

Did You Know – DSA May Soon Require Structural, Fire-Life Safety and Access Approval of Cargo Boxes?

DSA is proposing “Cargo Boxes,” “Sea Vans” or “Shipping Containers” be reviewed for ADA accessible paths of travel, Fire-Life Safety and Structural Safety. We have been in contact with Dennis Bellet, Principal Structural Engineer at DSA and learned DSA is seeking input from some practioners in the field.

This action, if implemented, could seriously threaten school districts throughout the State and potentially cost thousands to obtain approvals in addition to fees for DSA reviews. School District Governing Board members could be at risk, by default, for containers currently on sites not having these approvals.

You may wish to contact Dennis at Dennis.Bellet@dgs.ca.gov today to offer your input and comments.

CARGO CONTAINERS USED AS STORAGE

IR A-27

References:

- 2001, 2007 California Administrative Code (CAC), Title 24, Part 1, Sections 4-317 and 4-310
- 2001, 2007 California Building Code (CBC), Title 24, Part 2, Sections 1125B and 1133B

Issued 03-10-10

Discipline: Structural, Fire-Life Safety, and Access

This Interpretation of Regulations (IR) is intended for use by the Division of the State Architect (DSA) staff, and as a resource for design professionals, to promote more uniform statewide criteria for plan review and construction inspection of projects within the jurisdiction of DSA which includes State of California public elementary and secondary schools (grade K-12, community colleges and state-owned or state-leased essential services buildings. This IR indicates an acceptable method for achieving compliance with applicable codes and regulations, although other methods proposed by design professionals may be considered by DSA.

This IR is reviewed on a regular basis and is subject to revision at any time. Please check the DSA web site for currently effective IRs. Only IRs listed in the document at <http://www.dsa.dgs.ca.gov/Pubs/default.htm> (click on "DSA Interpretation of Regulations Manual") at the time of plan submittal to DSA are considered applicable.

Purpose: The purpose of this Interpretation of Regulations (IR) is to clarify the DSA acceptance requirements for cargo containers used as storage facilities.

Background: Many California school districts use cargo containers (also known as "cargo boxes," "sea vans," or "shipping containers") on school campuses to store materials and emergency supplies.

A cargo container is an industrial, standardized, reusable vessel that was originally, specifically or formally designed for use in the packing, shipping or transportation of goods or commodities, and designed to be mounted on rail car, truck or ship.

Cargo containers are considered by DSA to be structures. They are constructed of corrugated metal of various gages. Some have wooded floors and some are completely metal. Numerous fires have occurred at various sites throughout the state that have involved these types of structures. Some have been the source of the fire, others have contributed to the intensity of the fire. Placement of container(s) too close to buildings has resulted in fire spreading to the building.

Policy: Cargo containers used as storage units, and not stacked upon each other, may be accepted for installation on school campuses under DSA jurisdiction in either of two ways:

- Submit a School Board Resolution in accordance with Title 24, Part 1, Section 4-310, and Section 1 of this IR or
- Complete the DSA review process in accordance with Section 2 of this IR.

1. School Board Resolution: In accordance with Title 24, Part 1, Section 4-310, containers used as storage units may be constructed, purchased, or rented and installed by the school board on its own responsibility without first submitting plans and specifications to DSA.

To qualify for installation by resolution, the school board must comply with all the following requirements:

- 1.1** Pass a resolution stating that the cargo container shall not be used for school purposes. The resolution shall also state that no pupils or teachers will be permitted to use or enter the container or structure for any purpose, nor shall they be subject

to a hazard resulting from its collapse. A copy of the resolution shall be submitted to DSA.

- 1.2 Post signage on the door of the container pursuant to Sections 17368 and 81160 of the Education Code.
- 1.3 Fence off the area with a minimum 10 foot clearance between the container and the fence.
- 1.4 Submit fully dimensioned site plans to DSA for Access Compliance and Fire-Life Safety review, per Sections 2.1 and 2.2 below.

