

ATTACHMENT 9

CONTAINERS

Table of Contents

1.0	Container Management for Building 528.....	3
2.0	Container Management for Ammunition Igloos A-101, C-514, C-815 and C-816, K-401, K-402, K-403, K-404, K-801, K-802, K-803; Service Magazines 1368, 1369, 1370, and 1371; Above Ground Magazine 1205; and Building 1320.....	8

Appendices

Appendix A Container Storage Configurations

1.0 Container Management for Building 528

1.1 Use and Management of Containers

1.1.1 Description of Containers [Utah Admin. Code R315-264-171, R315-264-172]

1.1.1.1 Hazardous wastes generated on site shall be stored and offered for transportation in containers conforming to Department of Transportation (DOT) specifications.

1.1.1.2 The applicable DOT specification code can be found on each container. Containers used to store and transport hazardous waste shall be either new, or recycled (that is the empty shipping container is saved and used to store and transport the material after use, e.g. trichloroethane).

1.1.1.3 The containers that are used are:

1. 55 gallon steel drums with removable heads.
2. 55 gallon steel drums without removable heads.
3. 55 gallon polyethylene drums without removable heads.
4. 85 gallon steel drums with removable heads (overpack drums).
5. 85 gallon polyethylene drums with removable heads (overpack drums).
6. 8, 15, 20 and 30 gallon polyethylene drums without removable heads.
7. 8, 15, 20 and 30 gallon steel drums with removable heads.
8. Other applicable DOT approved containers (to be determined on a case by case by the Tooele Army Depot (TEAD) Environmental Management Division (EMD)).

1.1.1.4 The selection of the appropriate container for a particular waste is based on the compatibility of the container with the waste the container will hold. As an example, wastes that are corrosive (subcategory acidic) are stored and offered for transportation in polyethylene drums. Liquid wastes are collected in drums without removable heads.

1.1.2. Container Management Practices [Utah Admin. Code R315-264-172]

1.1.2.1 Containers used to store hazardous waste shall be managed in such a way as to not cause the containers to release their contents. To insure that hazardous waste does not escape the container it is stored in, the Permittee manages containers in the following manner:

1.1.2.1.1 Drums issued to store hazardous wastes shall be new or recycled. Recycled drums must be in good condition and meet DOT standards. This insures the drums are free from severe defects (corrosion, dents and holes). Recycled drums shall only be used to contain waste that is compatible with the previous contents of the drum.

1.1.2.1.2 Drums used to store hazardous waste shall be selected based on the compatibility of the material of fabrication of the drum (or drum liner) and the physical and chemical characteristics of the wastes they are to store.

1.1.2.1.3 The lids to containers shall be kept closed and opened only when waste is added, removed or sampled.

1.1.2.1.4 Liquid wastes shall be stored in drums without removable heads. This ensures that the liquid contents will not be released if the drums are accidentally tipped over.

1.1.2.1.5 Reactive hazardous wastes (explosive subcategory) shall be stored in containers designed specifically to hold explosives and propellants.

1.1.2.1.6 Containers filled with reactive hazardous wastes (explosive subcategory) shall be stored in container storage Hazardous Waste Management Units (HWMUs) designed specifically for Propellant, Explosives and Pyrotechnic (PEP) materials (i.e. ammunition igloos and service magazines).

1.1.2.2 Movement of containers of hazardous waste shall be tracked by a unique container number that appears on the hazardous waste container label. Each container and its associated hazardous waste label shall be issued concurrently by the TEAD EMD. This enables the EMD to track the movement of containers from satellite accumulation points to 90-day storage areas, and if necessary, to permitted container storage HWMUs. This system; 1) generates operating records, 2) insures that wastes in the 90-day storage area are moved to an off-site Treatment Storage and Disposal Facility (TSDF), or to an on-site permitted container storage HWMU before 90 days have expired, and 3) insures that the container contents match the container label since the container and label are issued to a pre designated location generating a defined and named waste stream.

1.1.2.3 To facilitate ease in movement and lessen the possibility of a forklift operator accidentally piercing a container with the forklift forks, containers shall be placed on pallets (maximum, three containers per pallet) before moving. When containers are weighed, tongs are attached to the forklift to lessen the possibility of dropping or rupturing a container.

1.1.2.4 Containerized hazardous waste is transported from the generation points to the less than 90-day storage yard, or to the permitted storage facility at building 528 by a 1 ton or appropriate truck. The perimeter of the bed of the truck is slotted to allow for side boards.

1.1.2.5 Waste is loaded on to the truck by forklift, with the containers being placed on pallets before loading. The routes the truck uses to transport waste across the facility are graded/compacted dirt roads, asphalt, or concrete paved roads.

1.1.2.6 Building 528 shall be used to store containerized hazardous wastes that do and do not have free liquids. The storage arrangement to be used in building 528 is as follows:

1.1.2.6.1 All containerized hazardous waste shall be stored on pallets to elevate the containers being stored from any liquids that may accumulate on the storage area base. 55 gallon drums shall be stored no more than three to a pallet, 85 gallon drums shall be stored no more than two to a pallet. No more than 170 gallons of combined container volume shall be stored per pallet.

1.1.2.6.2 There are four containment areas or bays in Building 528. Each containment area shall have a maximum of six rows of pallets.

1.1.2.6.3 At a maximum, each row shall be configured as seven pallets per row (with the exception being that the rows against the north wall shall be configured with eight pallets per row. Bay 3 and 4 shall each have one row of eight pallets).

1.1.2.6.4 At a maximum, pallets shall be stacked two high.

1.1.2.6.5 A minimum of 2.5 feet shall be maintained between rows to allow for container inspection.

1.1.2.6.6 The container stacking arrangement used in Building 528 is shown in Appendix A.

1.1.3. Secondary Containment System Design and Operation [Utah Admin. Code R315-270-15(a)(1), R315-264-175(a), R315-264-175(d)]

1.1.3.1 The design of Building 528 allows for the secondary containment of any liquids that may leak from containers stored there, the segregation of incompatible hazardous wastes and the prevention of the accumulation of precipitation.

1.1.3.2 A drawing of the base of Building 528 and the bays that are used to segregate incompatible wastes is in Appendix A. Bay 1 shall be used to store wastes that are sludges or solids and that are hazardous wastes by Toxicity Characteristic Metals (D004 through D011). Bay 2 shall be used to store corrosive wastes (D002 alkaline). Bay 3 shall be used to store ignitable and solvent wastes (D001 and F001 through F005). Bay 4 shall be used to store corrosive (D002, acidic) wastes. Hazardous wastes with U or P codes shall be placed in the appropriate bay using the aforementioned criteria.

