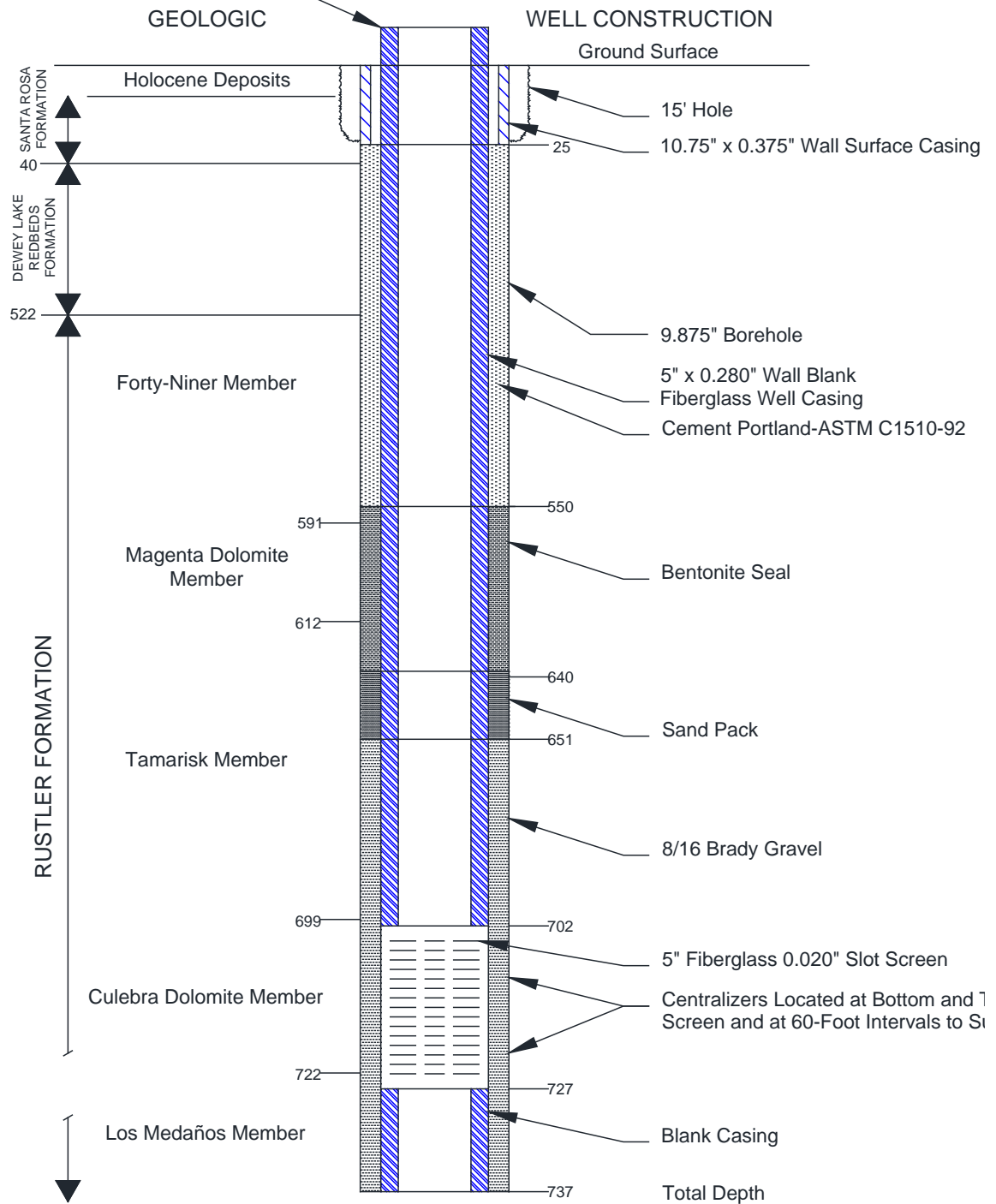
*Model generated September 2019 utilizing May 2018 freshwater head contours with observed heads (ft) listed at each well. Contours are at 5 ft intervals with the blue line particle track from the waste handling shaft to the WIPP Land Withdrawal Boundary. The purple line is a constant head boundary representing the Rustler halite margin.*

