

RESOLUTION NO. 2593

**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LEMON GROVE, CALIFORNIA,
ESTABLISHING A CONVERSION RATE TABLE FOR THE
CONSTRUCTION AND DEMOLITION (C&D) DEBRIS DEPOSIT PROGRAM**

WHEREAS, Chapter 13.32 of the Lemon Grove Municipal Code requires that construction and demolition debris be diverted from landfills; and

WHEREAS, pursuant to Chapter 13.32 of the Lemon Grove Municipal Code, each person who applies for an applicable permit for a Covered Project shall post a diversion deposit in an amount set forth in a resolution of the City Council; and

WHEREAS, Chapter 13.32 of the Lemon Grove Municipal Code requires that applicants subject to that Chapter use the standardized Conversion Rate Table approved by the City for use in estimating the weight of materials identified in the applicant's Waste Management Plan.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Lemon Grove, California does hereby approve the attached Conversion Rate Table for use by applicants subject to Chapter 13.32 of the Lemon Grove Municipal Code.

Solid Waste Cleanup Program Weights and Volumes for Project Estimates

MATERIAL	APPROXIMATE POUNDS/CUBIC YARD	REMARKS
Burn Dump Debris/Ash	800 - 1000 1500 - 1800 2300	Dry Loose Wet for Dust Suppression Wet mixed with soil
Asphalt or Concrete - Loose	2400	
Wood - Uncompacted	400	Increase up to 100% if compacted using heavy equipment
Earth	2100 3000	Loose/Dry. +30% if compacted. Excavated/Wet
Gravel or Crushed Stone Loose/Dry	2600	Increase 20% if wet
Household Trash	800	
Liquid Waste	1600	202 gal./cubic yard ~ 7 lbs./gal. e.g. Antifreeze, Waste Oil, Solvent
Metals, Un-compacted	600	e.g. Appliances, Metal Siding
Sand, Loose/Dry	2400	Increase 20% if damp and 30% if wet/compacted.
Stone, Graded 8" max. Loose	2700	e.g. Gabion Construction. +10% if consolidated in place.
Tire Burn Ash	500-800	
Tires, Auto and Pickup	220	Average 10 tires per cubic yard

Tires, OTR	See Remarks	Average 500 pounds per tire
Tires, Truck	480	Average 4 tires per cubic yard
Vehicles, Auto and Pickup	See Remarks	Use 3000 Pounds/Vehicle
Wood Chips, Shredded/Dry	300	w/30% Soil
Wood Chips/Bark	800	
Yard Waste/Vegetation Loose	600	

Determination of Weights and Volumes of Onsite Materials

Volume

Pile volume can best be estimated by determining the area of the base and then multiplying by the average height of the pile. In many cases the base of a pile will resemble a rectangle where area is length times width (L x W). In other cases the pile may more closely resemble a triangle or other polygon. Use the appropriate geometry to calculate the base area. For average height, this usually must be estimated since often it is not prudent to climb a pile to get more exact height measurements. The height may be estimated by using a known reference (e.g., fellow inspector) for reference. Cubic yards can be determined by dividing cubic feet by 27. Depending upon the accuracy of the assumed measurements, the estimated volume could be within 10 – 15% of the actual volume.

Weight

The weight (tonnage) of a pile is determined by multiplying the volume by the density. The CIWMB's Solid Waste Cleanup Program has developed approximate pounds per cubic yard (lbs/cu yd) estimates for various materials. The actual density depends on the homogeneous nature (uniformity) of the pile in both void space and material type. Unless the entire pile can be visualized, it will be difficult to determine an accurate tonnage estimate. Please note that density values in the table are rough estimates only and the actual density could be up to (or exceed) a factor of three (either larger or smaller) depending upon the actual density of the material.

Helpful formulas:

___ feet high X ___ feet wide X ___ feet long = ___ cubic feet/27 cubic feet per cubic yard = ___ cubic yards

___ cubic yards X 27 cubic feet per cubic yard = ___ cubic feet = height X width X length

Example:

The pile is 20 feet high X 40 feet wide X 253.1 feet long. This equates to about 202,479 cubic feet/27 cubic feet per cubic yard = approximately 7500 cubic yards.

___ cubic yards X ___ pounds per cubic yard (waste conversion factor) = ___ pounds/2000 pounds per ton = ___ tons

___ tons X 2000 pounds per ton/pounds per cubic yard = ___ cubic yards X 27 cubic feet per cubic yard = height X width X length

Example:

7,500 cubic yards of wood X 400 pounds per yard (unchipped wood debris) = 3,000,000 pounds/2000 pounds per ton = 1500 tons

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