

Litter Management in Storm Water Catch Basins

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Catch Basin Insert Pilot Project

- First Project - Sponsored by the Santa Monica Bay Restoration Project and a Consortium of 15 Cities
- Second Project - Proposition A funds with partial UCLA sponsorship



Objectives

- Evaluate existing and prototype catch basin devices to control pollutants in dry-weather flows and storm water runoff
- Focus on conditions in areas tributary to Santa Monica Bay
- Assist government officials make decisions regarding use of catch basins and inserts

Pollutants of Concern

- Suspended Solids (Sediment)
- Oil and Grease
- Trash and Debris (e.g., Litter)

Presentation Outline

- General Requirements
- Dry Weather Testing
- Wet Weather Testing
- Some Conclusions



General Requirements

- Solutions for dry and wet weather (wet season from Nov - March)
- Low cost (< \$500 US)
- No increased flood risk
- Little or no increased water accumulation on streets
- Infrequent cleaning (1/year to 1/2 months)



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Dry Weather Testing

- Boardovers
- Screens
- Solids Accumulation



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Boardovers





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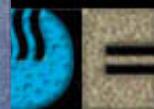
Screens





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Screens



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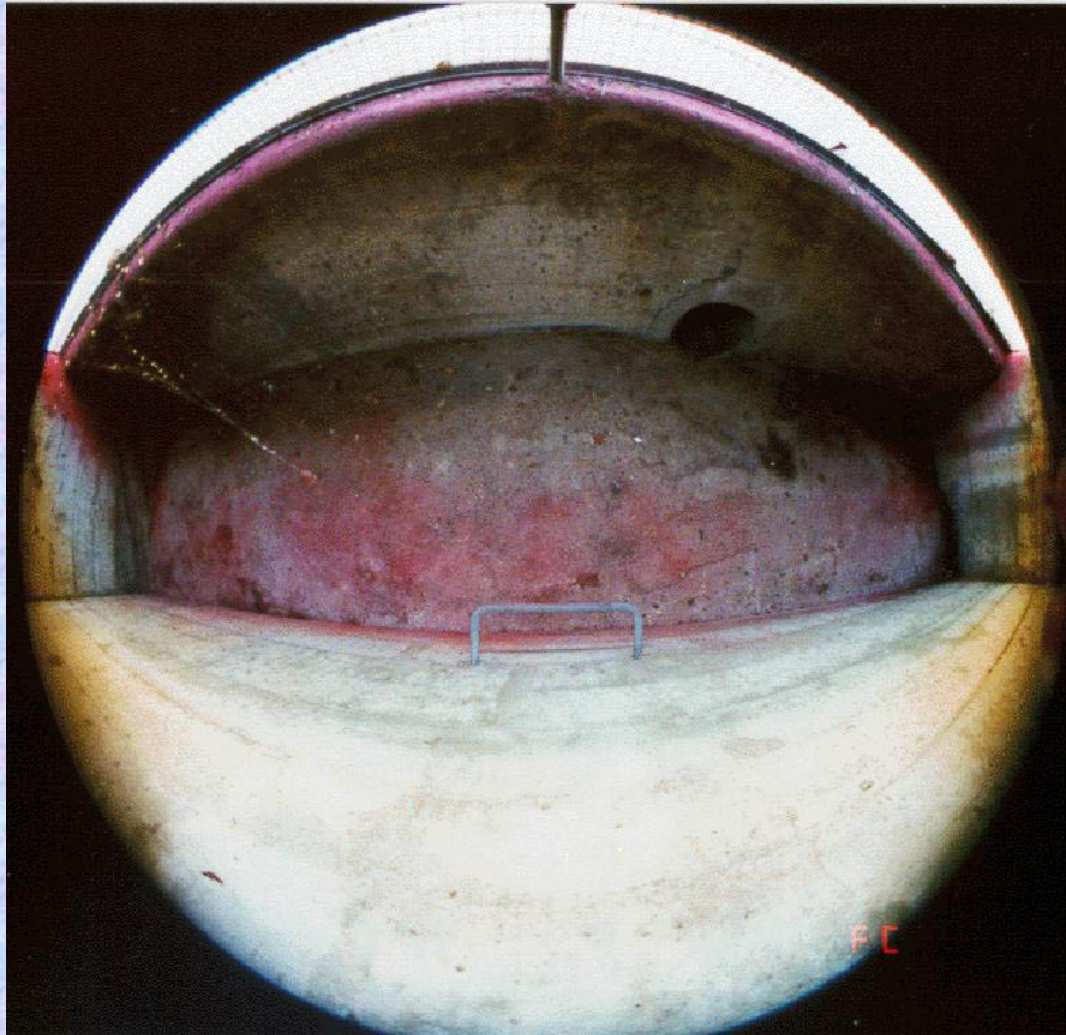
Screen 1 inch wire mesh





