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03/04/2024

Sewer Inspection Report

Performed a sewer scoping of the under-house and exterior under-ground sanitary sewer system.
Performed hydro-static testing on the under-slab sanitary sewer system.

Multiple main and secondary clean-outs were located (approximate locations indicated on the diagram).

Clean-outs are crucial access points to enter the sewer system for general maintenance, unclogging of lines, leak testing and sewer scoping.

The under-slab sewer system that was camera accessible today showed to be the older cast iron pipe only (probably the original).
The cast iron showed moderate areas of corrosion, inner wall flaking, hairline cracks and joint misalignments, all fairly typical for the age.

Because the camera cannot typically reach all areas of the under-slab sewer system and many leaks are invisible and undetectable through camera scoping alone, hydro-static testing is always recommended. This test encompasses and leak tests the entire under-slab sewer system, in most cases.

The hydro-static leak test showed a 3/5 moderate leaks on system 1 while the remaining systems showed 5/5 leak-free grades.

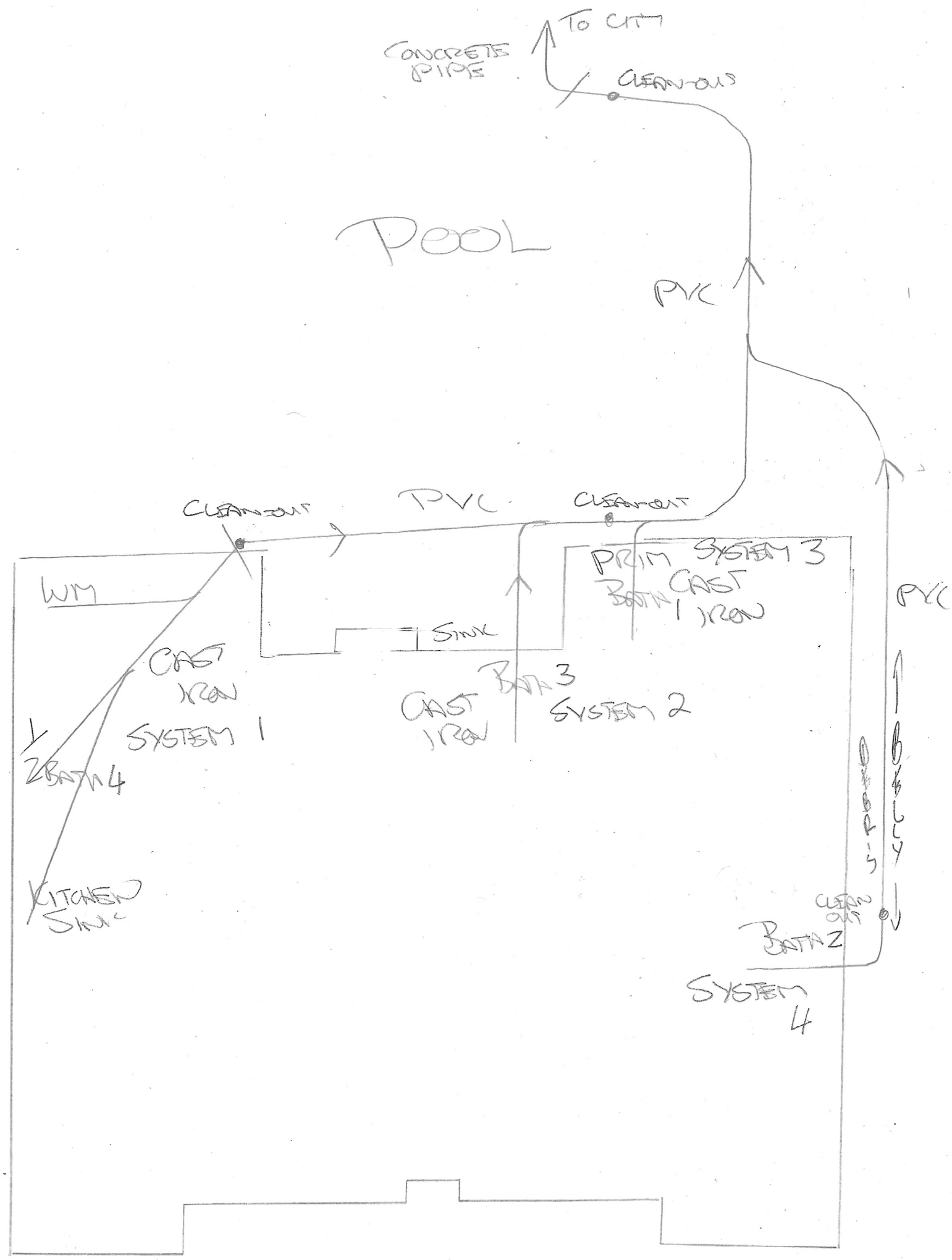
The result chart categorized below.
1/5 -- unable to get the system to fill = major leak/s under the slab
2/5 -- The system fills but immediately after the water filler shut off, the system drops rapidly = Serious leak/s under the slab
3/5 -- The system fills but once filled a slow steady drop is noted = moderate leak/s under the slab
4/5 -- The system fills and once filled no noticeable drop is seen but after a twenty five minute wait, an inch to three drop is noted = insignificant leak/s under the slab
5/5 -- The system fills and no noticeable drop is seen after a twenty five minute period = a leak-free under-slab sewer system.

Cast iron typically has a working life span of between 50-60 yrs. This system therefore is in the "end-of-life" phase statistically and given the hydro-static result and camera evidence seen today, the recommendation would be to begin planning updating system 1 to PVC pipe, and although not an emergency situation yet, sooner rather than later, would be the recommendation.
The remaining systems could continue functioning safely at this time.
We have no accurate way of knowing the safe working life left in these ageing systems. Should the choice be made to remain with the system operable, then periodic inspections would be advised as the leak status seen today can deteriorate and change at any time going forward becoming major leaks, typically with no initial signs. Once the signs are visible (foundation failure, buckling floors, sheet-rock cracks etc.), significant damage has already occurred.

The exterior lines that were camera accessible showed to be predominantly PVC pipe with a short section of concrete pipe just before the city tie-in.
The exterior system for the most part looked in good condition, except for an area of bellying (dipping/bowing of the line, typically holding water), downstream from bath 2. The debris in the belly prevented the camera from getting through the line to scope under the bathroom.
Bellied lines typically are areas more prone to stoppages than those on correctly sloped lines.
It is difficult to determine the effects the bellying may produce by camera scoping alone (some are troublesome, while others are not).
Because of this unknown, correcting the bellying is always recommended but not always necessary.
Should the bellying not be corrected, then the recommendation would be to have the lines periodically hydro-jetted/cleaned.

Note: Because of the constant ground movement in the Houston area, a major cause of sewer failure, and the general age of the sewer system, it is necessary to have periodic inspections of the under-ground sanitary sewer system. What is seen and reported today may not be the case at any time in the future.

Total $475 (paid via Venmo)


CONCRETE PIPE
TO CITY
CLEAN-OUT
POOL
PVC
CLEAN-OUT
PVC
CLEAN-OUT
PRIM SYSTEM 3
BATH 1
CAST IRON
WM
SINK
PVC
CAST IRON
SYSTEM 1
BATH 3
CAST IRON
SYSTEM 2
BATH 4
KITCHEN SINK
BACK-FLOW
CLEAN OUT
BATH 2
SYSTEM 4