**Figure M-69  
 Culebra Freshwater-Head Potentiometric Surface**



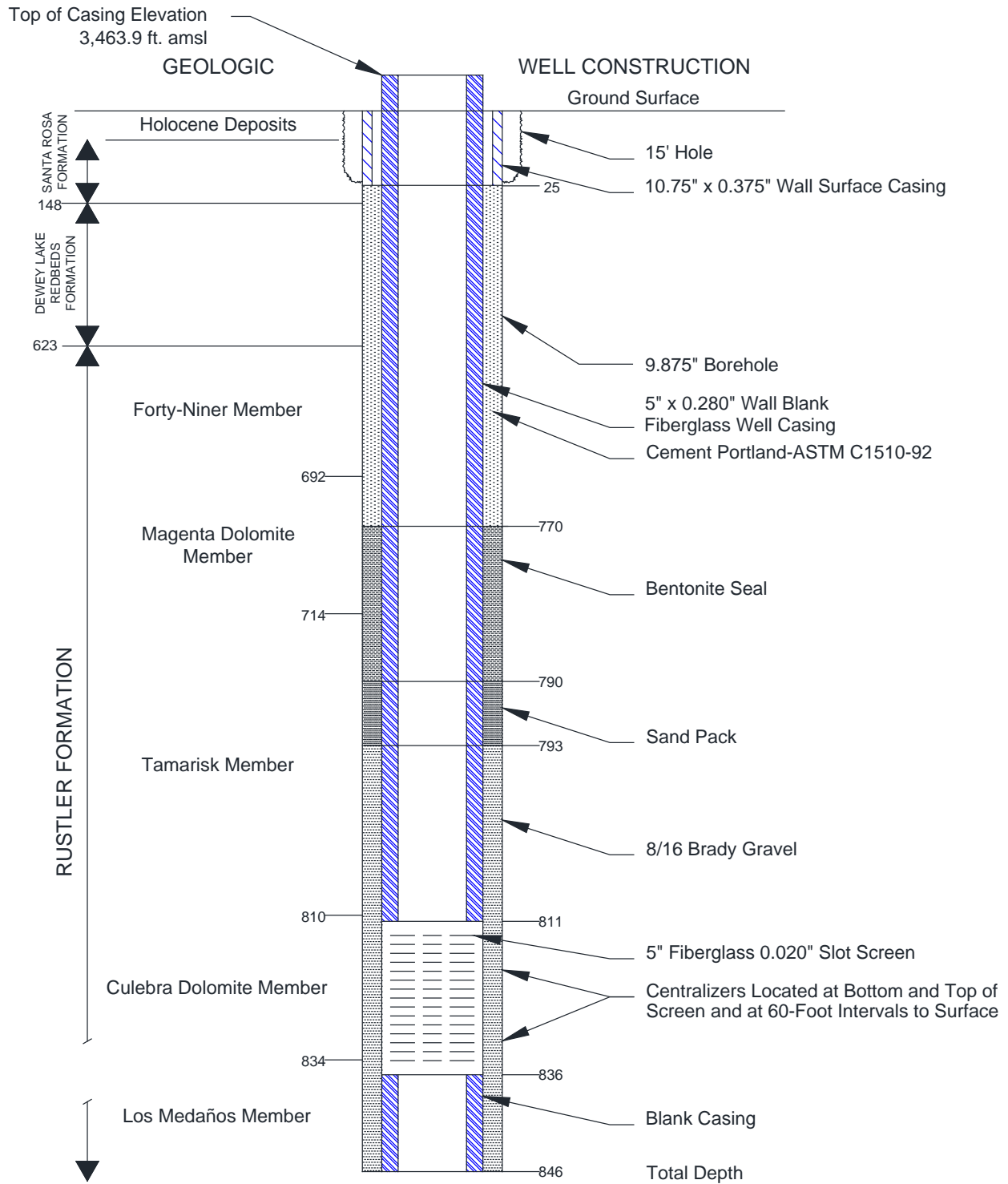
**Figure M-70**  
**Detection Monitoring Well Locations**

Top of Casing Elevation 3,419.2 ft.  
 above mean sea level (amsl)



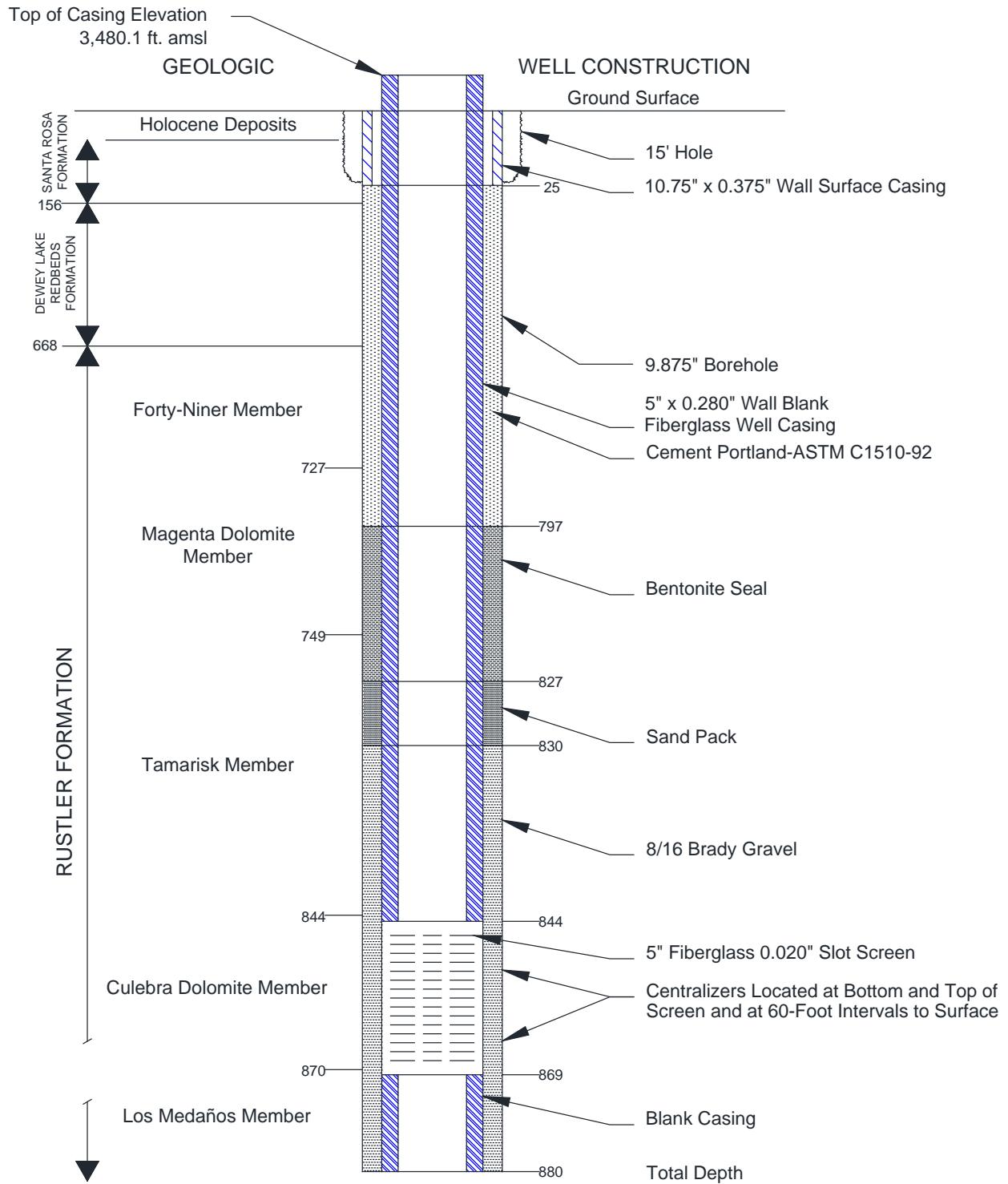
Note: Depths in feet below ground surface (bgs) approximate.

