

**Robert Herz - MCDOTX**

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**From:** j.vanskike@phoenix.gov  
**Sent:** Thursday, July 28, 2005 10:45 AM  
**To:** Robert Herz - MCDOTX  
**Cc:** matthew.woodland@phoenix.gov  
**Subject:** Comments on detectable warnings specification

Bob,

I won't make the meeting Wednesday (Aug. 3rd), since I will be in Prescott for the APWA state conference, so here are some comments on the proposed detectable warnings specification.

The first paragraph states "applications dependent on an adhesive bonding agent(s) are not approved for use." Although most would agree that glue-down sheets/tiles do not work, what materials are acceptable should be up to the the individual agency--at least until we have a few decades of experience with this stuff.

I think that the feeling at the MAG meetings has been that, although it is clear that domes are required on federally-funded projects, it is not clear or definite as to what is required on work funded from other sources. Since many cities (like Phoenix) do not require detectable warnings on all work at this time, it needs to be made clear in MAG that detectable warnings are to be installed when directed by the agency. The second and third sentences in the first paragraph of 340.3.1 imply that the application is universal.

The second paragraph in 340.3.1 states "detectable warnings shall be installed perpendicular to the direction of travel." Details 231 and 232 for single ramps do not meet this requirement. Change the wording to something like "shall be installed perpendicular to the back of curb/edge of pavement."

The words "will not cause ponding water" will create expensive problems on retrofit projects. We have found that, when installing ramps in older, established neighborhoods, in very many cases, ponding water can only be eliminated by replacing an additional 50-100 feet of curb and gutter beyond the curb return. Also, since the lip at the bottom of the curb has been eliminated (per ADA) ponding is almost inevitable.

## DETECTABLE WARNINGS

### 340.2 MATERIALS add the following:

#### 340.2.1 Detectable Warnings

Detectable warnings shall consist of raised truncated domes aligned in a square grid pattern in conformity to the Americans with Disabilities Accessibility Guidelines. Truncated domes shall have the following nominal dimensions: base diameter of 0.9 inches, top diameter of 0.4 inches, height of 0.2 inches, and dome spacing center-to-center spacing of 2.35 inches, measured between the most adjacent domes on the square grid. Detectable warnings shall contrast visually with adjoining surfaces. Visual contrast shall be obtained by color, use safety yellow or other approved color. The color shall be an integral part of the material surface. The material is to be durable with a non-slip surface not subject to spalling, chipping, delamination, or separation. ~~Surface applications dependent on an adhesive bonding agent(s) are not approved for use.~~ All detectable warnings must be approved by the jurisdictional agency prior to installation.

### 340.3 CONSTRUCTION METHODS add the following:

#### 340.3.1 Detectable Warnings

Detectable warnings are to be installed at locations that represent potential hazards for pedestrians with vision impairments such locations include walkways that cross roads or railroad tracks. Detectable warnings shall be installed on walkways that adjoin or cross a roadway whenever the walking surface is not separated by curbs, railings or other approved elements. Detectable warnings shall be installed on all sidewalk ramps at street crossings. The detectable warning surface shall be located so that the edge nearest the curb line is 6 inches minimum and 8 inches maximum back from the face of curb. Detectable warning surfaces for railroads shall be located so that the edge nearest the rail crossing is 6 inches minimum and 8 inches maximum from the vehicle dynamic envelope.

Detectable warnings shall be installed perpendicular to the direction of pedestrian/wheelchair travel and have a minimum width of 24 inches measured perpendicular to the edge of the roadway or rail crossing. The base surface of detectable warnings shall be installed flush with the adjacent walkway surface, the truncated domes shall extend above the walkway surface. The boundary between detectable warnings and the adjacent walkway shall provide a flush uniform surface that will not cause ponding of water nor present a tripping hazard.

Detectable warning installed on sidewalk ramps shall modify the sidewalk concrete thickness at the detectable warning to provide a minimum thickness of four-inches (4"). When detectable warnings are modules inset into the sidewalk ramp, the bottom surface of the sidewalk shall be lowered a distance equal to or greater than the module thickness to maintain the minimum sidewalk thickness. The sidewalk bottom surface

shall have a minimum transition taper length of 12" between the thickened and normal depth sections of sidewalk.

**340.5 MEASUREMENT** add the following:

Detectable Warning shall not be measured for payment. Detectable warning is considered integral to the walking surface that it forms a part of and its cost is included in the related pay item.