

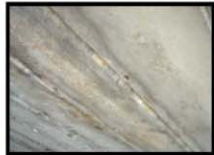
Avon Rd. & Livernois Rd. Bridges

Rochester Hills City Council

February 28, 2011

AVON ROAD OVER CLINTON RIVER (0209A)

Inspection Year	02	04	06	08	09	10
Surface Rating	5	5	5	5	4	3
Superstructure Rating	4	4	4	4	4	2



2008



2009

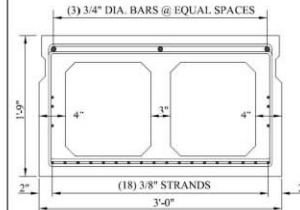


2010

Adjacent Box Beam Bridges

- GLEG has found that bridges with adjacent box beam superstructures tend to deteriorate quickly when subjected to certain conditions.
- High traffic volumes, thin asphalt surfaces, and exposure to salt used for deicing can all have a negative impact on the condition of adjacent box beams.
- There is a tendency for thin wearing surfaces to crack and allow moisture to penetrate through the surface and into the superstructure below. Salt and high traffic volumes increase the negative effects of this moisture penetration.
- Typical deterioration includes cracking and spalling of concrete which can lead to exposure of the beam's prestressing strands. In advanced stages of deterioration, broken prestressing strands have been observed.
- The bridges at Avon Road (0209A) and Livernois Road (0210A) have experienced a significant decrease in superstructure condition over the past few years, likely as a result of some or all of the conditions listed above. Broken prestressing strands have been found in multiple beams at both bridges, a sign that deterioration is occurring at an increasing rate.

Box Beam Cross Section



TYPICAL SECTION THRU BEAM
24-3/8" STRANDS

LIVERNOIS ROAD OVER CLINTON RIVER (0210A)

Inspection Year	02	04	06	08	09	10
Surface Rating	7	8	7	7	6	6
Superstructure Rating	5	5	4	4	3	2



2008



2009



2010

Avon Bridge Beams

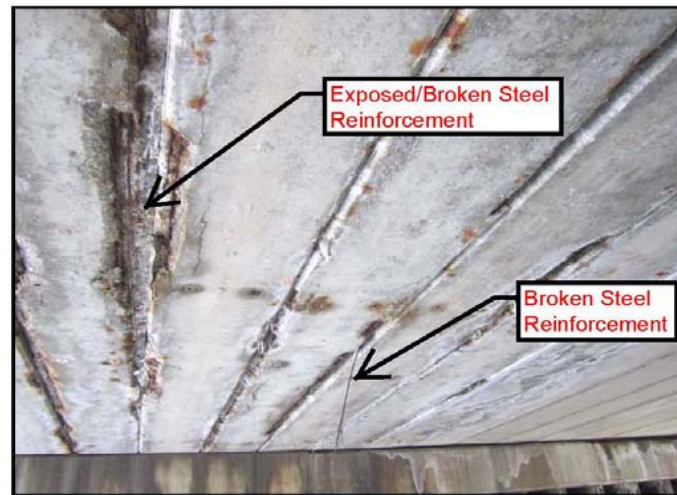


Avon Road over Clinton River
0209A; Rochester Township
Federal ID: 63200762000B010
GLEG Project No. 1010-2-160
February 8, 2011

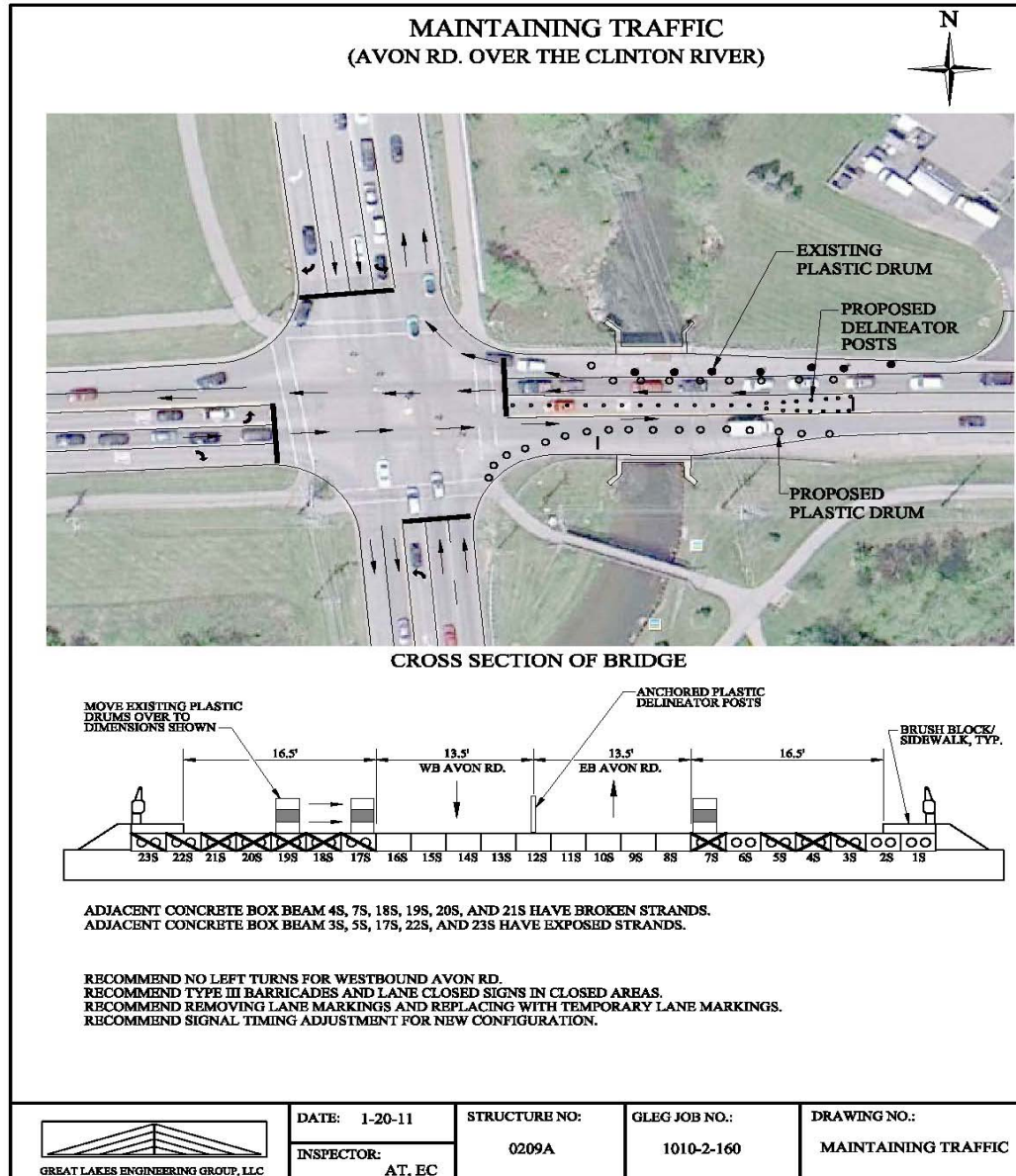
*Exposed/
broken strand
in northside
beams*



*Exposed/
broken strand
in northside
beams*



Avon Rd. MOT (Maintenance of Traffic)



Livernois Bridge Beams



Livernois Road over Clinton River
0210A; Rochester Township
Federal ID: 63200416000B010
GLEG Project No. 1010-2-160
February 8, 2011

*Broken strands
hanging from
bottom of box
beam*



*Exposed/
broken strands
in beams 2W-
4W*



Livernois MOT (Maintenance of Traffic)