**Figure M-71**  
**As-Built Configuration of Well WQSP-1**



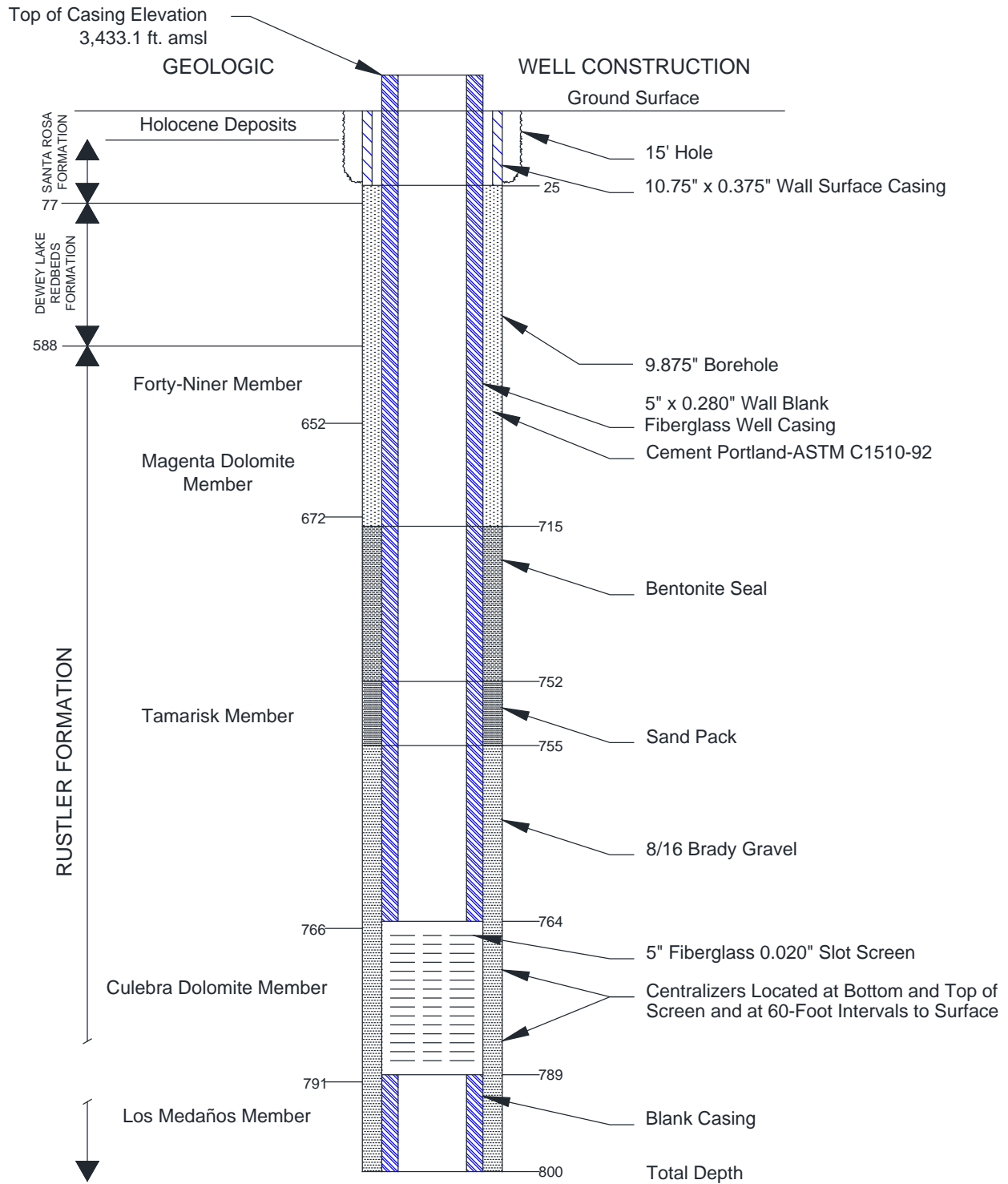
Note: Depths in feet bgs approximate.

