Riverton City Secondary Water Treatment System

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Problem

- Secondary water system requires sediment "blowouts" at cul-de-sac ends semi-annually
- Riverton City Public Works process for sediment removal included putting sediment in storm drains
- EPA regulation changed regarding sediment in storm drains.
- Sediment discharge procedures became illegal
- A sediment catching system became necessary

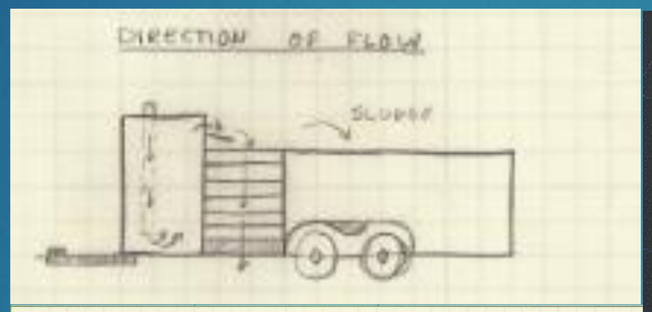
A common Riverton Cul-de-sac with the open ended water line illustrated in blue.

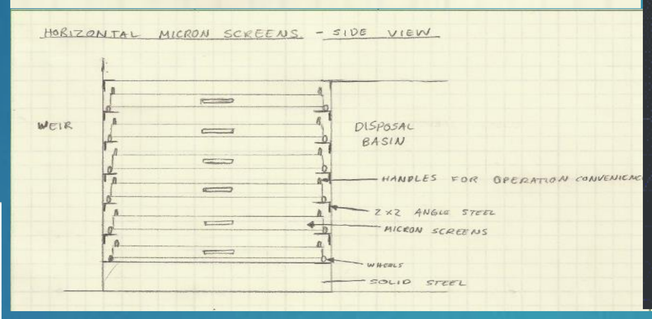
Procedure

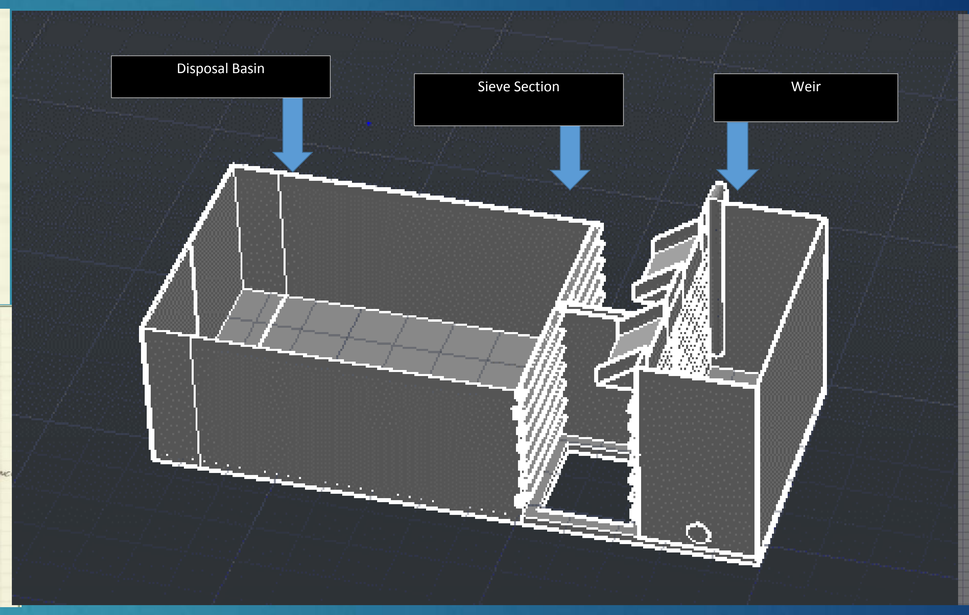
- Gathered information from Riverton City Public Works
- Researched solutions and discussed them with clients.
- Chose solution, made model and did analysis

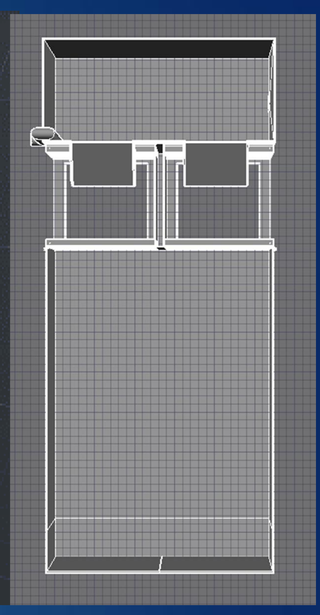
Solution: Weir and Sieve System

The weir and sieve system is a catching system that begins with a flow basin and two weirs to suspend and cause particulates to flow into horizontal sieves and be captured. The system is designed to fit on a tow along trailer hooked to a pickup truck.





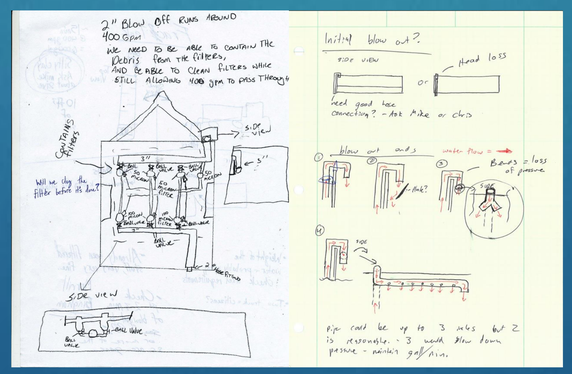




Hand sketch and AutoCAD drawings of Weir and Sieve System

Constraints & Assumptions

- 50 micron sieve required to capture smallest particulates
- 610 open ended water lines
- 1220 blowouts in one 7 month period
- 15 minutes per blowout



Preliminary Design Ideas

Impact of Solution

- Avoid EPA fines & save money
- Remove sediment from storm drains and streets
- Satisfy residents
- Clean streets

Cost of System	**$4,603.69**
EPA Fine	**$30,000**

Manufacturing Cost of System vs. EPA Fine for Noncompliance