FLORIDA DEPARTMENT OF TRANSPORTATION
State Materials Office
5007 NE 39th Avenue
Gainesville, Florida 32609

June 16, 2025

Florida Method of Test
for
Sampling Aggregates and Soils

Designation: FM 1-R090

FM 1-R090 is identical to **AASHTO R090-18** except for the following provisions:

1. Delete **Section 4.3** and replace with:

   "4.3. Sampling Tube-Plastic, aluminum or similar tube, six-feet long with a 1 1/4-inch diameter."

2. Delete **Section 5.7.1** and replace with: "Determine the sampling location (station) using Department approved random number generator to obtain a representative sample after spreading and before compacting. Obtain a minimum of three approximately equal increments along the width of the roadway (one from left, center, and right) for the representative sample."

3. Add **Section 5.7.3** "When organic content testing is required, retain a separate subsample from each increment without mixing. Combine the remaining three increments to represent one sample along the width of the roadway for the remaining tests. Ensure the organic samples (pint size) are kept separate from the mixed sample (large size) when submitting to the laboratory."

4. Change **Section 5.8** header to "Sampling from Aggregate Stockpiles"

5. Delete **Section 5.8.1** and replace with:

   "**Section 5.8.1** Sampling from Coarse and Fine Aggregate Stockpiles with a Front-End Loader

   Power equipment (generally a rubber wheeled front-end loader) shall be used to remove material from the bottom of the stockpile, at three locations across the entire cross-sectional face of the stockpile. Samples from three mini stockpiles shall be collected in the following manner each from the middle, right, and left sides of the face while staying a minimum of five feet from the edge of the face. Production shall not occur on the face during sampling. The loader shall operate in a direction perpendicular to the conveyor or to the direction in which the stockpile was created. The face shall be opened as many times as required to make material cascade from the top to bottom of the stockpile. Material removed by opening the face shall be placed away from the area to be sampled. With the bucket about 18 inches above the base of the stockpile, the loader shall be directed straight into the face and the bucket scooped upwards parallel to the slope. Care shall be taken to keep the loader wheels off the pile. After backing from the pile, the bucket shall be lowered to about 3 to 4 ft above the surface and the material allowed to slowly

roll out with a downward tilt of the bucket. The loader shall pull forward and the bucket raised enough to allow the material to always cascade out onto the crest of the mini stockpile being formed, breaking evenly to either side. When the bucket is empty, the loader shall then be driven forward past the edge of the mini stockpile, and the blade rotated down. The loader is then reversed so that the blade edge can be back dragged across the upper 1/2 to 1/3 of the mini stockpile, creating a flat surface at least 18 inches high, to expose the center of mass to be sampled. Avoid sampling within one foot of the edge of the mini stockpile. Samples are taken, by pushing a square tipped shovel inserted vertically to its full depth in at least 3 points on the flattened stockpile, along the line of the original crest. Ensure that the sample is representative of the mini stockpile and the face sampled. Collect material from the three mini stockpiles to form the composite sample."

6. Change **Section 5.8.2** header to: "Sampling Coarse and Base Aggregate from a Horizontal Surface on the Stockpile Face Using a Board and Shovel"

7. Add **Section 5.8.2.6** "This method can be used only on windrows or truck-dumped stockpiles."

8. Add **Section 5.8.2.7** "When organic content testing is required, collect three separate subsamples (pint size) without mixing from the top, middle, and bottom thirds of the stockpile. Ensure the organic samples are kept separate from the large sample when submitting to the laboratory."

9. Delete **Section 5.9** and replace with:

   Section 5.9 "Sampling from a Stockpile of Fine Aggregate Using a Sampling Tube (Alternate Method) The Mine Safety and Health Administration does not permit climbing stockpiles in mines unless the person sampling is no more than three feet above the base of the stockpile. When needed, the sample tube may be attached to a handle that allows the sampler to reach a higher location without additional climbing. This method can be used only on windrows or truck-dumped stockpiles."

   Samples shall be taken at random locations in the stockpile: three in the lower third, two in the middle, and one just below the upper third. (See **Note 3**) Overlying material on the sampling area shall be cleared. The sampling personnel shall push the tube horizontally into the face of the stockpile until the material plugs the tube. Pushing the tube its entire length with one motion shall be avoided. After the tube plugs, it shall be removed, and the tube surface wiped clean. The tube shall be emptied into a portable sample container. The tube shall be reinserted into the same hole location until resistance is encountered. The tube shall then be pushed horizontally into the face of the stockpile until the material plugs again. The procedure shall be repeated as many times as necessary until five feet of the tube has been inserted into the stockpile.

Note 3 - This method is referred to as the 3-2-1 technique. The top third of the stockpile is likely to be segregated. Thus, the last sample taken may be just below this area.