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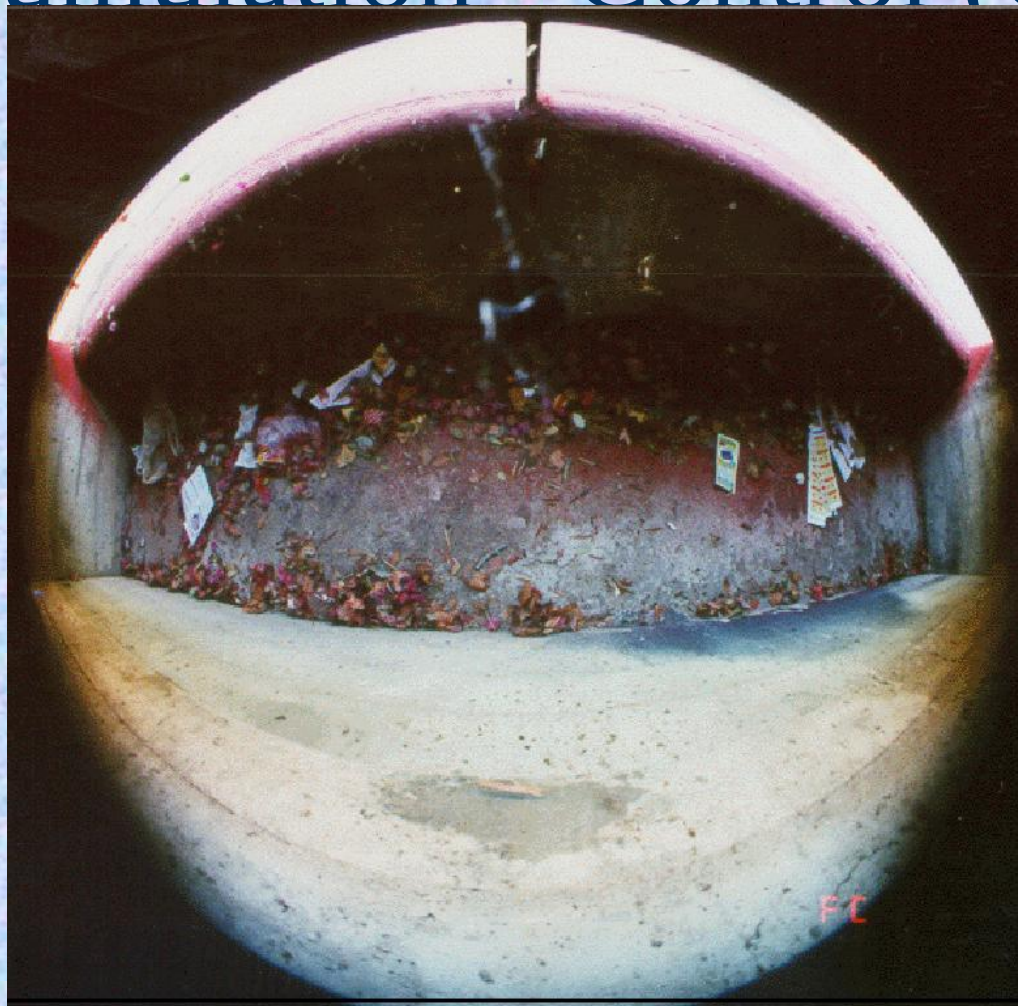
Accumulation - Wire Screen





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Accumulation - Control (Open)

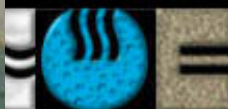




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Land Use

Very heavy
pedestrian
traffic.



