

**ATTACHMENT 1**  
**GENERAL FACILITY DESCRIPTION**

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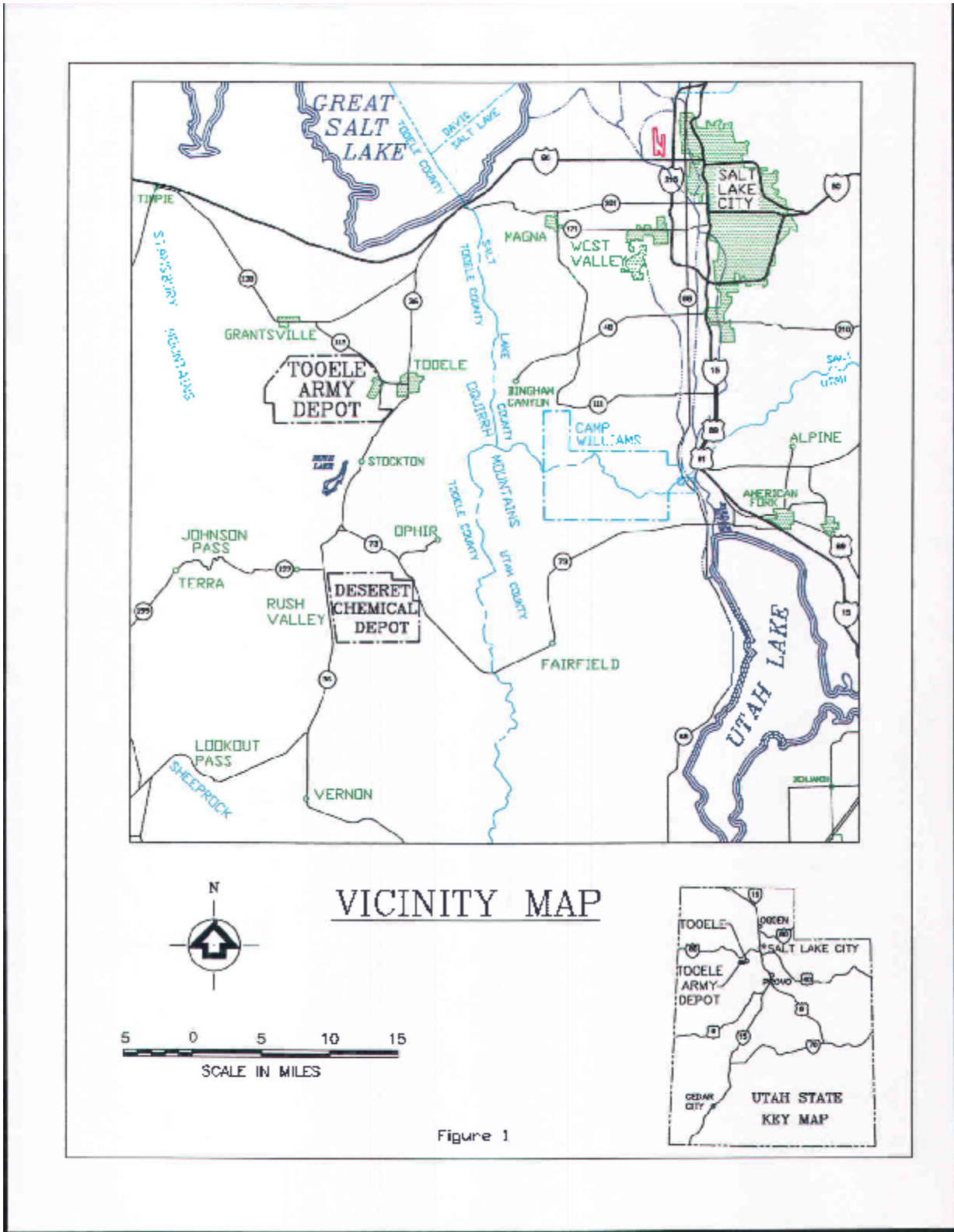
## 1.0. GENERAL FACILITY DESCRIPTION [Utah Admin. Code R315-270-14(b)(1)]

1.1. Tooele Army Depot (TEAD) consists of 24,732 acres of federal land in north-central Utah, in Tooele County. The facility is located about 40 miles southwest of Salt Lake City, approximately 3 miles southwest of the town of Tooele, Utah.