1.1.3.3 Any wastes placed into storage that are reactive (D003, sulfide or cyanide producing) shall be stored in Bay 2.

1.1.4. Requirement for the Base or Liner to Contain Liquids [Utah Admin. Code R315-264-175(b)(1)]

1.1.4.1 The containment system of Building 528 is comprised of a square concrete slab, 75 feet on edge. The base is steel reinforced concrete six inches thick. The base shall be maintained free of cracks or gaps. A six inch high, six inch wide berm (or curb) runs along the perimeter of the base to provide containment. The base is crowned in the center to cause any liquids that may be spilled to drain to one of the four corners.

1.1.4.2 A six inch high, six inch wide berm divides the base into four bays to allow for the storage of wastes with free liquids and the segregation of incompatible wastes. Each bay is equal in available secondary containment storage volume and storage area. Each bay is square shaped and has an available storage area of 36.75 ft x 36.75 ft = 1350 ft².

1.1.4.3 The impermeability of the concrete base is enhanced by a polyamide cured coating applied to the surface which is compatible with the types of waste that will be stored on the base.

1.1.4.4 An example of an acceptable coating is Semstone 245 High Performance Coating, or equivalent. The base of the secondary containment area shall receive at least two applications to provide a thickness of 40 mils when dry. The specifications of the example coating mentioned above, along with a compatibility table can be found in the TEAD EMD.

1.1.5. Containment System Drainage [Utah Admin. Code R315-270-15(a)(2), R315-264-175(b)(2)]

1.1.5.1 Drainage of the base of Building 528 is provided by each cell draining to the corner that is diagonal to the corner of the cell that is at the center of the base (refer to figure in Appendix A).

1.1.6. Containment System Capacity [Utah Admin. Code R315-270-15(a)(3), R315-264-175(b)(3)]

1.1.6.1 The volume of available secondary containment provided by the base of Building 528 is 5,051 gallons per bay calculated as follows: Each of the four cells comprising the base is 36.75 feet in length and 36.75 feet in width, with a 6 inch high berm. The capacity of secondary containment for a single bay is $(36.75 \times 36.75)(\text{ft})^2 \times (12)^2 \times (12)^2 (\text{in})^2 (\text{ft})^2 \times 6 (\text{in}) \times 1 (\text{gal})/231 (\text{in})^3 = 5,051$ gallons of secondary containment capacity per bay. The total available secondary containment volume is: 4 cells x 5,051 gallons/cell = 20,205 gallons.

1.1.6.2 The volume of containers stored in Bays 3 and 4 is calculated as follows: Bays 3 and 4 each have one row that has 1 more pallet per row than Bays 1 and 2. Both Bays 3 and 4 store containers stacked 2 high, therefore the maximum volume of containers stored in either Bay 3 or Bay 4 is $2 \times ((6 \text{ rows/cell} \times 7 \text{ pallets/row} \times 170 \text{ gallons/pallet}) + (1 \text{ pallet} \times 170 \text{ gallons/pallet})) = 14,620$ gallons per bay.

1.1.6.3 The volume of containers stored in Bays 1 and 2 is calculated as follows: Bays 1 and 2 store containers of hazardous waste similar to the arrangement used in Bays 3 and 4, except the maximum number of pallets for all rows is 7, stacked 2 high. Therefore, the maximum volume of containers stored in either Bay 1, or Bay 2 is $2 \times (6 \text{ rows/cell} \times 7 \text{ pallets/row} \times 170 \text{ gallons/pallet}) = 14,280$ gallons per bay.

1.1.6.4 The total volume of waste stored in Building 528 is calculated as follows: Bays 1 and 2 = 2 cells x 14,280 gallons/cell = 28,560 gallons, Bays 3 and 4 = 2 cells x 14,620 gallons/cell = 29,240 gallons, Total capacity = 57,800 gallons.

1.1.6.5 The required secondary containment storage capacity is 10% of the volume of the waste to be stored which is 5,780 gallons. The available secondary containment capacity is 20,205 gallons which is more than enough to compensate for any secondary containment volume that is unavailable because of pallets or floor ramps.

1.1.7. Control of Run-on [Utah Admin. Code R315-270-15(a)(4), R315-264-175(b)(4)]

1.1.7.1 Run-on into the containment system of Building 528 is prevented by the elevation of the secondary containment base relative to the surrounding terrain and the building shell.

1.1.7.2 The building shell of 528 completely covers the secondary containment base and is constructed of walls of metal siding and a gable roof which limit precipitation from contacting the secondary containment base.

1.1.7.3 As stated in Attachment 1 (Facility Description) there is no flood hazard within the boundaries of TEAD. In addition, the base of Building 528 is above the surrounding grade. The entrance used to move containers in and out of the building slopes up from the surrounding grade to the overhead door entrance.

1.1.7.4 Photographs of Building 528 (the building shell and the secondary containment base) can be found in Appendix B.

1.1.7.5 There is also a lined containment ditch surrounding Building 528. To allow for drainage away from the building, the side of the ditch next to the building is higher than the side which is opposite and away from the building. The liner installed beneath the base of Building 528 also runs beneath the containment ditch and extends 1 foot beyond the outer edge.

1.1.8. Removal of Liquids from Containment System [Utah Admin. Code R315-270-15(a), R315-264-175(b)(5)]

1.1.8.1 Liquid accumulating in the corners of any cell can be removed by use of an absorbent material or by means of a portable pump, depending of the size of the spill.

1.1.8.2 The collected liquid shall be analyzed unless it has been determined by generator knowledge that it is not a hazardous waste. All containers in the storage area are labeled, and an analysis exists for the stored hazardous waste, so user knowledge as to the composition of any liquid hazardous waste accumulated in the secondary containment area will be sufficient in most circumstances.

1.1.9. Special Requirements for Ignitable and Reactive Wastes [Utah Admin. Code R315-264-176]

1.1.9.1 Figure 4 in Attachment 1 (Facility Description) shows that all HWMUs used to store ignitable or reactive wastes are located at least 50 feet from the property line.

