ATTACHMENT G

TRAFFIC PATTERNS

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G-1 Facility Access and Traffic

On-site roads, sidewalks, and paved areas are used for the distribution and storage of vehicles and personnel and are designed to handle all traffic generated by employees, visitors, TRU mixed waste shipments, and movements of operational and maintenance vehicles. The facility entrance and TRU mixed waste haul roads are designed for AASHTO H20-S16 wheel loading. Service roads are designed for AASHTO H10 wheel loading. Access and on-site paved roads are designed to bear the anticipated maximum load of ~~80,000 lbs (36,287.2 kg)~~ 115,000 lbs (52,272.7 kg), the maximum allowable weight of a truck/trailer carrying loaded Contact- or Remote-Handled Packages. The facility is designed to handle ~~an average of five~~ approximately eight truck trailers per day, each carrying one or more Contact- or Remote-Handled Packages. ~~Outbound transporters with empty shipping containers will match that number daily.~~ This is equivalent to ~~2,600~~ 3,640 TRU mixed waste-carrying vehicles per year.

The calculations to support the anticipated maximum load of 115,000 lbs. are shown below:

Soil Resistance R (psi) - is taken directly from the WIPP Soil Report and Bechtel calculation because there is no change.

A. Pavement Thickness.
The traffic frequency increase from 10 shipments per day to 10.15 shipments per day has only minimal impact on the Total Expanded Average Load (EAL) and the traffic index (TI) as shown below, both important parameters in pavement design.

Total EAL (TEAL):
13,780 ~ constant for 5 or more axles over 20 years, taken from Table 7-651.2A - Highway Design Manual (HDM).
TEAL = 13,780 x 25yr./20yr. = 17,225
Using 10.15 shipments per day ~ 17,225 x 10.15 = 174,834

Conversion of EAL to Traffic Index (TI).
For TEAL of 174,834 ~ TI = 7.5 - (from HDM, Table 7-651.2B)

Asphalt Concrete Thickness TAC:
GE=0.0032 x TI x (100 -R)....R=80
GE - Gravel Equivalent (Ft).
GE=0.0032 x 7.5 x 20 = 0.48' ...GfAC = 2.01⇒ TAC = 0.48/2.01= 0.24' ⇒ use 2½" AC Surface Course.
(Actually used: 3")
Gf - Gravel Equivalent Factor (constant from Table 7-651.2C from HDM).

B. Bituminous Treated Base.
GE = 0.0032 x TI x (100 -R) .... R = 55 ~ caliche subbase ⇒ GE = 1.08' GEBTB = 1.08 - 2.01 x

0.21= 0.66'
TBTB = GEBTB/GfBTB = 0.66/1.2 = 0.55' ⇒ Use 4" BTB
GfBTB ~ taken from table 7-651.2C

C Caliche Subbase ~ TCSB
GE = 0.0032 x TI x (100 -R) .....R=50 - prepared subgrade
GE=1.2
GECSB=1.2 - (0.21x 2.07) - (0.33 x1.2) ⇒ 0.37'
TCBS=0.37/1.0=0.37' ~ 4½"

Based on the results of the above calculation, the site paved roads designated for waste transportation are safe to be used by the heavier truckloads carrying shipping casks used in RH TRU mixed waste transportation to the WIPP.

G-1 Waste Handling Building Traffic

Each facility pallet will accommodate four seven-packsof 55-gallon drums, four SWBs, four four(4)-packs of 85-gallon drums, four three (3)-packs of 100-gallon drums, two TDOPs, or any combination thereof. Waste containers will be secured to the facility or containment pallet prior to transfer. The pallet will be moved to an appropriate location and the waste assemblies on the pallet will be tagged to indicate it is unverified and unexamined waste and cannot be placed in the repository. If radiography is required for verification and examination, and once it is determined which containers are to be radiographed the waste will be transported to the TMF for radiography and, when radiography is completed, returned to an appropriate staging location. Once the verification and examination is approved the tags will be removed to indicate the waste stream is acceptable for storage and emplacement and the container(s) will be transferred from the containment pallet to a facility pallet as needed. ~~A forklift will transport the~~ The loaded facility pallet will be transported to the conveyance loading car inside the air lock at the Waste Shaft (Figure G-3). The conveyance loading car will be driven onto the waste hoist deck, where the loaded facility pallet will be transferred to the waste hoist and downloaded for emplacement ~~, and the loading car will be backed out~~.

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, 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.

