



Edge Drain Maintenance

Highway Maintenance Conference

May 1, 2019



OVERVIEW

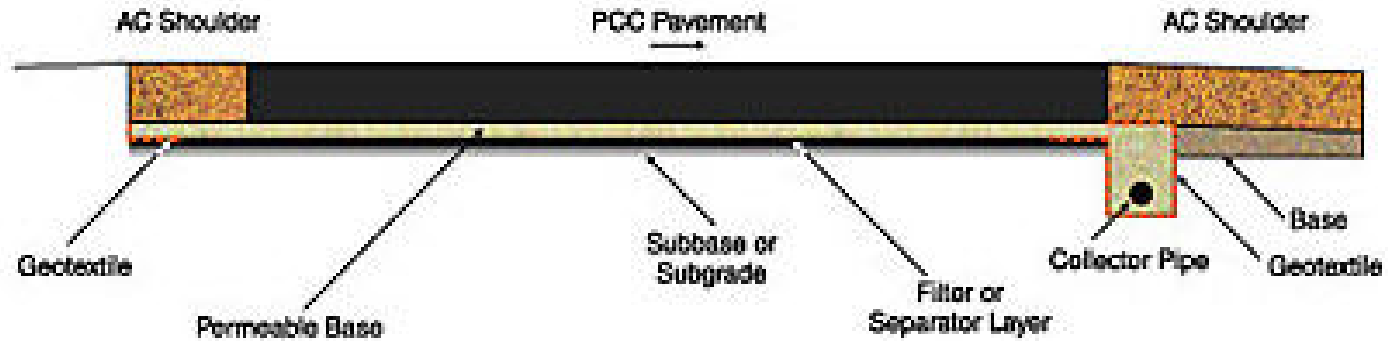
- What is An Edge Drain
- Why Edge Drains Should Be Maintained
- Steps For Maintaining Edge Drains
- Contract Work
- Future Efforts
- Questions



WHAT IS AN EDGE DRAIN

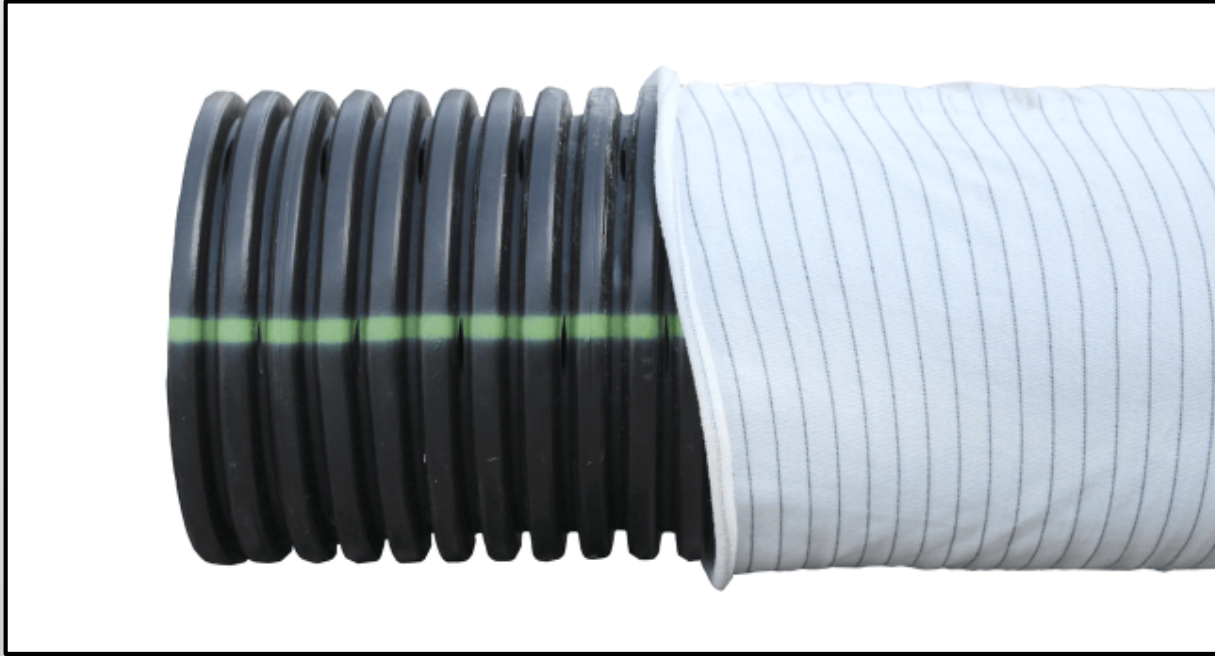
EDGE DRAIN / UNDERDRAIN

Typical Edge Drain Installation



- Longitudinal drains under the pavement
- Placed in permeable base layers
- Drain water out of subbase

