

Post-Installation Pipe Inspection The Sequel

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Last Year I said...

- Gave history of inspection (none prior to 1995; video all pipe in 2005)
- Gave justification for inspection (\$17M in pipe repair contracts in 15 years)
- Gave details about pipe video requirements and our current practice

Why do we need to change?

- Problem #1: The contractor is responsible for video inspecting his own pipes.



Contractor's may be
Obstructing Justice
under the current system.

Why do we need to change?

- Problem #2: The disks are turned in to Construction personnel for review. It is very difficult to review tapes of pipe.



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MARROVS ROAD S/B LANE AT CHAUDER

BROOKSIDE

MO # 453127

24" RCP

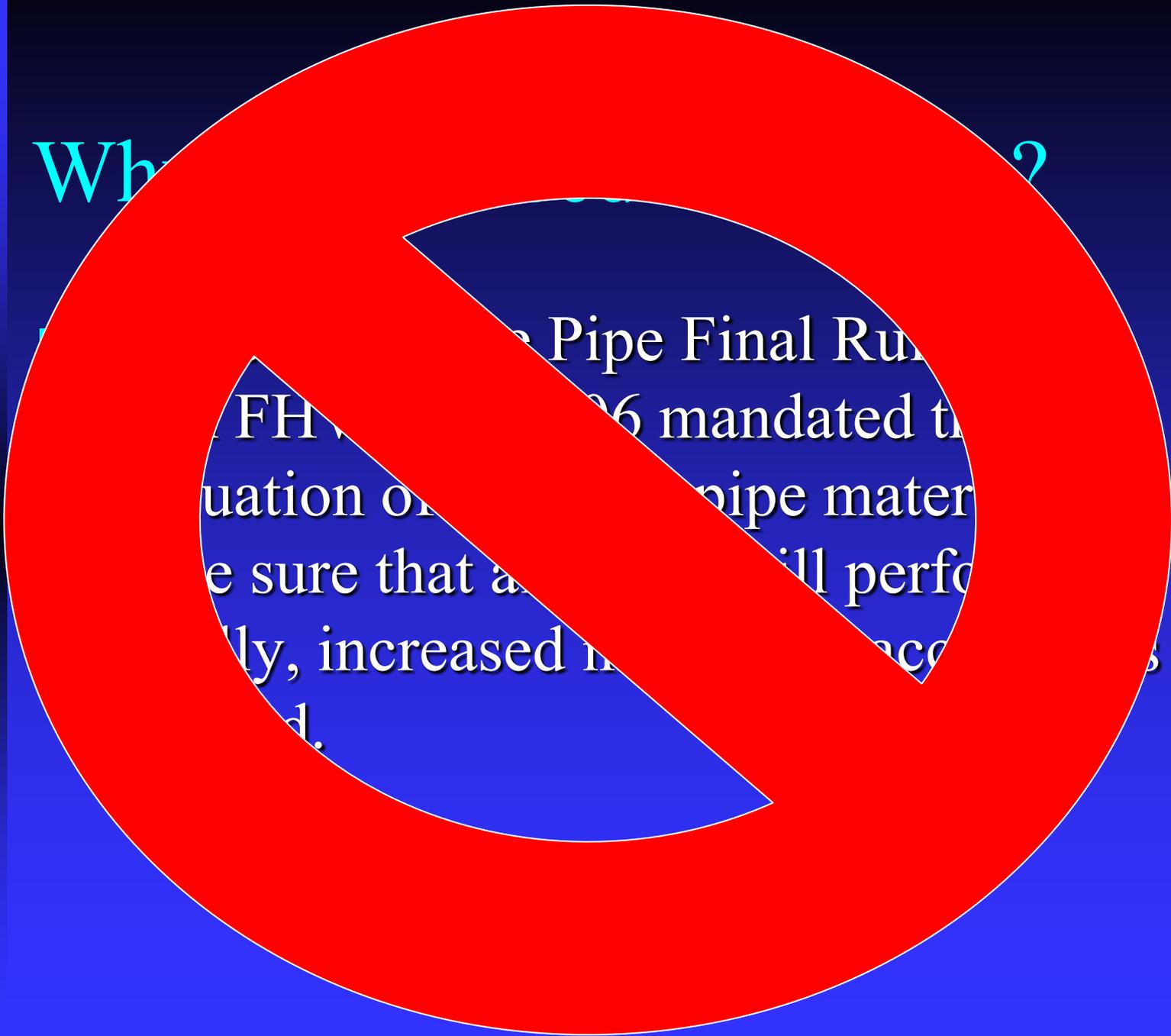
S/B

Why do we need to change?