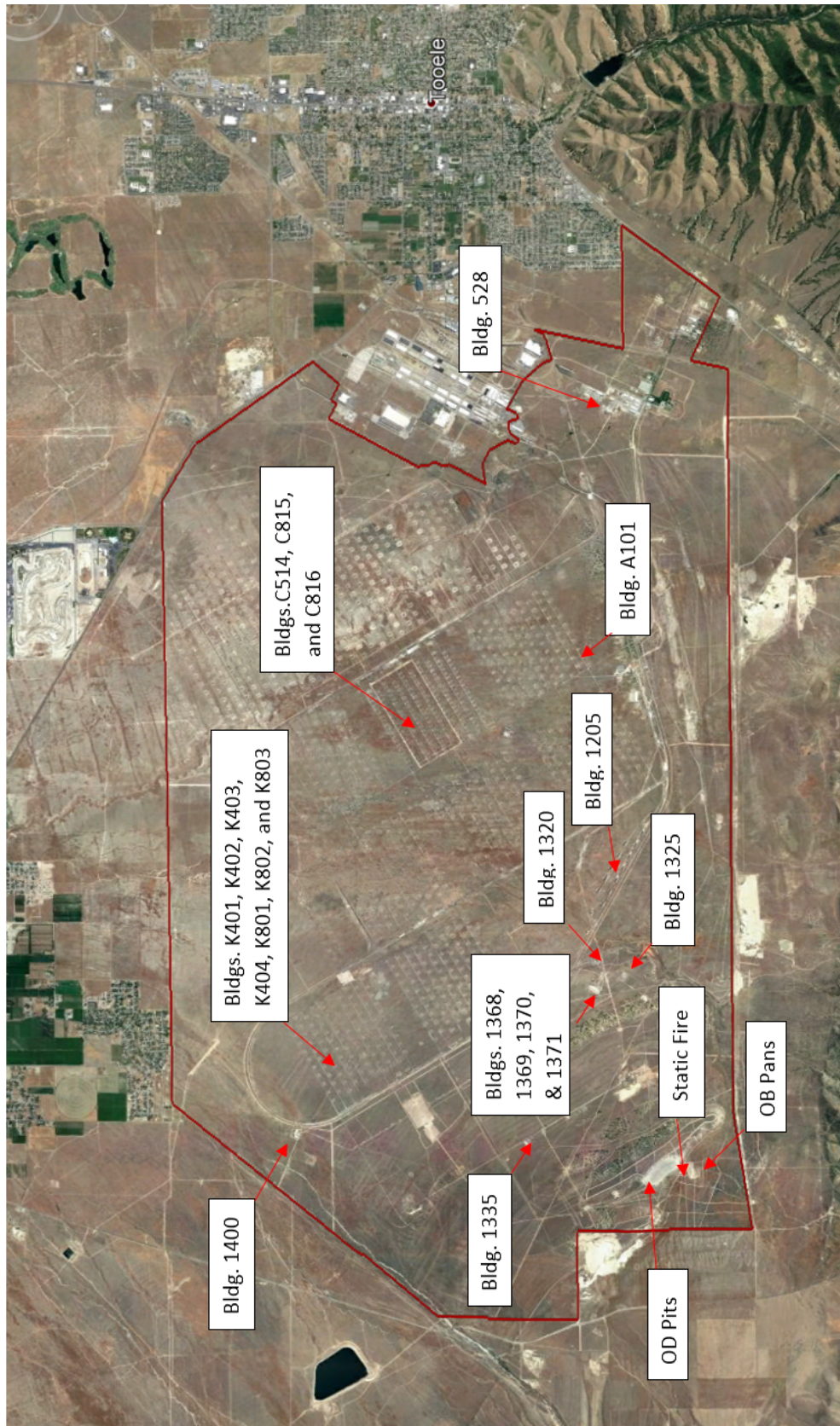
1.2. A Vicinity Map, Figure 1, and a General Site Map, Figure 2, show the location of TEAD in reference to its surrounding communities and the overall layout, roads and structures, of the Depot. With the exception of the city of Tooele, the properties immediately adjacent to TEAD are undeveloped. The properties to the north are used as pasture or are cultivated, and the properties to the west and south are used for rangeland grazing. The properties to the east of TEAD consist of the city of Tooele and undeveloped rangeland along the lower western slopes of the Oquirrh Mountains.