**Figure M-72**  
**As-Built Configuration of Well WQSP-2**



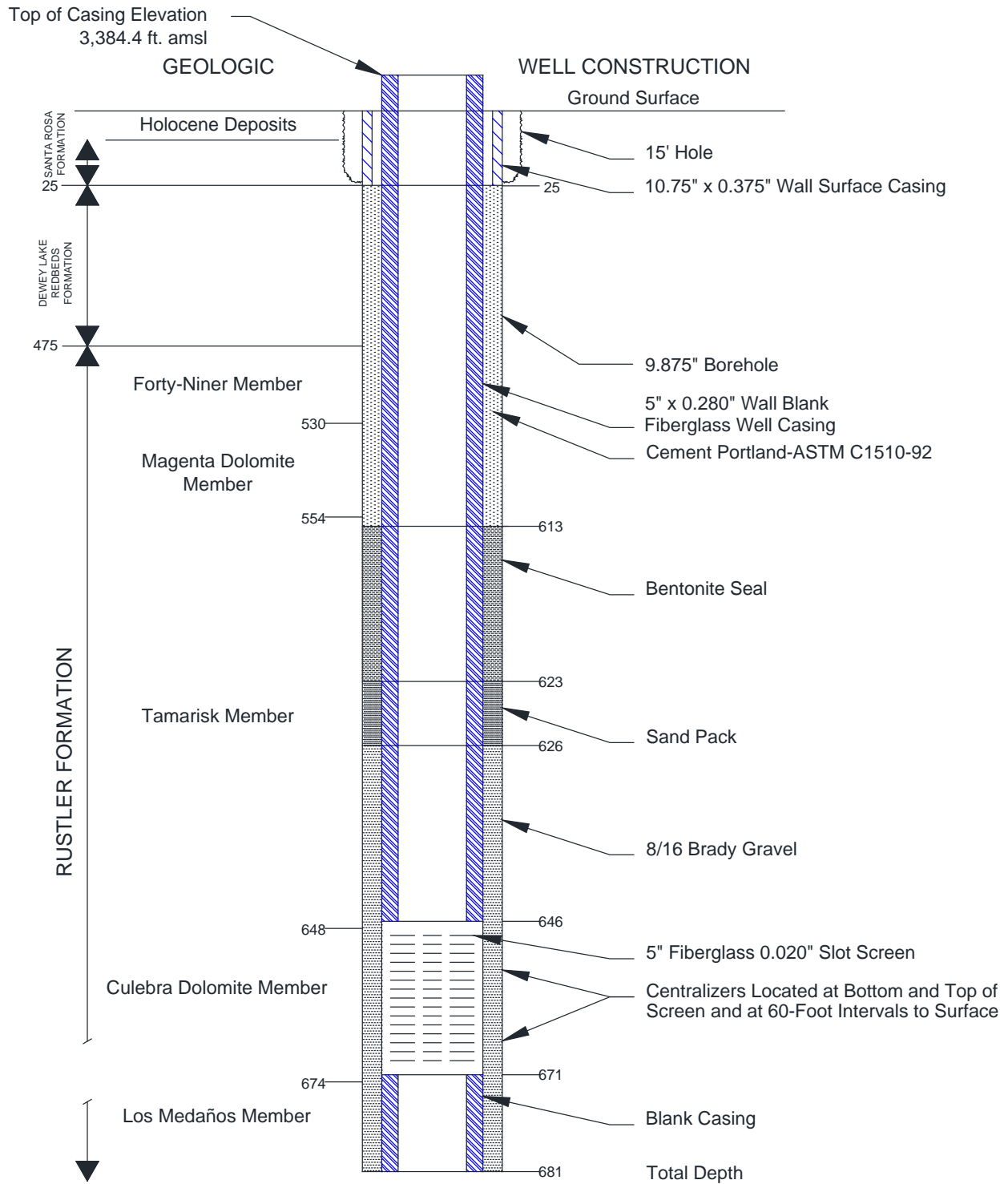
Note: Depths in feet bgs approximate.

**Figure M-73**  
**As-Built Configuration of Well WQSP-3**



Note: Depths in feet bgs approximate.

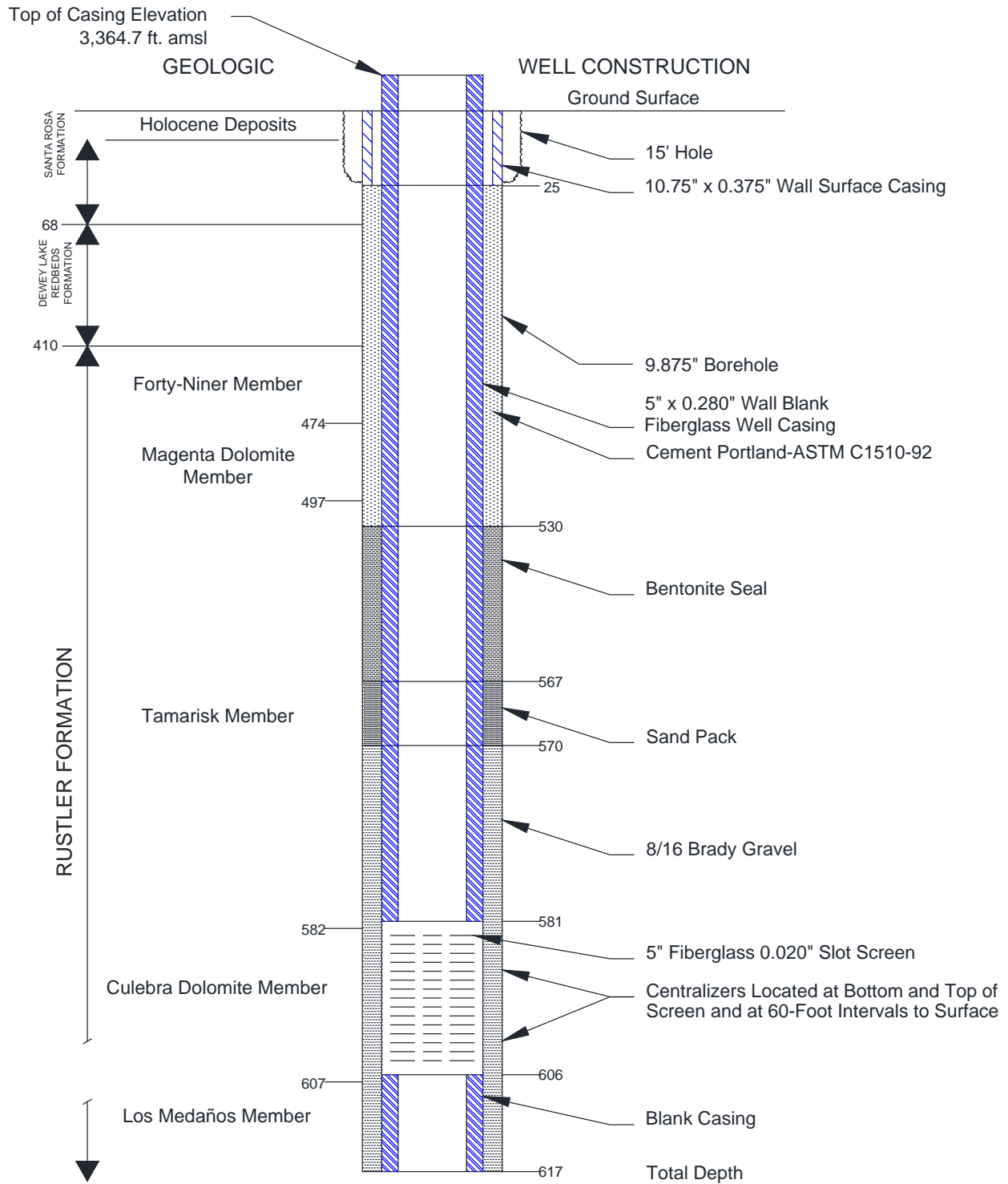
**Figure M-74**  
**As-Built Configuration of Well WQSP-4**



Note: Depths in feet bgs approximate.

