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Reedy Creek Improvement District

Report 5

Report Release Date:

November 22, 2004

Since 1993

***Infrastructure
Stormwater Filtration Systems***

This report centers around the servicing of 30 stormwater filtration devices installed in the Reedy Creek Improvement District along Hotel Plaza Blvd. In Lake Buena Vista, FL, on five different dates. The planned service for the units was as follows:

- ◆ Empty the debris collected in the filtration units.
- ◆ Measure the weight of the debris collected in each filtration unit.
- ◆ Make visual observations as to what kind of debris was collected in each unit.
- ◆ Estimate the weight percentage of the sediment, foliage, and litter collected in each filtration unit.
- ◆ Replace Storm Boom
- ◆ Take photos of the inlets, filtration units, and debris.
- ◆ Analyze how the filter screens of each unit were performing for possible alterations.

In order to measure the collected debris, the debris was placed in a clear plastic rectangular 18 quart tub. To weigh the debris, it was put the plastic tub, then placed on a scale and the measurement read. The scale was calibrated to show 0 pounds with an empty tub. The weight ratio of sediment vs foliage was estimated based on visual observations.



The procedure for emptying the **Grate Inlet Skimmer Boxes** was as follows:

- Place safety cones.
- Remove the grate
- Remove the skimmer tray and empty its contents into a plastic tub.
- Remove the collection box and empty the contents into the plastic tub.
- Place the tub filled with the collected debris on the scale and record a measurement of weight, volume, and visual description.
- Empty the tub into a large trash can for transportation.
- Replace Storm Boom
- Place the complete **Grate Inlet Skimmer Box** back into the inlet.
- Replace the grate.
- Remove the safety cones.

The procedure for emptying the **Curb Inlet Baskets** was as follows:

- Place safety cones.
- Remove the manhole lid
- Brush the debris collected onto the fiberglass shelf into the filtration basket.
- Remove the filtration basket and empty the contents into the plastic tub.
- Place the tub filled with the collected debris on the scale and record a measurement of weight, volume, and visual description.
- Empty the tub into a large trash can for transportation.
- Hang the filtration basket back onto the weir.
- Replace the manhole lid.
- Remove the safety cones.

View of grated curb inlet immediately after the grate was removed.



Summary Of Data

Dates	Number of Inlets Serviced	Total Weight of Foliage (pounds)	Total Weight of Sediment (pounds)	Total Weight (pounds)	Average Weight per Inlet (pounds)
Mar. 13, 2003	30	1554	3122	4676	155.8
July 24, 2003	30	1163	1215	2378	79.3
Oct. 27, 2003	30	2008	1712	3720	124
April 23, 2004	30	2666	1255	3921	130.7
Sept. 18, 2004	30	3348	2797	6145	204.8
Averages		2147.8	2020.2	4168	138.9



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Grate Inlet Skimmer Box

Stormwater Treatment System For A Grated Inlet

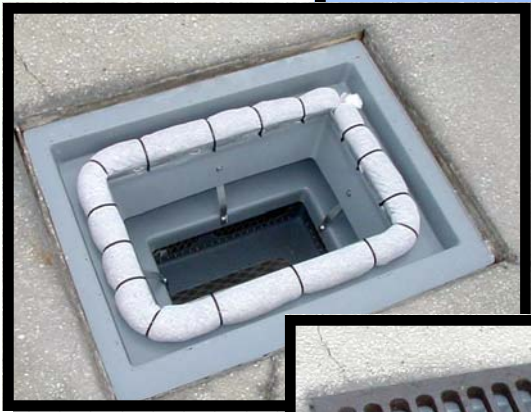
*Captures
Everything From
Hydrocarbons, To
Sediment, To Foliage,
To Litter...
Everything!*