2.0 Container Management for Ammunition Igloos A101, C-514, C-815, C-816, K-401, K-402, K-403, K-404, K-801, K-802, K-803; Service Magazines 1368, 1369, 1370, and 1371, Above Ground Magazine 1205; and Building 1320 Container Storage Facilities for Reactive (explosive) Wastes Without Free Liquids

2.1 Use and Management of Containers

2.1.1. Test for Free Liquids [Utah Admin. Code R315-270-15(b)(1)]

2.1.1.1 Igloos A101, C-514, C-815, C-816, K-401, K-402, K-403, K-404, K-801, K-802, K-803; Service Magazines 1368, 1369, 1370, and 1371, Above Ground Magazine 1205; and Building 1320 will be used to store hazardous wastes. There are no provisions for secondary containment in the design of these structures, therefore these areas shall be limited to the storage of Reactive (explosive subcategory) hazardous wastes without free liquids, and debris contaminated with explosive residues without free liquids. If the need arose to store explosive, or explosive contaminated, wastes with free liquids, they can be stored on a secondary containment pallet that meets R315-264-175.

2.1.1.2 In most cases, Igloos A101, C-514, C-815, C-816, K-401, K-402, K-403, K-404, K-801, K-802, K-803; Service Magazines 1368, 1369, 1370, and 1371, Above Ground Magazine 1205; and Building 1320 will be used to store PEP materials scheduled for demilitarization (thermal treatment) at either the Subpart X (Open Burning/Open Detonation), or Subpart O (Incinerator) Hazardous Waste Management Units operated by the Permittee. These storage areas will also be used to store treatability study samples that are Reactive (explosive subcategory).

2.1.1.3 The determination as to whether or not a waste contains free liquids can be made in 2 different ways:

2.1.1.3.1 Generator Knowledge - If the waste is an off-spec ammunition or off-spec PEP material previously stored at TEAD or Tooele Army Depot South Area (TEAD-S), the Permittee will have knowledge as to the characteristics of the waste relating to the presence or absence of free liquids. PEP materials that become hazardous waste were manufactured to government standards and this information is available through ammunition specification sheets and drawings. Therefore in most circumstances, knowledge can be applied to determine if a waste has free liquids.

2.1.1.3.2 Physical Analysis - If there is doubt as to whether a waste contains free liquids the waste will be analyzed for the presence of free liquids by using the Paint Filter Liquid Test (SW-846 method 9095).

2.1.2. Description of Containers [Utah Admin. Code R315-264-171, R315-264-172]

2.1.2.1 Containers used to store Reactive (explosive subcategory) hazardous waste in Igloos A101, C-514, C-815, C-816, K-401, K-402, K-403, K-404, K-801, K-802, K-803; Service Magazines 1368, 1369, 1370, and 1371, Above Ground Magazine 1205; and Building 1320 are such that if the wastes were to be transported over public highways, no repackaging would be required. In other words, wastes are placed into storage in the same containers they are shipped in. The containers used to store hazardous wastes comply with DOT regulations for class A, B, and C explosives.

2.1.2.2 Hazardous wastes stored in Igloos A101, C-514, C-815, C-816, K-401, K-402, K-403, K-404, K-801, K-802, K-803; Service Magazines 1368, 1369, 1370, and 1371, Above Ground Magazine 1205; and Building 1320, will be generated both on and off site. Wastes generated on site come from: 1) off-spec PEP materials that were previously stored at TEAD as usable stock, or 2) wastes generated from the reconfiguration of munitions.

2.1.2.3 In the first case, the PEP materials were packaged to conform with DOT regulations for Class A, B, or C explosives at the time they were shipped to TEAD as usable product.

2.1.2.4 In the second case, the containers that shall be used to store PEP materials that are no longer useful because they were damaged during reconfiguration shall be:

1. Containers designed specifically for PEP materials.
2. 55 gallon steel drums with removable heads.
3. 85 gallon steel drums with removable heads.
4. 8 and 15 gallon steel drums with removable heads.

2.1.3. Container Management Practices [Utah Admin. Code R315-264-172]

2.1.3.1 Containers used to store hazardous waste shall be managed in such a way as not to cause the containers to release their contents. To insure that hazardous waste does not escape the container it is stored in, the Permittee manages containers in the following manner:

2.1.3.1.1 Drums issued to store hazardous wastes in shall be new or reconditioned drums. The drums used to store hazardous waste are free from severe defects (corrosion, dents, and holes) and non-compatible wastes were not stored prior to use.

2.1.3.1.2 Drums used to store hazardous waste shall be selected based on the compatibility of the material of fabrication of the drum (or drum liner) and the physical and chemical characteristics of the wastes they are to store.

2.1.3.1.3 The lids to containers shall be kept closed and opened only when waste is added, removed or sampled.

2.1.3.1.4 Reactive hazardous wastes (explosive subcategory) shall be stored in containers designed specifically to hold explosives and propellants.

2.1.3.1.5 Containers filled with reactive hazardous wastes (explosive subcategory) shall be stored in container storage Hazardous Waste Management Units (HWMUs) designed specifically to hold PEP materials (i.e. ammunition igloos and service magazines).

2.1.3.2 Movements of containers of hazardous waste shall be tracked by a unique container number that appears on the hazardous waste container label. Each container and its associated hazardous waste label shall be issued concurrently by the TEAD EMD. This enables the EMD to track the movement of containers from satellite accumulation points to 90 day storage areas, and if necessary to permitted container storage HWMUs. This system; 1) generates operating records, 2) ensures that wastes in the 90 day storage area are moved to an off-site TSDF, or to an on-site permitted container storage HWMU before 90 days have expired, and 3) ensures that the container contents match the container label since the container and label are issued to a pre-designated location generating a defined and named waste stream.

2.1.3.3 To facilitate ease in movement and lessen the possibility of a forklift operator accidentally piercing a container with the forklift forks, containers are placed on pallets. Single

containers are handled with tongs that are attached to the forklift to lessen the possibility of dropping or rupturing the container.

2.1.3.4 Containerized hazardous wastes are moved from generation points to the appropriate HWMU by truck, tractor trailer, or van. The perimeter of open trailers and truck beds are slotted to allow for the placing of side rails (i.e. side boards). The vans and trailers used to move PEP items have rollers fabricated into the floor of the cargo area. This allows for ease in loading and unloading, however during transportation pallets must be kept in place by wood blocks positioned in such a way as to prevent the rollers from moving.

2.1.3.5 The containers are loaded onto trucks by forklift by first placing the containers on pallets. All roads used by vehicles transporting hazardous waste are made of graded/compacted dirt, asphalt, or concrete.

