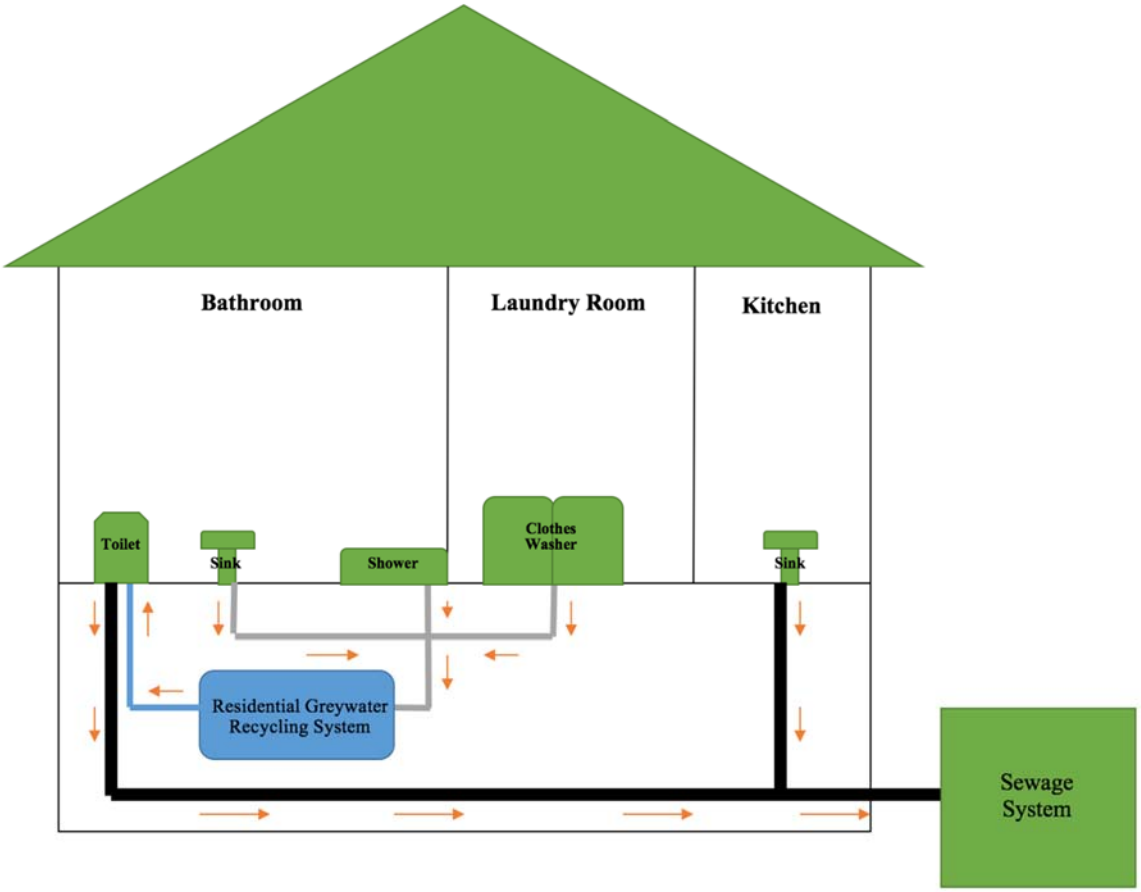
Residential Greywater Recycling System



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BRAINSTORMING

IDEAS

- Making water
- Recycling water
- Hand filter
- AI version of Dollar tree toy

- Water heating → boil/sterile
  - ↳ For home?
- Water transportation
  - ↳ sustainable system
- Thirsty concrete
- shower 1
- Toilets → piping - redesign
  - → suction based
- cleaning

Droughts

- policy
- recycle wastewater.
- plants as natural filtration.

Water temp in columbia

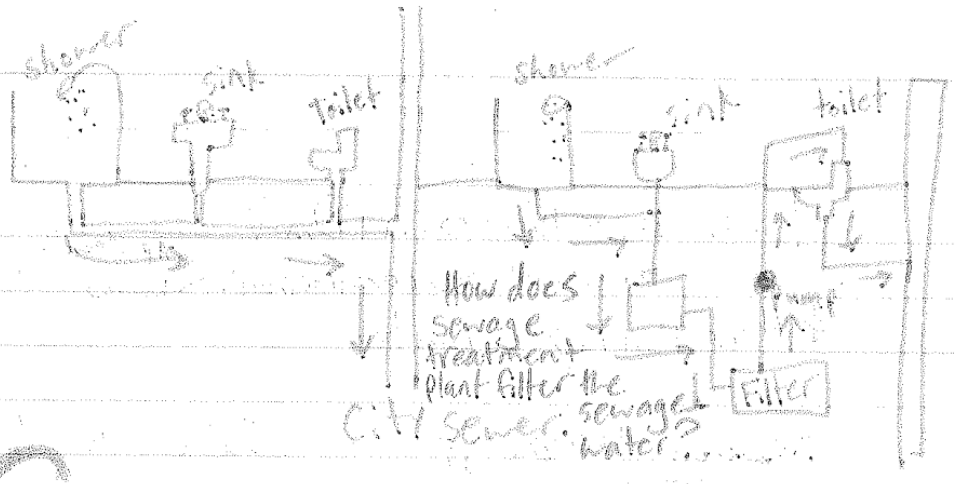
↓ maintain pollution maintnece.

↳ heat pump.