*Installs
Quickly*

- Remove the grate
- Drop in the filter
- Replace the grate



*5 Year
Warranty*



Patented



*Custom Sizes...
No Problem*

*Will Not
Impede The
Designed Flow
Of The Inlet*

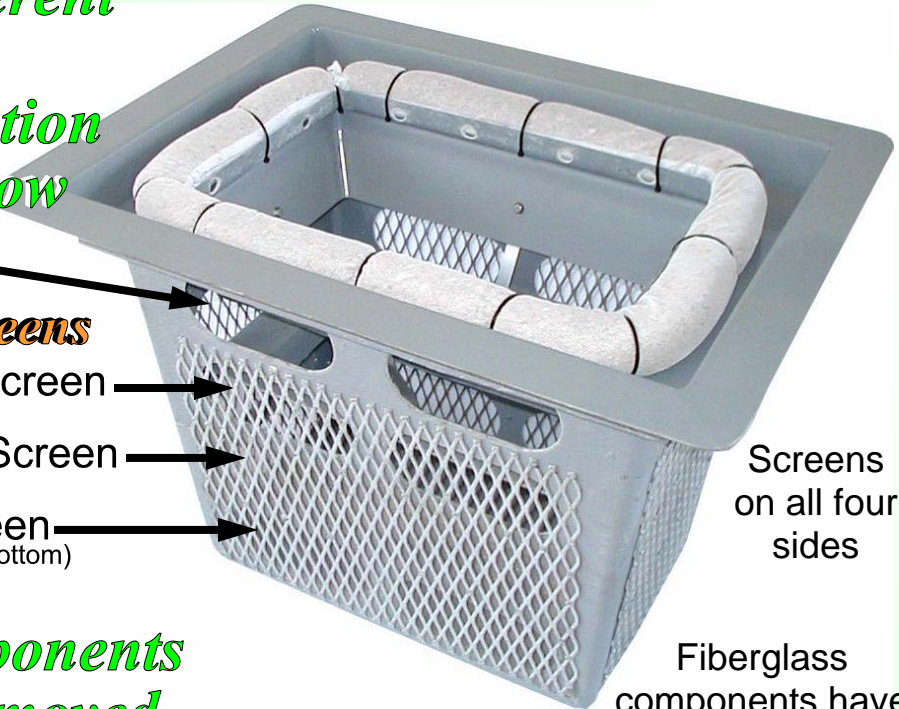


Ready For Action

Multi-Stage Filtration
Screens of Different Sieve Sizes
Optimize Filtration And Water Flow

Grate Inlet Skimmer Box
Special Features

- Bypass Openings
- **Stainless Steel Screens**
- Coarse Sieve Size Screen
- Medium Sieve Size Screen
- Fine Sieve Size Screen
(Fine sieve size screen also on bottom)



Screens on all four sides

Fiberglass components have gelcoated finish + UV filter

Interior components are easily removed to allow easy access to lower filtration chamber

- Storm Boom
- Zip Tie
- Skimmer Tray
- Deflection Shield
- Flange is reinforced with knitted 1808 ±45° biaxial fiberglass



Storm Boom absorbs hydrocarbons

Built Strong To Last!





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Grate Inlet Skimmer Box

For A Grated Curb Inlet Along Hotel Plaza Blvd.

In Lake Buena Vista, Florida — Reedy Creek Improvement District

This type of inlet is common all over the Disney area as well as the entire state of Florida. After careful study, it was observed that almost all the stormwater entering this kind of inlet, enters along the back side, behind the grate away from the road. Very little water enters the inlet through the grate. Directly under the grate there is a lot of



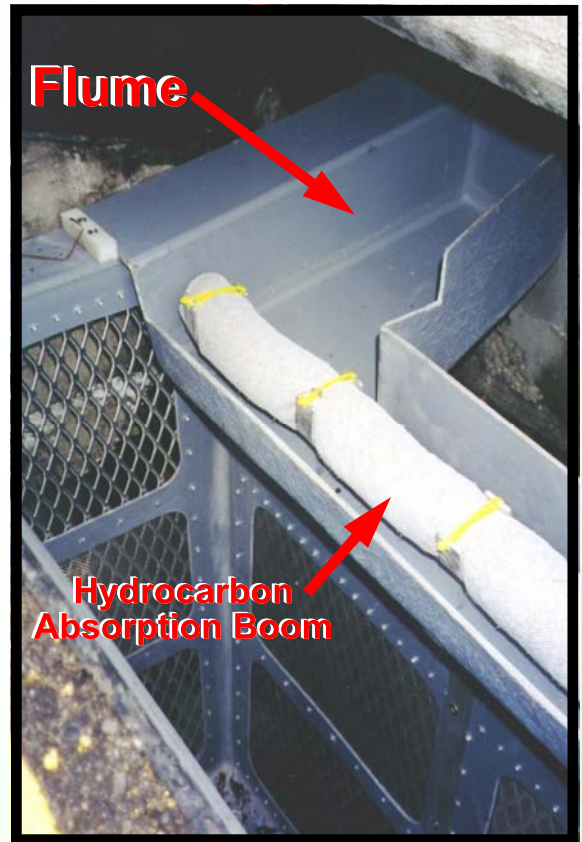
vertical depth in the catchbasin. However, there is relatively little vertical depth along the back side of the catchbasin where the majority of the water enters. It was decided to divert the water flow with a flume from the back of the inlet toward the front, under the grate, so that a large filtration chamber could be used. The larger filtration chamber will optimize the quantity of debris that can be collected between cleanings.