2.1.3.6 The geometry of Igloos A101, C-514, C-815, C-816, K-401, K-402, K-403, K-404, K-801, K-802, K-803; Service Magazines 1368, 1369, 1370, and 1371, (semi-circular in cross section); Above Ground Magazine 1205, and Building 1320 allows for varying storage capacity depending on container dimensions (small containers give a tighter packing arrangement). Since different types and sizes of containers are used to store hazardous waste, and all containers of hazardous waste shall be stored on pallets, a volume per pallet basis is used to determine the storage capacity of the HWMUs. The volume for Above Ground Magazine 1205 and Building 1320 is chosen is based on a theoretical ammunition pallet of 4 feet long, by 4 feet wide, by 5 feet high, having a total volume of 80 cubic feet. The three most frequently used pallets are 40 inches long by 48 inches wide, 42 inches long by 53 inches wide; and 36 inches long by 40 inches wide. The Permittee used 4 feet wide because the ammunition containers banded to the pallet can extend over a few inches and used four feet long because the 48 and 40 inch wide pallets are the most common and the 53 inch wide pallet the least common. The volume of Igloos A-101, C-514, C-815, C-816, K-401, K-402, K-403, K-404, K-801, K-802, and K-803, and Service Magazines 1368, 1369, 1370, and 1371 is based on a theoretical ammunition pallet of 4 feet long by 4 feet wide by 3 feet high, having a total volume of 48 cubic feet.

2.1.3.7 The management practices and storage arrangement for containerized waste with or without free liquids that are stored in Igloo A-101 is as follows:

2.1.3.7.1 All containers of hazardous waste shall be stored on pallets to elevate the container above any accumulated liquids. Eighty cubic feet of combined container volume will be stored per pallet. Liquids containing explosives can be stored on a secondary containment pallet that meets R315-264-175.

2.1.3.7.3 The igloo shall have at a maximum of 158 pallets.

2.1.3.7.4 A minimum of two feet shall be maintained between rows to allow for container inspection.

2.1.3.7.5 This arrangement allows for a storage capacity of 158 pallets x 48 cubic feet /pallet = 7,584 cubic feet (or their equivalent).

2.1.3.7.6 A figure that shows the container storage arrangement used in Igloo A-101 is in Appendix A.

2.1.3.8 The management practices and storage arrangement for containerized wastes without free liquids that are stored in Igloos C-514, C-815, C-816, K-401, K-402, K-403, K-404, K-801, K-802, and K-803 are as follows:

2.1.3.8.1 All containers of hazardous waste will be stored on pallets to elevate the container above any accumulated liquids. Forty eight cubic feet of combined container volume can be stored per pallet.

2.1.3.8.2 At a maximum, 214 pallets will be stored in each igloo.

2.1.3.8.3 Rows will be spaced a minimum of two feet apart and from the walls.

2.1.3.8.4 Use of the above storage arrangement gives Igloos C-514, C-815, C-816, K-401, K-402, K-403, K-404, K-801, K-802, and K-803 a storage capacity of 214 pallets x 48 cubic feet/pallet = 10,272 cubic feet (or their equivalent).

2.1.3.8.5 A figure that shows the container storage arrangement used in Igloos C-514, C-815, C-816, K-401, K-402, K-403, K-404, K-801, K-802, and K-803 is in Appendix A.

2.1.3.9 The management practices and storage arrangements for containerized wastes without free liquids that are stored in Service Magazines 1368, 1369, 1370, and 1371 are as follows:

2.1.3.9.1 All containers of hazardous waste shall be stored on pallets to elevate the containers from any accumulated liquids. No more than 48 cubic feet of combined container volume shall be stored per pallet.

2.1.3.9.2 At a maximum, ten pallets shall be configured in a single row down the middle of each magazine with the maximum length of five pallets and a maximum height of two pallets.

2.1.3.9.3 A minimum of two feet shall be maintained clear between the rows and sidewalls to allow for container inspections.

2.1.3.9.4 Use of the above storage arrangement gives Service Magazines 1368, 1369, 1370, and 1371 a storage capacity of 10 pallets each, with 48 cubic feet per pallet, for a total of 480 cubic feet per service magazine (or their equivalent), or 1920 cubic feet for all four service magazines.

2.1.3.9.5 A figure that shows the container storage arrangement used in Service Magazine 1368, 1369, 1370, and 1371 is in Appendix A.

2.1.3.10 The management practices and storage arrangements for containerized wastes without free liquids that are stored in Above Ground Magazine 1205 are as follows:

2.1.3.10.1 All containers of hazardous waste shall be stored on pallets to elevate the containers above any accumulated liquids. No more than 80 cubic feet of combined container volume shall be stored per pallet.

2.1.3.10.2 At maximum, 900 pallets shall be stored.

2.1.3.10.3 Rows spaced a minimum of two feet apart and from the walls shall be stored in Above Ground Magazine 1205.

2.1.3.10.4 Use of the above storage arrangement gives Above Ground Storage Magazine 1205 a storage capacity of 900 pallets x 80 cubic feet/pallet = 72,000 cubic feet (or their equivalent).

2.1.3.10.5 A figure that shows the container storage arrangement used in Above Ground Storage Magazine 1205 is in Appendix A.

2.1.3.11 The management practices and storage arrangements for containerized wastes without free liquids that are stored in Building 1320 are as follows:

2.1.3.11.1 All containers of hazardous waste shall be stored on pallets to elevate the containers above any accumulated liquids. No more than 80 cubic feet of combined container volume shall be stored per pallet.

2.1.3.11.2 At maximum, only 9 pallets may be stored, with a total of 8 pallets between the two roll-off doors, and one pallet will be stored next to the feeding area.

2.1.3.11.3 A maximum of 9 pallets shall be stored in the building with a minimum of two feet apart from walls or walking obstruction.

2.1.3.11.4 Use of the above storage arrangement gives building 1320 a storage capacity of: (8 pallets + 1 pallet) x 80 cubic feet/pallet = 720 cubic feet (or their equivalent).

2.1.3.11.5 A figure that shows the container storage arrangement used in Building 1320 is in Appendix A.

2.2. Container Storage Area Drainage [Utah Admin. Code R315-270-15(b)(2), R315-264-175(c)]

2.2.1 Drainage for the storage area in Igloos A-101, C-514, C-815, C-816, K-401, K-402, K-403, K-404, K-801, K-802, and K-803 is provided by the crowned floor and the varying drainage gradient of the gutters which run down the length of both sides of the igloos. Igloos A-101, C-514, C-815, C-816, K-401, K-402, K-403, K-404, K-801, K-802, and K-803 are orientated relative to the drain field of the surrounding area so that the back of the igloo is at a higher elevation than the front (entrance) so that water cannot drain into the igloo.