The cask is unloaded from the trailer in the RH Bay and is placed on the Cask Transfer Car. The Cask Transfer Car is used to move the cask to the Cask Unloading Room. At this point, a crane moves the waste to the Hot Cell or the Transfer Cell. Some RH TRU mixed waste may be moved to the Hot Cell for overpacking before being moved to the Transfer Cell. Once in the Transfer Cell, the Transfer Cell Shuttle Car moves the waste beneath the facility cask. A crane is used to move the waste from the Transfer Cell Shuttle Car into the facility cask. The Facility

Cask Transfer Car then moves the facility cask to the underground. A more detailed description of waste handling in the WHB is included in Attachment M1. Figures G-5, G-6 and G-7 show RH TRU mixed waste transport routes.

Table G-1, Waste Isolation Pilot Plant Site Design Designation Traffic Parameters[a]

Traffic Parameter	North Access Road (No. of Vehicles, unless otherwise stated)	South Access Road (No. of Vehicles, unless otherwise stated)	On-Site Waste Haul Roads (~~TRUPACT-II~~ Shipping Traffic)
Average Daily Traffic (ADT)[b]	800	400	~~6~~ 8
Design Hourly Volume (DHV)[c]	144	72	NA[g]
Hourly Volume (Max. at Shift Change)	250	125	NA
Distribution (D)[d]	67%	~~67%~~ 33%	NA
Trucks (T)[e]	2%	0	100%
Design Speed[h,i]	70 mph (113 kph)	60 mph (97 kph)	25 mph (40 kph)
Control of Access[f]	None	None	Full

[a] For WIPP personnel and TRU mixed waste shipments only.
[b] 3ADT-Estimated number of vehicles traveling in both directions per day.
[c] DHV-A two-way traffic count with directional distribution.
[d] D-The percentage of DHV in the predominant direction of travel.
[e] T-The percentage of ADT comprised of trucks (excluding light delivery trucks).
[f] Control of Access-The extent of roadside interference or restriction of movement.
[g] NA-Not applicable.
[h] mph-miles per hour.
[i] kph-kilometers per hour.

