

'Effects of Reduced Flows on Gravity Sewer Systems'

COT Water Advisory Committee
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Safety Share

“Pick your parking space wisely”



CMOM

Capacity:

- Assurance of system wide capacity, growth, augmentation, etc.

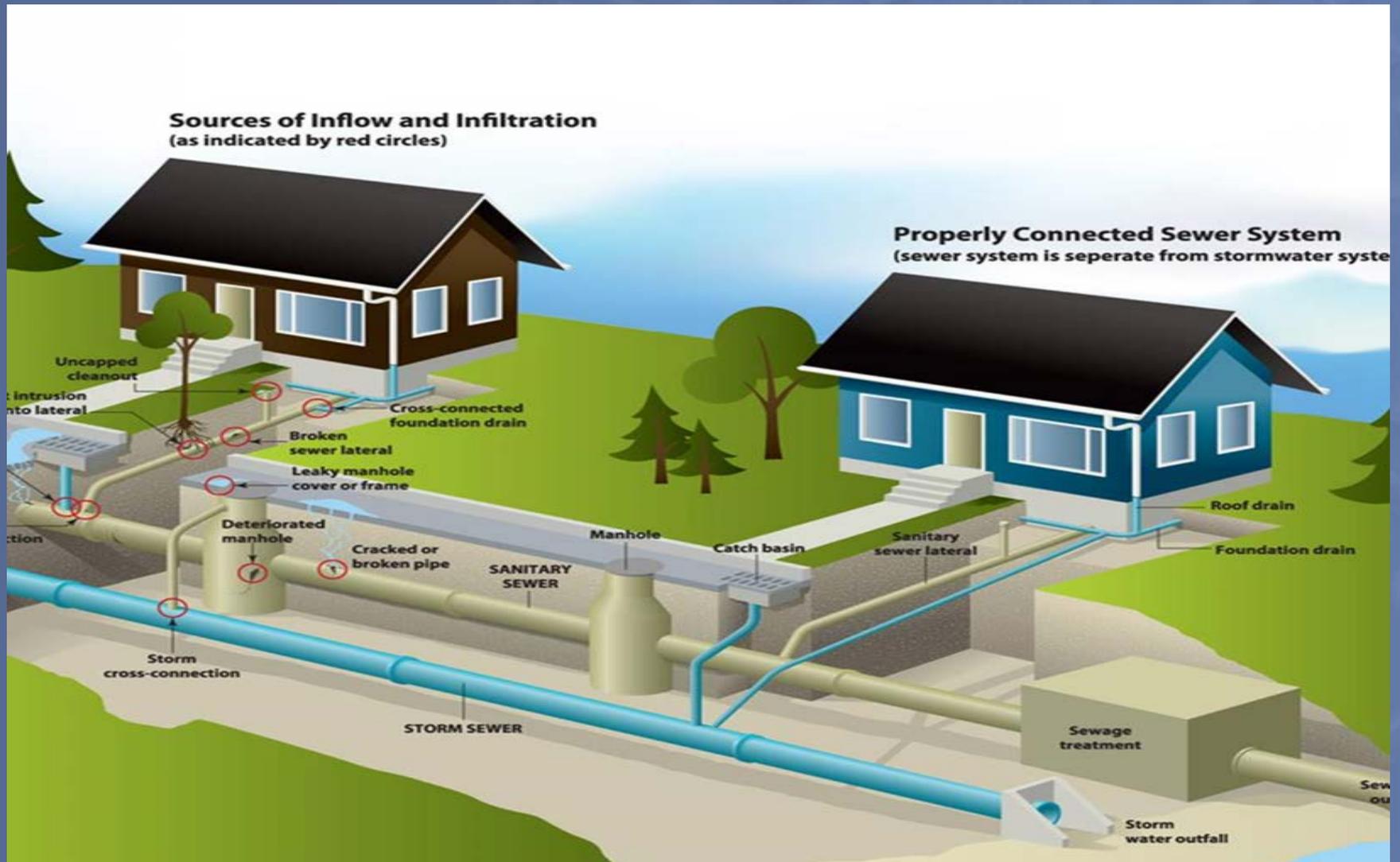
Management:

- Assure adequate funding, budget development, user rates and administration.

Operations & Maintenance:

- Adequate resources, i.e.: staffing, equipment, O&M program, optimization and tracking as required.