Ideas

Showers

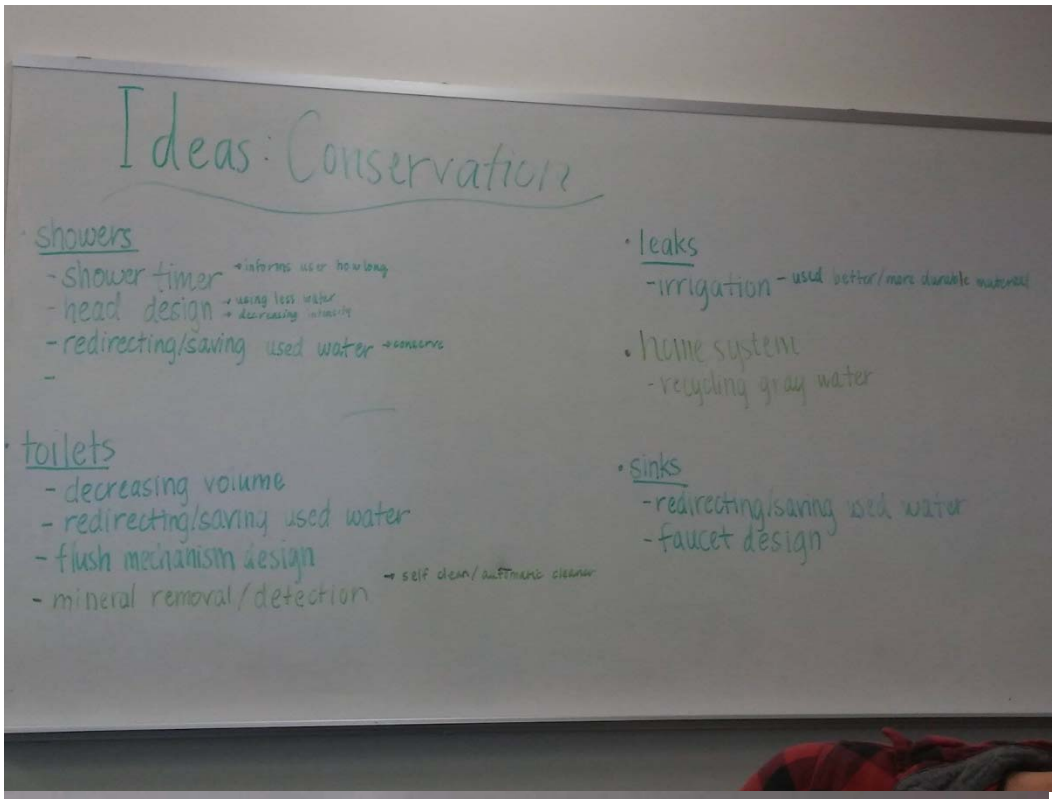
- shower timer
- redirecting/saving used water
- head design.

