

## FIELD DENSITY SAND CONE METHOD

### Equipment

Template	Sand Cone & Container
Hammer	Sand
Chisel	Proctor Mold
Spoon	Moisture Content Tin
Scales	Balance
Pan	

### In Lab

1. Weigh proctor mold
2. Fill with loose sand, strike off & weigh
3. Compute unit weight of sand
4. Place template on a newspaper on flat surface
5. Weigh sand cone & container filled with sand
6. Invert place cone in template than open valve
7. When cone is full, close valve
8. Reweigh container and record weight of sand required to fill funnel
9. Replace sand in container
10. Pre weight a drying tin

### In Field

1. Find smooth compacted soil surface
2. Place template tight against soil surface
3. Using hammer, chisel & spoon, dig hole app. 5 inches deep & size of template
4. Put all excavated soil in pre-weighed pan & weigh
5. Take representative moisture content sample & place in pre-weighted drying tin
6. Weigh sand cone container full of sand
7. Invert container & place in template
8. Open valve & fill hole and cone
9. Close valve and weigh container & remaining sand
10. Salvage as much clean sand as possible and replace in container

### In Lab

1. Weigh moisture content sample on balance
2. Place moisture content sample in oven
3. Weigh dry soil after 24 hours

### Compute

1. Wet and dry unit weight (lbs/ft<sup>3</sup>) of compacted soil in field
2. Moisture content

Assume Proctor test results of the soil are as follows:

OM=12%

MD=103.4 lbs/ft<sup>3</sup>

\*Would you pass or fail the test site? Why?

\*For the site to pass inspection, compacted soil must be at least 95% of MD and  $\pm$  10% of OM, as determined by the Proctor test results reported above.