- Problem #3: The Pipe Final Rule memo from FHWA in 2006 mandated the evaluation of alternate pipe materials. To make sure that all pipes will perform equally, increased inspection accuracy is required.

Why?

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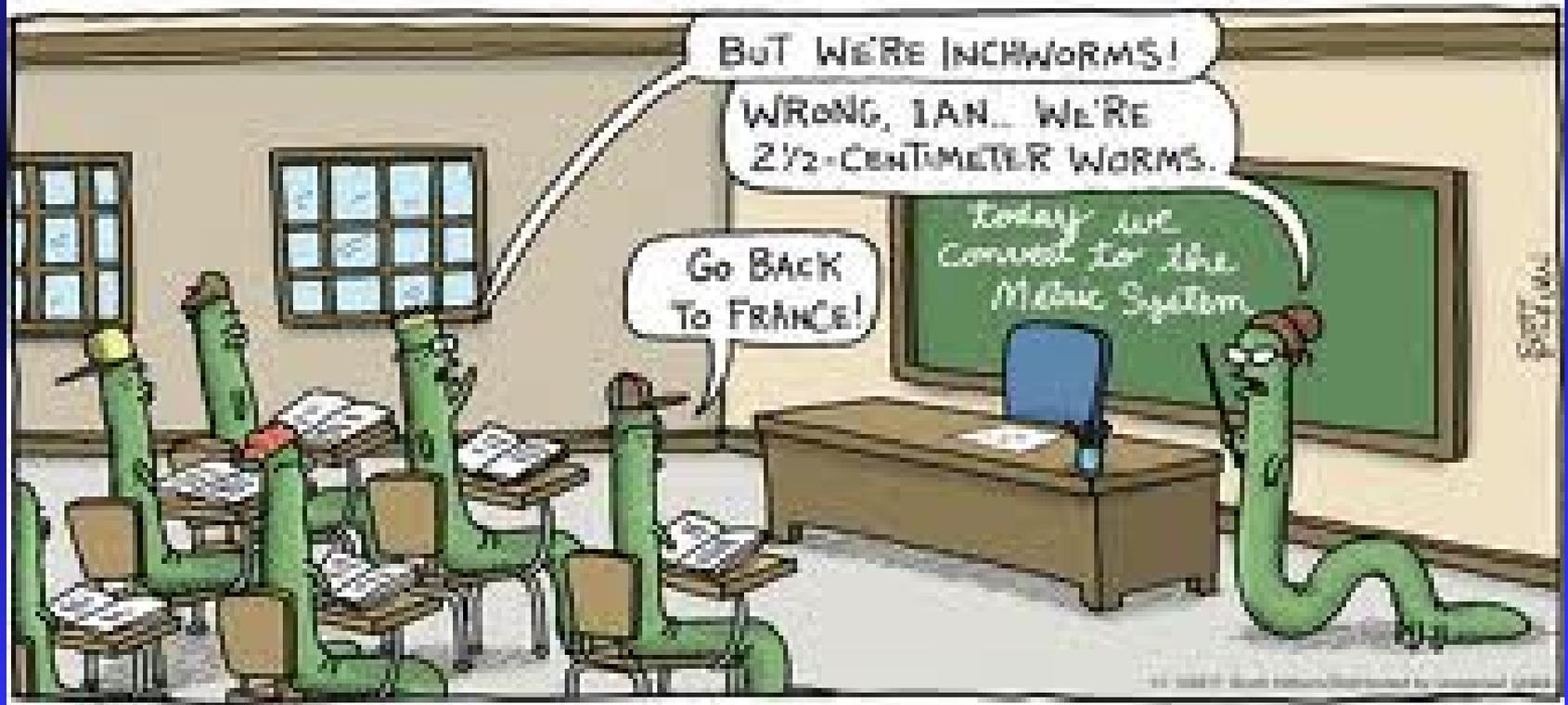


... Pipe Final Rule
FHWA 2006 mandated the
evaluation of pipe materials
be sure that all pipe materials
will perform
ly, increased
d.

Unprecedented Event... Maybe not

THE ARGYLE SWEATER

BY SCOTT HILBURN



Unprecedented Event... Maybe not



New FHWA Ruling

- As per an FHWA Guidance Memo Dated 10/9/12 regarding MAP-21 Section 1525, Dwight Horne's memos regarding "Pipe Selection Final Rule" and "Culvert Selection Procedures are rescinded".
- States have autonomy to select the type of material for culverts.

Is post-installation inspection necessary?



Is post-installation inspection necessary?