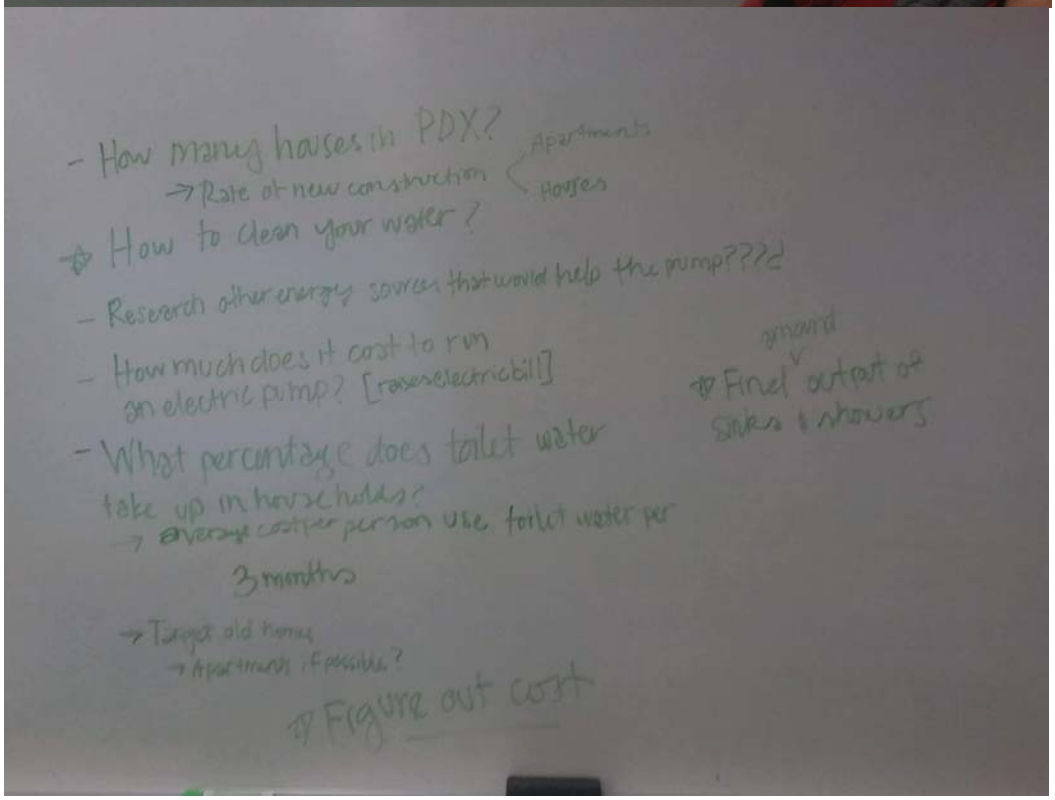


Conservation

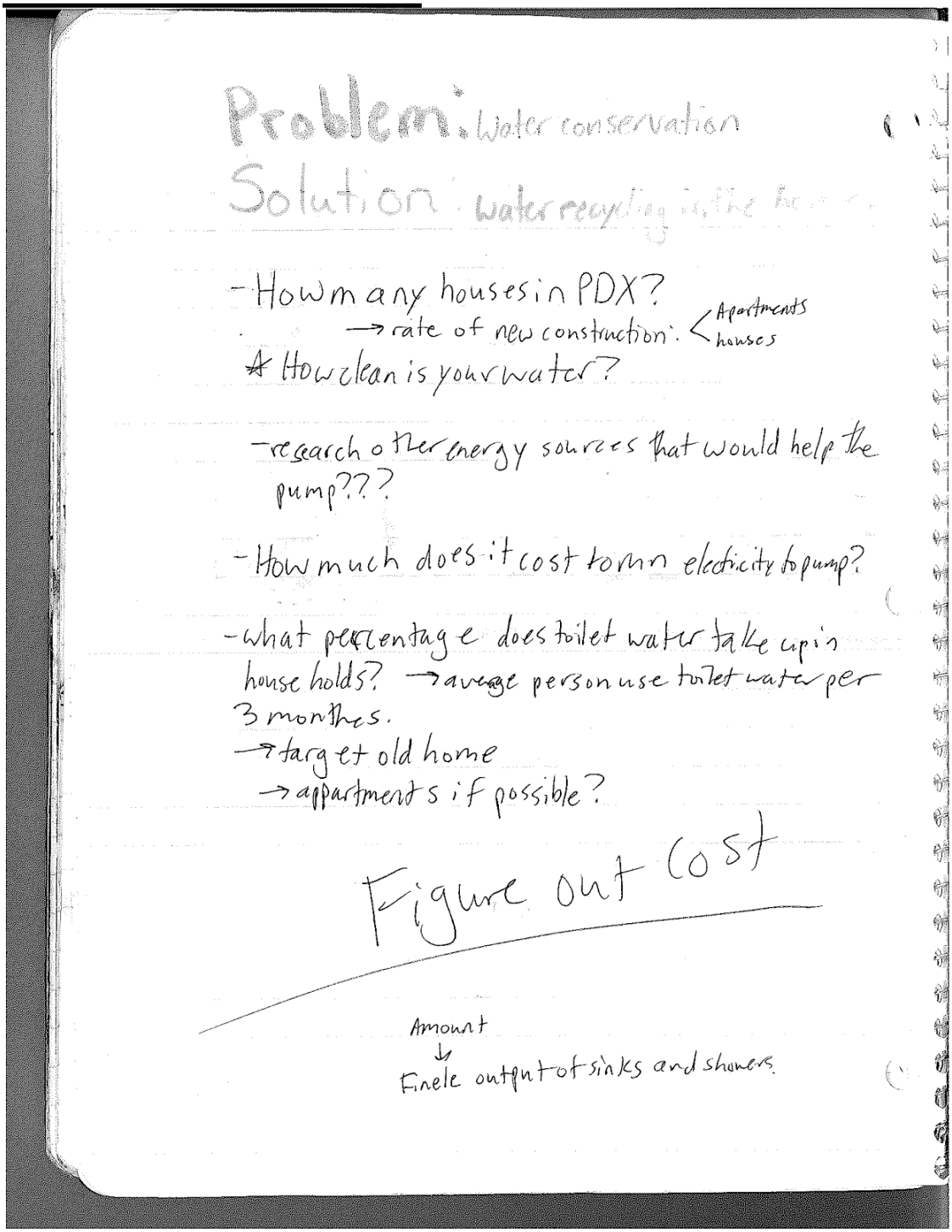
Sinks

- faucet design


Ideas: Conservation
showers
- shower timer → informs user how long
- head design → using less water → decreasing intensity
- redirecting/saving used water → conserve
-
toilets
- decreasing volume
- redirecting/saving used water
- flush mechanism design → self clean/ automatic cleaner
- mineral removal/detection
leaks
- irrigation - used better/more durable materials
home system
- recycling gray water
sinks
- redirecting/saving used water
- faucet design


- How many houses in PDX?
→ Rate of new construction < Apartments / Houses
☆ How to clean your water?
- Research other energy sources that would help the pump???
- How much does it cost to run an electric pump? [raise electricbill]
- What percentage does toilet water take up in households?
→ average cost per person use toilet water per 3 months
→ Target old homes
→ Apartments if possible?
☆ Figure out cost
☆ Final output of sinks & showers
gray water

