



**BRIDGE NO. A-02-020 (RIVER STREET OVER FORT POND BROOK AT MERRIAM LANE)**

**Bridge Description and Orientation:**

The River Street Bridge over Fort Pond Brook is a twin corrugated steel pipe culvert that was built in 1981 (see Sketches & Photos #1, #2 & #3). River Street, at the bridge, is oriented West and East over the Fort Pond Brook which flows North to South. The pipe culverts are labeled West and East.

**Summary of Existing Conditions:**

**Bridge Rail & Approach Guardrail Deficiencies (NBIS Item #36 in Inspection Report)**

Element	Deficiency	Reference Photo(s)
Bridge Rail / Approach Guardrail	<ul style="list-style-type: none"> <li>Minor dents and scrapes throughout steel "W" Beam guardrail</li> </ul>	

**Top of Bridge Deficiencies (NBIS Item #58 in Inspection Report)**

Element	Deficiency	Reference Photo(s)
Wearing Surface	<ul style="list-style-type: none"> <li>Random narrow cracks and moderate vegetation growth between the guardrail and headwalls at the North side</li> </ul>	

**Superstructure Deficiencies (NBIS Item #59 in Inspection Report)**

Element	Deficiency	Reference Photo(s)
Corrugated Steel Pipe Culverts	<ul style="list-style-type: none"> <li>Inverts of pipe culverts were not visible due to the high water</li> </ul>	4
	<ul style="list-style-type: none"> <li>Minor deterioration of the protective coating with random areas of peeling and chipping protective coat, light to moderate rusting along the waterline and random missing connection bolts throughout</li> </ul>	5
	<ul style="list-style-type: none"> <li>Moderate accumulation of debris within pipe culverts</li> </ul>	6
	<ul style="list-style-type: none"> <li>3 holes in top of West pipe culvert that measure up to 1.5" in diameter and show missing fill material, located approximately 9'-0" from the South end</li> </ul>	
	<ul style="list-style-type: none"> <li>2 holes in top of East pipe culvert that measure up to 1.5" in diameter and show missing fill material, located approximately 9'-0" from the South end</li> </ul>	
	<ul style="list-style-type: none"> <li>Minor undermining at both ends of both pipe culverts</li> </ul>	



North Headwall	<ul style="list-style-type: none"> <li>• Random hairline to narrow cracks in the mortar and separation of the mortar between stones as well as loose stones throughout</li> <li>• Void at the West face of the West pipe culvert that measures up to 12"H x 6"W x 8" of penetration</li> <li>• Void between the Northeast wingwall and the East face of the East pipe culvert that measures 7"H x 8"W x greater than 12'-0" of penetration</li> <li>• Top of the North headwall shows medium to wide reflective cracks in the mortar between the cap stones with areas of missing pointing and protective coat</li> <li>• Random voids all around the edges of the pipes</li> </ul>	1
South Headwall	<ul style="list-style-type: none"> <li>• Random hairline to narrow cracks and separation of the mortar between stones as well as loose stones throughout</li> <li>• Top of the South headwall shows medium to wide reflective cracks in the cap stones with areas of missing pointing and protective coat</li> <li>• Numerous voids all around the edges of the pipes</li> </ul>	2

Abutment/Foundation Deficiencies (NBIS Item #60 in Inspection Report)

Element	Deficiency	Reference Photo(s)
Wingwalls	<ul style="list-style-type: none"> <li>• Random narrow cracks in mortar</li> <li>• Random voids and missing mortar at the West pipe culvert of the Northwest wingwall</li> <li>• Random cracks in the mortar and a missing stone near the top of the Northeast wingwall that measures 10"W x 3"H x 10"D</li> <li>• Random minor voids throughout the Southwest wingwall with light vegetation growth near the base</li> </ul>	7

Channel Deficiencies (NBIS Item #61 in Inspection Report)

Element	Deficiency	Reference Photo(s)
Debris	<ul style="list-style-type: none"> <li>• Moderate to heavy accumulation of debris (tree limbs) at the upstream face of both pipe culverts</li> <li>• Minor scour at the upstream (North) end</li> <li>• Moderate to heavy aggradation at the South end of both pipe culverts</li> </ul>	1