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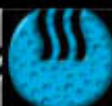
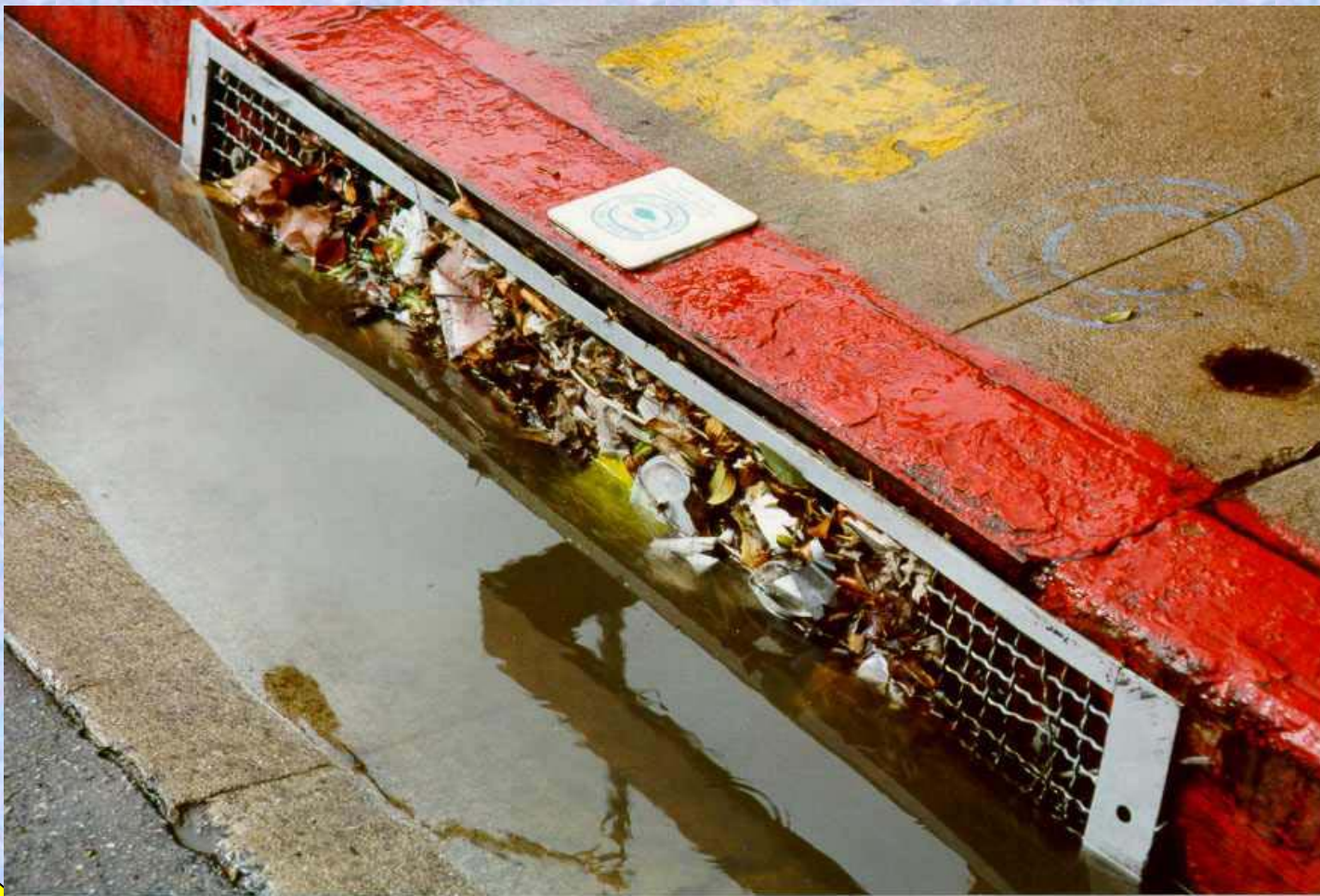
Accumulation - Control (open)





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Clogging in Wet Weather



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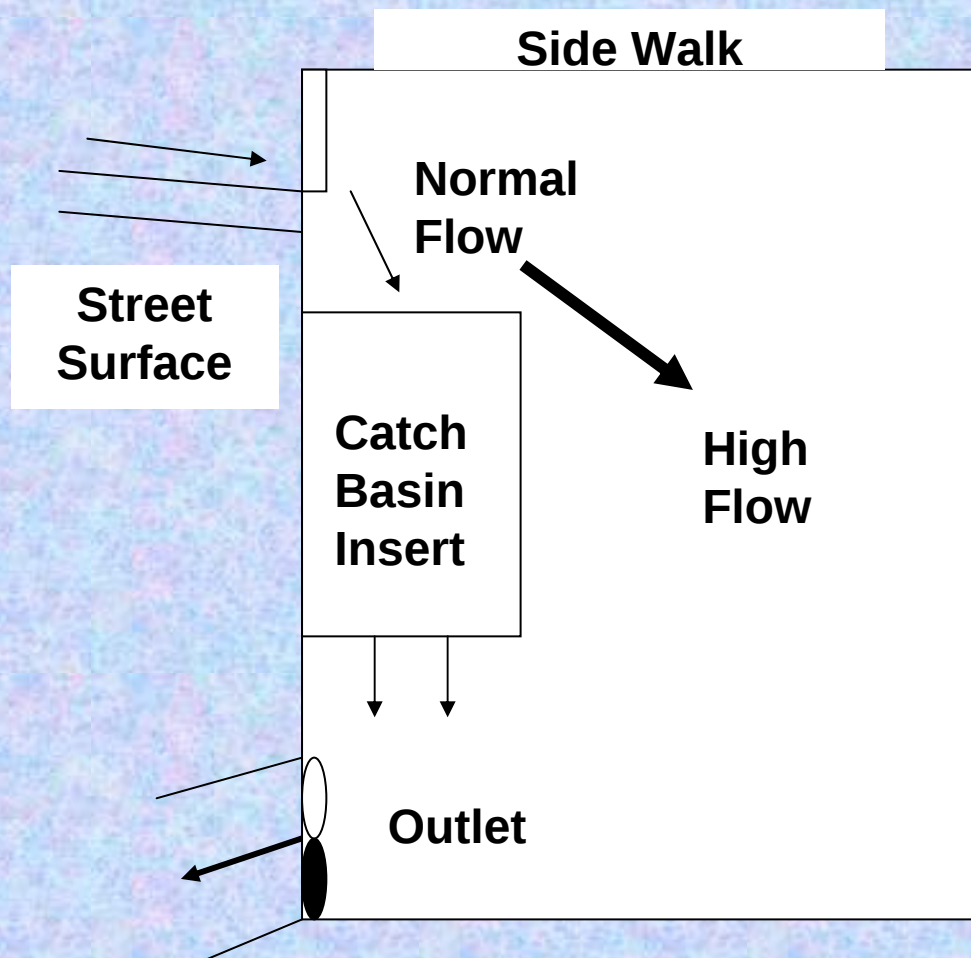
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Clogging - Close up