2.2.2 An additional operational procedure which enhances the limited drainage capabilities of Igloos A-101, C-514, C-815, C-816, K-401, K-402, K-403, K-404, K-801, K-802, and K-803 is

the use of pallets to store containers. Pallets raise the container holding hazardous waste above any liquid that may be introduced into the storage area.

2.2.3 Similar methods are used to keep moisture out of Service Magazines 1368, 1369, 1370, and 1371. Pallets are used to store containers and the floor is sloped to cause the liquids to run towards the entrance. Water cannot drain into the service magazine.

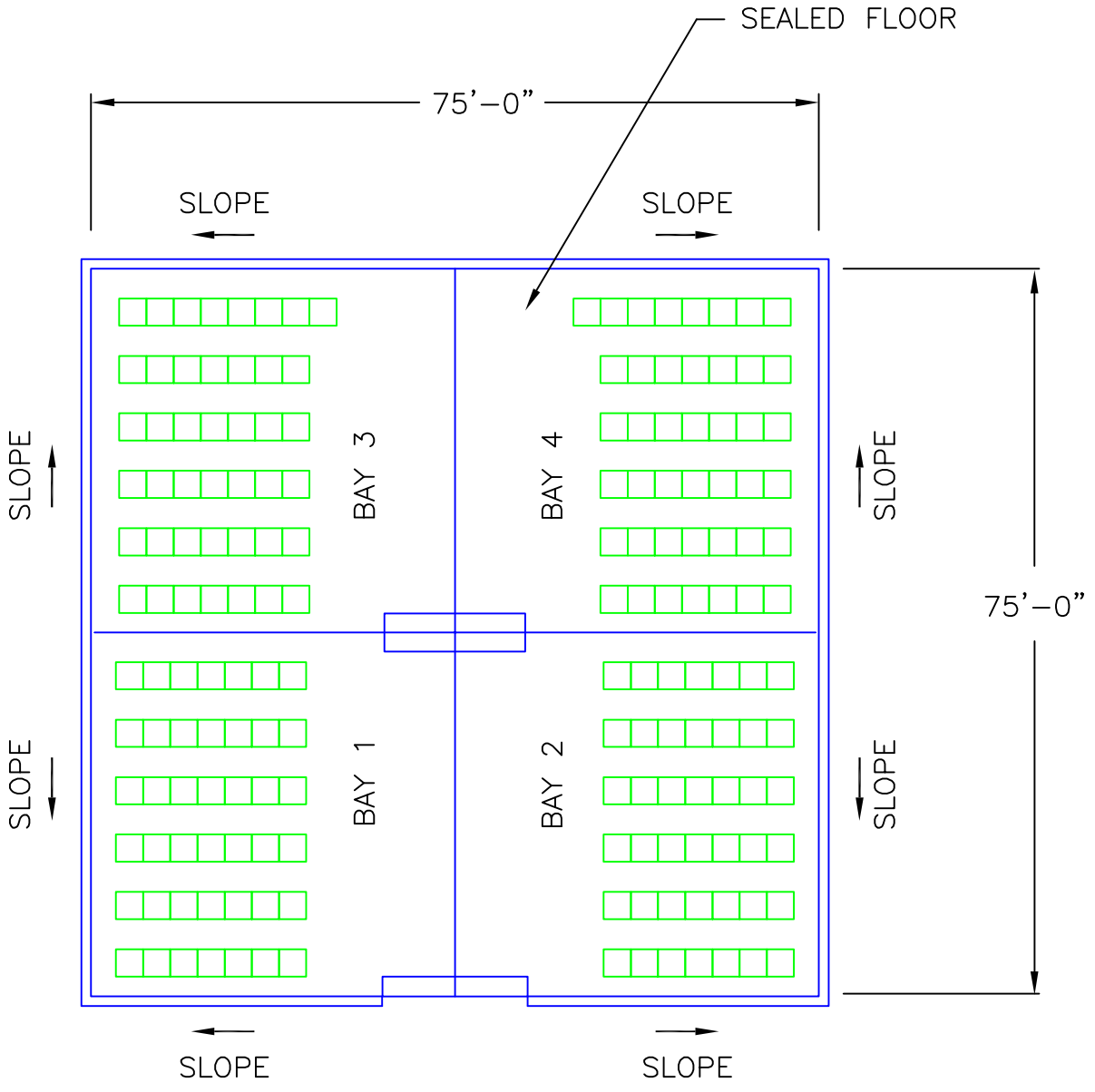
2.2.4 The Above Ground Service Magazine 1205 is elevated off the ground and water cannot drain into the structure. In addition, the containers are on pallets that elevate them off the floor.

2.2.5 Building 1320 is an enclosed structure where pallets are used to store containers and the floor is sloped which allows liquids to run towards the entrance. Storm water cannot drain into the building.

2.3. Special Requirements for Ignitable and Reactive Wastes [Utah Admin. Code R315-264-176]

2.3.1 Figure 4 in Attachment 1 (Facility Description) shows that all HWMUs used to store ignitable or reactive wastes are located at least 50 feet from the property line.

Appendix A
Container Storage Configurations



STACKING ARRANGEMENT:

- BAYS 1 & 2 – 6 ROWS OF 7 PALLETS, STACKED 2 HIGH (170 GL/PALLET)
- BAYS 3 & 4 – 5 ROWS OF 7 PALLETS, STACKED 2 HIGH (170 GL/PALLET)
- AND 1 6 ROW OF 8 PALLETS, STACKED 2 HIGH (170 GL/PALLET)