IDEAS TO CONSIDER



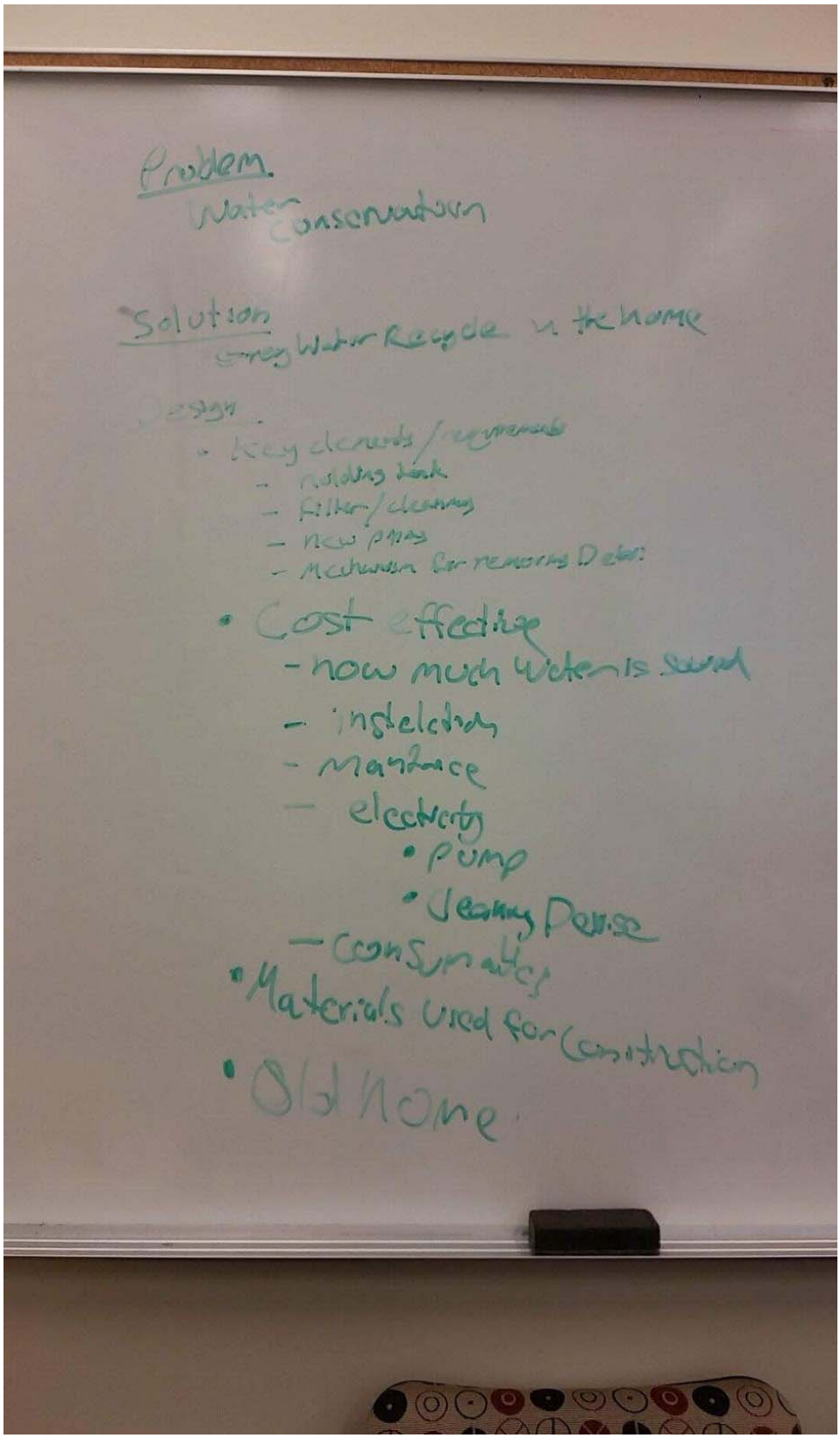
Problem: Water conservation

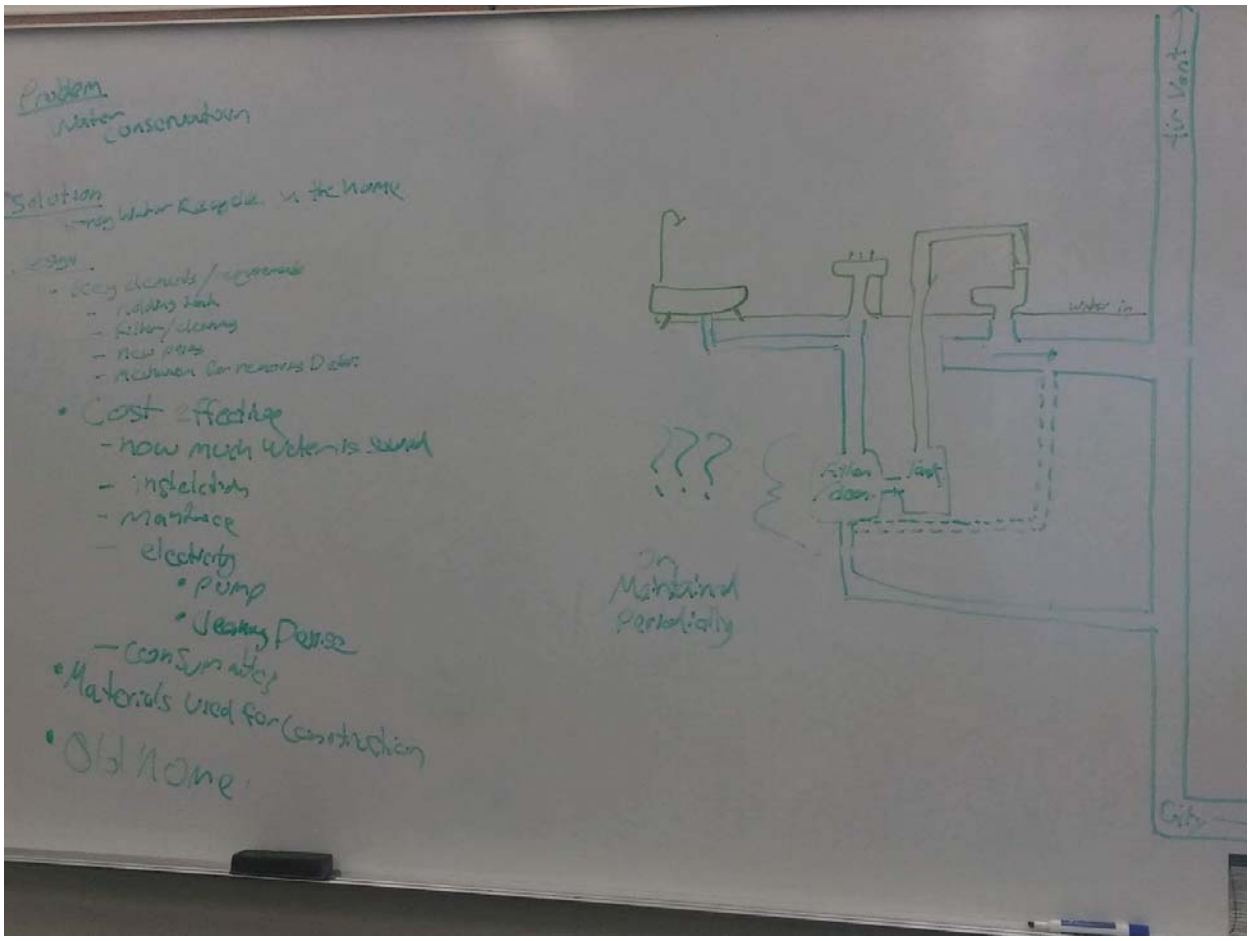
Solution: water recycling in the home

- How many houses in PDX?
  → rate of new construction: < Apartments houses
- ✱ How clean is your water?
- research other energy sources that would help the pump???
- How much does it cost to run electricity to pump?
- what percentage does toilet water take up in house holds? → average person use toilet water per 3 months.
  → target old home
  → apartments if possible?