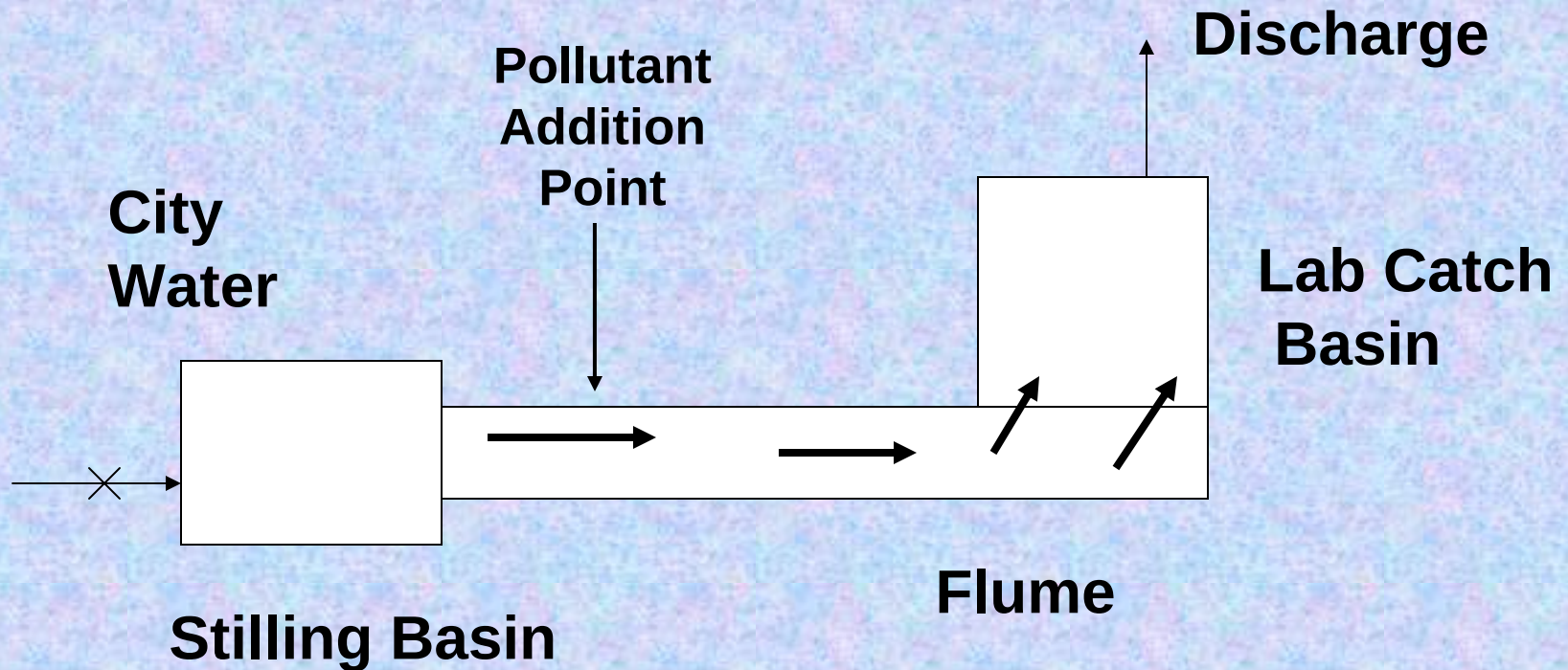




General Insert Sketch



Schematic Diagram





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Simulator





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Simulator





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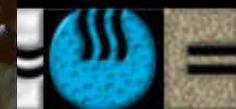
Polypropylene - United Pumping





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United Pumping - Bottom View