Bldg. 528
 Container Storage Configuration
 Figure A-1

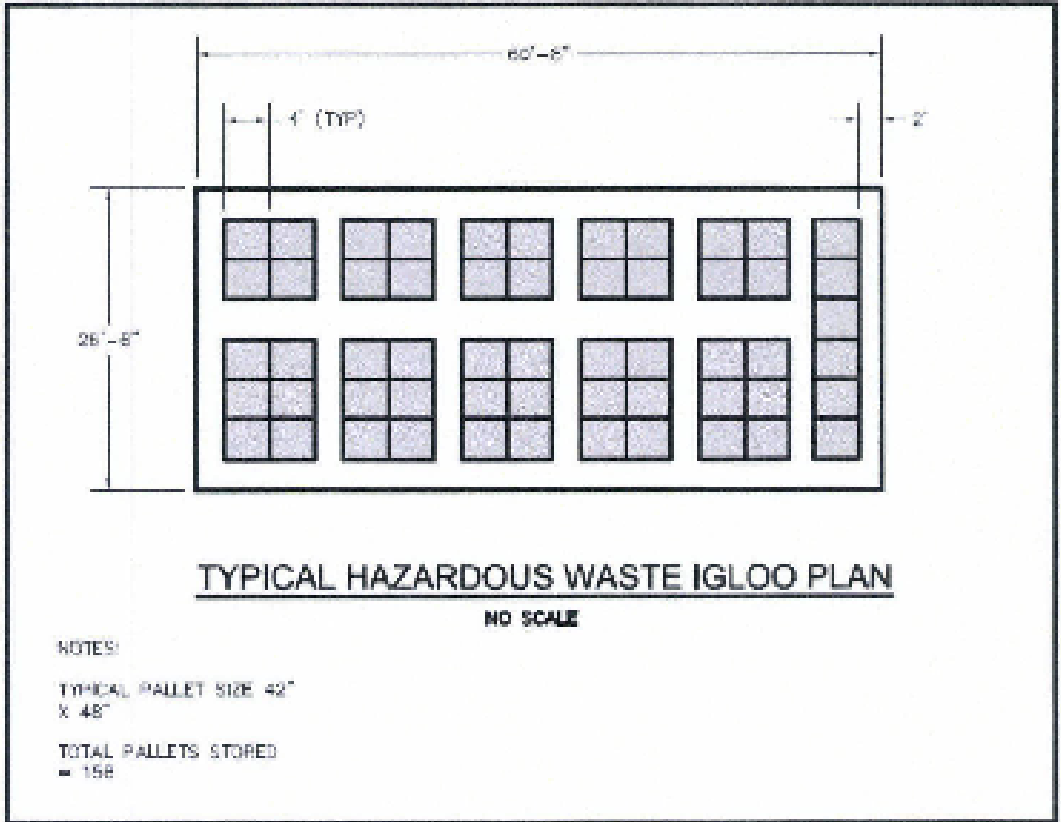
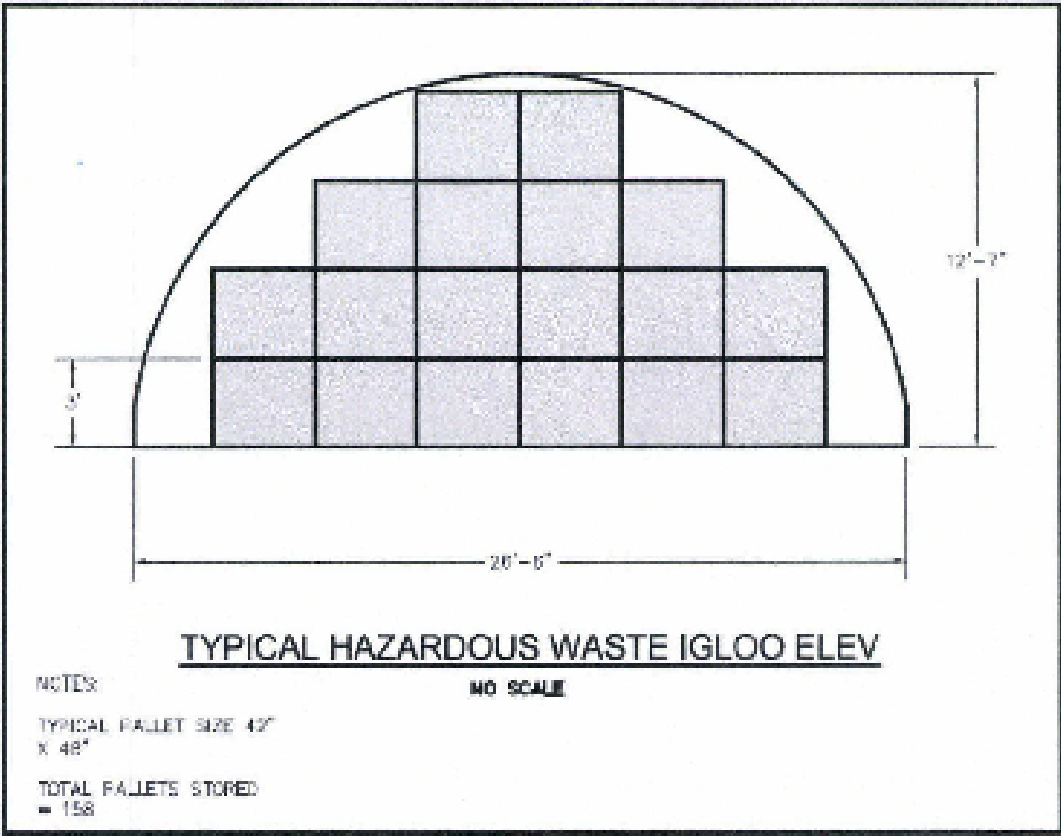


