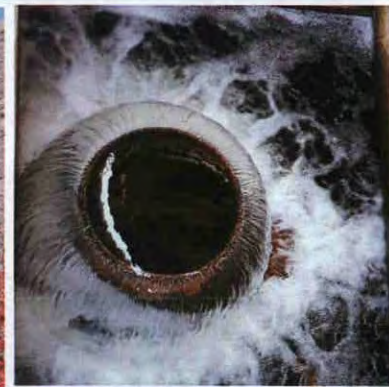
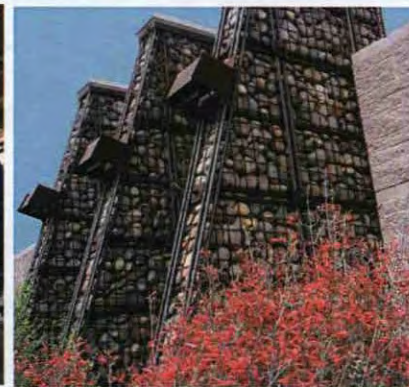


Residential Sewer Line Extensions and Septic Systems



Agenda

1. Introduction and Review
2. October 22, 2019 Study Session Tasking
3. Survey Results
4. Discussion
5. Options/Guidance to Staff

What is a sewer line extension?

An extension of a sewer line to serve additional properties. In the residential context, it is done to allow a homeowner/developer of a single-family residence to extend a water or sewer line to their property.

Why do we have a sewer line extension program?

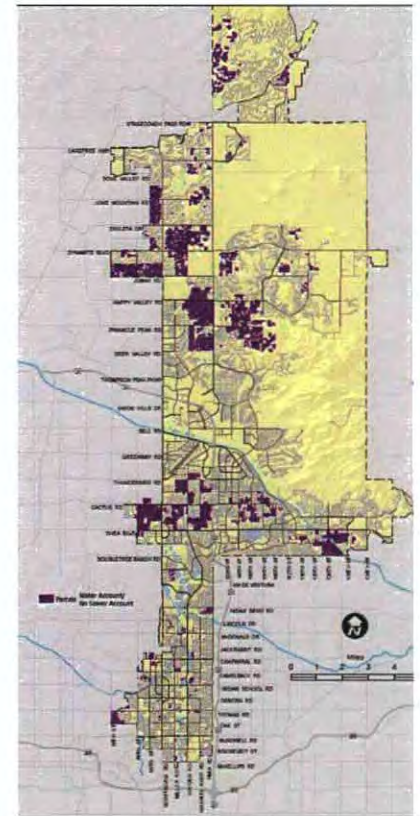
Scottsdale General Plan, Public Services and Facilities Element, paragraph 12 (Water Resources) has the following bullets:

- Recognize the value of water and wastewater as resources to be managed in order to contribute to a sustainable community.
- Make sure that new service delivery costs are borne by those desiring the service without costing or adversely impacting existing customers.
- Encourage the use of alternative sewer systems instead of private septic systems.