Typical Laterals & HCS's



Minimum Sanitary Sewer Slopes

MINIMUM SANITARY SEWER SLOPE TABLE 1 (Standard Arizona Practice)	
Pipe Diameter (inches)	Minimum Slope $S = \{V/[1.486/n*(D/4)^{2/3}]\}^2$
4	0.0084
6	0.0049
8	0.0034
10	0.0025
12	0.0019
15	0.0014
18	0.0011
21	0.00092
24	0.00077
30	0.00057
36	0.00045
42	0.00037
48	0.00031
54	0.00026
60	0.00023
66	0.00020
72	0.00018
84	0.00015
96	0.00012

CCTV Program 2006-2016

RWRD is responsible for operating and maintaining over 3,478 mi of pipe

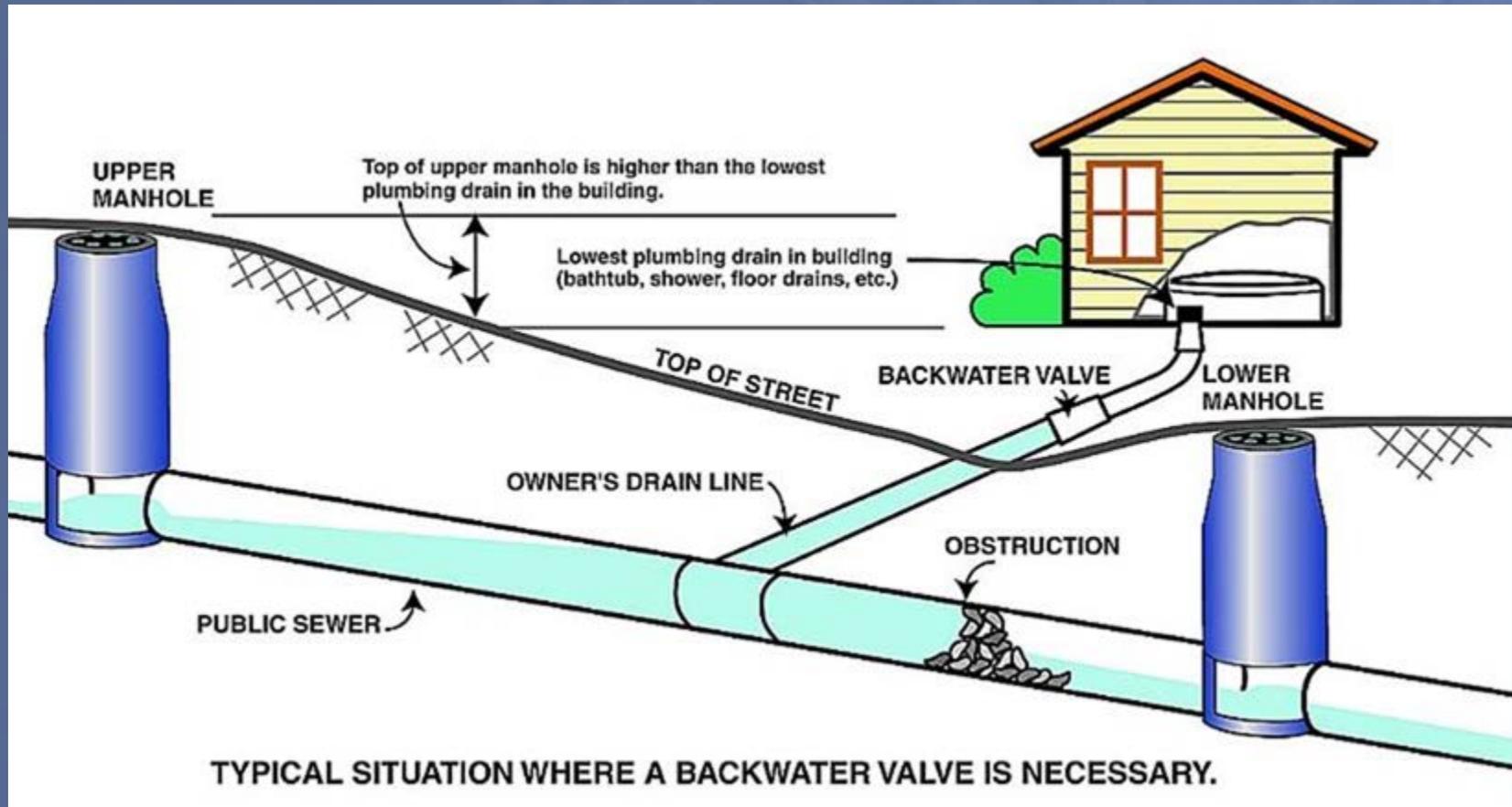
3,225 miles	\leq 15 inch Diameter	92.74%
253 miles	$>$ 15 inch Diameter	7.26%