Figure A-2
 Igloo A-101
 Container Storage
 Configuration

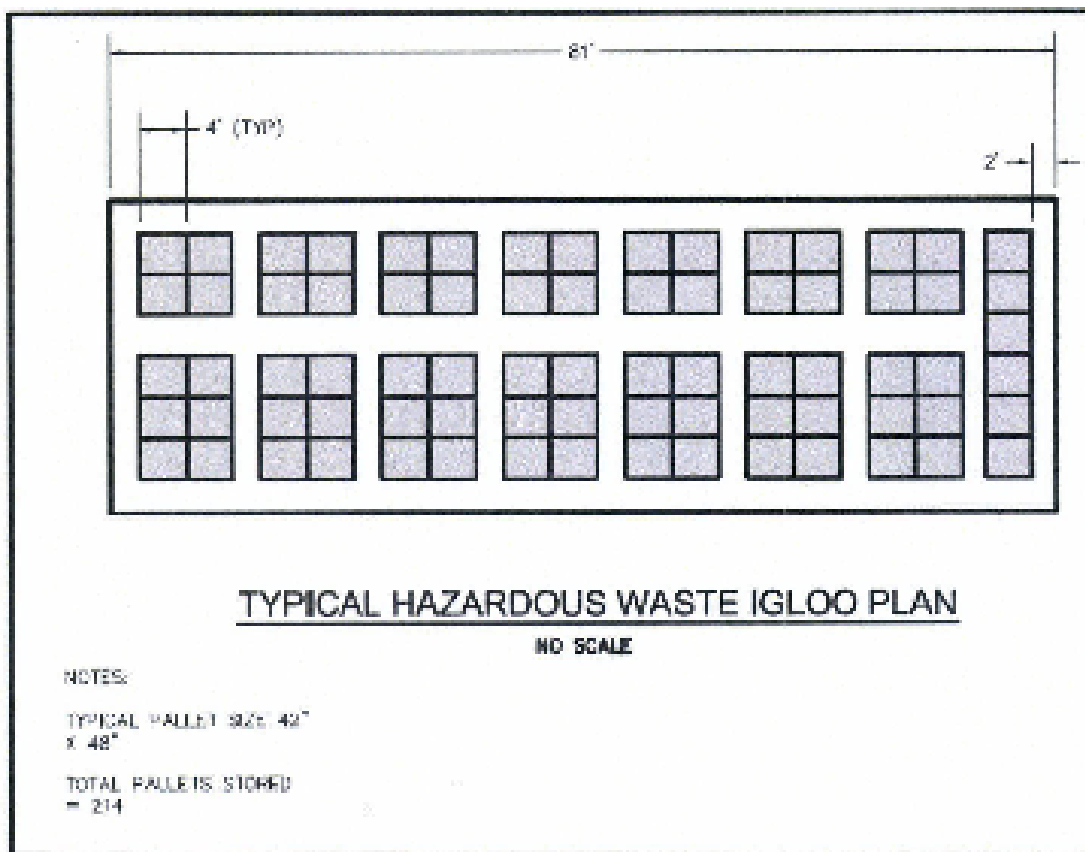
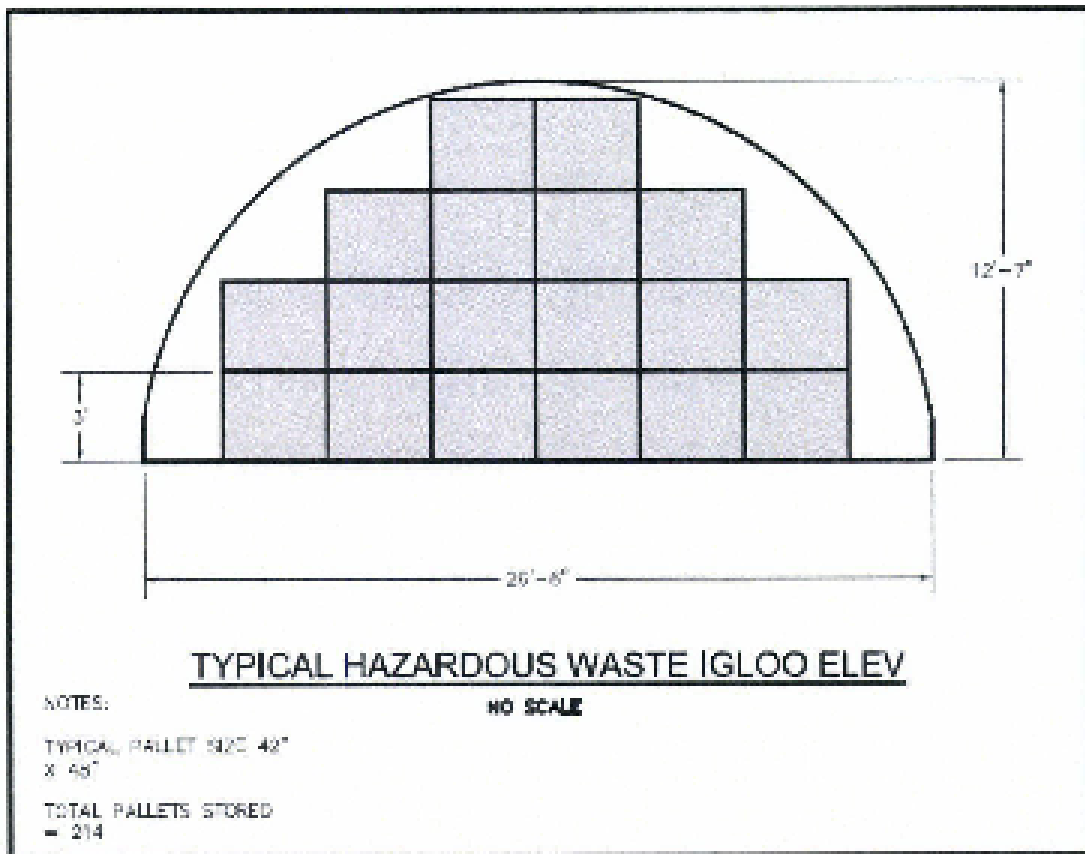
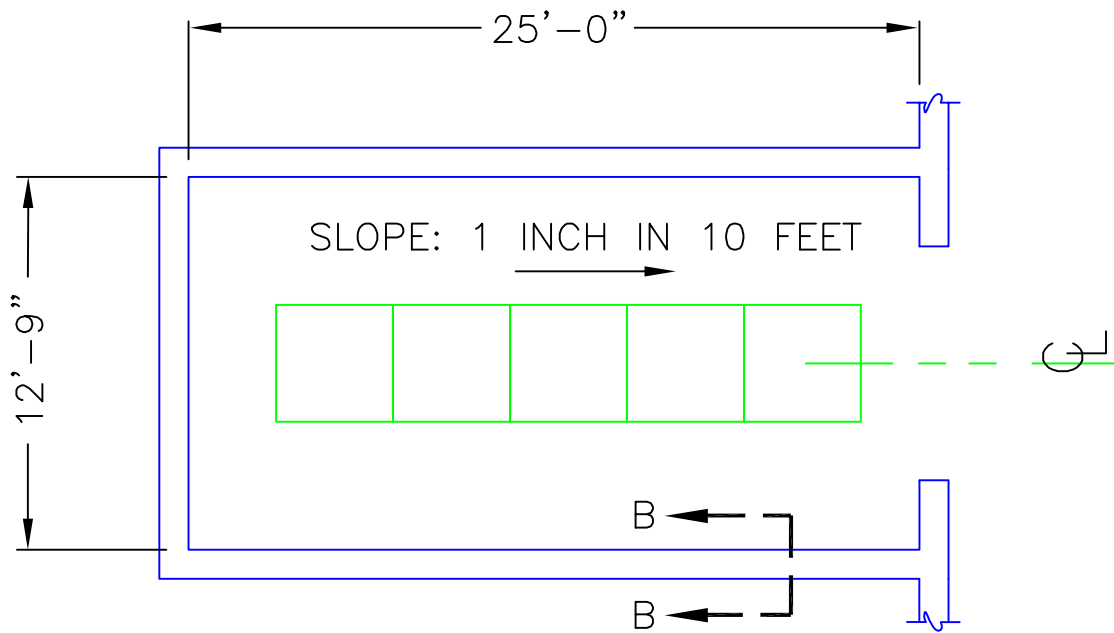
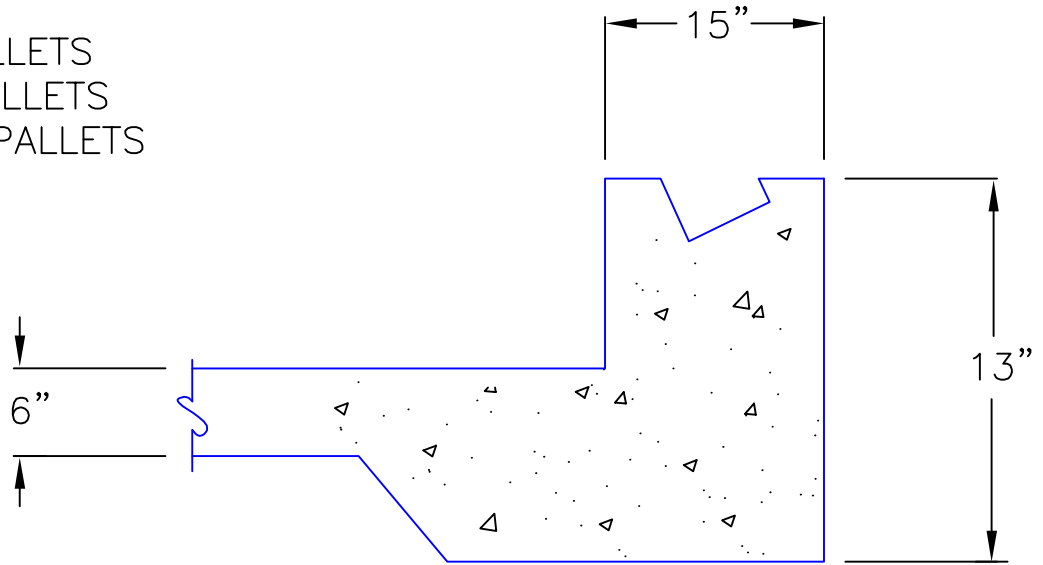


