

## 1.0 SCOPE

This specification document sets forth the minimum requirements for statewide contract of plastic trash bags intended for general use, as can liner inserts in waste receptacles for office/building/hospital trash, cafeteria waste, roadside and highway rest-stop trash, park debris and waste.

## 2.0 APPLICABLE SPECIFICATIONS AND STANDARDS

Specifications, standards and regulations referenced in this document in effect on the opening of the invitation for bid, form a part of this specification.

- Federal Standard L-P-378D, Plastic Sheet and Strip, Thin Gauge, Polyolefin
- NIST Handbook 130 Uniform Laws and Regulations, 2013
- ASTM-D1709 Impact Resistance of Polyethylene Film By The Free-Falling Dart Method
- ASTM D792 Standard Test Methods for Density and Specific Gravity of Plastics by Displacement
- ANSI/ASQC Z1.4, Sampling Procedures & Tables for Inspection by Attributes
- Public Resources Code Sections 42290 – 42297 and Title 14, Section 17975 – 17985 of the California Code of Regulations (collectively referred to as the “Recycled Content Plastic Trash Bag Law”)

## 3.0 CLASSIFICATION

- Type I bag shall be made from low or linear low density Polyethylene (LDPE or LLDPE) characterized with density 0.92 gram/cc per Test Method ASTM D792
- Type II bag shall be made from high density Polyethylene (HDPE) with density at least 0.94 gram/cc
- Type III bag for Department of Transportation (DOT) shall be made from polyethylene or ethylene copolymer.

## 4.0 REQUIREMENTS

### 4.1 Material

#### Post-Consumer Recycled Content

All manufacturers shall comply with “Recycled Content Plastic Trash Bag Law.” All bags shall contain a minimum 10% recycled plastic post consumer material (RPPCM) or 30% postconsumer recycled plastic by weight of the material used in all of the manufacturer’s plastic products.

### 4.2 General Requirements

All Type I and Type II bags shall be one of the three (3) kinds: two-sided gusset type, star sealed or flat sealed. The configurations are specified by capacity, size, thickness, color, line item descriptions and maximum weight rating in the tables of Attachment 2A.

Type III (DOT) bags shall meet the following criteria:

- The bags shall be opaque in 2 bright colors – either white or orange as specified by the line item description in Table III of Attachment 2A. The color shall be stable after two weeks exposure to ambient outdoor conditions
- “Don’t Trash California” bags shall be in “OSHA” or “Omaha” orange matching in any of the acceptable Pantone® Matching System (PMS) 021, 165 or RGB color codes (246, 132, 40)
- Width shall be 33” with tolerance of -0.5” to +1.0”
- Bag without handles shall have length 40” with tolerance of -0.25” to +2.0”, flat bottomed
- Bag with handles shall have length 48” with tolerance -0.25” to +2.0”, star bottomed
- Handles shall be 3” wide, 10” long with tolerance of  $\pm 0.25$ ”
- Material thickness shall be  $\geq 3.0$  mils and  $\leq 4.0$  mils with tolerance of  $\pm 0.1$  mil
- Side gusset shall be  $\leq 16.5$ ”, tolerance  $\pm 0.25$ ”
- Sealing shall be achieved of no more than eight (8) thickness for one-piece star bottomed bags.
- All sealed seams shall be as strong as the bag material passing the Load Performance tests in next section.

### 4.3 Performance

All bags shall perform as required throughout the temperature range of 0°F to 115°F (-17.8°C to 46.1°C) minimum. All Type III DOT bags shall be able to pass the Load Performance tests and Dart Impact Test.

- Load Performance Tests  
One bag shall be used for one test only, it should not be used for both tests. Any loss of contents during the two-minute suspension shall be considered a failure.

Procedures:

- (i) The bag shall be filled with the contents as indicated below.
- (ii) The opening end shall be closed and secured with a suitable holding device.
- (iii) The bag shall be lifted upwards a minimum of six feet and suspended for a minimum of two (2) minutes.

- Dry Weight Test

The dry contents for the dry weight test shall be wooden blocks or similar for bulk and lead weights for mass. Test weights shall be within  $\pm 5\%$ . The wooden blocks shall be randomly cut lengths (ranging from 4" to 12") of light framing 2"x4" utility grade or better grade lumber surfaced 4 sides. The blocks shall not be sanded smooth on any surface or edge.

- Wet Weight Test

The contents for the wet weight test shall be tap water at a temperature of 68°F  $\pm$  5°F (20°C  $\pm$  2.8°C). Test weights shall be within  $\pm 5\%$  of the measured values.

- Dart Impact Test  
There shall be no (zero) penetrations when performing dart impact testing at minimum gram dart weights with twenty (20) drops. Four (4) bags shall be tested with five (5) drops on each bag. Test apparatus setup only shall be as described in ASTM D 1709 Method A, Impact Resistance of Polyethylene Film by the Free Falling Dart Method.