1.3. The principal work activities at TEAD are the shipping, receiving, and demilitarization of conventional munitions, and the testing and development of ammunition peculiar equipment and related demilitarization testing. This Permit contains the operating requirements for permitting seven Hazardous Waste (HW) storage facilities, a deactivation furnace (HW incineration), a small caliber munitions primer initiation unit, a hydrolysis unit and Open Burn/Open Detonation (OB/OD) Units. General information about these hazardous waste management units (HWMUs) is given below:

HWMU	TYPES OF WASTES STORED/TREATED
Permitted HW Storage (Bldg. 528)	Waste industrial chemicals: solvents, fuels, paint residues, Petroleum Oil and Lubricant (POL), corrosives, paint removers, metal processing compounds.
PEP HW Storage (Bldgs. A101, C514, C815, C816, K401, K402, K403, K404, K801, K802, K803, 1205, 1320, 1368, 1369, 1370, 1371)	Waste propellants, explosives, and pyrotechnic (PEP) materials, munitions, munition components, residues.
HW Incineration (Deactivation Furnace Bldg. 1320)	Thermal treatment of waste munitions, munitions components, and PEP materials.
Primer Initiation (Disassembly Line Bldgs. 1325 and 1335)	Initiation of primers from small caliber munitions.
Hydrolysis (Bldg. 1400)	Items are hydrolyzed in a hot caustic bath to dissolve and inert the energetic material.
Open Burning/Open Detonation Units	Demilitarization activities including munitions detonation in pits, munitions burning in static silos and propellant burning in pans.



**Figure 1**  
Vicinity Map



**Figure 2**  
General Site Map

## **2.0. BACKGROUND INFORMATION**

2.1. TEAD's current missions include ammunition renovation, storage, demilitarization, and the design, fabrication, and testing of ammunition equipment.

2.2. The realignment of TEAD's mission to rebuild and refurbish of military equipment, by the Base Realignment and Closure (BRAC) commission, has greatly reduced the generation of hazardous paint wastes, spent solvents, and acids and bases. The generated wastes are managed and stored pending removal and transportation to a permitted hazardous waste (HW) disposal facility by a contracted permitted HW transporter.

2.3. Small arms munitions from onsite inventories that are deemed obsolete or off-specification by Department of Army (DA) standards are incinerated in the Deactivation Furnace, also known as the APE 1236 furnace. Recoverable scrap metal from incineration of these munitions is recycled through the Qualified Recycling Program (QRP). The ash from this operation is tested by TCLP analysis and is managed appropriately. Metal parts are determined to be free of explosive contamination by Ammunition Surveillance personnel at TEAD and are reprocessed if necessary until free of explosive contamination.

2.4. The Small Caliber Disassembly Lines separate the projectiles from the cartridge cases, which allows for the propellant to be recovered for reuse. The projectile is containerized and sent to the Deactivation Furnace for treatment, or packaged for reuse. The primer in the cartridge case is initiated in a cubicle on the end of the disassembly line.