**Recommended Maintenance:**

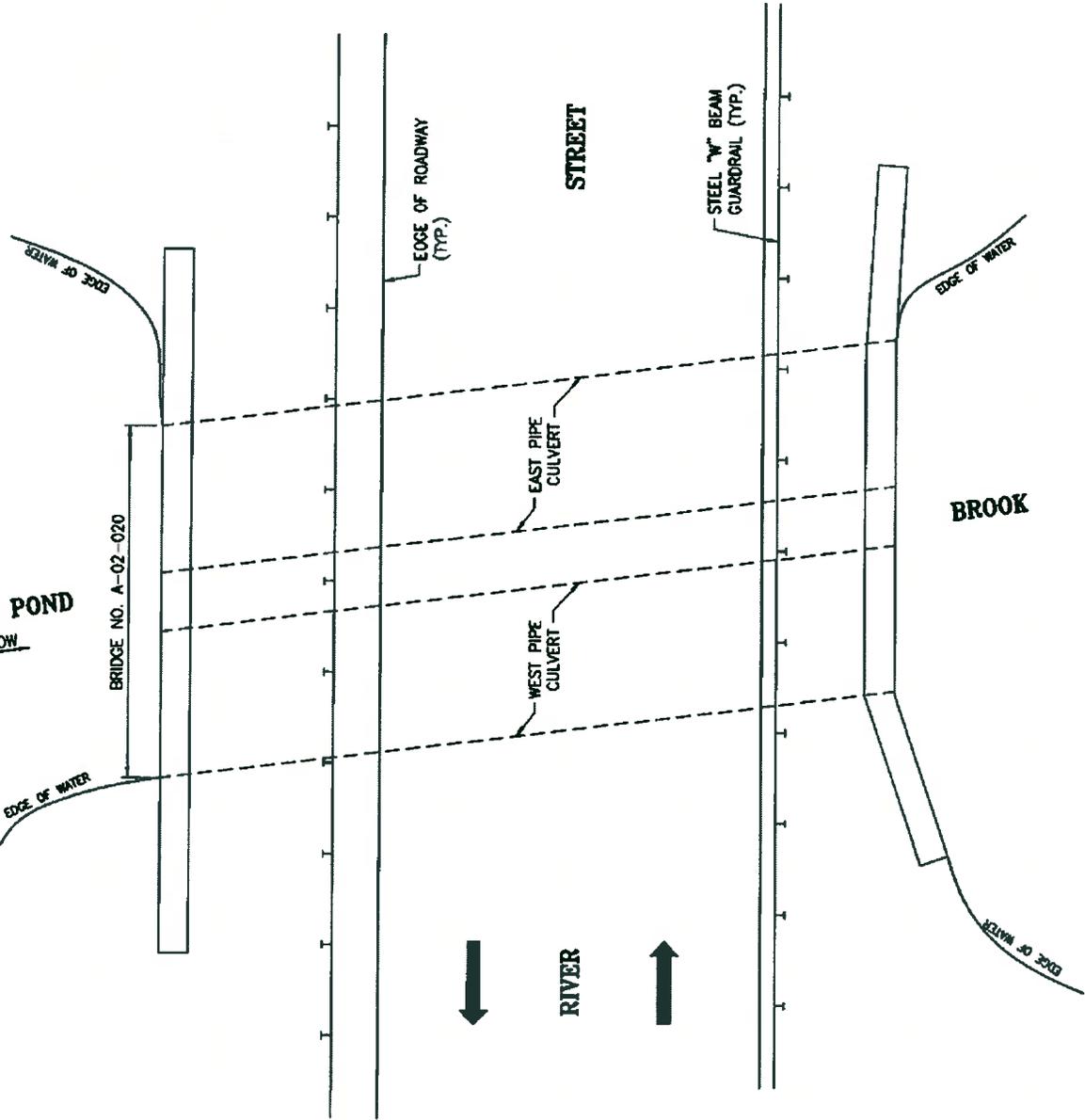
The following table outlines the deficiencies and repairs needed, along with the priority of the repair, to the River Street Bridge over Fort Pond Brook (at Merriam Lane):

