

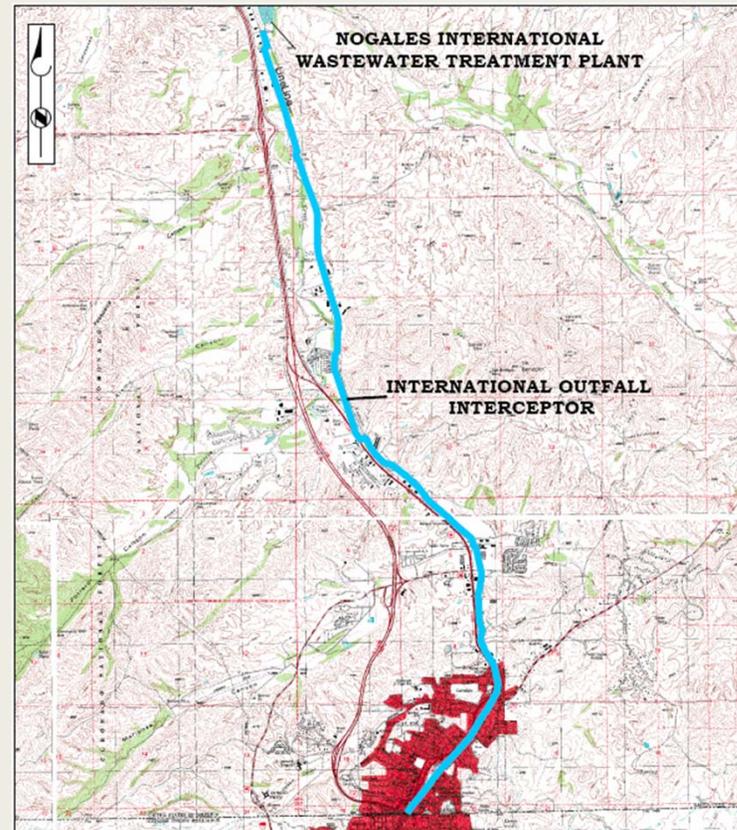
SOUTHEAST ARIZONA CITIZENS FORUM MEETING

BORDER SANITATION – REHABILITATION OF
THE INTERNATIONAL OUTFALL
INTERCEPTOR

October 8, 2020



Overview of International Outfall Interceptor



Purpose of Sewerline Rehabilitation Project

- To rehabilitate an almost 50-year old sewer line that has significant damage.
- To avert a spill or leakage of sewage in order to ensure the continued health and safety of the communities of Ambos Nogales as well as downstream communities along the Nogales Wash and Santa Cruz River in Arizona.
- To rehab and repair any existing structural damage as determined by the 2005 Brown and Caldwell Evaluation of the state of the IOI.

Existing Sewerline Issues



Pipe Deterioration
Root Intrusion



Cracks



Inflow & Infiltration



Holes

Design Work



- In May 2014, the USIBWC awarded an engineering design contract to AECOM/URS Corporation for the sewerline rehabilitation design.
- The project was divided into five (5) phases. So, five separate sets of plans and specifications will be developed.
- URS submitted final deliverables on June 11, 2018.

- Phase 1: Between MH #85 and MH #99
- Phase 2: Between MH #1 and MH #37
- Phase 3: Between MH #37 and MH #51
- Phase 4: Between MH #51 and MH #66
- Phase 5: Between MH #66 and MH #85

Note: MH = manhole;

Manhole #1 in Phase 2 is closest to the International border.

Legend

-  Manhole for IOI Phases
-  Phase 1
-  Phase 2
-  Phase 3
-  Phase 4
-  Phase 5

IBWC Nogales International Outfall Interceptor



International Boundary and Water Commission
United States Section

GISO Map Project Reference # **GISO-FY19-0022**



Map Scale: 1:37,434 1 inch = 3,119.48 feet

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Projection: Mercator Auxiliary Sphere
Datum: WGS 1984
Units: Meter
Date: March 20, 2019



Project Description

- This rehab will utilize the Cured-in-Place Pipe (CIPP) process. CIPP is a trenchless technology with little or no disruption to the existing ground conditions.
- A resin filled polyester felt tube, or liner, is inserted or inverted into an existing pipe. A Vacuum process is used to evenly distribute the resin.
- The liner is then inflated and thermally cured-in-place using either hot water, steam, or UV.

1

A sewer camera reveals a blocked, breached and/or root intruded pipe.

