

## Mincek, Lou

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**From:** Cozzoli, Matt  
**Sent:** Wednesday, October 01, 2014 8:12 AM  
**To:** Mincek, Lou; Syar, Jeff  
**Cc:** Herceg, Michael; Birnbrich, Tom  
**Subject:** RE: culvert rated low.

Hey Lou-

I would spray the whole length of concrete.

You are correct, you would weld the rebar or attach the nelson studs first....then field pave. Like I said...I would only do it in those areas where the pipe is cusping. I may also use a small bar...say #4 in lieu of the #5 shown in the detail.

matt

**Matthew L Cozzoli, P.E.**  
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**From:** Mincek, Lou  
**Sent:** Wednesday, October 01, 2014 8:03 AM  
**To:** Cozzoli, Matt; Syar, Jeff  
**Cc:** Herceg, Michael; Birnbrich, Tom  
**Subject:** RE: culvert rated low.

Good morning Matt,

Thanks for the quick response. The length of the concrete section is about 172 feet and there is some delamination in about 70% of the sections. Based on this I would think that we want to spray line the entire length of the concrete pipe. The additional structural fix you mention for the sectional plate, I take as in addition then to field paving those sections also?

Please advise.

Thanks again

Lou

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**From:** Cozzoli, Matt

**Sent:** Wednesday, October 01, 2014 7:20 AM

**To:** Mincek, Lou; Syar, Jeff

**Cc:** Herceg, Michael; Birnbrich, Tom

**Subject:** RE: culvert rated low.

Lou-

We would recommend field paving the sectional plate. In those areas only where the pipe has moved (cupping), we would recommend an additional structural fix to strengthen the pipe against ring compression. We recommend using rebar as shown in the detail. District 8 (Doug Gruver) uses this structural fix. You may also consider using a line of nelson studs on either side along the outside limits of the reinforcing mesh. The rest of the conduit looks to be in very good condition with no signs of seepage and/or rusting. We do not recommend spraying the limits of this conduit with SS834.

The spalling of the concrete appears to be a manufacturing issue. The rebar/cages don't appear to have enough cover. We would certainly spray (SS834) those limits of pipe experiencing the spalling. If those areas are significant enough, then maybe it would be worthwhile to go ahead and do the entire concrete conduit. How long is the concrete conduit and is the spalling throughout the entire run?

If you have any questions Lou give us a call.

matt

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**From:** Mincek, Lou

**Sent:** Tuesday, September 30, 2014 10:09 AM

**To:** Syar, Jeff

**Cc:** Cozzoli, Matt; Herceg, Michael; Mincek, Lou

**Subject:** FW: culvert rated low.

Jeff,

Bill brought this one to my attention today. The culvert is a 60" bolted sectional plate with a 60" RCP not under pavement. The total length is approximately 750 feet. The sectional plate's invert is rusted out but the rest of it looks pretty good. The 60" RCP has spalled areas with the first layer of reinforcing steel exposed in some locations. The link to get to all of the photos is <\\d12fs101\Culvert Inventory and Inspection\LAKE COUNTY\90\430900290\2014> Photos.

My thought is to invert pave the 60" sectional plate and then spray line with the polymer based non-structural liner both the 60" sectional plate and RCP.

What are your thoughts?

Lou

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**From:** Gerber, William  
**Sent:** Tuesday, September 30, 2014 9:53 AM  
**To:** Mincek, Lou  
**Cc:** Boerio, Mike; Smith, Jason  
**Subject:** culvert rated low.

Good Morning Lou,

We performed an inspection of 430900290 last Thursday (9-25-14) and cusping was detected at various locations throughout the barrel. There are several other photos in the culvert file.

Respectfully,

*William F. Gerber*

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