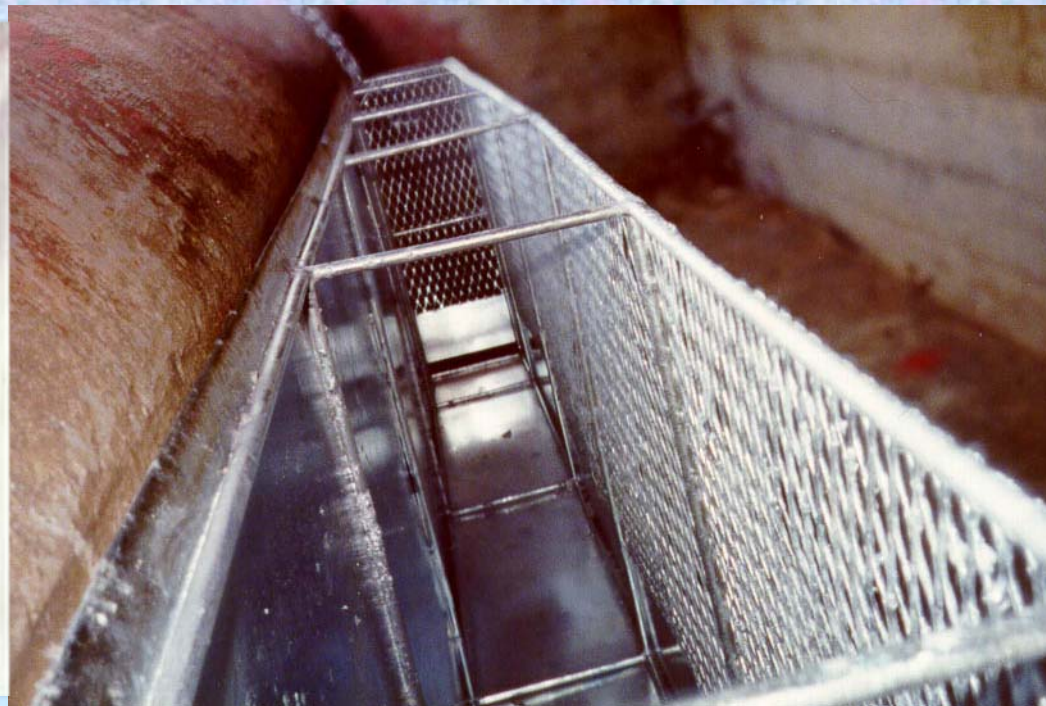


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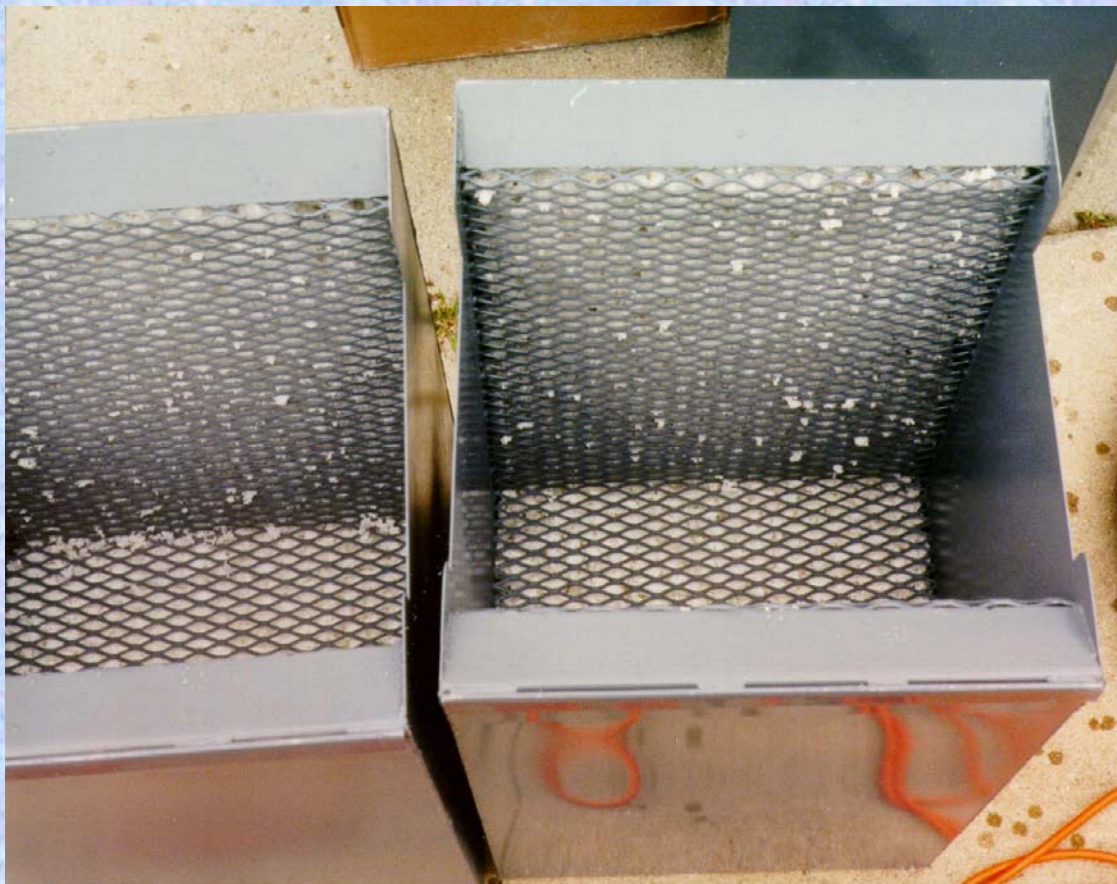
Hanging Basket