2.5. The Hydrolysis System, in Building 1400, treats energetic material containing items such as Cartridge Activated Devices (CADs), Propellant Activated Devices (PADs), or other munitions for which the energetic material may be accessed readily by a caustic solution. The energetic items are hydrolyzed in a hot caustic bath to dissolve and inert the energetic material. The process provides indiscriminate de-activation of the energetic constituents.

2.6. The OB/OD Area is located in the southwestern corner of TEAD and consists of a detonation unit, a static fire unit and a burn pan unit. The OB/OD Units have been used since the 1940s for demilitarization activities including munitions detonation in pits and propellant burning in pans. Past activities included burning munitions and other items in open trenches. Trenches were backfilled when they became full. Burning is no longer conducted in open trenches. There are currently 19 detonation pits, 14 burn pans and six static silos at the OB/OD Area.

## **3.0. CORRECTIVE ACTIONS**

3.1. TEAD is on the CERCLA National Priorities List and entered into a Federal Facilities Agreement (FFA) with EPA Region VIII and the Utah Department of Environmental Quality (UDEQ) in September 1991. Seventeen of the 58 known and potential waste sites at TEAD were designated as CERCLA sites in this agreement.

3.2. In January 1991, TEAD was issued a RCRA Post Closure and Corrective Action Permit. This permit basically serves the same purpose as the FFA. The Corrective Action portion of the

Permit addresses 9 known release Solid Waste Management Units (SWMUs) and 32 suspected release SWMUs. Thus, 17 of the 58 sites are being handled under CERCLA/SARA with the EPA as the lead regulatory agency and 41 are being addressed under RCRA with the state of Utah as the lead agency. The FFA has been incorporated into the *TEAD North Area Industrial Waste Lagoon Post-Closure Permit*. Further information about the SWMUs and corrective actions can be found in the latest version of the TEAD Installation Action Plan.

#### **4.0. SEISMIC STANDARD [Utah Admin. Code R315-264-18(a)]**

4.1. The HWMUs at TEAD are existing facilities and as such are exempt from the provisions of Utah Admin. Code R315-264-18(a).

#### **5.0. FLOODPLAIN STANDARD [Utah Admin. Code R315-264-18(b)]**

5.1. No Flood Insurance Administration 100-year floodplain maps of the TEAD facility exist. However, TEAD has been determined to be outside of the 100-year flood plain and not subject to flooding based on the following information extracted from the *TEAD Master Plan Report* prepared by Higginbotham and Associates, P.C., and the *Installation Assessment* prepared by the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA):

5.1.1. There is no history of flooding at TEAD during the 74 years that it has been in existence.

5.1.2. The overall drainage gradient for the entire TEAD facility is 2% or greater, and this grade continues for many miles. The topography is generally smooth and uniform, allowing no chance for ponding or pooling of floodwaters.

5.1.3. No channels exist that would concentrate flows from upgradient areas.

5.1.4. Few well-defined channels exist in the vicinity of TEAD. There are none that would carry or direct water to or through any of the HWMUs.

5.1.5. TEAD facilities are 300 feet higher in elevation than the Great Salt Lake, the ultimate drainage for the area.

5.1.6. The drainage gradient to the Great Salt Lake is smooth and uniform. The lake is approximately eight miles from TEAD.

5.1.7. There are no onsite barriers to impede runoff. No significant vegetation exists to retain runoff waters.

5.1.8. The area is arid to semiarid and receives little precipitation. The 100-year 24-hour precipitation event is less than 3.2 inches.

5.1.9. The soils of the area are generally very pervious. Thus, little runoff is expected.



5.2. A Topographic Map of the Depot covering all HWMUs, required by Utah Admin. Code R315-270-14(b)(19), is included in this Attachment as Figure 3.

## **6.0. TRAFFIC PATTERNS [Utah Admin. Code R315-270-14(b)(10)]**

6.1. The Vicinity Map in Figure 1 shows the highway network for the major highways serving the TEAD area. State Highway 36 runs from the southwest to the northeast, adjacent to the southeast corner of TEAD.