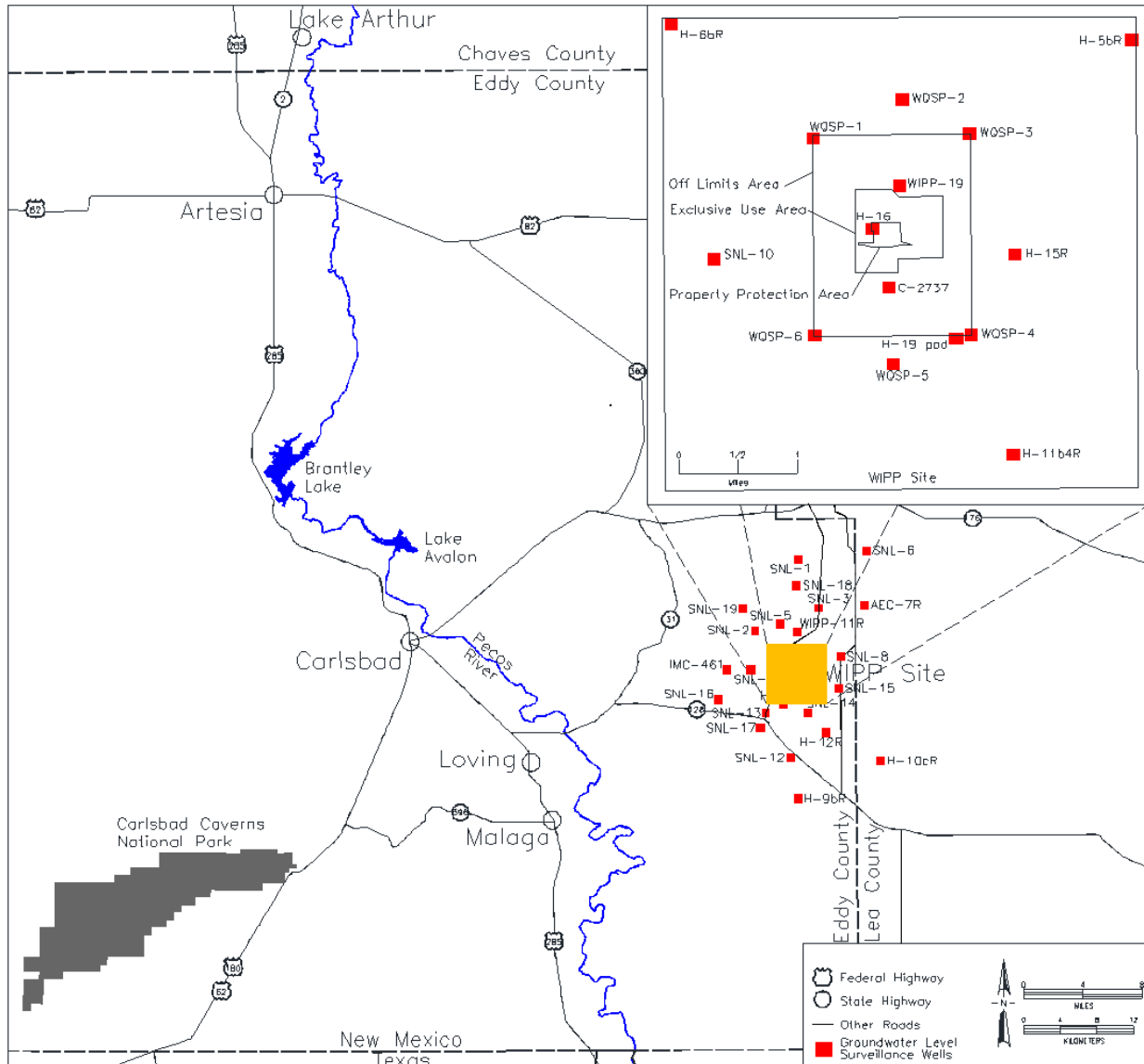
**Figure M-75**  
**As-Built Configuration of Well WQSP-5**