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AbTech New



Field Observations

**3rd St. Promenade, Santa Monica
(Commercial)**

**Sunset Park Area, Santa Monica
(Residential)**



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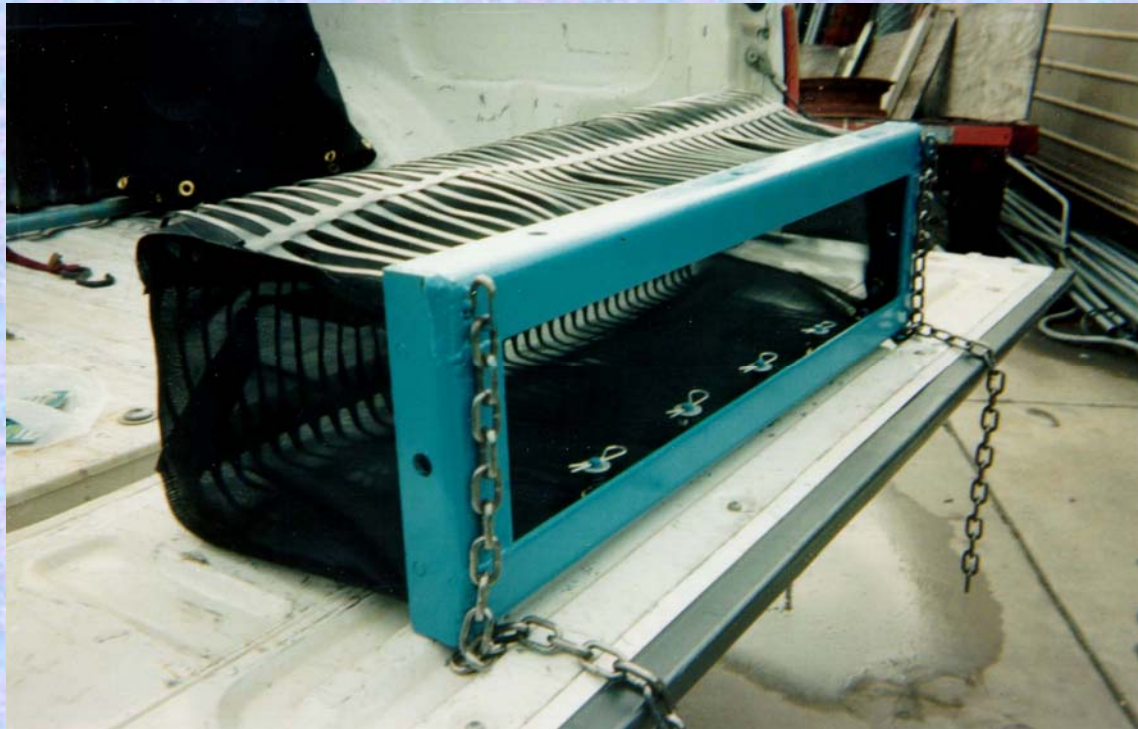
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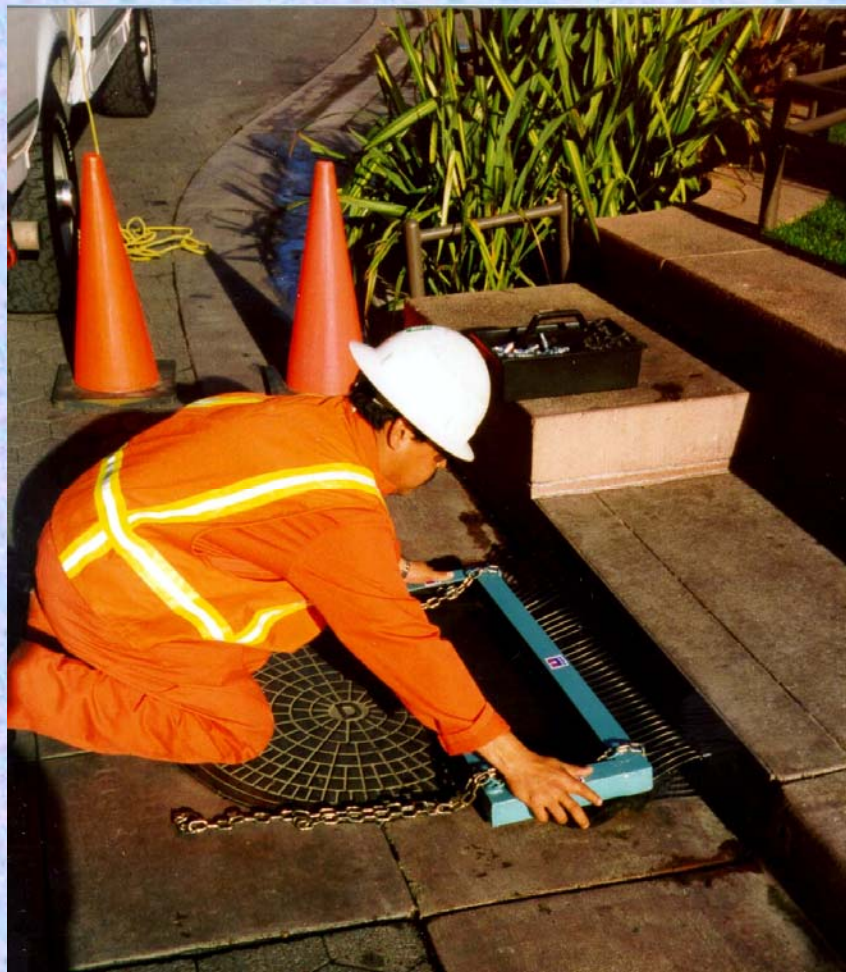
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UPS Installation





