EXTENDING EXISTING CULVERTS

LOU CARDINALE
HIGHWAY MAINT. SUPERVISOR 2
REGION 8 ULSTER COUNTY
EXTENDING EXISTING CULVERTS

• WHY DO IT?
1. IMPROVE VISIBILITY BEHIND RAIL
2. ELIMINATE THE NEED FOR GUIDE RAIL
3. REDUCE HERBICIDE APPLICATIONS
4. MOWING IS EASIER
Improve Visibility Behind Rail
Improve Visibility Behind Rail
Eliminate the Need for Guide Rail

Rte 52 – Town of Wawarsing – Flatten Slope & Eliminate Guide Rail
Eliminate the Need for Guide Rail

Rte 209 & Fordmore Rd Intersection Before

Rte 209 & Fordmore Rd Intersection After
EXTENDING EXISTING CULVERTS

• METHODS
1. REMOVE/REPLACE ENTIRE CULVERT
2. JOIN ROUND PIPE TO SQUARE USING CONCRETE COLLAR
3. TRANSITION FROM HEADWALL TO DRAINAGE STRUCTURE
4. COUPLE PIPE TO EXISTING
5. USE NEW FITTINGS PRODUCED BY PIPE MANUFACTURERS.
Remove & Replace Entire Culvert

• Costly & Time Consuming
• Difficult on higher AADT roads
• May be only option based on condition of existing culvert
JOIN ROUND PIPE TO SQUARE USING CONCRETE COLLAR

• Has history of failing due to separation.
• Looks good on paper but difficult to construct properly.
TRANSITION FROM HEADWALL TO DRAINAGE STRUCTURE

• Good option when ditch line is parallel to the roadway
• Difficult to get a tight connection between head wall and structure
• Two potential connections for failure
TRANSITION FROM HEADWALL TO DRAINAGE STRUCTURE
COUPLE TO EXISTING PIPE

• Best case scenario if your existing pipe is in good condition and a manufactures coupler is available.
• Few and far between
USE NEW FITTINGS PRODUCED BY PIPE MANUFACTURERS.

• Recently developed based on the need of the Department
• Hope to save time & money by simplified installation
• Hopefully will result in better overall product with less likelihood of failure over time
USE NEW FITTINGS PRODUCED BY PIPE MANUFACTURERS.
EXTENDING EXISTING CULVERTS

*CHOOSING A SITE
1. MOWING DIFFICULTIES
2. SIGHT DISTANCE ISSUES
3. RAIL THE FREQUENTLY GETS HITS
EXTENDING EXISTING CULVERTS

*CONCERNS

1. PROPERTY BOUNDRIES/ROW
2. ENVIRONMENTAL ISSUES
3. DEGREE OF SLOPE
THANK YOU