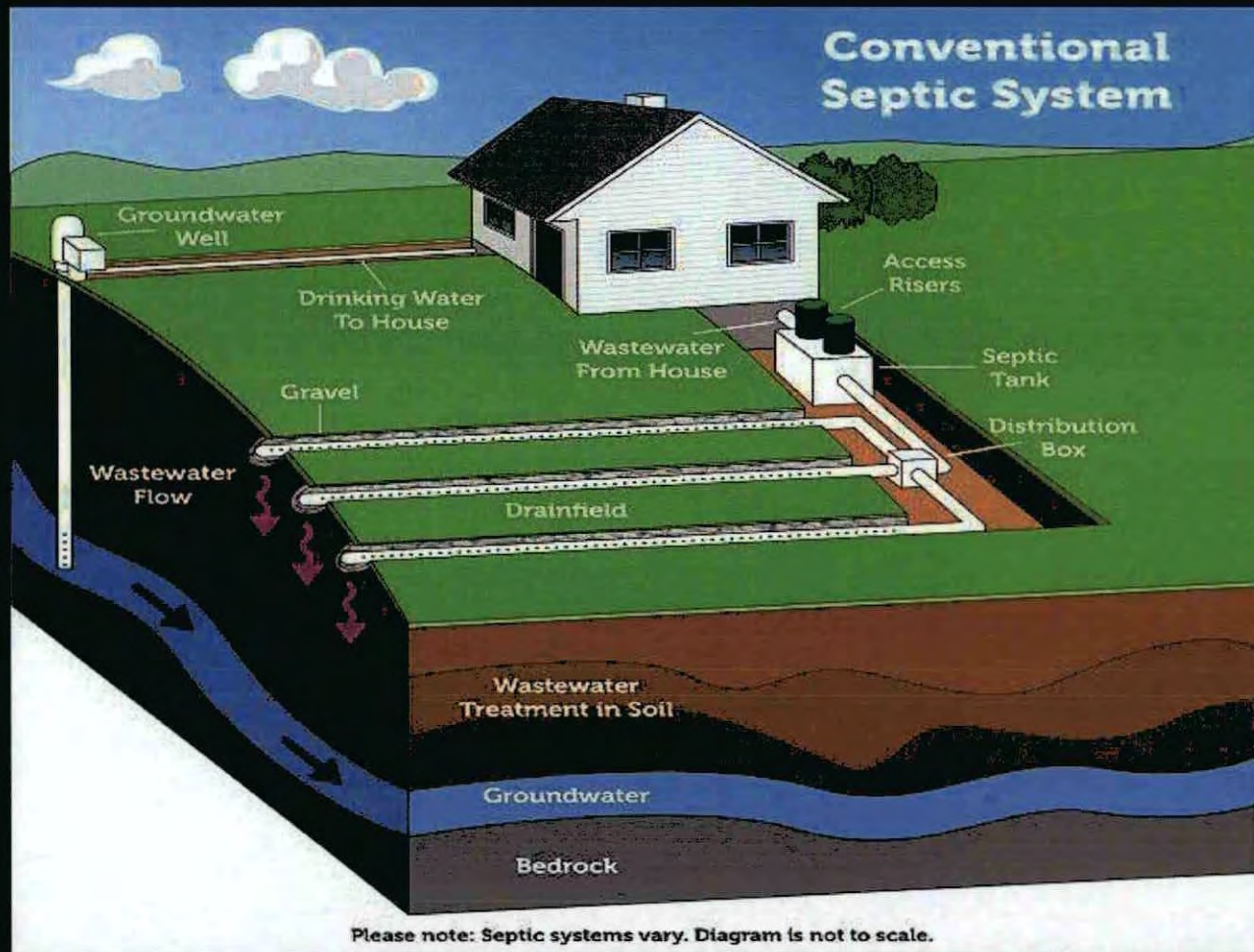
Septic Systems in Scottsdale

Approximately 5,500 septic systems in Scottsdale.

Over the last seven years, the sewer line extension program has enabled sewer lines to reach 169 homes or parcels with an average cost per parcel of \$25,000.



Groundwater Quality and Septic Systems



Water Quality Impacts

- USEPA – “Insufficiently treated sewage from septic systems can cause groundwater contamination, which can spread disease in humans and animals. Improperly treated sewage poses the risk of contaminating nearby surface waters threatening swimmers with various infectious diseases, from eye and ear infections to acute gastrointestinal illness and hepatitis.”
- Groundwater Foundation – “An improperly designed, located, constructed, or maintained septic system can leak bacteria, viruses, household chemicals, and other contaminants into the groundwater causing serious problems.”
- CDC - “Septic systems are an under-recognized cause of disease outbreaks,” said Jonathan Yoder, who leads the domestic water, sanitation, and hygiene epidemiology team at the Centers for Disease Control and Prevention.