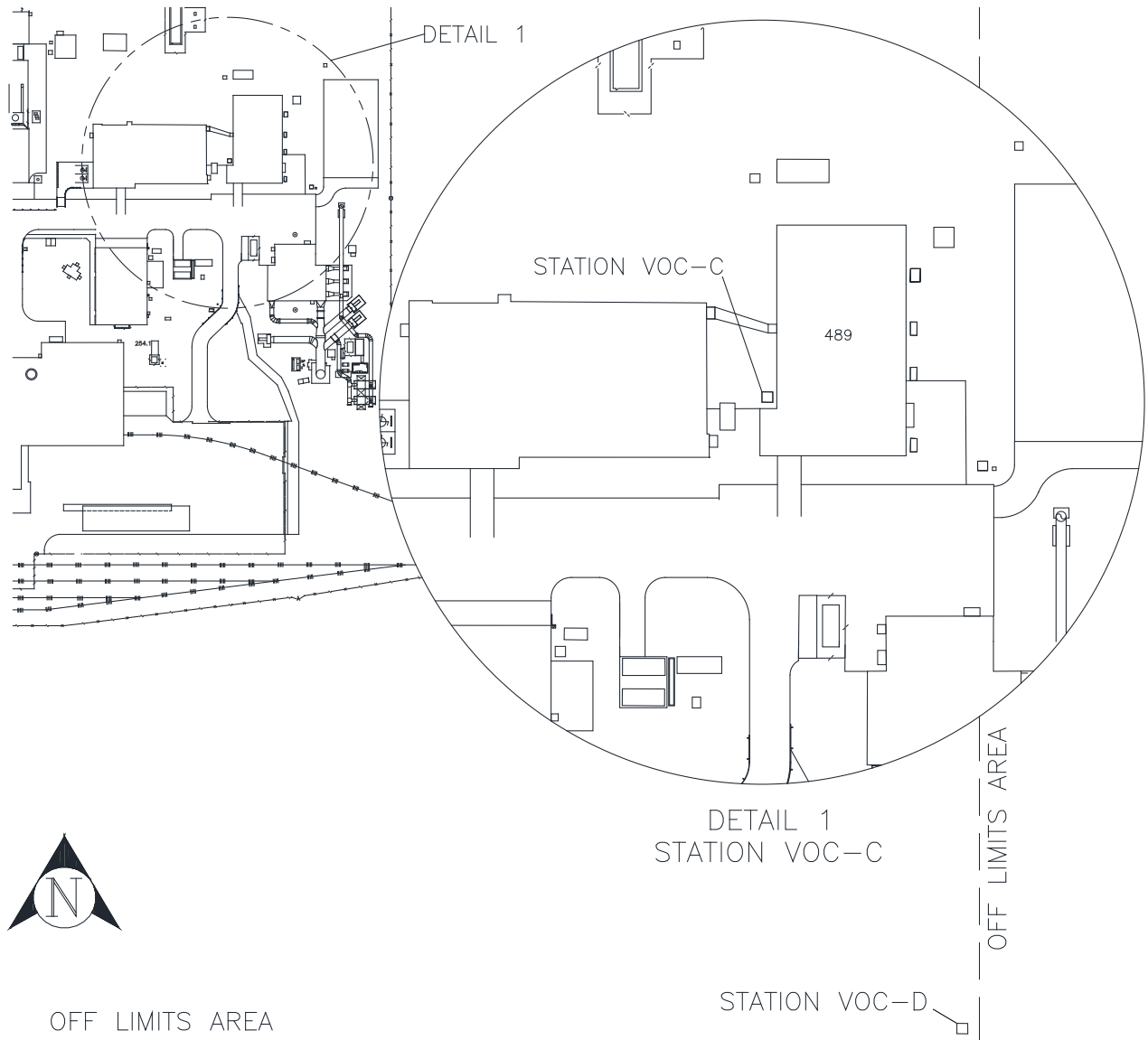


Note: Depths in feet bgs approximate.

**Figure M-76**  
**As-Built Configuration of Well WQSP-6**

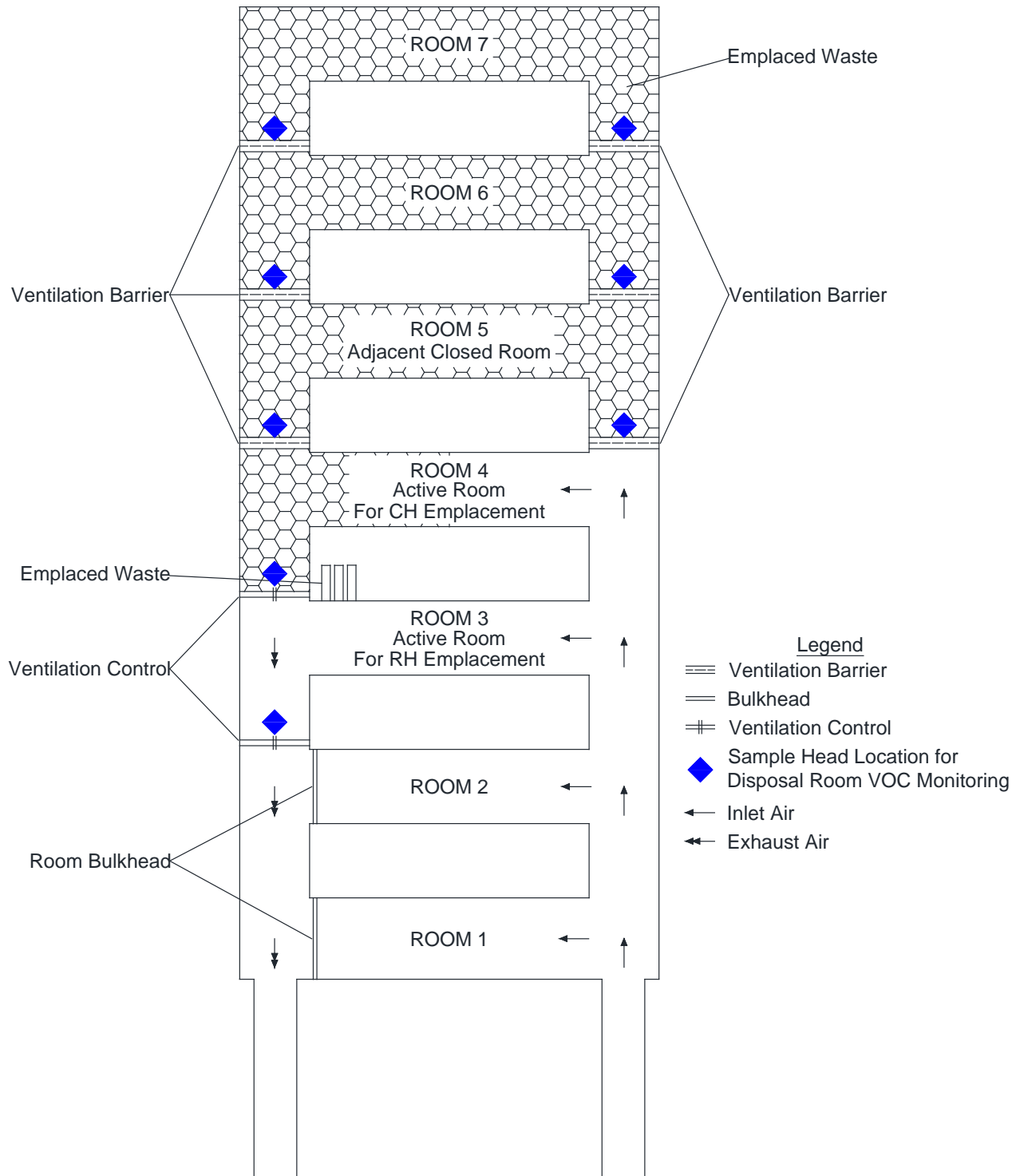


**Figure M-77**  
**Groundwater Level Surveillance Wells**  
 (inset represents the Groundwater Level Surveillance Wells within the WIPP Land Withdrawal Area)

