

# *Look Under the Pavement*



MN/DOT RETIREE

NARROWLY ESCAPES BIG HURT

AS ROAD CAVES IN

Some may call it luck, others divine intervention, but whatever you call it Mn/DOT retiree Dick Olsen, Owatonna Permits, is glad he was in the right place at the right time on Monday, March 29.

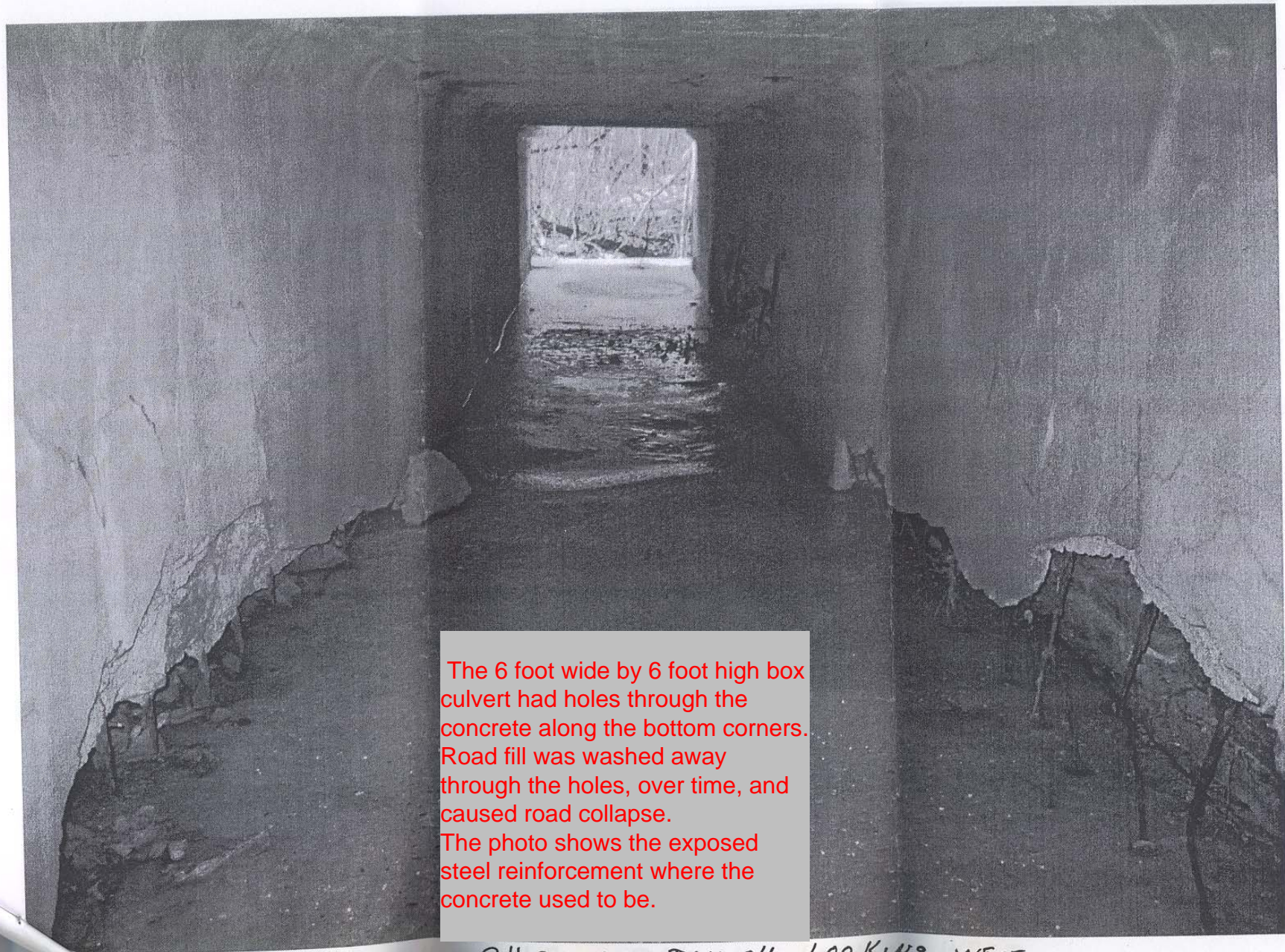
**Olsen was driving into Owatonna on County Road 45 at about 7:45 that morning when two lanes of the four-lane roadway disappeared out from under a tandem dump truck and a Jeep Cherokee directly in front of him.** Fortunately Olsen was able to stop and then quickly flagged traffic around the 15-foot deep hole until police arrived. Olsen said no one was injured but the truck and Jeep blew a couple of tires. Olsen was grateful he wasn't following either vehicle too closely or he would have ended up in the bottom of the crevice.

The hole developed because the roadway's foundation sifted through a crack in a culvert creating a void. County Road 45 will be closed until late April to give Steele County crews time to replace the existing culvert and fix the road.



Concrete pavement spanned the void above the 6 foot box culvert until it didn't.