Septic Tank Contamination Risk

Most common (Regulated)

- Bacteria
- Viruses
- Parasites
- Nitrate (known to be as high as 50 parts per million in septic tank discharge)

What do all of these have in common? **All acute contaminants**

Pass through septic (Unregulated)

- Pharmaceuticals
- Personal Care Products

EPA Septic System Density

- USEPA – “Many public health authorities feel that conventional septic systems are suitable only where population is strictly limited, and soil conditions are suitable for effective absorption. Otherwise, these systems may contaminate ground and surface waters and result in sanitary nuisances and health hazards”.
- The EPA has determined that regions with greater than 40 septic systems per square mile (that is 1 system per 16 acres) are regions of potential groundwater contamination.

THUNDERBIRD RD
(13800 N)

(12200 N)
CACTUS RD

S-32

S-23

SHEA BLVD
(10600 N)

101

In some areas of Scottsdale, specifically the west Shea area, the septic tank density is 10 times the EPA recommendation. Within one square mile there are approximately 400 septic systems. This results in one system per 1.6 acres ratio.



Exempt Wells

Non-municipal “wells” exist within Scottsdale city limits

- 981 exempt wells within Scottsdale city limits
- May not be a fully completed well – may just be partially drilled
- Conduits from surface to groundwater
- Allowed to be within 100 feet of septic system
- Potential contamination can be directly drawn down from surface to aquifer



October 22, 2019 Study Session

Council asked staff to return with options and information on total costs to both City and residents for a program that would incentivize residents to convert septic systems to the City sewer system, including:

- Conducting a survey of residents for interest
- Means of creating a Community Facility District
- Capping cost to residents
- Implementing a sliding scale cap based on size/value of home
- Holding a “Sale on Sewer”
- Allow the connection cost to be paid over time

Survey Design

- Began with all residential customers who receive water service, but not sewer service.
 - Removed city-owned parcels, HOAs, multifamily units, and customers served by Black Mountain Sewer Co.
- First mailing (Jan 2020): postcard directing customers to online survey
- Second mailing (Feb 2020): Postage-paid, self-mailer survey
- Total surveys mailed: 6,120

**SCOTTSDALE
WATER**

**CUSTOMER SURVEY
PLEASE RESPOND**

Scottsdale to consider septic system conversion incentive program

Scottsdale Water is conducting a survey of residents currently on septic systems to gauge interest in programs that would incentivize conversion to city sewer service. As a Scottsdale Water customer receiving water but not sewer service, your residence has been identified as having a septic system.

To help us assess interest in septic system conversion programs, please detach and mail the survey below or complete it online at ScottsdaleAZ.gov/EZ and search "survey."

Septic system conversion programs were discussed in depth at a City Council Work Session on Oct. 22, 2019. To view the work session in its entirety, please visit ScottsdaleAZ.gov and search "2019 video archives." For additional information, please call 480-312-6650.

Your name _____ Phone _____
Address _____

Is the house at this address on a septic system?
☐ Yes ☐ No ☐ Unsure

Approximate year the current septic system was installed:
☐ Since 2010 (less than ten years old) ☐ 1990 to 1999 (20 to 30 years old)
☐ 2000 to 2009 (11 to 20 years old) ☐ Prior to 1990 (older than 30 years)

Do you anticipate having the current septic system overhauled?
☐ Yes ☐ No ☐ Unsure

Would you consider converting from septic to sewer if the price to do so would be the same or similar to the cost of installing a new septic system or renovating your current septic system?
☐ Yes ☐ No ☐ Unsure

If no, why?

Additional comments?

