

If You Can't Drain It - You Can't Maintain It!

Drainage is an important issue in roadway construction and maintenance. Specific issues related to drainage are:

- Establish or restore ditch elevation,
- Maintain inlets/outlets on storm sewers,
- Inspect culvert ends for damage/obstruction,
- Inspect channels at pipe/structure locations, and
- Basic surface drainage issues on pavement and gravel roads.

Routinely maintain ditches and culverts. Remove siltation to maintain water flow, direction of flow, and pipe capacity. A 36" culvert half-full with silt will not carry the water as designed.

Keep inlets free of vegetation and other objects. When plugged, drainage bypasses the inlet and continues downstream, the accumulation may result in flooding.

If the grade exiting the culvert is too steep, then install erosion protection to reduce water velocity.

Inspect culverts annually. Look for evidence of obstructions, damage, and scour that may cause failure. Remove obstructions, repair culverts, and in some cases, install rip-rap.

Maintain roadway ditch sections and drainage channels leading to culverts and bridges.

Ditches are a basic surface drainage component. It is important that the ditch's foreslope is adequate to get the water away from the road surface, into the ditch, and below subgrade. Shallow ditches allow water to saturate the base and subgrade, creating instability and weakness. Keep in mind that when ditches are too deep, they may become a roadside hazard.

The structural strength of a road is not in the surface, but in the sub-

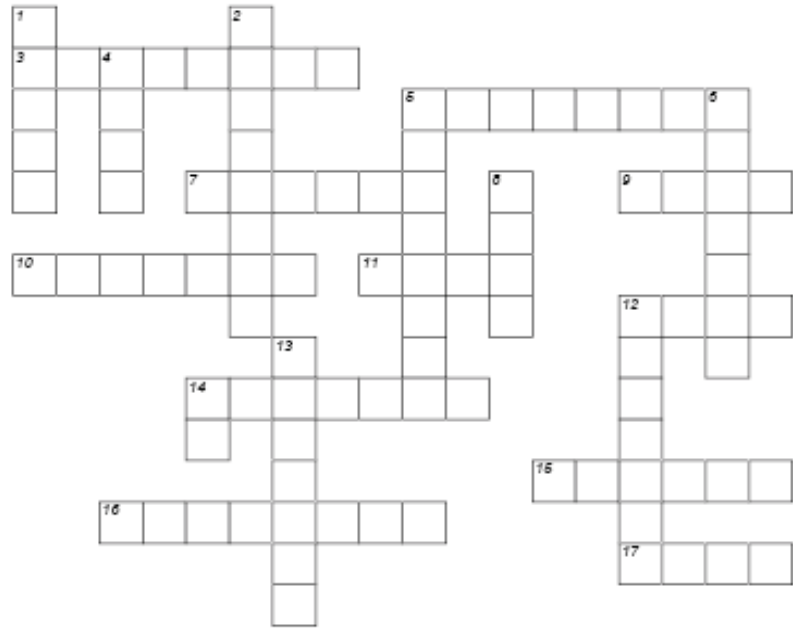
grade and base. Roads must be well-constructed and drained. Saturated roads loaded with traffic will develop surface cracks and deteriorate.

Source:

Weiss, Larry, Skorseth, Ken, The Connection, SD LTAP Volume 19, Number 3, Fall 2006

Test Your Knowledge

Items in this Spring 2007 Road Business



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Across

- 3 Retroreflective signs are used to ___ visibility.
- 5 One of the most fundamental issues in roadway maintenance.
- 7 Alternative retroreflective coating to beads.
- 9 High priority sign
- 10 Method of sign management replacment
- 11 This portion of email recipients understand the tone behind email.
- 12 An edge___ is a raised or lowered pavement edge.
- 14 ___ solving is a soft skill
- 15 Skill that cannot be taught or gained.
- 16 Location of structural road strength
- 17 ___ resistance is the amount of pavement traction.

Down

- 1 "You need to recruit and hire not only good people, but the ___ people." George Haines
- 2 Cutting 200 of these, per day, will help you lose 20 lbs per year.
- 4 A phone ___ is often more effective than an email.
- 5 Stopping sight _____.
- 6 Culvert outlets may need this protection.
- 8 ___ skills.
- 12 Light needed to see ___ every 13 years after the age of 20.
- 13 C in TCD
- 14 ___ .net is an online community for you.

Answers are on the T² website.