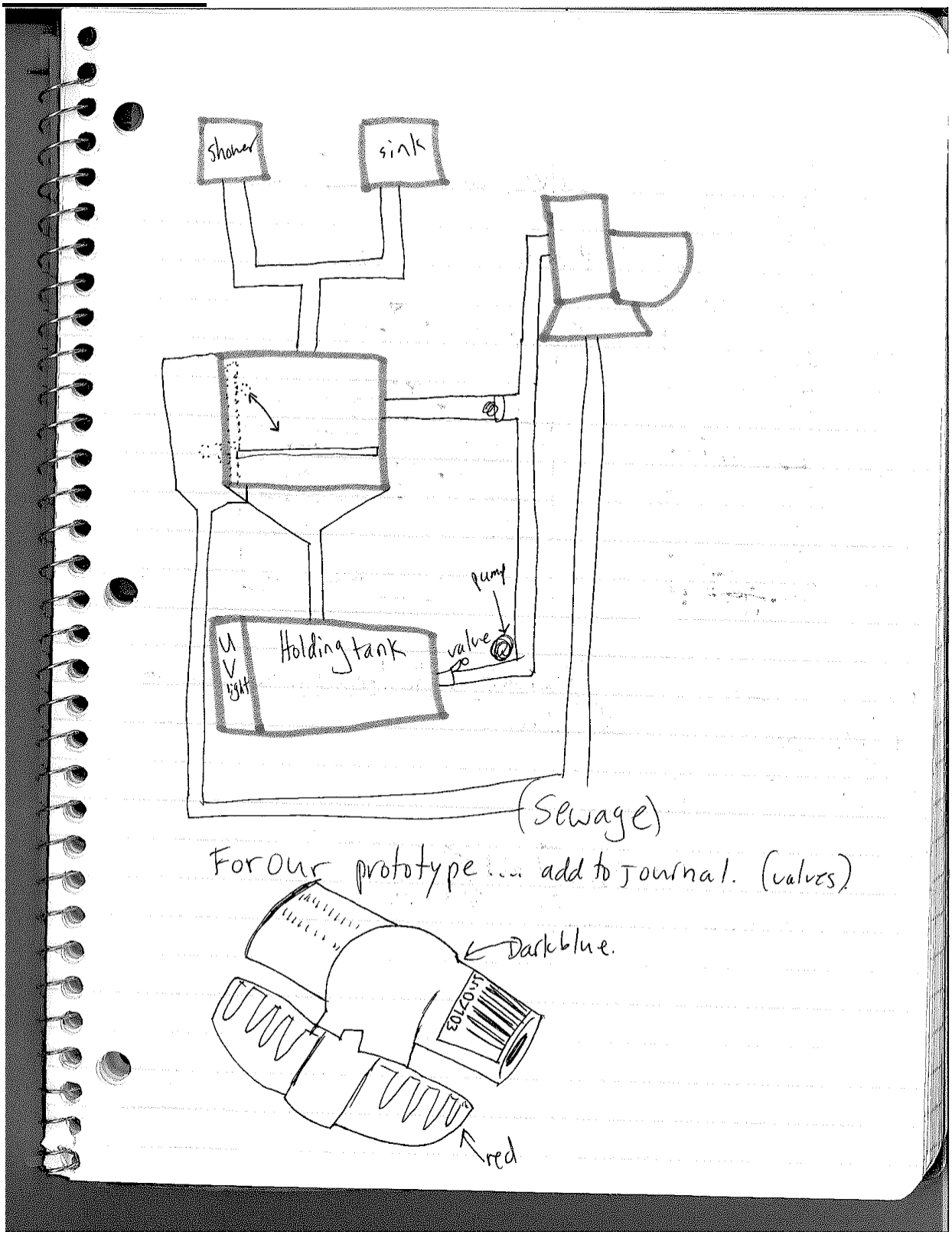
Figure out cost

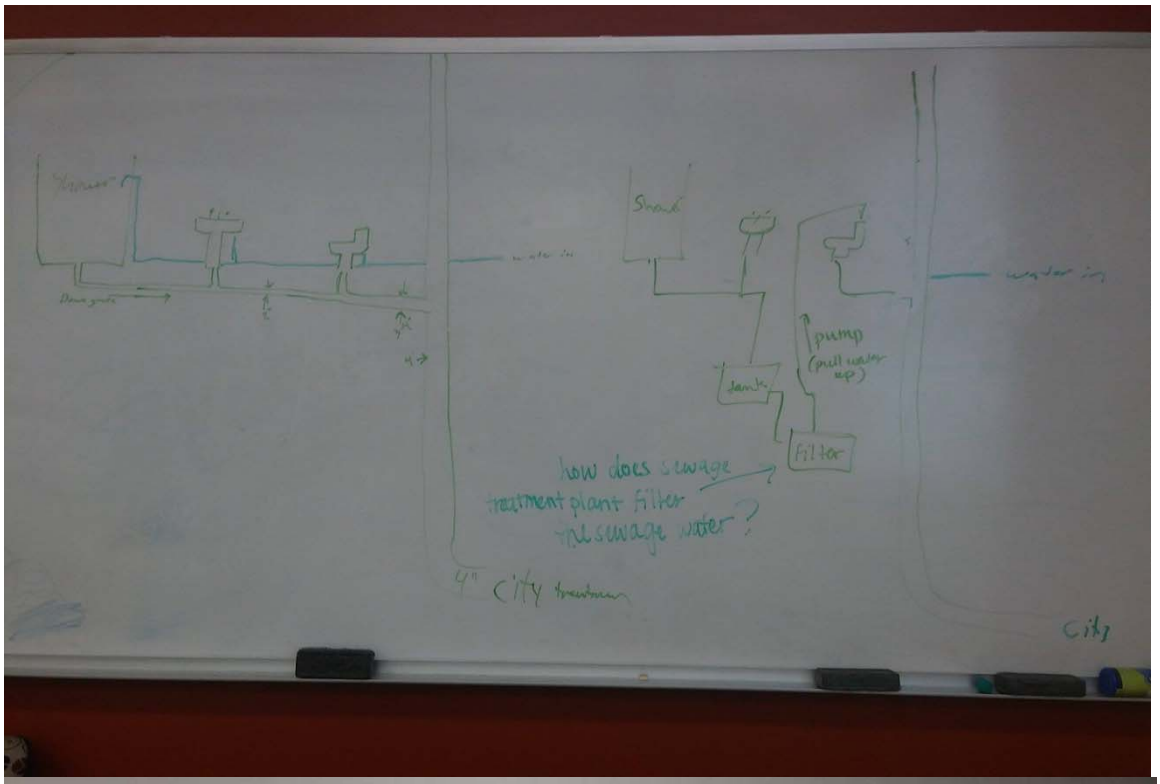
Amount
↓
Finale output of sinks and showers