The 6 foot wide by 6 foot high box culvert had holes through the concrete along the bottom corners. Road fill was washed away through the holes, over time, and caused road collapse. The photo shows the exposed steel reinforcement where the concrete used to be.


PHOTO #2, JAN 04, LOOKING WEST

I-94

Near Dowling in North Minneapolis




Bituminous-paved shoulder collapsed adjacent to concrete lane on I-94, caused by a hole in the pipe below.



The void was knee-deep where the pavement collapsed.






A view under the pavement showed the void extended under the freeway's concrete driving lane.

MN 95

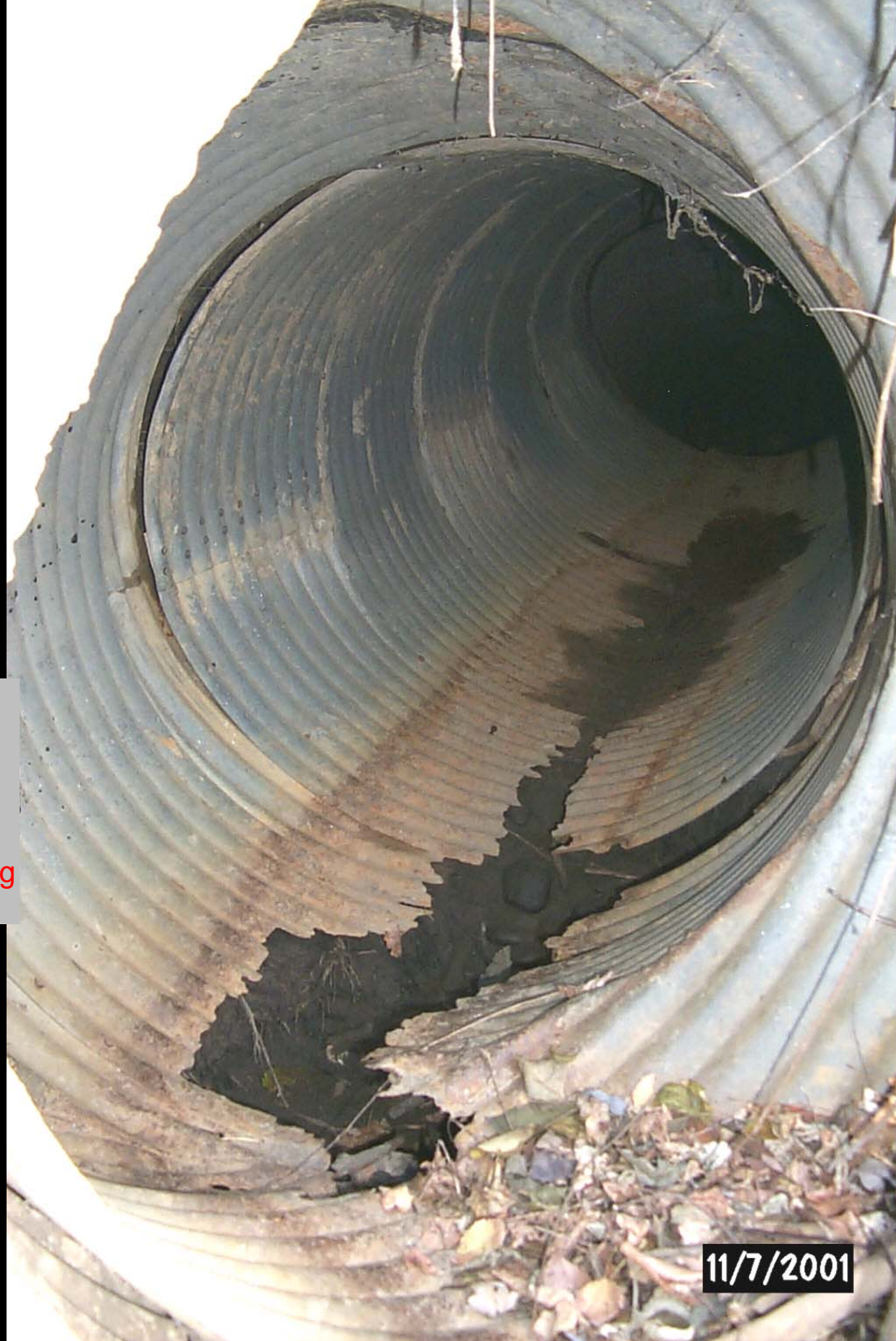
MP 80



2 successive patches on the bituminous pavement point to a problem below the road's surface.

11/7/2001

Holes in the metal culvert allowed water to wash out soil from around the pipe and create a void under the pavement. The pavement patches masked the underlying problem.



11/7/2001

The hole in the pavement  
may also show up  
somewhere upstream of  
the hole in the pipe.



Construction saw a surface erosion problem and tried to fix it.

A void had appeared high in the road embankment. A construction project installed a 24" pipe flume to carry drainage from the road surface and down over the eroded inslope. An old 36" metal culvert was underneath the void.