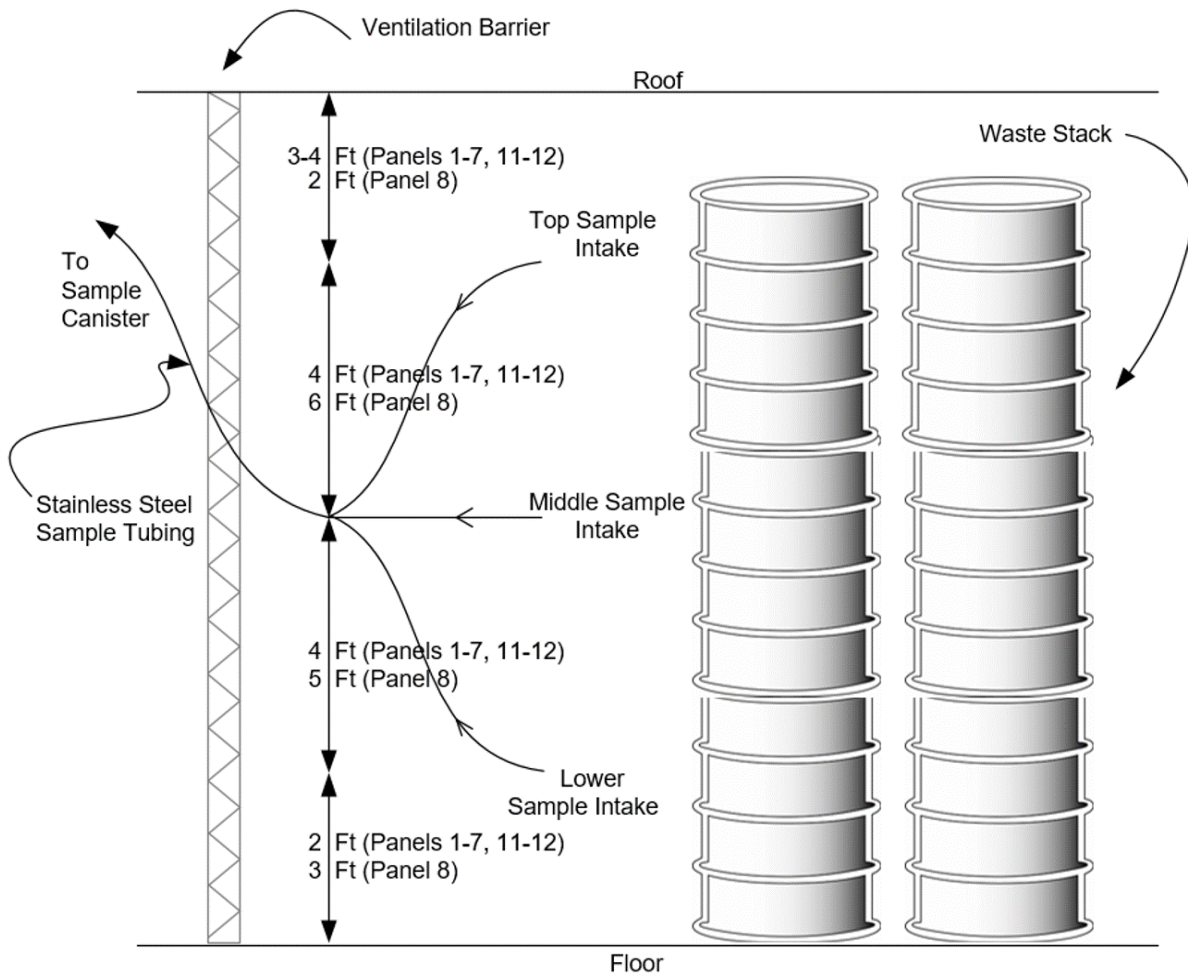


(see Figure D-1 and Figure D-1a for a detailed map and legend of the surface buildings)

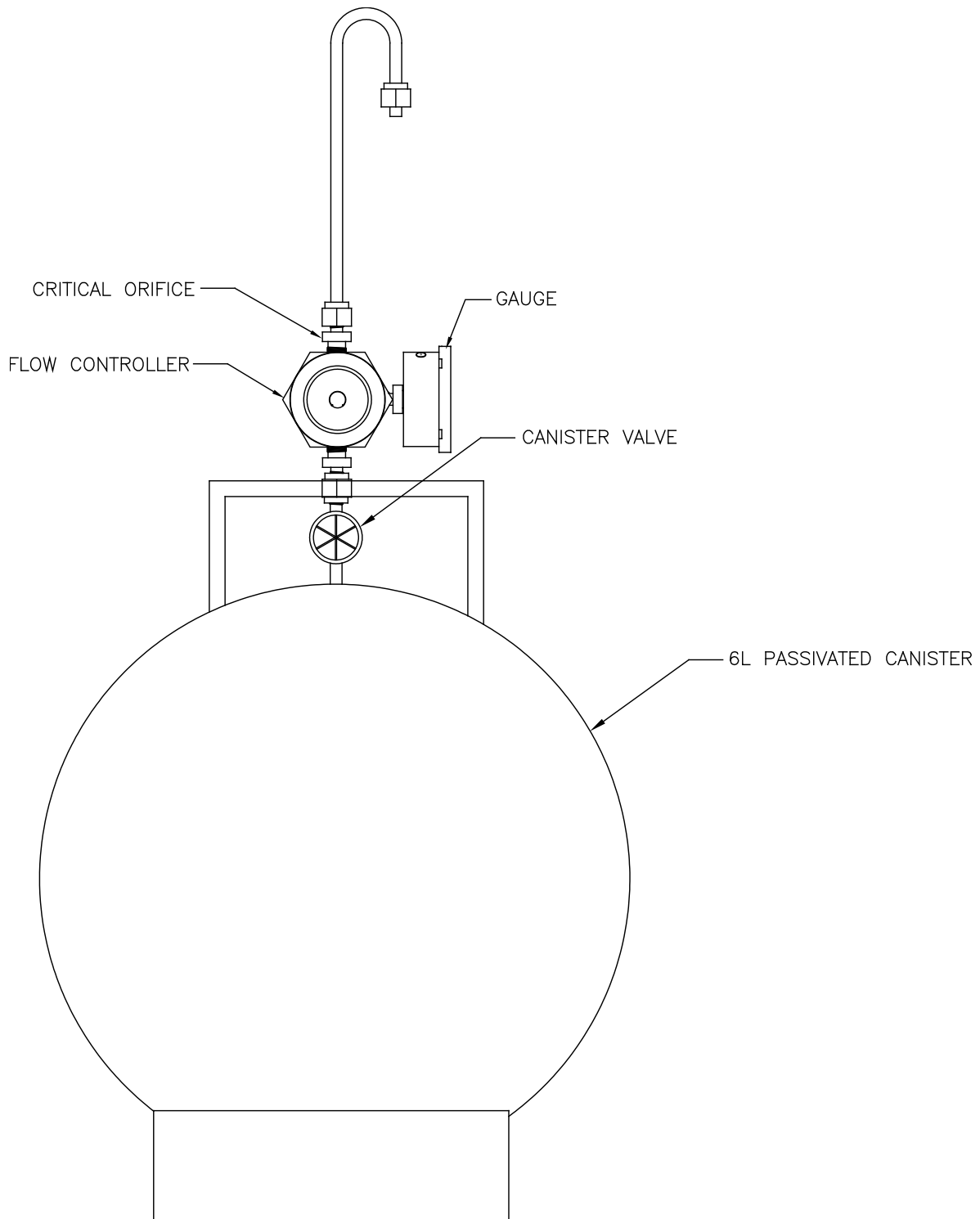
**Figure M-78**  
**Repository VOC Monitoring Locations**