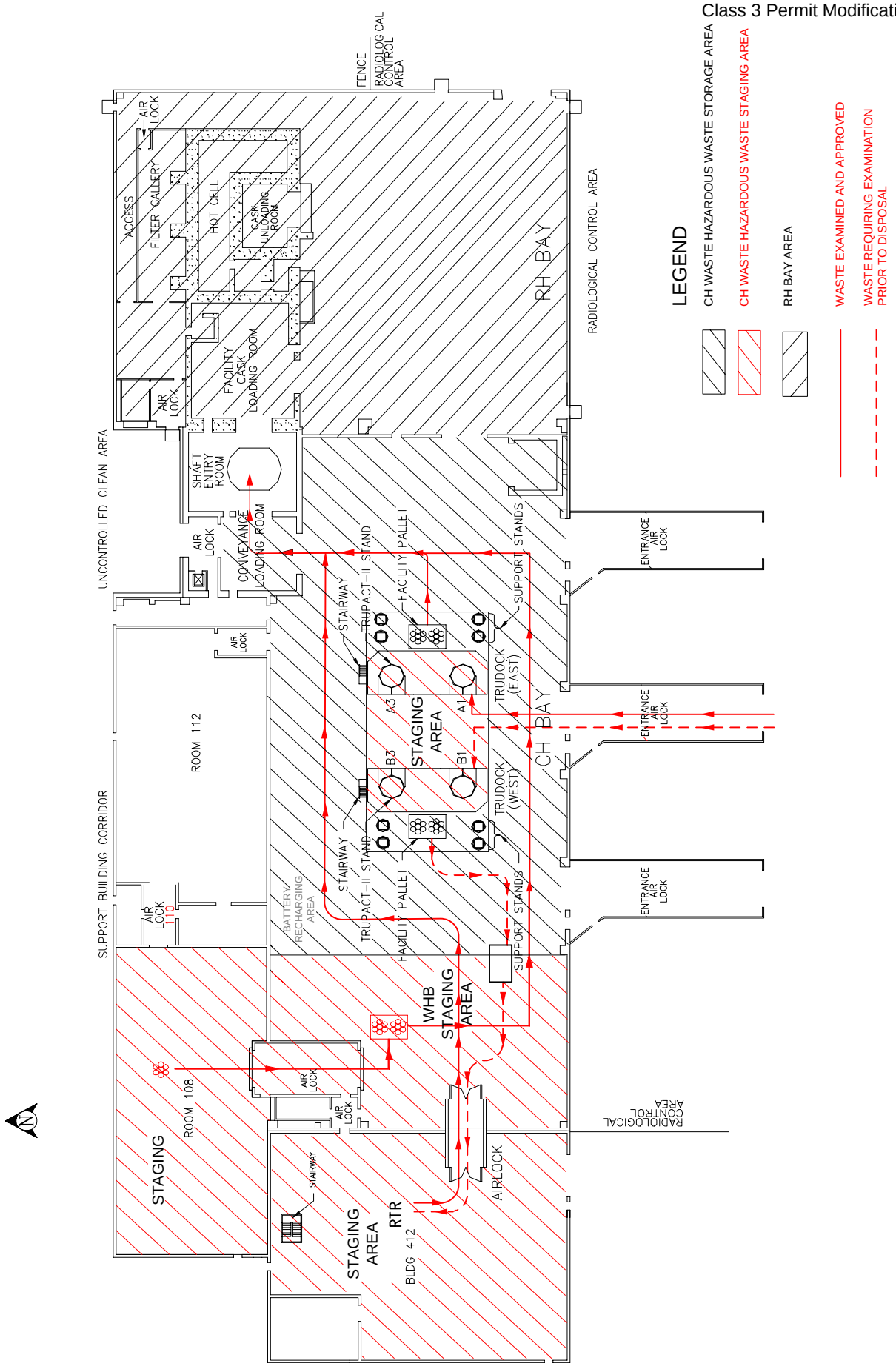

Figure G-3
Typical Waste Transport Routes in Waste Handling Building - Container Storage Unit