6.2. State Highway 112 runs from the northwest to the southeast, adjacent to the northeast corner of TEAD. State Highway 59 runs from the north to the south along the western boundary of TEAD.

6.3. Primary entry routes to TEAD are by way of the Main Entrance Road to State Highway 36 and the North Gate Approach Road off of State Highway 112. The Main Entrance Road serves as the major traffic corridor.

6.4. Traffic patterns related to the HWMUs are shown in Figure 4. Generally, all traffic, including government, commercial, and private vehicles, follows the primary traffic routes.

## **7.0. TRAFFIC CONTROL**

7.1. Stop signs are positioned at most intersections to control the flow of traffic in the more congested areas of the installation. Traffic lights are located at the main entrance gate. Security personnel are authorized to enforce traffic regulations and provide traffic control when required. Arterial roads are constructed within the magazine areas to service maintenance and storage facilities. These roads are of standard two-lane configuration with speed limits ranging from 10 to 50 mph, depending on congestion and road conditions such as curves, surface types, and visibility.

## **8.0. ESTIMATED TRAFFIC VOLUME**

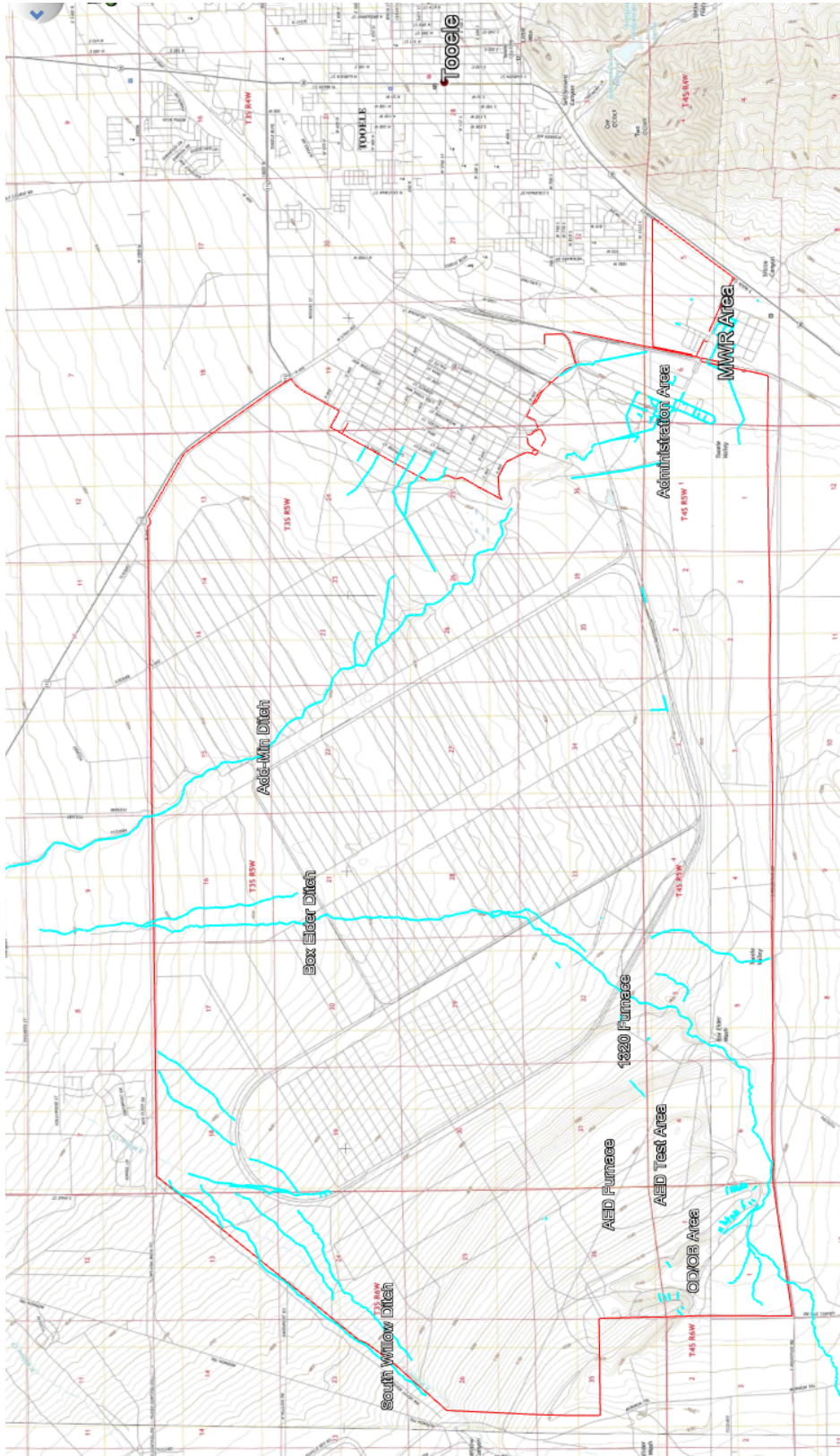
8.1. It is estimated that up to 600 vehicles belonging to employees and contractors, are driven onto the installation each workday. Most trips driven on the installation by employees are made in government vehicles. There are around 50 government (GSA) high capacity trucks and about 210 pickup trucks, vans, and sedans. These vehicles are used approximately 5 hours per day. About 60 engineering construction vehicles are also in use in varying degrees. Additionally, about 115 material handling equipment vehicles, forklifts, etc., are frequently driven on the installation's roads.