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Wire Basket

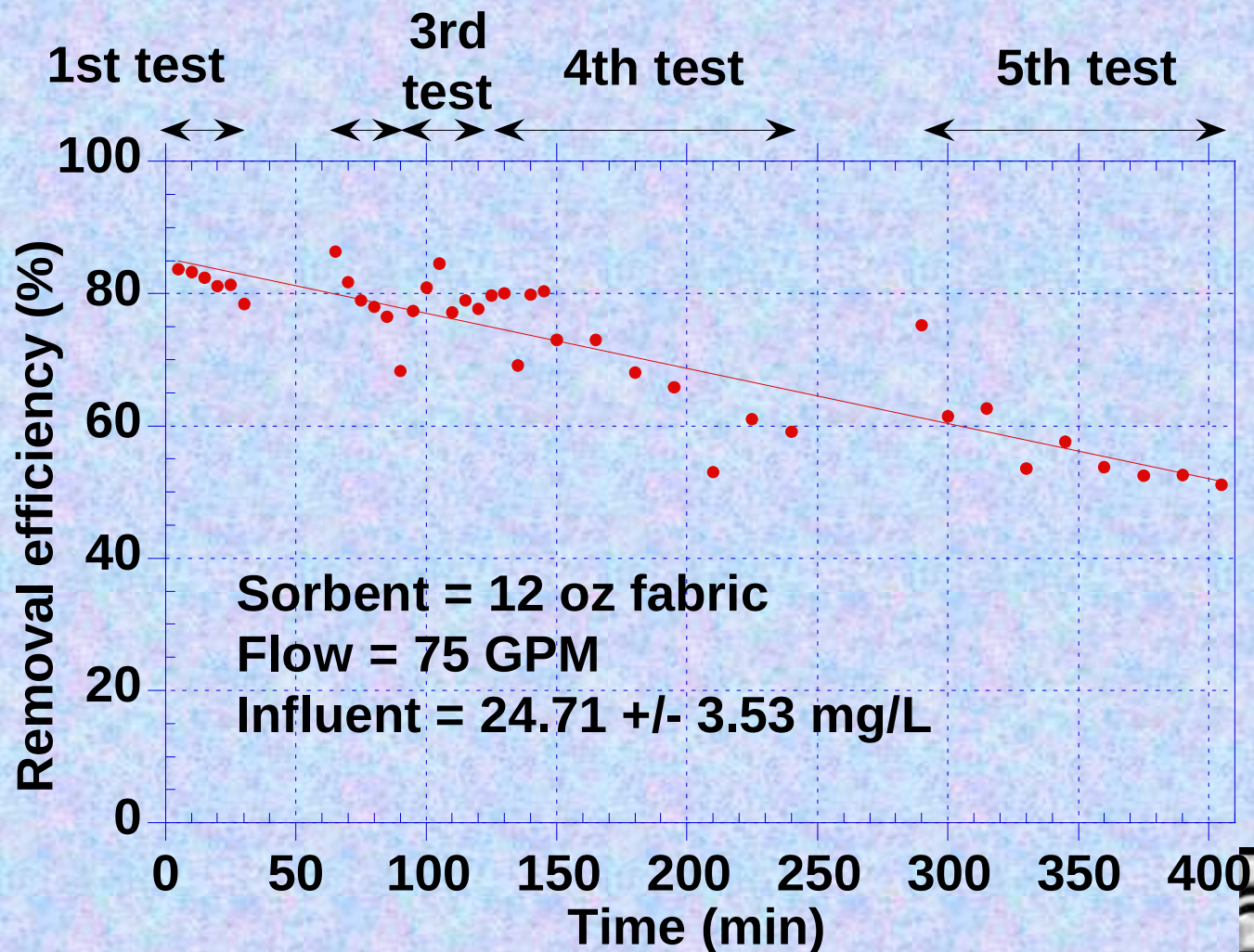


Conclusions

- Laboratory studies suggest that there the inserts can remove
 - Oil and grease
 - Large particles
 - Specific organics, such as PAHs