EDGE DRAIN / UNDERDRAIN

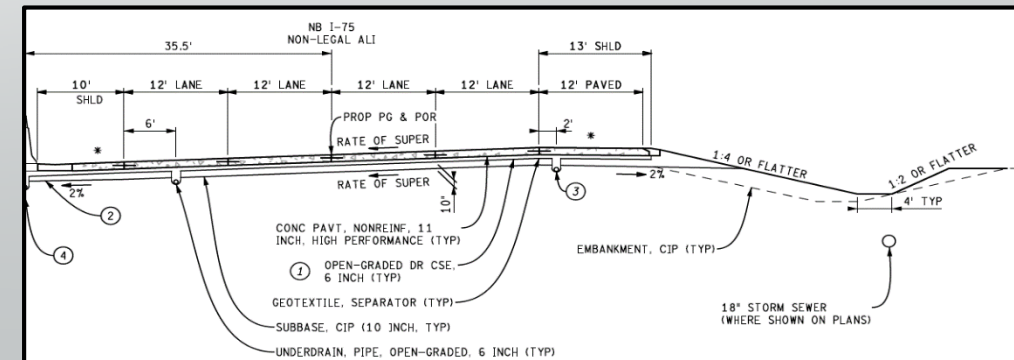
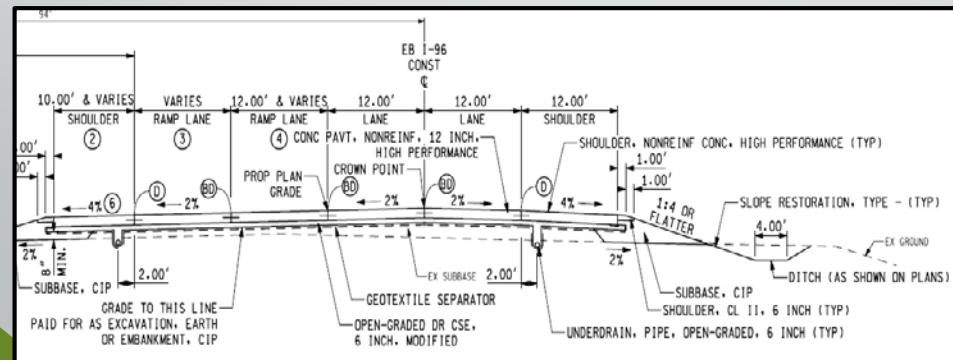
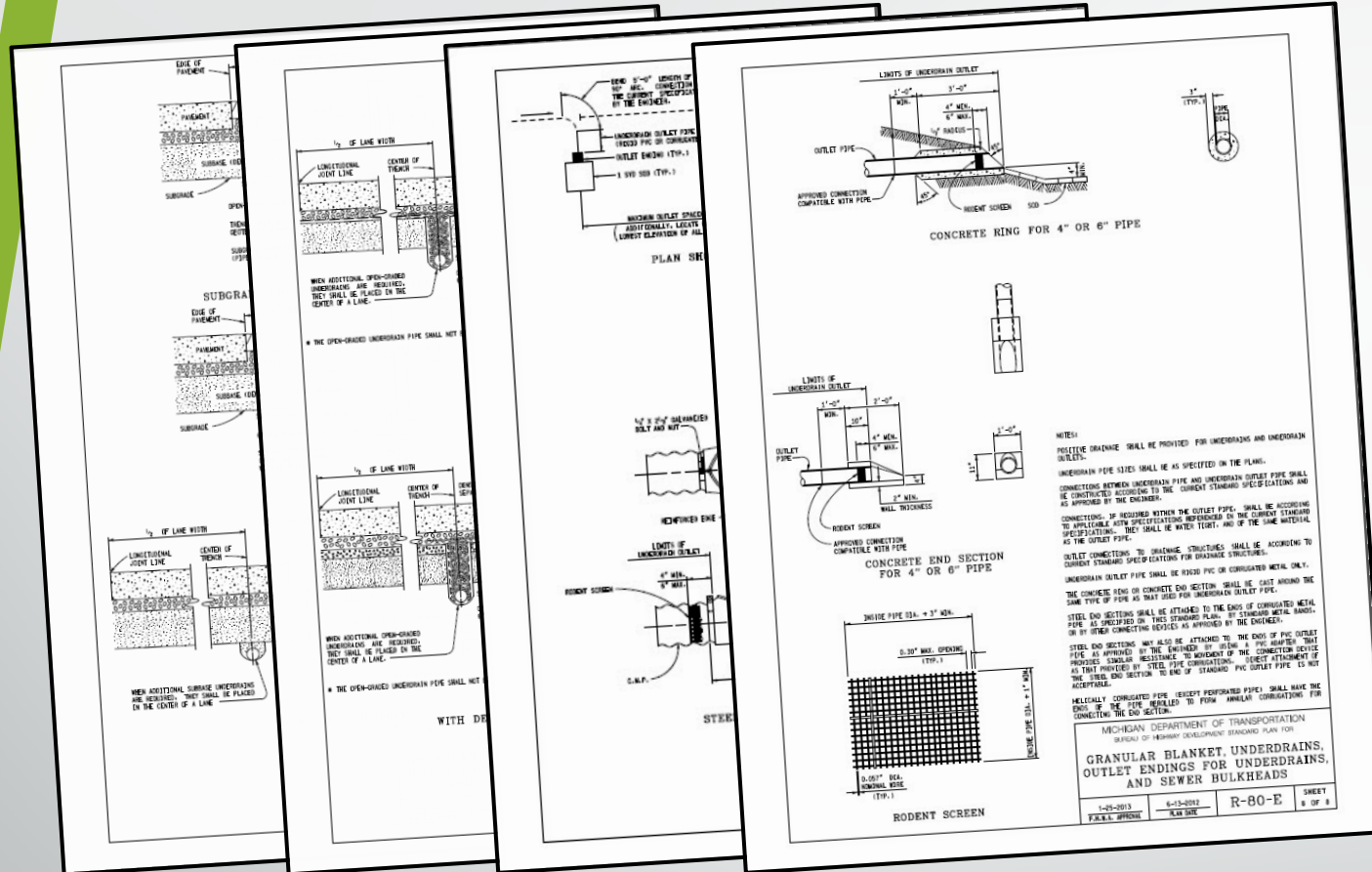