## **9.0. ROAD SURFACING AND LOAD BEARING CAPACITY**

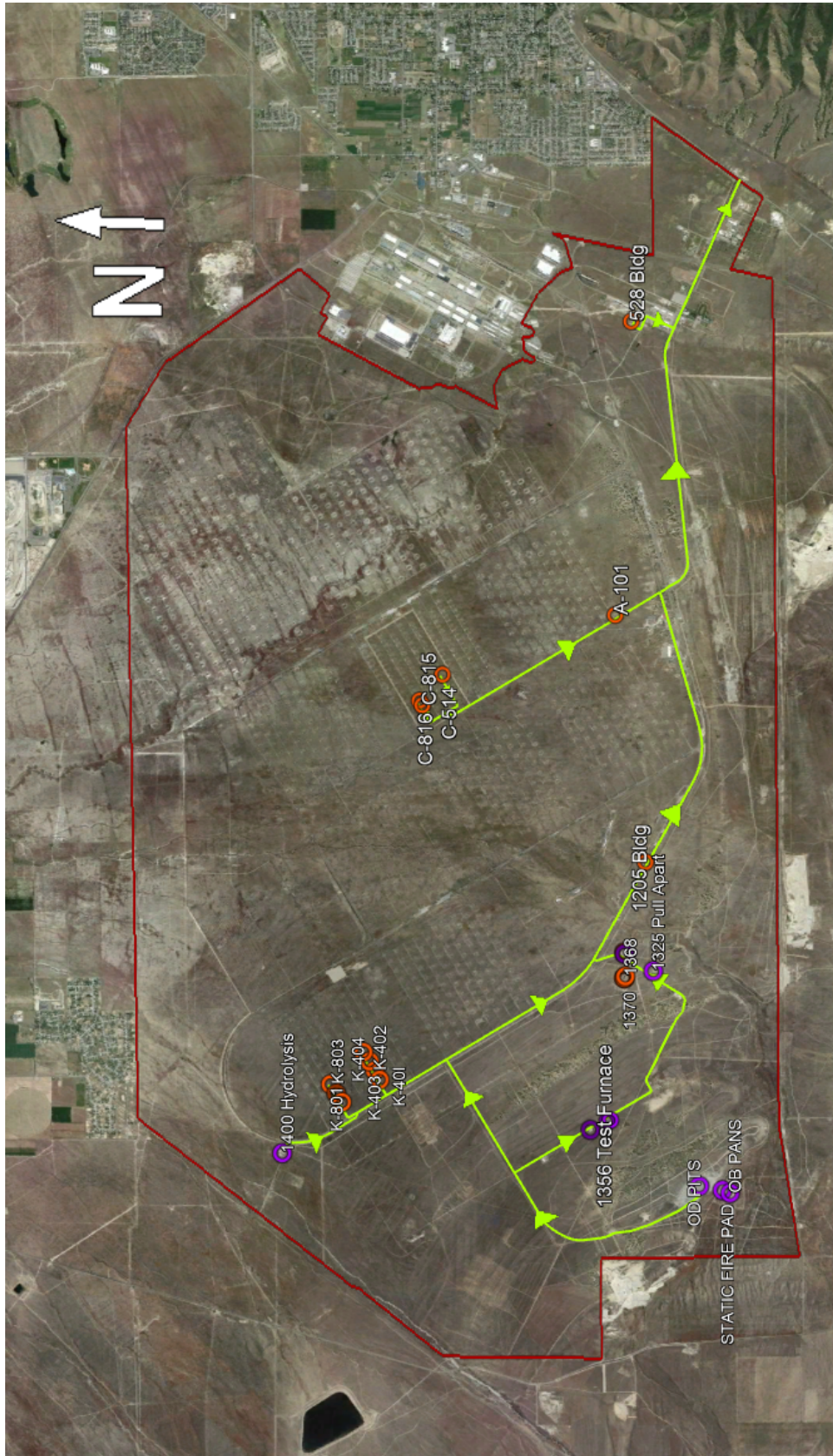
9.1. All arterial and major access roads at TEAD are designated for a minimum bearing load capacity of 18,000 pounds per axle. Construction materials for road surfaces along main access routes and arterial roads to the operations and storage are asphalt/concrete, bituminous, or gravel. Secondary road surfaces are earthen. Table 1 gives design details for TEAD roads by class.