Survey Data

Customers surveyed	6,120
Customer surveys completed	2,304
Percentage of customers completing survey	38%

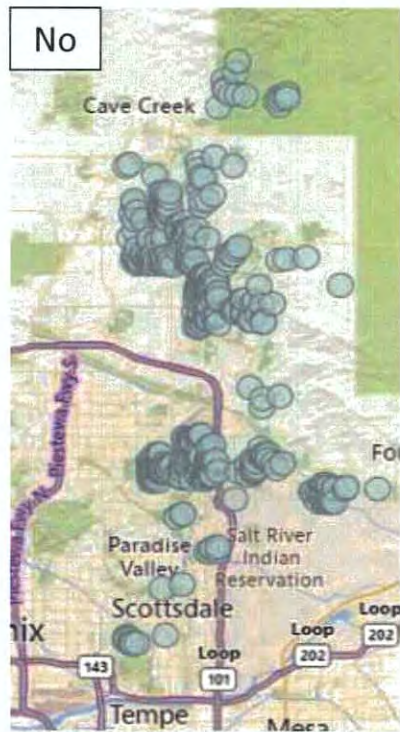
Do you anticipate having the current septic system replaced or overhauled?	
No	1469
Yes, within the next five years.	148
Yes, within the next ten years.	71
Unsure	493

Would you consider converting from septic to sewer if the price to do so would be the same or similar to the cost of installing a new septic system or renovating your current septic system?	
No	686 – 30%
Yes	994 – 43%
Unsure	538 – 23%

Approximate year the current septic system was originally installed	
Since 2010 (less than ten years old)	247
2000 to 2009 (11 to 20 years old)	470
1990 to 1999 (20 to 30 years old)	500
Prior to 1990 (over 30 years old)	957

Geographic Distribution of Results

Would you consider converting from septic to sewer if the price to do so would be the same or similar to the cost of installing a new septic system or renovating your current septic system?



Discussion

- Community Facility Districts can occur but need sufficient numbers to make start-up cost worth while. This option is available to customers.
- Cap on sewer – possible but needs funding.
 - Sliding Cost Scale for cap – difficult due to setting cost before homes are developed, escalating land values for long time owners, and contrary to standard billing processes.
- Sale on sewer – a cap on sewer costs is a “sale on sewer”. Additionally, lot development or home redevelopment which require sewer extensions are influenced more by other factors.
- Customers allowed to pay over time – possible, but not risk free.

Discussion

Low-cost (to the Sewer Fund) improvements to Sewer Extension Program:

- Payment over time
 - Customer must agree to a lien on property
 - Down payment with up to 5 years to pay remaining balance with a separate billing (external to utility bill)
- Interest rate reduced from Prime plus 1 percent to latest Scottsdale Water/Sewer bond interest rate.
- Interest capped at no more than \$5,000 per lot/home

Historic Sewer Extension Costs

Fiscal Year	Number of Affected Lots	Total Length of Extension (Feet)	Average Cost Per Lot
2014/15	4	1,160	\$28,773.65
2015/16	18	1,760	\$12,199.03
2016/17	12	1,977	\$25,646.46
2017/18	40	5,795	\$27,881.62
2018/19	45	4,179	\$26,803.9
2019/20	32	3,870	\$22,248.57
2020/21	18	2,318	\$30,482.69

Fiscal Year	Number of Affected Lots	Total Length of Extension (Feet)	Average Cost Per Lot
Total	169	21,059	
Average	24		\$24,862.27

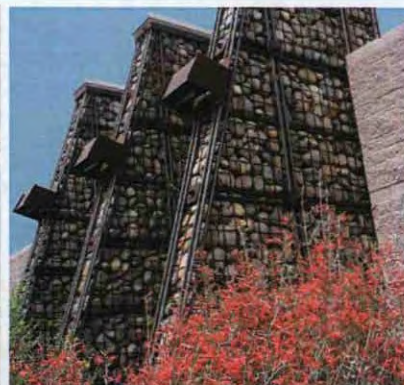
Cap on Sewer Discussion

- Suggested cap to be roughly equivalent to the cost of new septic system: \$15,000
- Funding needed:
 - Current yearly average of extensions per lot: 24 with a cost of \$25,000 per lot
 - Assuming an increase to 50 lots/homes per year
 - Cost to Scottsdale Water Sewer Fund is \$500,000 per year (only addresses costs going forward, not existing agreements)
- Possible solutions:
 - 1.5% increase in sewer rates to all sewer customers or
 - \$0.40 per month charge to all water customers as an Aquifer Protection Fee