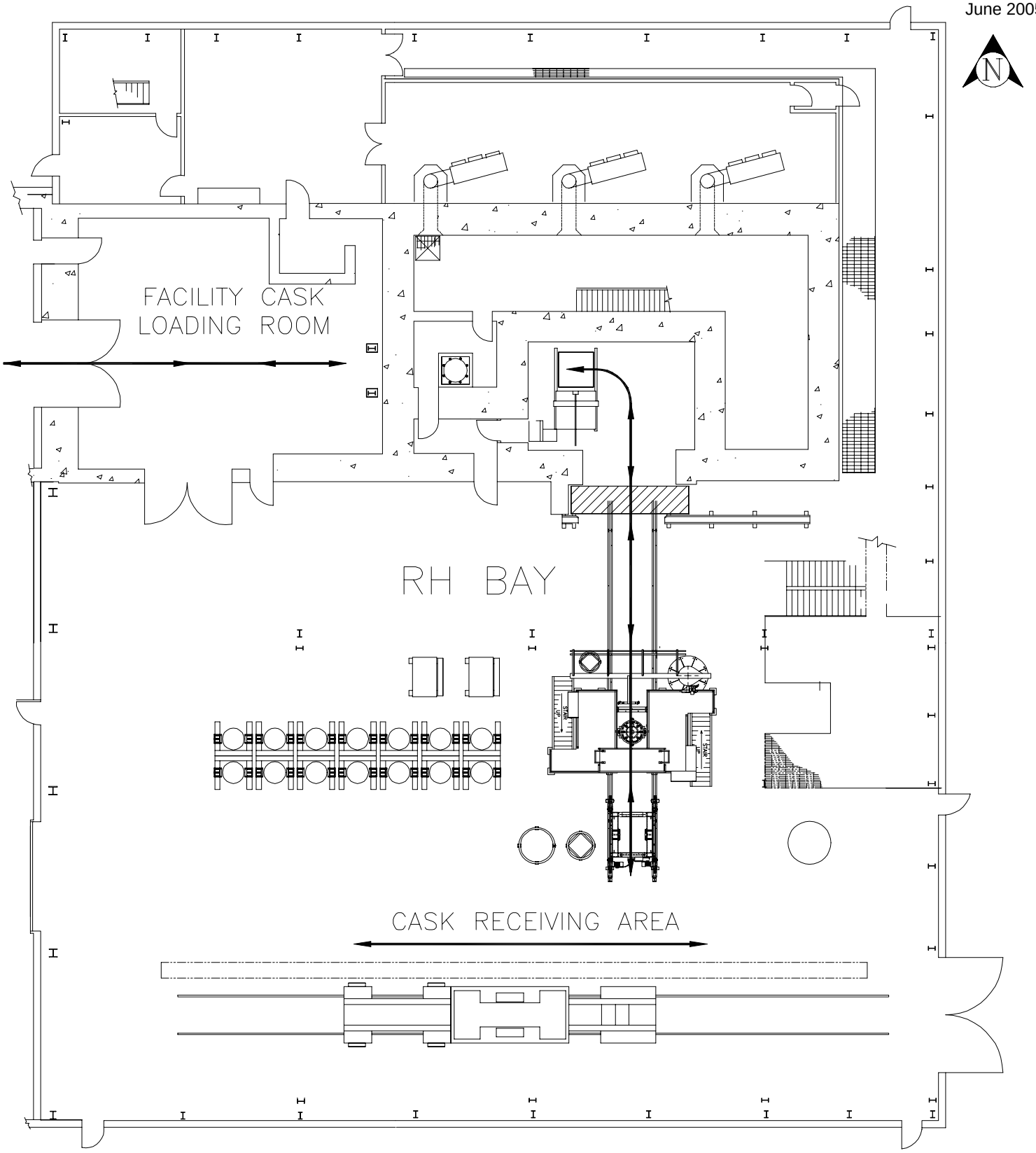

Figure G-5
RH Bay Transport Routes

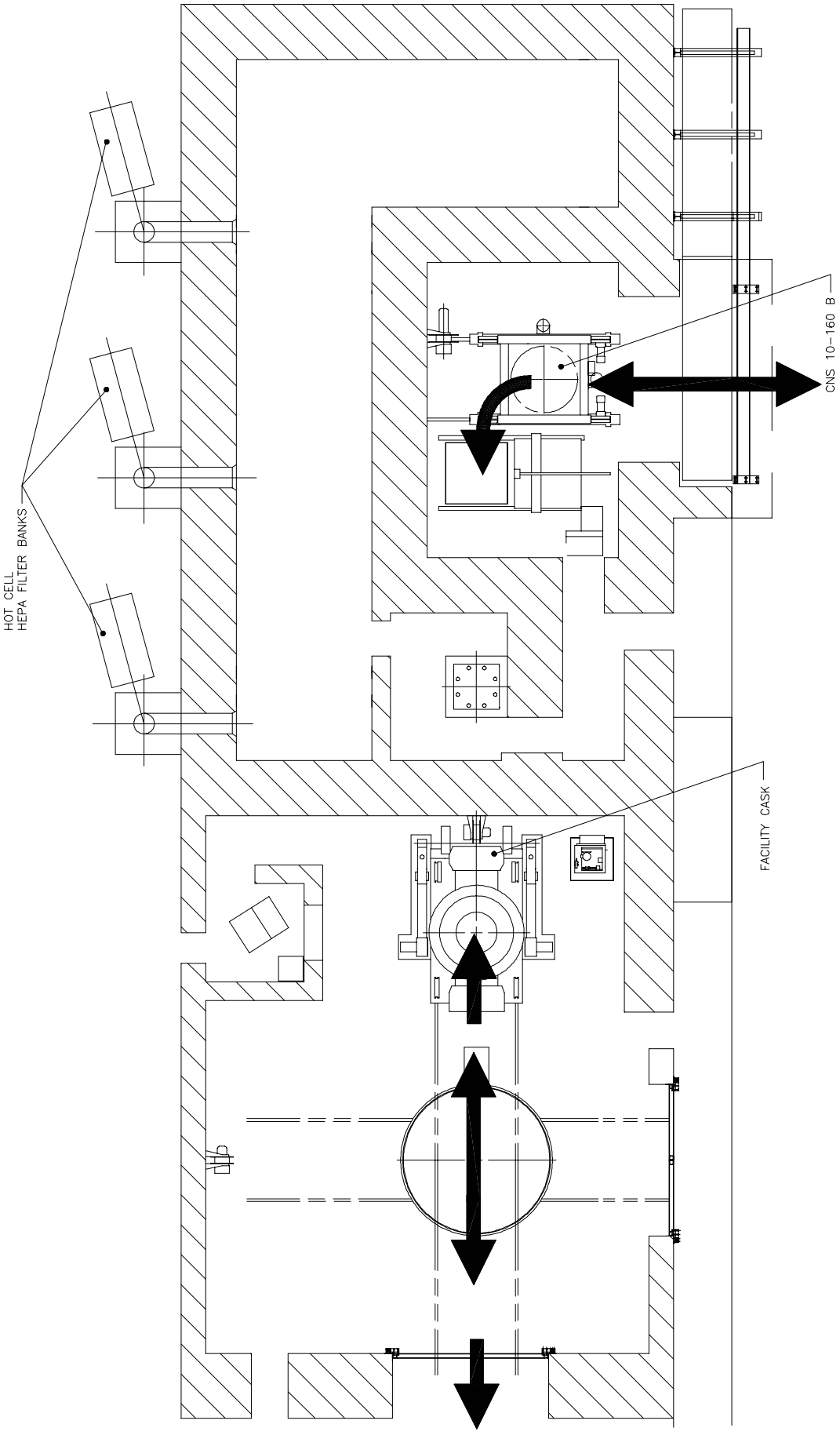

Figure G-6
RH Bay Cask Loading Room Transport Route

This Illustration for Information Purposes only.