Left: The white battens attached around the catchbasin opening support the *Grate Inlet Skimmer Box*.



Above: View of the *Grate Inlet Skimmer Box* with flume, completely installed and ready for grate to be place back.



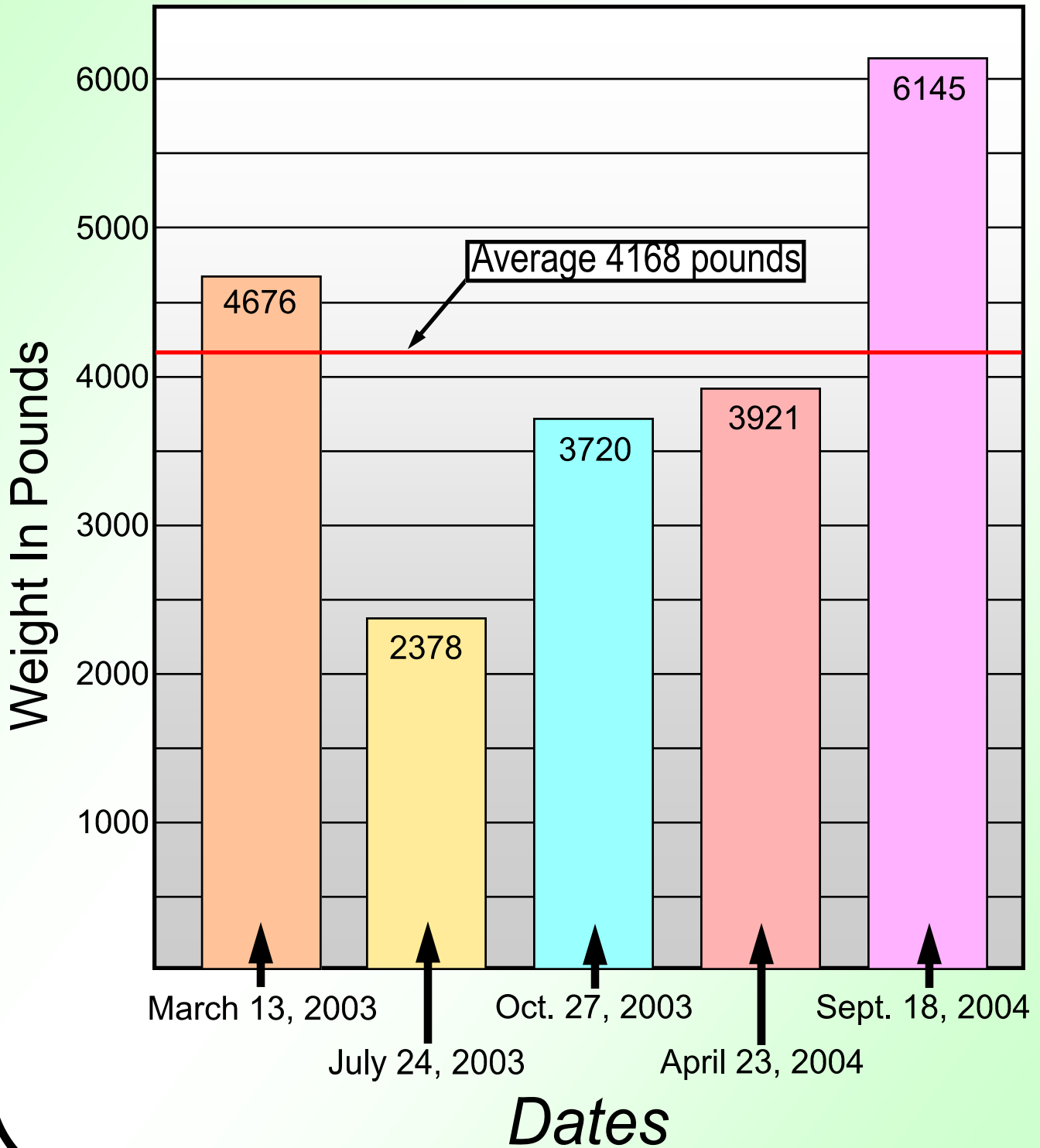
Above: Close up view of flume leading into filtration chamber. The hydrocarbon absorption boom is elevated in the flume so that water passes under and through the boom; thus skimming the water flow for hydrocarbon removal.



Above: View of grate in place over the *Grate Inlet Skimmer Box*, which is nearly invisible.

Reedy Creek

Total Weight of Debris Removed
From The Inlet Filters Along
Hotel Plaza Blvd.



Reedy Creek

*Average Weight of Debris Removed
From Each Inlet Filter Along
Hotel Plaza Blvd.*