Element & Location		Deficiency	Repair Needed	Priority
#1	North side of bridge	Moderate to heavy vegetation growth	Remove vegetation growth	Low
#2	Corrugated steel pipes	Cracking and peeling throughout with light to moderate rusting	Blast clean and place new protective coating	High
#3	Top of West pipe culvert	Three punctures from guard rail installation	Weld repair plate	Moderate
#4	Top of East pipe culvert	Two punctures from guardrail installation	Weld repair plate	Moderate
#5	Both ends, both pipe culverts	Undermining at ends	Place riprap at both ends	Moderate
#6	Stone masonry headwalls (both)	Hairline to narrow random cracks	Clean and repoint mortar	Moderate
#7	North headwalls around pipes	Voids	Fill holes/voids with concrete	High
#8	South headwalls around pipes	Voids	Fill holes/voids with concrete	High
#9	Wingwalls	Cracks in mortar and random voids	Fill any voids and repoint stone masonry as needed	Low
#10	Upstream face of both pipe culverts	Debris	Remove debris from channel	Moderate



**FORT POND**  
FLOW

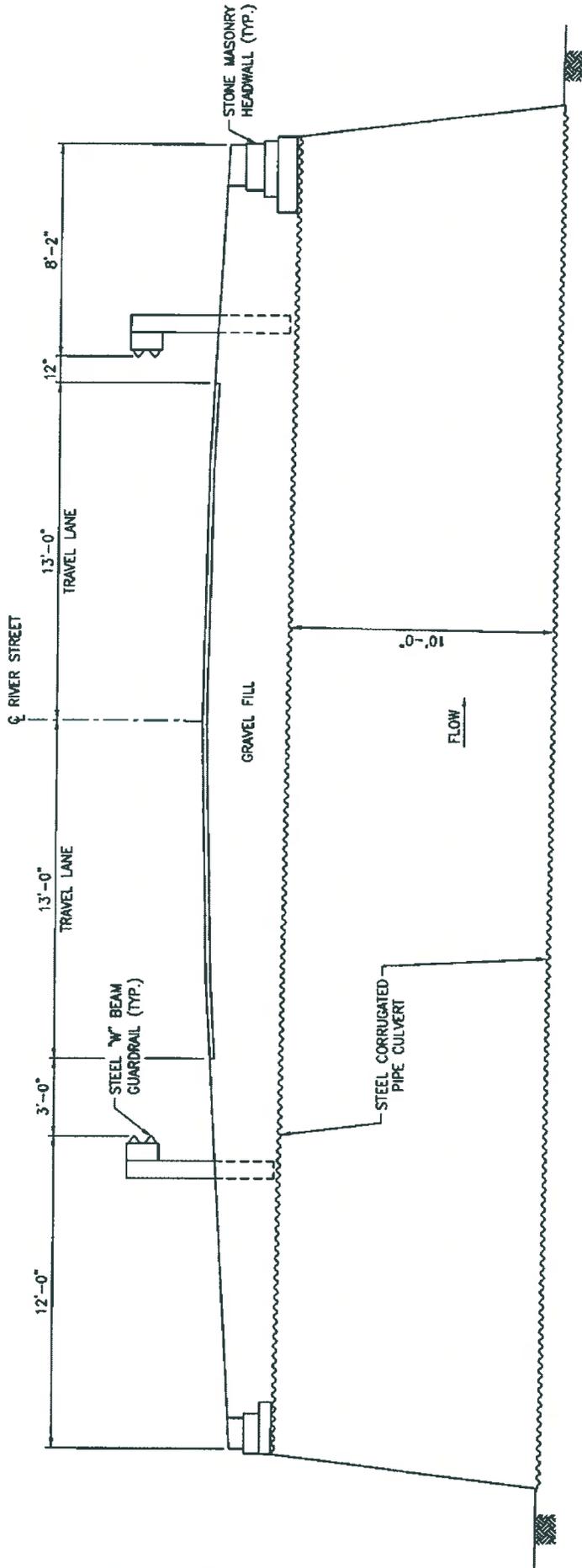
BRIDGE NO. A-02-020



**ACTION: RIVER STREET OVER**  
**FORT POND BROOK, BRIDGE NO. A-02-020**  
**PLAN - SCALE: N.T.S.**

**CHAS. H. SELLS, INC.**





**ACTION: RIVER STREET OVER  
 FORT POND BROOK, BRIDGE NO. A-02-020  
 BRIDGE TRANSVERSE SECTION - SCALE: N.T.S.**

**CHAS. H. SELLS, INC.**  
INCORPORATED IN THE STATE OF OHIO



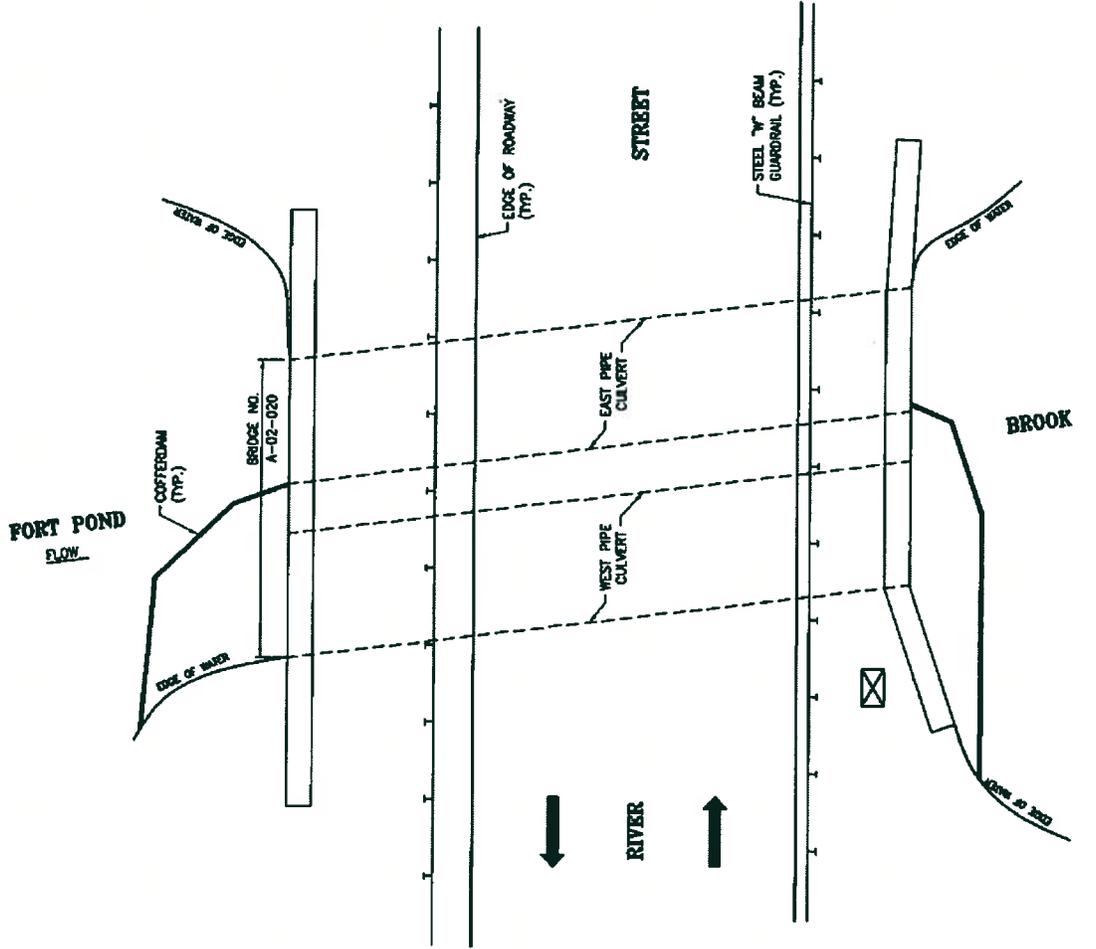


**ACTION:** RIVER STREET OVER  
FORT POND BROOK, BRIDGE NO. A-02-020  
WATER CONTROL PLAN - SCALE: N.T.S.

**CHAS. H. SELLS, INC.**  
INCORPORATED 1853  
NEW YORK



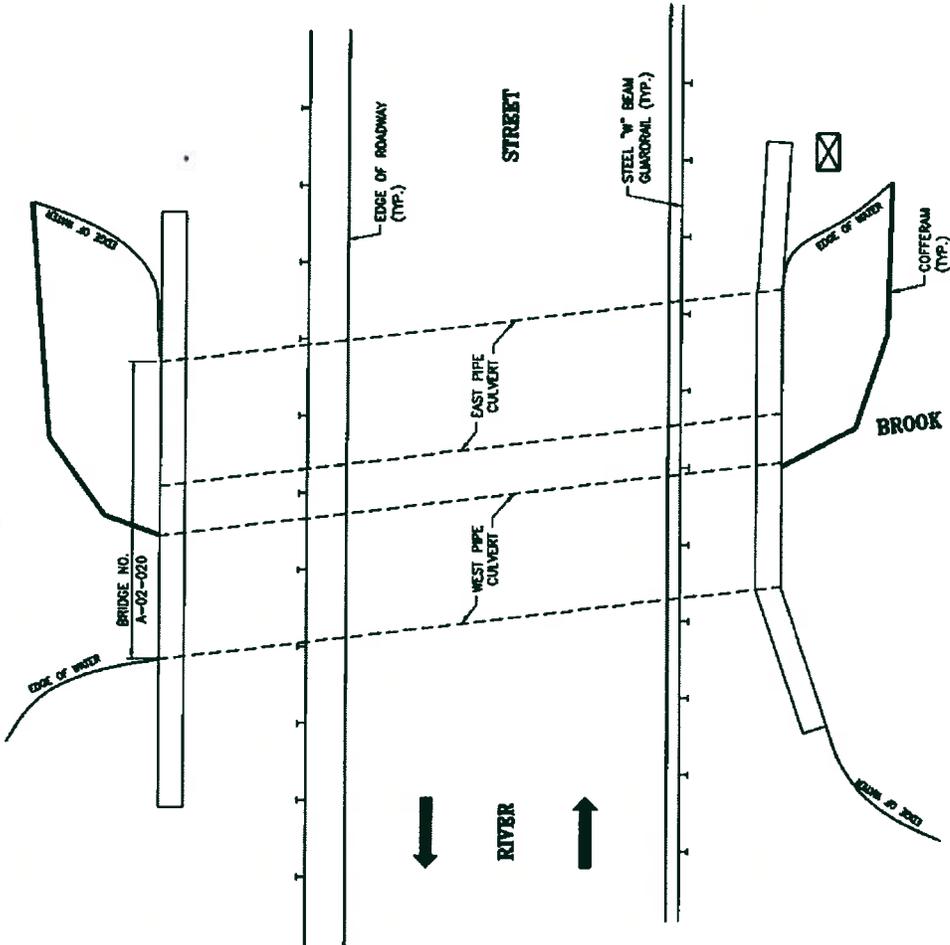
STAGE I