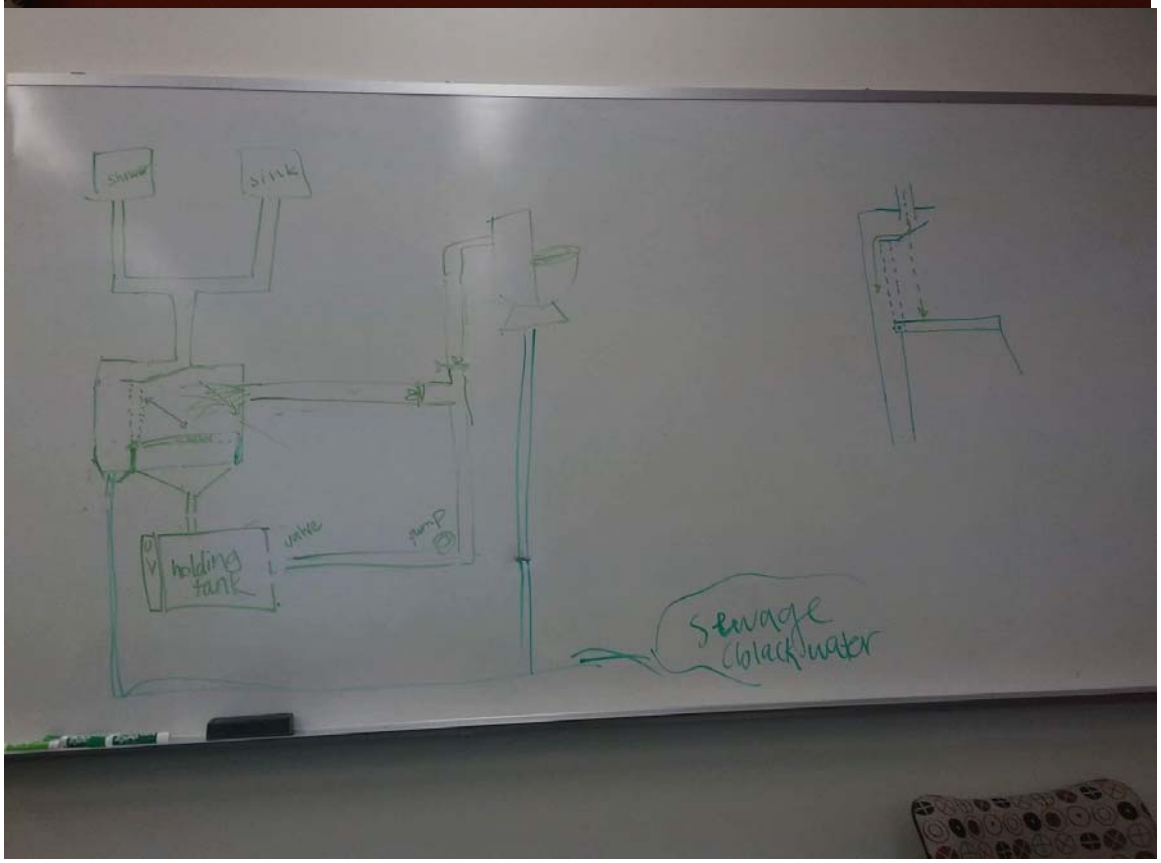

Problem.
Water Conservation
Solution
Grey Water Recycle in the home
Design
- key elements / requirements
- holding tank
- filter / cleaning
- new pipes
- Mechanism for removing Debris
• Cost effective
- how much water is saved
- installation
- maintance
- electricity
• pump
• cleaning Device
- consumables
• Materials used for construction
• Old Home