Figure A-3
 Igloos C-514, C-815, C-816, K-401, K-402,
 K-403, K-404, K-801, K-802, and K-803
 Container Storage Configuration



STACKING ARRANGEMENT:

1 ROW OF PALLETS
 STACKED 2 PALLETS
 HIGH, AND 5 PALLETS
 DEEP.



SECTION B-B

Figure A-4
 Service Magazines 1368 & 1370
 Container Storage Configuration

STACKING ARRANGEMENT:
 6 ROWS STACKED 3
 PALLETS HIGH, EACH
 ROW 50 PALLETS LONG.
 A TYPICAL PALLET IS
 4 FT. BY 4FT.

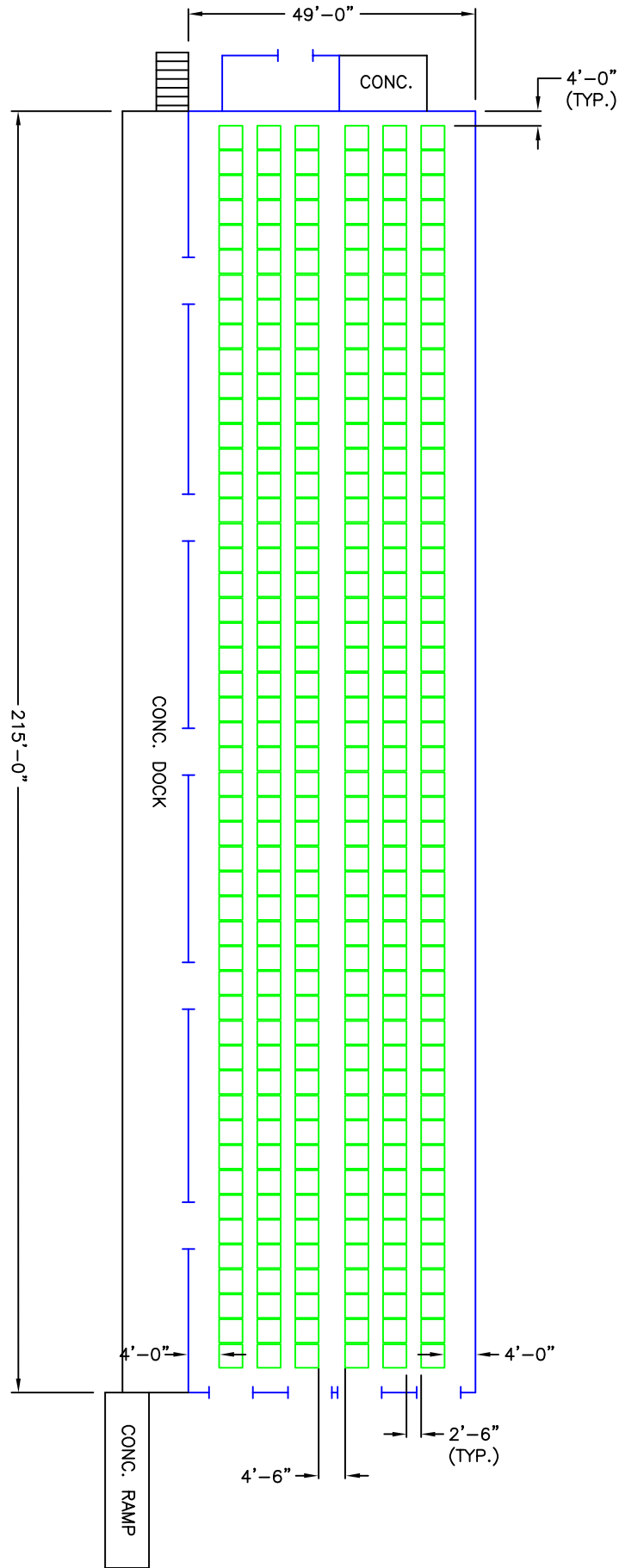


FIGURE A-5
 ABOVE GROUND SERVICE MAGAZINE 1205
 CONTAINER STORAGE CONFIGURATION