**LEGEND**  
--- COFFERDAM  
☒ SEDIMENTATION BASIN



FORT POND  
FLOW



- LEGEND**
- — COFFERDAM
  - ⊠ — SEDIMENTATION BASIN

STAGE II



**CHAS. H. SELLS, INC.**  
Consulting Engineers & Surveyors & Professional Planners

**ACTION: RIVER STREET OVER  
 FORT POND BROOK, BRIDGE NO. A-02-020  
 WATER CONTROL PLAN - SCALE: N.T.S.**



Bridge #: A-02-020

Photo #: 1

Heavy vegetation

See Photo #7

Voids

09/20/2007

North Elevation View, looking South.



Bridge #: A-02-020

Photo #: 2



Voids

South Elevation View, looking North.

09/20/2007

Bridge #: A-02-020

Photo #: 3

SPEED  
LIMIT  
30

View of East approach roadway looking West across bridge.

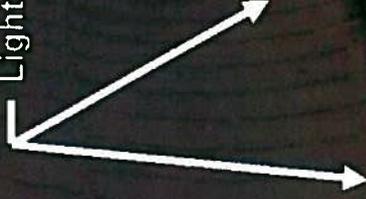


Bridge #: A-02-020

Photo #: 4

09/20/2007

Light to moderate rusting



Typical condition of West pipe culvert, looking North.