2. DSA Review Process: DSA will review plans and specifications for Access Compliance (AC), Fire-Life Safety (FLS), and Structural Safety (SS) code provisions.

2.1 Access Compliance (AC) Requirements: Provide fully dimensioned site plans showing the accessible paths of travel to the container. DSA-AC will check the accessible path of travel for compliance with the 2007 CBC Sections 1125B and 1133B.

2.2 Fire-Life Safety (FLS) Requirements: Provide site plans for DSA FLS review. Cargo containers shall meet the following FLS requirements:

2.2.1 All containers must be shown on all site plans, with or without DSA Application numbers.

2.2.2 Containers shall be placed a minimum of thirty (30) feet from any building or property line.

- Containers must not be placed in required Side Yards (2001 CBC) or Frontage Increase areas (2007 CBC) where necessary for building area increases.
- If placed closer than thirty (30) feet to a building, then the container area(s) shall be included in the overall area of the building and added to the Building Code Analysis of that building and campus as an "S-1 or S-2" occupancy. Containers shall have a Construction Type of VB and may not be "stacked" one upon the other.
- Containers closer than thirty (30) feet may be considered separate buildings if all provisions for exterior wall and opening protective measures are complied with per 2007 CBC Tables 601, 602, and 704.8, and Section 704.5.

2.2.3 Containers shall not be considered or used as "occupied" spaces. Access into the containers space shall be limited to non students for short periods of time and never for classroom instruction. Containers may not be used as "janitor closets", "maintenance offices", "workshops" or other "occupied" spaces.

2.2.4 Containers shall not be placed in required Fire Access lanes.

2.2.5 Containers shall have lockable door(s).

2.2.6 Containers shall have venting within 12 inches of the floor per 2001 California Fire Code (CFC), Section 7902.1.8.1 or 2007 CFC, Section 2704.3, based on the code in effect at the time of project submittal. Venting must also be provided at the highest point of the containers.

2.3 Structural Safety (SS) Review: The design, construction, and anchorage of containers may be subject to DSA SS review depending on the area, height, and placement of the container.

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2.3.1 Small Containers: DSA SS review of the design and construction will not be required for a small container, which is defined as single story (i.e. no stacking) containers 600 sq. ft. or less in areas.

2.3.2 Anchorage of Small Containers: Small containers, as defined in Section 2.3.1 above, must be anchored when:

- Placed on uneven or sloping ground, or
- Located at a distance of less than five feet from the top of any descending inclination having slope greater than 1:12.
- Located at a distance of less than five feet from another building.

When anchorage of small containers is required, provide foundation and anchorage details that are designed per 2001 CBC Section 1632A (or 2007 CBC Section 1613A). For small containers, DSA SS will review only the foundation and anchorage.

2.3.3 All Other Containers: The structures, constructions, and foundations of containers not meeting the definition of small containers in Section 2.3.1 above shall be designed to meet the CBC requirements for new buildings and subject to DSA SS review.

2.4 Inspection: Project inspectors shall inspect the following:

- The containers for deterioration,
- Placement of the containers,
- Anchorage or foundation (if required),
- Access compliance, per approved plans,
- Fire life and safety, per approved plans.

2.5 In-plant Inspection: If SS review is required per Section 2.3.3 of this IR, in-plant special inspection will be required in accordance with 2007 CBC Section 1704A.3.

3. Submittals and Fees: Submittals shall be made in accordance with Title 24, Part1, Section 4-315, along with the applicable fees for review.

3.1 New Installation: Fees shall be calculated on the basis of the costs of the containers, installations, and site work. When using the [fee calculator](#) on DSA website, select "School (K-12)" or "School (Community College)" for project type, and do not clear the check box for access compliance.

3.2 Relocation: When relocating a previously approved container, fees shall be based on the cost of installation and site work.

3.3 Installation by School Board Resolution: Fees will be assessed for ACS services only. When using the fee calculator on DSA website, select "Access Compliance" for project type, and do not clear the check box for access compliance.

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