- 4" or 6"
- Sock or No sock
- Subbase or Subgrade



UNDERDRAIN STANDARD

- R-80 Series
- Typicals
- Mark Locations in Shoulder





WHY EDGE DRAINS SHOULD BE MAINTAINED

COST OF MAINTENANCE

- Maintenance is not an investment, but necessary expense
- Ceases to function, pavement section will be negatively impacted
- 40% reduction in performance

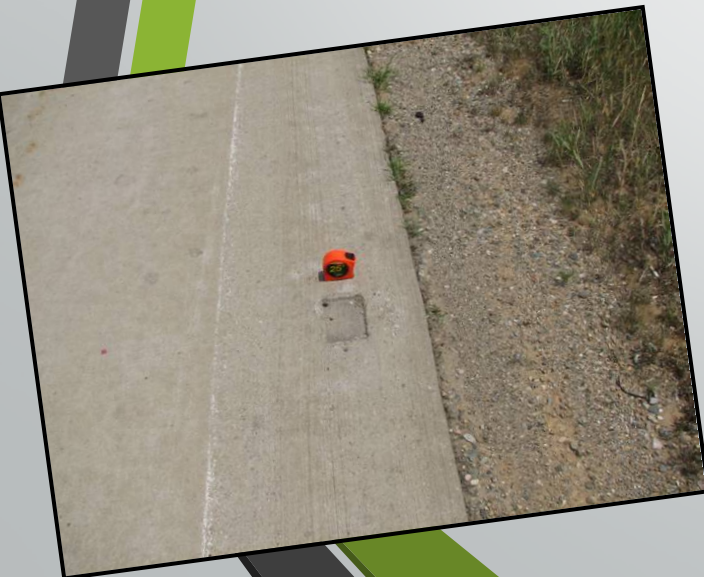




STEPS TO MAINTAINING EDGE DRAINS

LOCATING THE ENDINGS

- Ending locations are usually marking on the shoulder
- Spacing are typically 300' or 500' apart



INSPECT THE ENDING



- Is water flowing or signs of water flowing
- Is vegetation restricting the flow
- Check rodent screen
- Does the ending appear to be plugged



REMOVE VEGETATION



- Remove vegetation that is impeding flow of water
- May need to dig a path



IS THERE AN OUTLET?



TWO OUTLETS



IS THERE AN OUTLET?