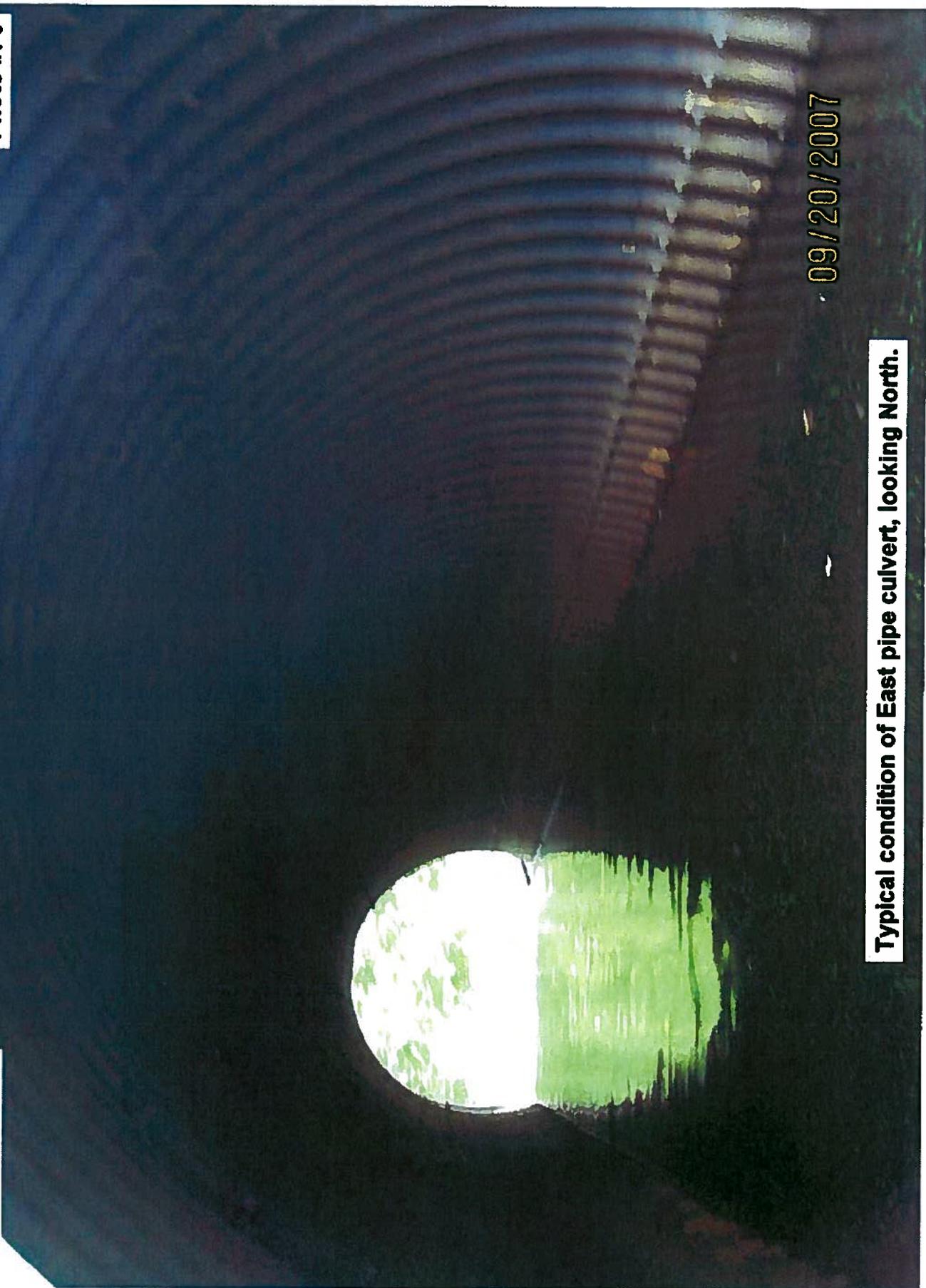


Bridge #: A-02-020

Photo #: 5

09/20/2007

Typical condition of East pipe culvert, looking North.



Bridge #: A-02-020

Photo #: 6

09/20/2007

View of three (3) punctures to the top of the West pipe culvert, looking East.



Bridge #: A-02-020

Photo #: 7

10" wide x 3" high x 10" deep hole



09/20/2007

Typical condition of the wingwalls (Northeast wingwall shown), looking South.