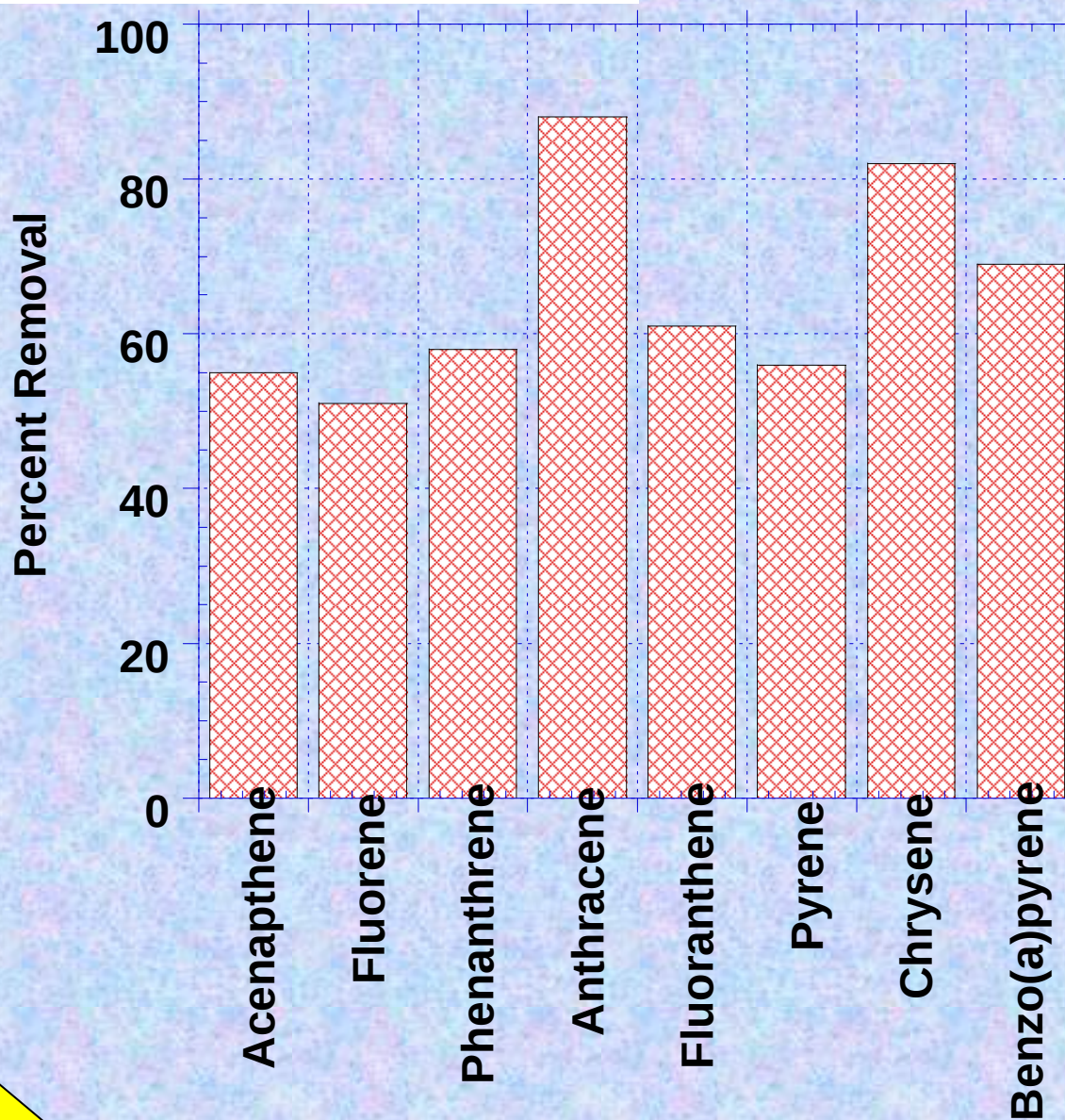
Consecutive Tests





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PAH Removal





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Conclusions

- Current field studies are showing the inserts can remove litter and debris
- Early results suggest that the mass of litter is only 10% or less of the mass of solids (sediment).



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