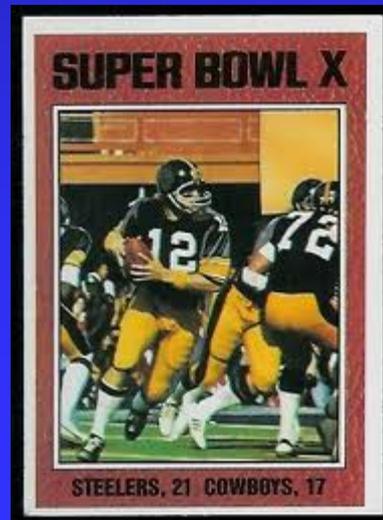
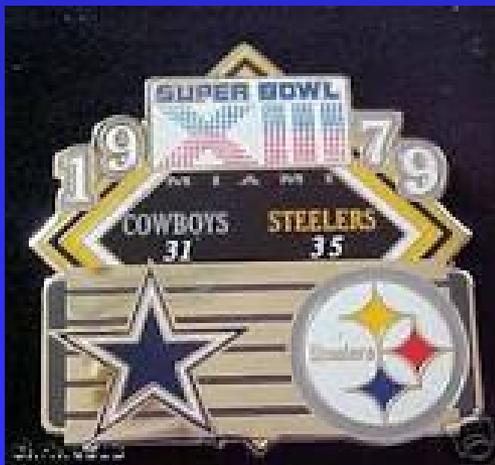
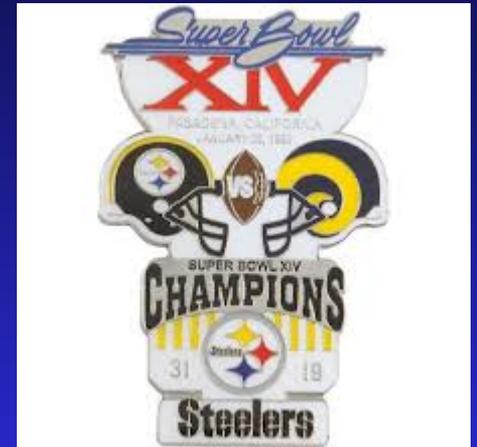
I told you we were going to do it...



What we did.

- We now have three agreements for Pipe Video inspection services.
- All three have full capabilities for inspection of Service Level II-IV installations.
- All three have some capabilities for inspection of Service Level I installations.

Rewind...



Service Level 1 Installations

It includes all pipes installed UNDER:

- Expressways
- Arterials
- Collectors

Under includes pipes running transversely across the road and longitudinally under the pavement and/or curb. It also includes areas outside of the roadway where widening is anticipated.

Service Level 1 (Pipes < 48" dia.)

- HDPE pipes are to be visually inspected. Deflections shall be measured by a laser profiler to an accuracy of 0.5%. Joint gaps to be measured with a calibrated laser device to an accuracy of 1/32".
- Concrete pipes are to be visually inspected. Joint gaps and cracks to be measured with a calibrated laser device to an accuracy of 1/32".

Service Level II-IV (Pipes < 48" dia)

- HDPE pipes are to be visually inspected. If deflections are seen, they are assumed to be greater than 5% and the contractor must repair. Joint gaps to be measured with on screen calibration.
- Concrete pipes are to be visually inspected. Joint gaps and cracks to be measured with on screen calibration.

Why two sets of criteria?

- Video inspection alone has been costing us around \$2/lf since we began. Laser profiling in other states ranges from \$4-\$12/lf.
- Pipe DGM allows HDPE for Service Level I installations. It is critical to keep deflections with design limits to achieve proper design life.

Why two sets of criteria?

- Service Level I installations are much harder to repair due to MOT costs. Since laser profiling and measuring devices are more expensive, we only want to use them where we will get the most bang for the buck.
- Although existing practices are not perfect, they have performed well and are suitable for Service Level II-IV locations.

Selected Pipe Video Inspectors

- Agreement 1616: Rosey's Tank Cleaning
- Agreement 1617: Tri-State Grouting
- Agreement 1618: Video Pipe Services

- Agreements have no money. You need to add the cost for pipe inspection under CE in the Recommendation to Award memo.

Pipe Video Inspection Cost

Service Level I

Cost Range

Rigid, > 250 LF

\$3.51 - \$11.00

Rigid, < 250 LF

\$8.78 - \$11.50

Flexible, > 250 LF

\$3.51 - \$11.00

Flexible, < 250 LF

\$8.78 - \$15.65

Service Level II-IV

> 250 LF

\$1.35 - \$7.00

< 250 LF

\$2.50 - \$11.50

Path Forward

- All projects going forward should not include pipe video inspection as a pay item.
- Pipe video inspection for newly installed pipes will be performed by one of three selected consultants.
- Construction to line up the pipe video inspections as necessary and pay under CE.
- In-house video services are available for preconstruction pipe inspection.

Yes, We know there will be some bumps in the road.



THE END