Rusted holes and a joint separation in the old metal culvert caused the loss of soil from the road embankment.

11/7/2001

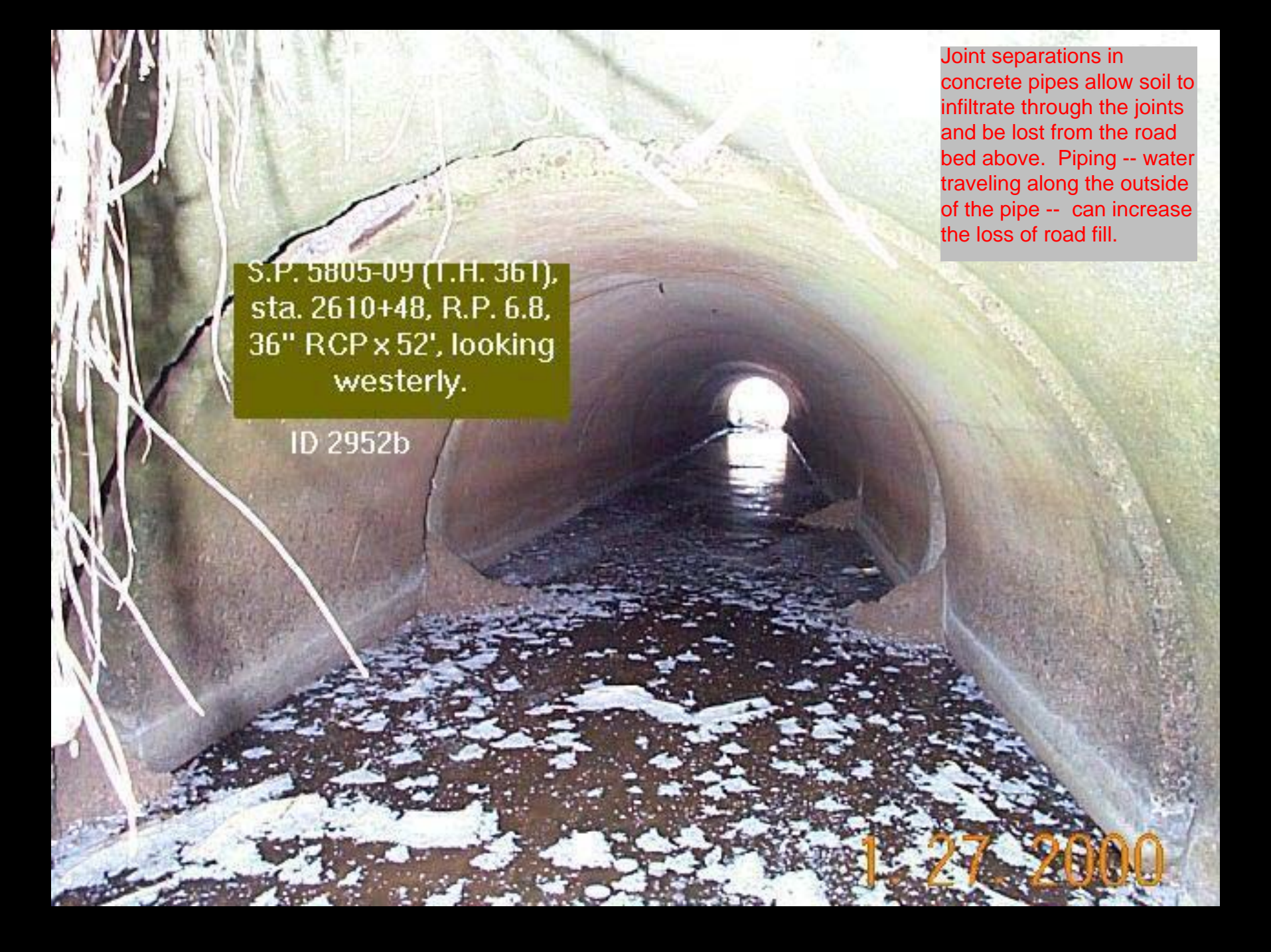
*The cause lurked below the surface . . .*



Look again at the hole in the slope above the old culvert.



*It Lurks  
Somewhere Under  
Your Roadway . . .*



S.P. 5805-09 (I.H. 361),  
sta. 2610+48, R.P. 6.8,  
36" RCP x 52', looking  
westerly.

ID 2952b

Joint separations in concrete pipes allow soil to infiltrate through the joints and be lost from the road bed above. Piping -- water traveling along the outside of the pipe -- can increase the loss of road fill.

1.27.2000

Will you find it

before it finds you?



The hole in the pavement may look small. The void below it is the real concern. Holes, joint separations and piping in culverts and storm drain pipes cause voids under road pavement.

Where is

It ?

Look for  
Pipes or Structures  
with  
Condition Rating 4  
(*and maybe 3*)

and look for HydInfra inspection flags: Holes, Joint Separation, Piping, Road Void.