Of the 3,478 miles of pipe, a total of 2,567 miles has been televised as of Dec 31st, 2015

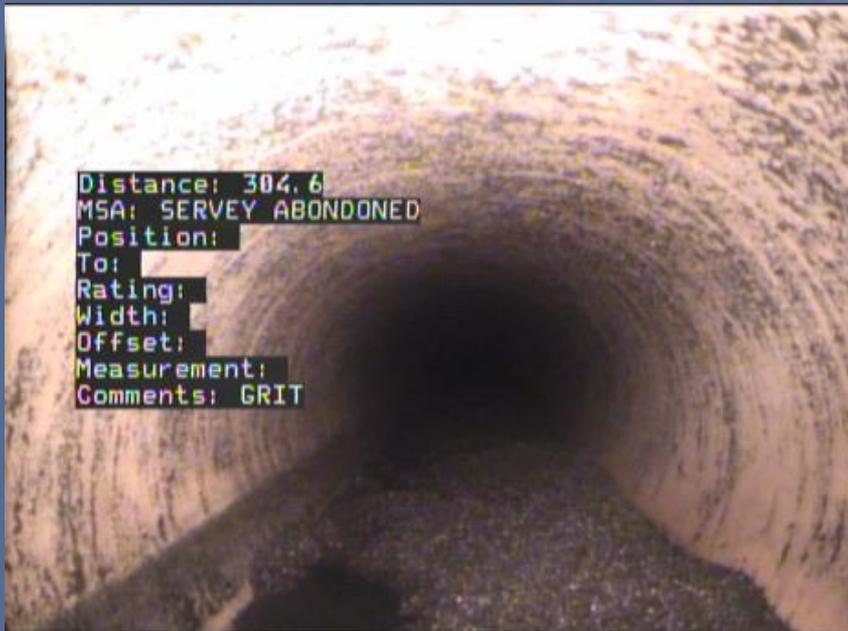
2,467 miles	\leq 15 inch Diameter	758 miles TBC by Dec 2016
100 miles	$>$ 15 inch Diameter	153 miles TBC by Dec 2016



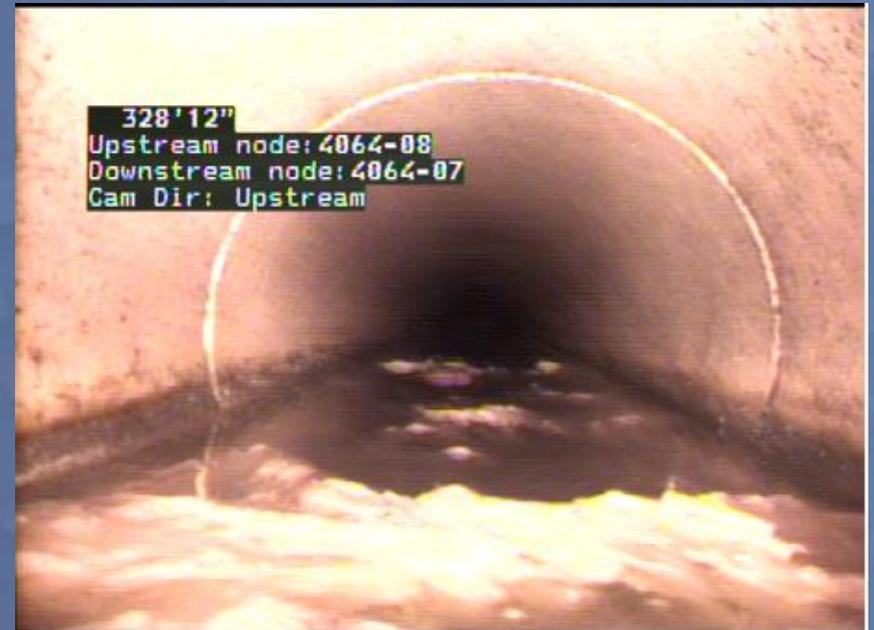
Typical Obstruction Scenario



Grit, Solids & Low Flow



Grit, Solids & Low Flow



Grit, Solids & Low Flow



Interceptor Condition Assessment

(54" Diameter)



Detrimental Results



Questions