CASK LOADING ROOM

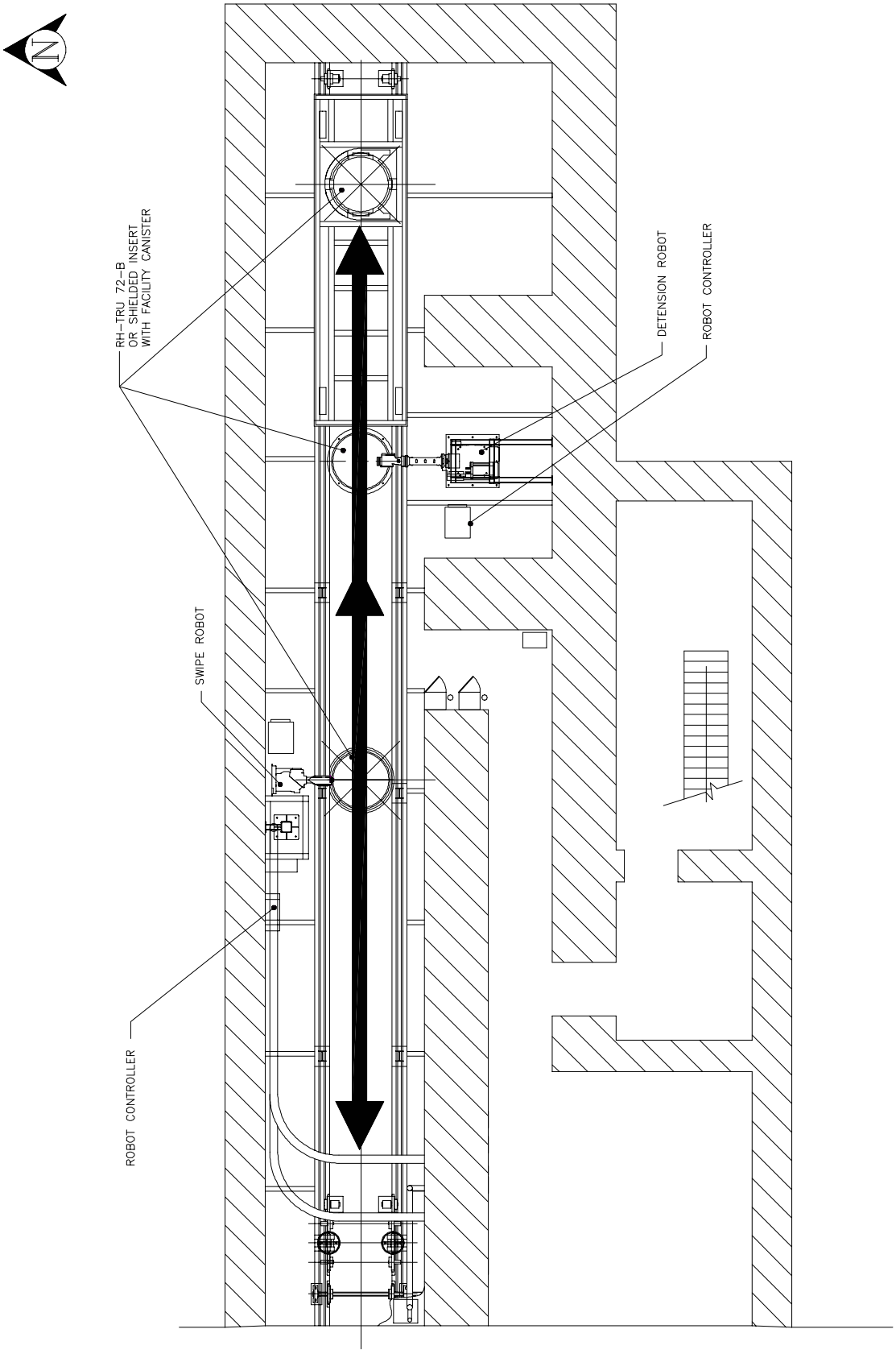

Figure G-7
RH Bay Canister Transfer Cell Waste Transport Route