## **10.0. TOPOGRAPHIC MAPS**

- 10.1. The map, presented in Figure 3, illustrates the general topography of each HWMU, including the OB/OD Units.



**Figure 3**  
Topographic and Storm Drainage Map



**Figure 4**  
 Hazardous Waste Management Units/Traffic Patterns

<u>Design Controls and Elements</u>	<u>Class A</u>	<u>Class B</u>	<u>Class C</u>	<u>Class D</u>	<u>Class E</u>	<u>Class F</u>
<u>Design Controls</u>						
Road Type	4 Lane	2 Lane	2 Lane	2 Lane	2 Lane	2 Lane
Daily hourly vehicles* (vehicles/hour)	920/lane	780-920/2 lanes	580-780/2 lanes	190-580/2 lanes	19-190/2 lanes	under 19/2 lanes
Design speed, MPH	60	50	50	40	40	40
Average running speed, MPH	38	36	36	32	32	32
<u>Cross-Section Elements</u>						
Minimum width of lanes, ft**	12	12	12	11	10	10
Normal cross; slope, in/ft		1/8 to 1/4		3/16 to 3/8		1/4 to 1/2
Road thickness, in***	-----4-inch base material, 6-inch surface material-----					
<u>Design Elements</u>						
Grade desirable maximum percent	3	3	3	4	5	6
Road bearing capacity, lbs	-----18,000 lbs single axle load-----					
Maximum truck curb weight, lbs	-----18,000 lbs single axle load-----					
<u>NOTES:</u>						
* These values show the mixed traffic volume which that requires the same operational area as that required by light delivery trucks and passenger cars. These DHV <sup>2</sup> s are based on indicated percentage of the daily volume and may be over-conservative in some instances because the percentages of trucks, track-laying vehicles, etc., during peak hours are considerably lower than the average percentage during all hours.						
** The traffic lane widths indicated are for use on streets where the traffic will consist principally of vehicles with maximum overall widths of 8 ft. or less.						
*** Thickness of combined base material and surface material.						
SOURCE: Department of the Army, TMS-822-6						

**Table 1  
Road Design Standards**