Possible Options for Council

1. No changes
2. Low-cost options
 - Payment over time
 - Reduced Interest
 - Cap on interest
3. Cost cap with funding (\$15,000)
 - Sewer rater increase (1.5%)
 - Water Quality Fee on Water bill (\$0.40/month)
4. Combination/other

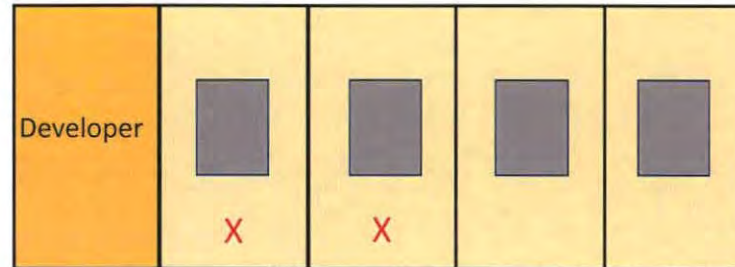
Questions?



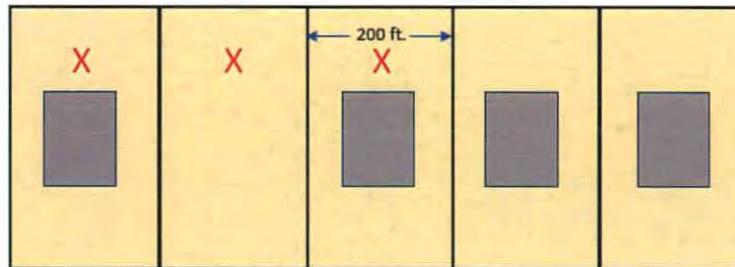
 **SCOTTSDALE
WATER**

 **CITY OF
SCOTTSDALE**

Line Extension Example



600 ft extension of sewer
required for developer



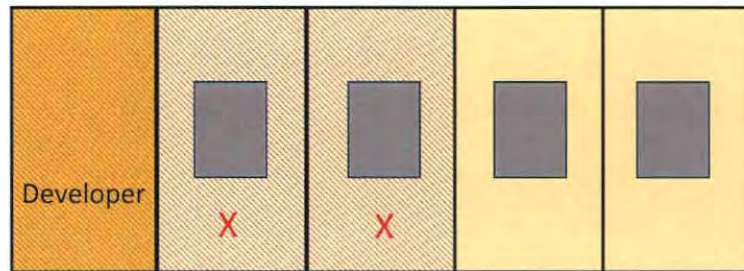
Benefiting Parcels - X

Developer plus 5
benefiting parcels

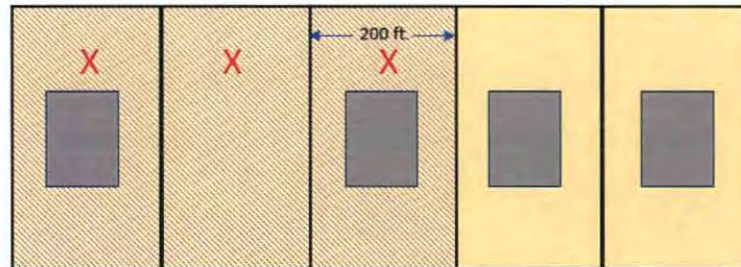
Edge of Developer's lot is
400 feet from sewer line
(within 500 ft requirement)

Total Cost = \$150,000

Six homes/lots with equal
frontages equates to a cost
of \$25,000 per lot/home



Total Cost = \$150,000



Benefiting Parcels - X

Developer would front the cost and upon project completion would be refunded \$125,000. (\$150,000 - \$25,000 for lot)

Existing homes with septic are not required to hook up to the Sewer following SRC 49-117.

However to hook up to the sewer, each benefiting parcels would be required to pay \$25,000 (plus interest if they don't hook up with the project as it is built).

Payback agreement expires in 20 years