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**4.4 Markings - Type III DOT bags only**

- Individual bag shall bear the logo on one side only.
- Logos shall be placed centered at locations as shown in the exhibits, with tolerance of  $\pm 0.25$ ".
- "Don't Trash California" logos shall be printed in black and white on orange bags as shown in Exhibits A and B.
- "Adopt-A-Highway" and Caltrans logos with the registered trademark ® shall be printed in Pantone® color PMS165 for orange and PMS 327 for teal on white bags as shown in Exhibits C and D.

**5.0 Drawings of Type III DOT Bags (not to scale)**

- Exhibit A – 33" x 40" opaque orange "Don't Trash California" bag without handles
- Exhibit B – 33" x 48" opaque orange "Don't Trash California" bag with handles
- Exhibit C – 33" x 40" opaque white "Adopt-A-Highway" (AAH) bag without handles
- Exhibit D – 33" x 48" opaque white "Adopt-A-Highway" (AAH) bag with handles

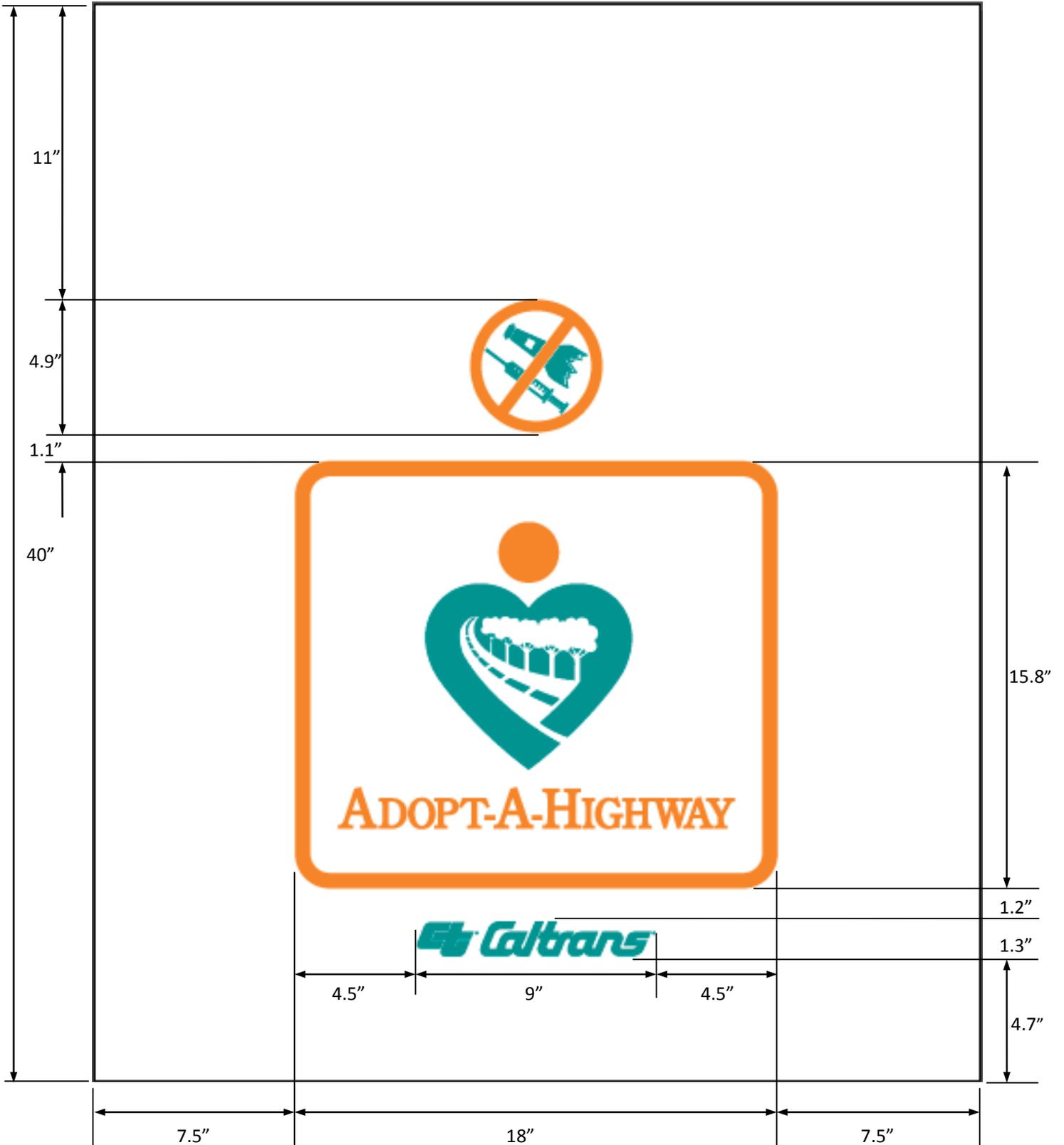
**Exhibit A: 33" x 40" Orange Don't Trash CA bag without handles**



**Exhibit B: 33" x 48" Orange Don't Trash CA bag with handles**



**Exhibit C: 33" x 40" Adopt-A-Highway (AAH) bag without handles**



**Exhibit D: 33" x 48" Adopt-A-Highway (AAH) bag with handles**