FOUR OUTLETS

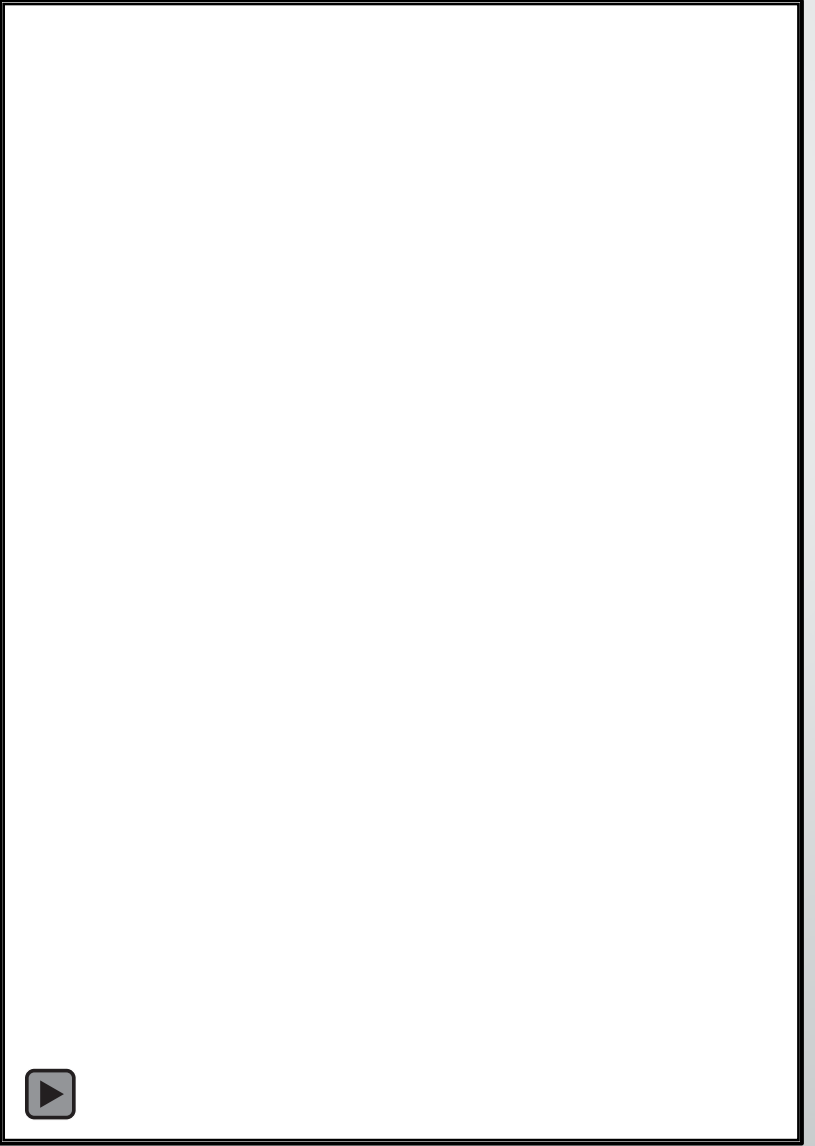


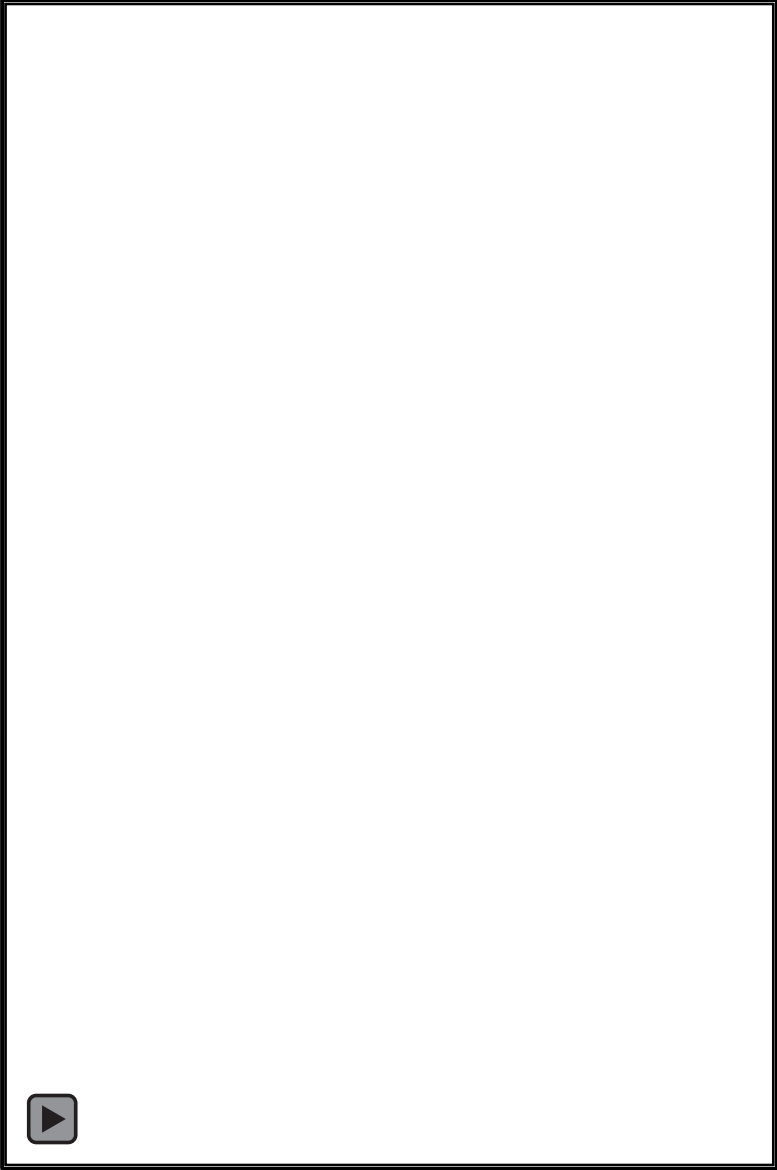
REMOVE RODENT SCREEN



- Tend to impeded the flow of water more than keeping critters out
- Vegetation and leachate







INSPECTION UNIT



- Camera to inspect condition of pipe
- Pinpoint collapse or blockage
- Contact CFS for assistance