2

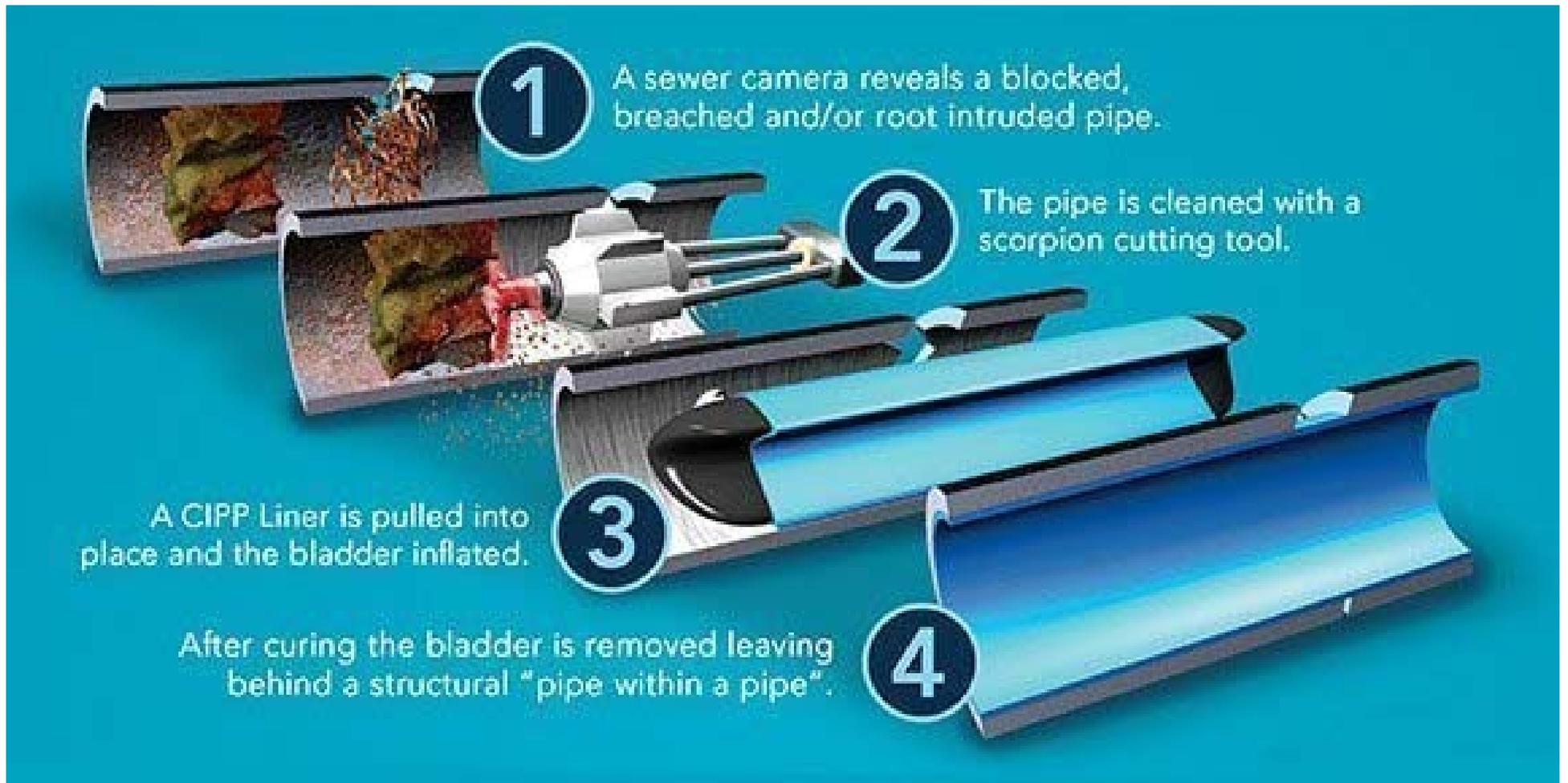
The pipe is cleaned with a scorpion cutting tool.