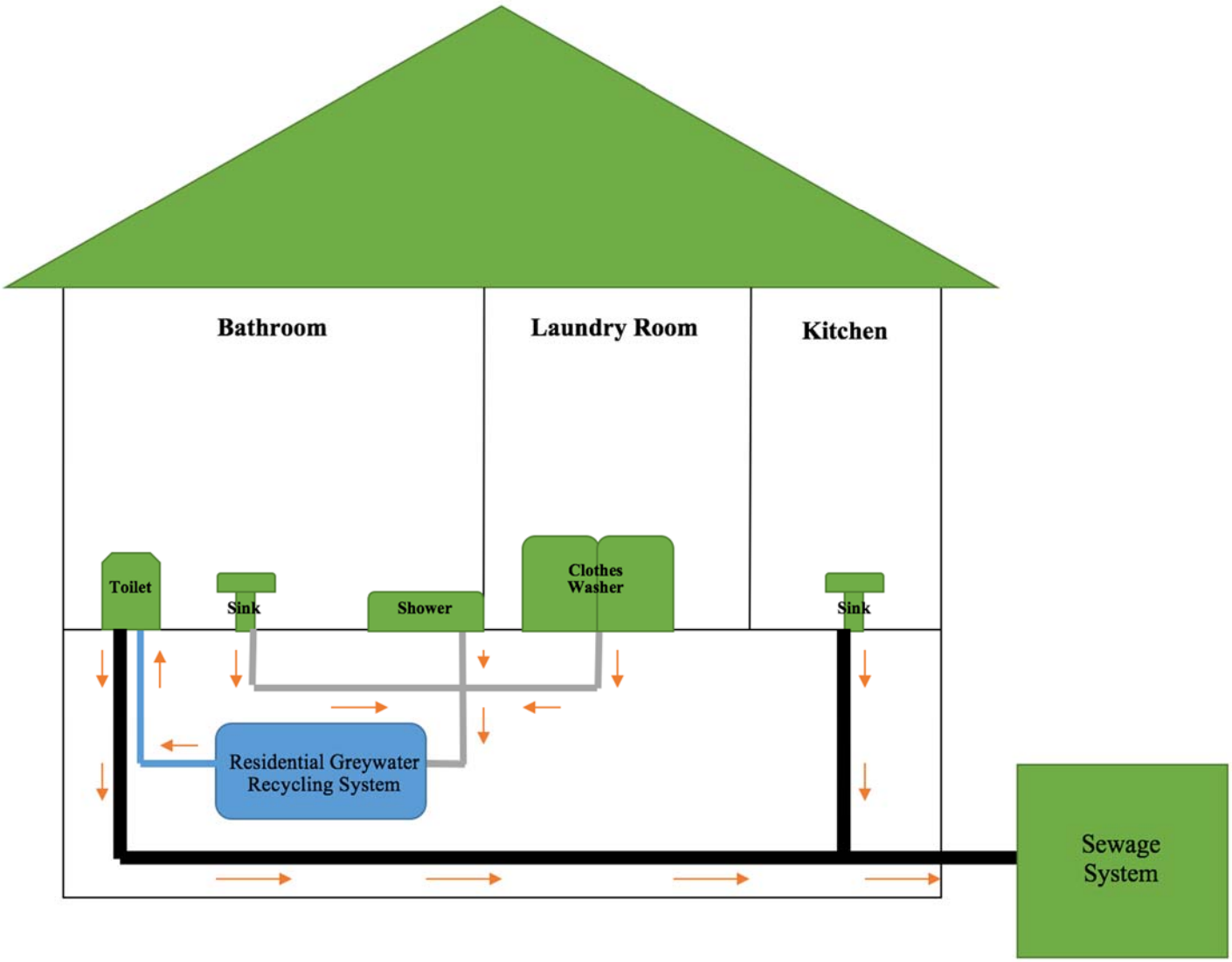

Problem
Water Conservation
Solution
Vent
Water in
???
Maintained Periodically

DIAGRAMS

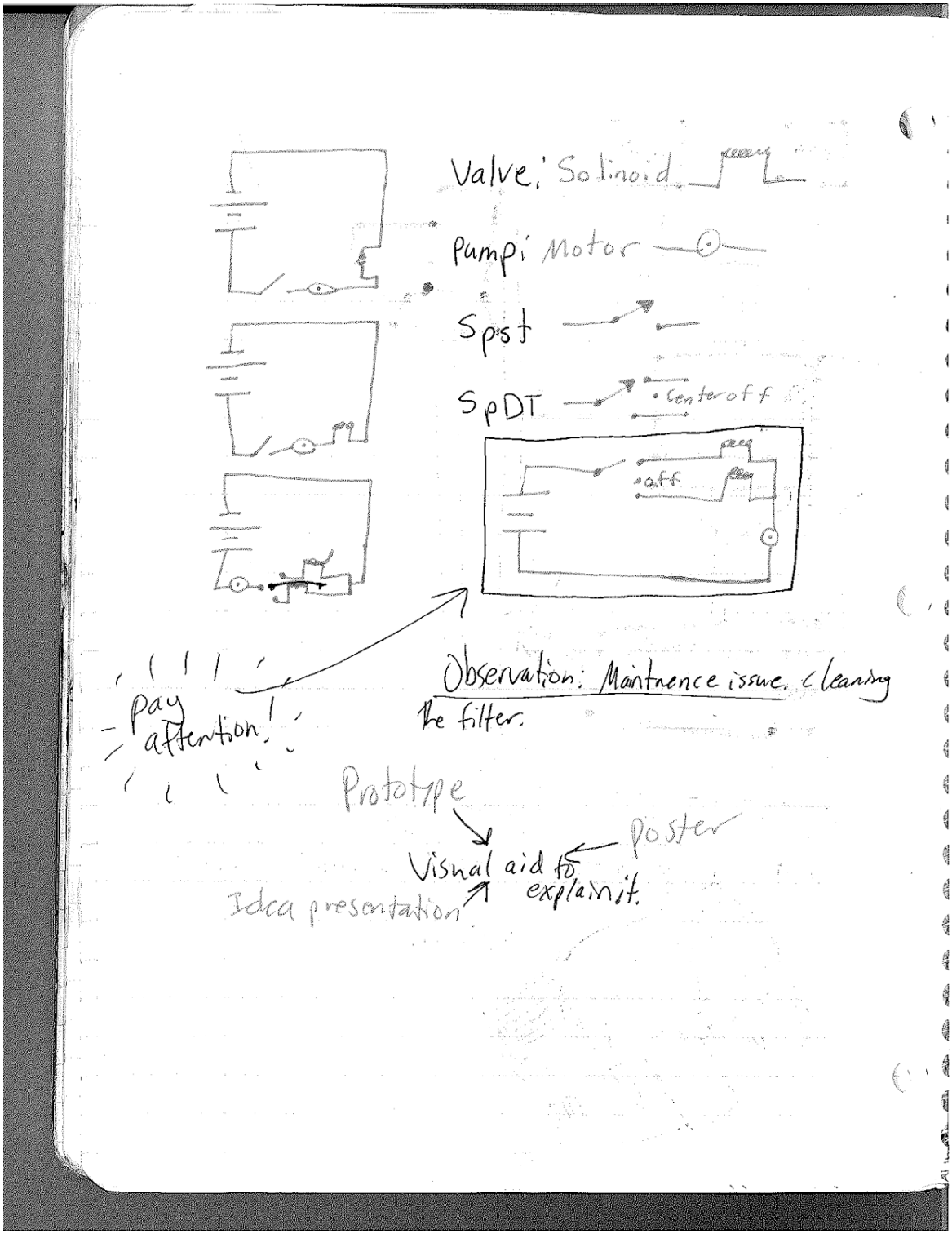

shower
sink
pump
UV light
Holding tank
valve
(Sewage)
For our prototype... add to journal. (valves)
Dark blue.
red