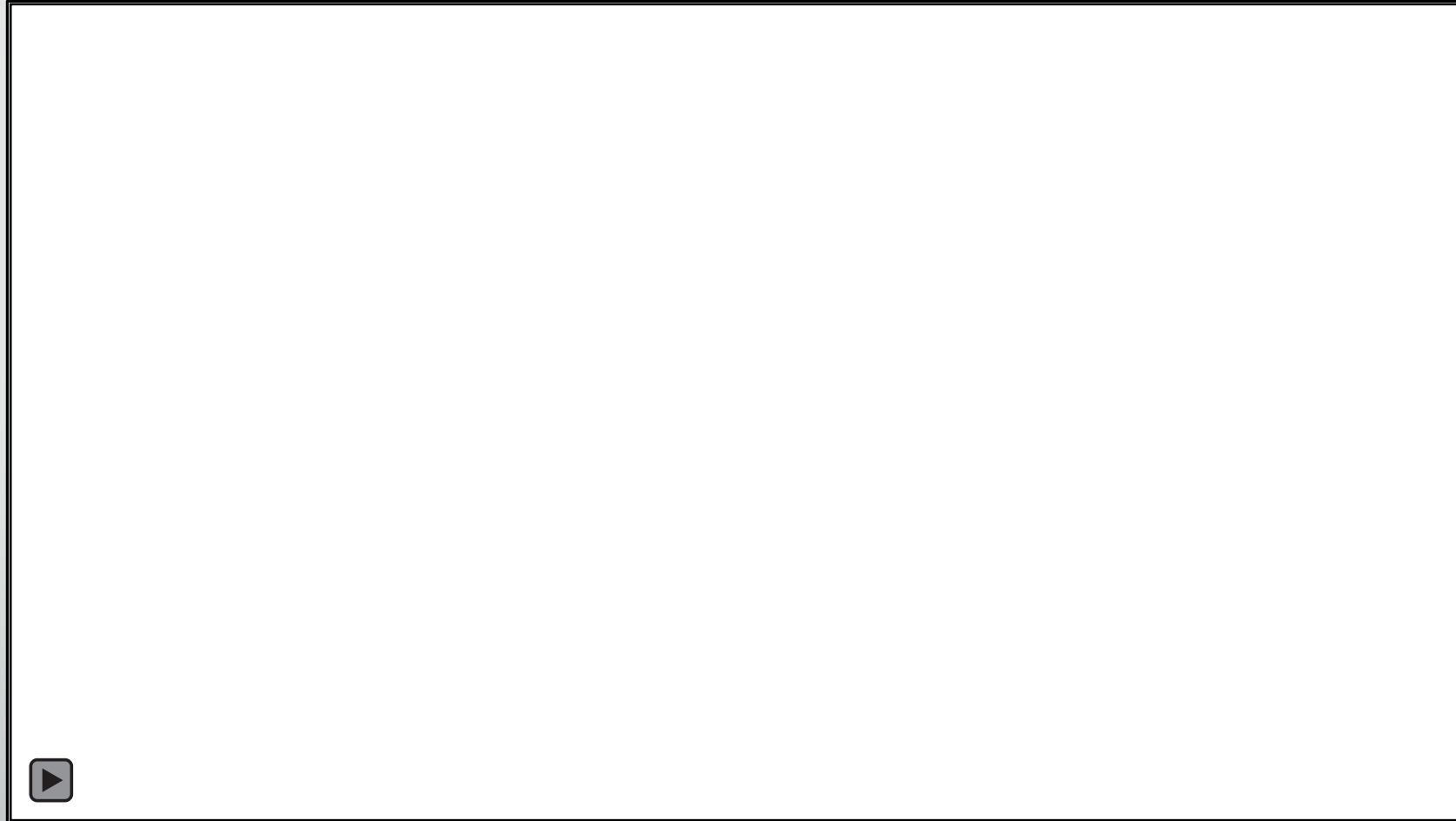
CONTRACT WORK

UNDERDRAIN OUTLET CLEANOUT



- Approved SP (Version 3.0)
- 2 Contracts 2018
- 6 Contracts 2019
- Outlet Locations

UNDERDRAIN OUTLET CLEANOUT



HOW CAN MAINTENANCE HELP?

- Perform cleanout
- Leverage federal dollars
- Coordinate PM projects and maintenance work
- Ditching





FUTURE EFFORTS

GPS DATA COLLECTION



- New Construction
- Existing Outlets
- TAMS Asset
- Maintenance Workorders

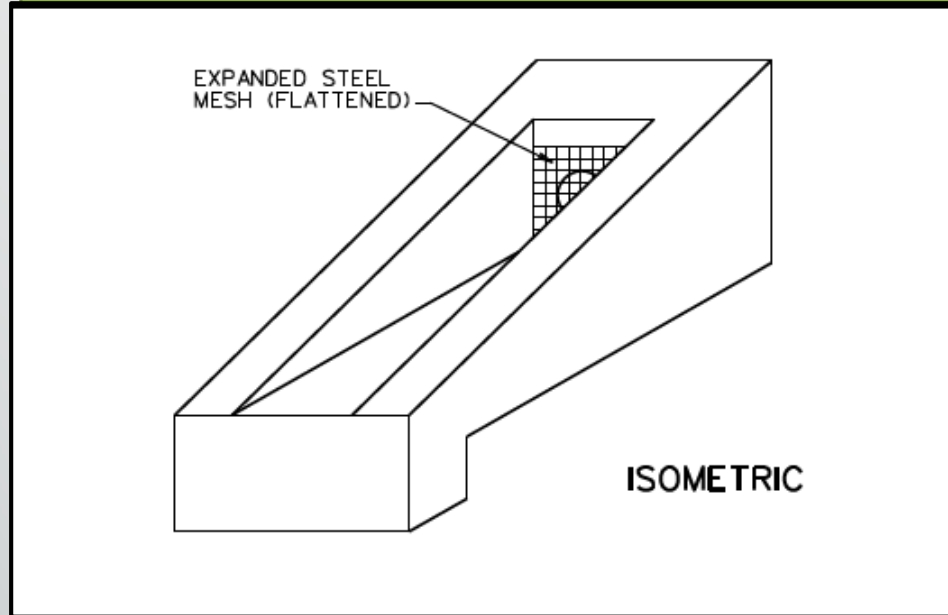
EXPERIMENTAL ENDINGS



- Placed in early 2000's
 - Larger round conc
 - Grout bags
 - HMA apron
 - Old IN DOT design
- Performing well
- Initiating change



NEW STANDARD ENDING



- Virginia DOT Standard
- Slightly larger footprint
- Toe to help keep them in place



EXISTING RETRO FIT



- Concrete Cloth
- Retro fit existing endings
- Larger footprint
- Pilot US-127 Jackson County

CONTACTS

- Rob Green
 - Phone: 517-230-2188
- Andy Bennett
 - Phone: 517-243-0870

HEY...
I know who to call!!



DO YOU THINK THE EDGE DRAINS NEED TO
BE MAINTAINED?



QUESTIONS

THE END