**Figure M-79**  
**Typical Disposal Room VOC Monitoring Locations**

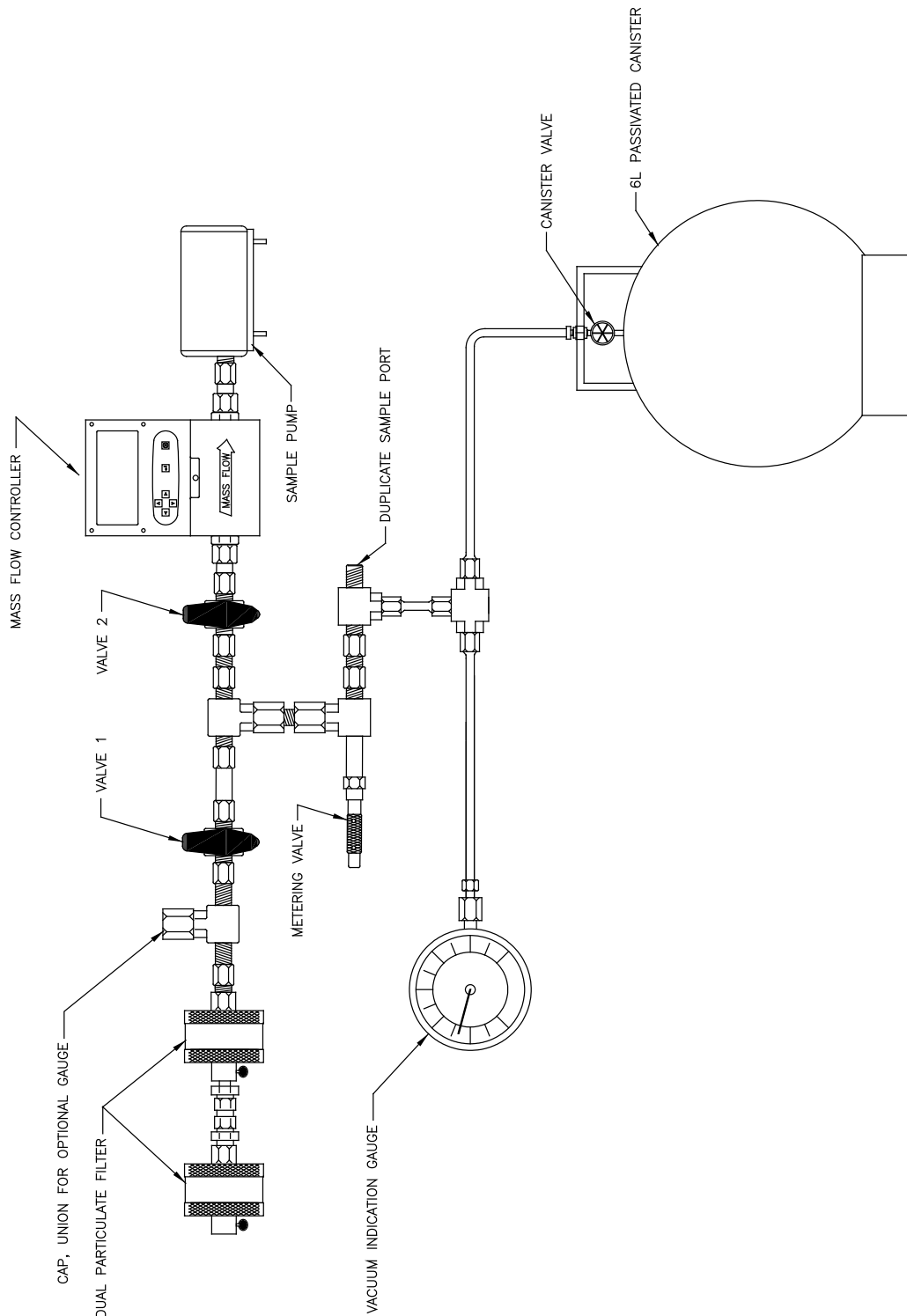


**Figure M-80**  
**Typical Disposal Room Sample Head Arrangement**



TYPICAL PASSIVE AIR-SAMPLING KIT WITH CANISTER

**Figure M-81**  
**VOC Monitoring System Design**



TYPICAL SUBATMOSPHERIC SAMPLING ASSEMBLY WITH CANISTER

**Figure M-82**  
**VOC Monitoring System Design (continued)**