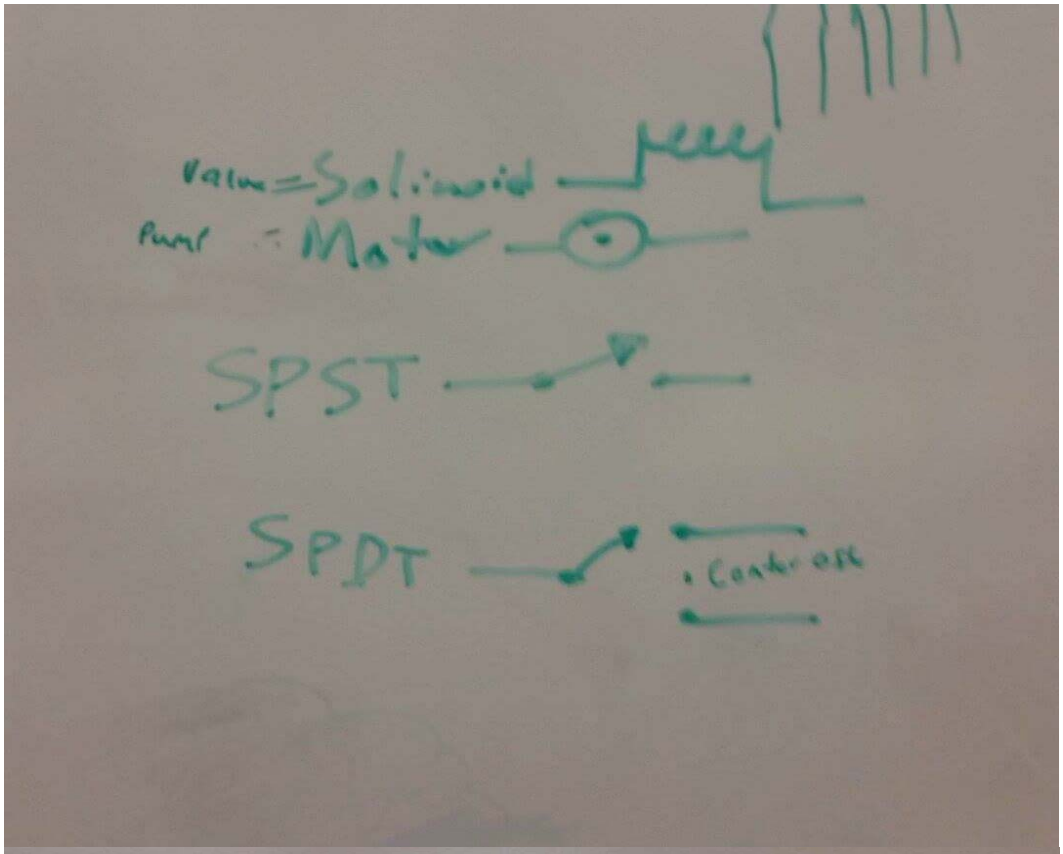

pump
(pull water up)
tank
Filter
how does sewage
treatment plant filter
the sewage water?
4" city
City

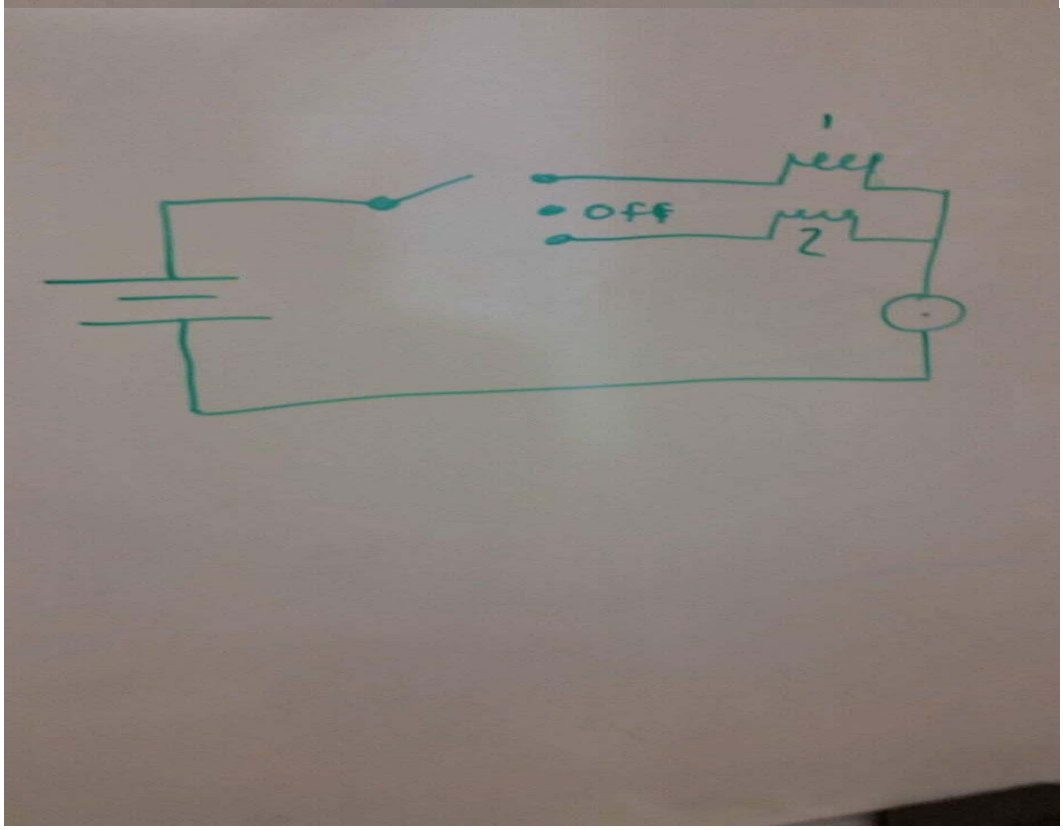

shower
sink
holding tank
valve
pump
sewage
(black water


Bathroom
Laundry Room
Kitchen
Toilet
Sink
Shower
Clothes Washer
Sink
Residential Greywater Recycling System
Sewage System

SYSTEM WIRING




Valve = Solenoid
Pump = Motor
SPST
SPDT
: Center off


1
off
2