3

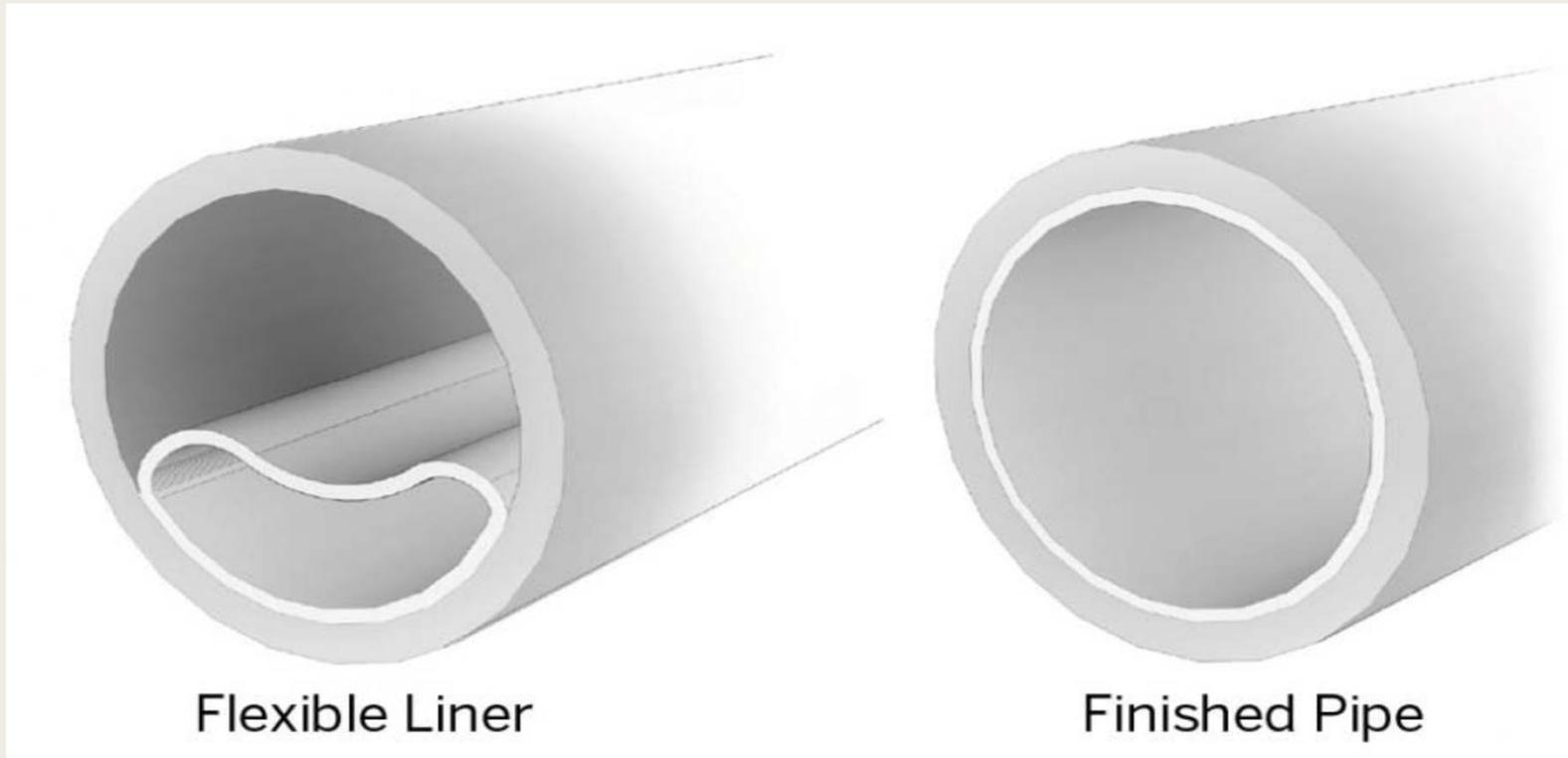
A CIPP Liner is pulled into place and the bladder inflated.

4

After curing the bladder is removed leaving behind a structural "pipe within a pipe".



CIPP Process





BEFORE

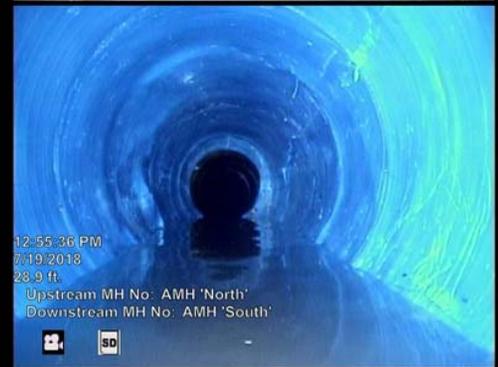


AFTER

BEFORE



AFTER



IOI Protective Measures

- ADEQ, USIBWC, City of Nogales, Santa Cruz County did an inspection along the Nogales Wash on July 7, 2020.
- 10 sites were identified as potentially needing protective measures constructed to protect the IOI.
- 4 of the sites were cleared.
 - 2 were *not an issue*
 - 2 were *repaired*



Pending

- City laterals to be relocated from pipeline to nearest manhole, NADB is funding the project and is currently in design.
- ADEQ and USIBWC to determine which of the 6 sites are to have measures designed. 2 of the sites are rated low risk, 1 moderate risk, 3 high risk.
- UPRR permit still pending
- Funding for all 5 phases.
- Funding for protective measures

Estimated Cost of IOI Rehabilitation

Phase	Cost
1	\$6-8 million
2	\$7-9 million
3	\$6-9 million
4	\$6-8 million
5	\$6-8 million
Total Cost	\$31-42 million

Estimated Cost for Protective Measures

Area	Location	Estimated Cost	Risk
3	MH 93	\$30,000	High
4	IOI Wash Crossing MH 91-92	\$72,000	Low
6.1	MH 86 Erosion	\$36,000	High
6.2	IOI Wash Crossing MH 86-87	\$72,000	High
8	IOI Wash Crossing MH 59-60	\$72,000	Low
9	MH 51	\$80,000	High
10	Nogales Wash MH 23-24	\$1,000,000	Moderate
	Total Cost	\$1,362,000	

Questions