The LittaTrap is an innovative catch basin insert designed to be easily retrofitted into new and existing stormwater catch basins to specifically target litter, plastic and gross pollutants over 5mm. In addition, the LittaTrap has patented flow modifying components that dissipate energy, promote Total Suspended Solids (TSS) capture in sumped catch basins, and provide the full capture of gross solids.

The patented batten basket configuration gives the LittaTrap a high screen area and storage volume, allowing the system to have a high hydraulic conductivity through its service life. The basket also allows the system to be easily removed in times of maintenance. As the system is on-line, the basket and overflow design provides an unimpeded secondary flow path. This ensures the system does not compromise the hydraulic capacity of the catch basin it is installed into.

By retrofitting the LittaTrap into existing catch basins with adequate sump capacity, the LittaTrap can greatly enhance the catch basin’s TSS capture and retention. Standard catch basins are prone to resuspension in moderate to high flows (>5 l/sec.).

The system is easy to install and safe to maintain, with large storage volume relative to its catchment area. Confined space entry is not required to maintain this stormwater treatment device.

**COMPONENTS AND OPERATION**

The LittaTrap consists of Support System, Plastic Seals, Flow Diverter, Energy Dissipator, Basket and Adjustable Bypass. All components are made of high-density plastic.

There is a three treatment process employed when the LittaTrap is installed inside a sumped catch basin:

1. **Screening** – gross pollutant capture
2. **Flow distribution** – enhanced TSS settling
3. **Energy dissipation** – minimising TSS resuspension

Flow enters the catch basin through a grate, curb entry or both. Once the flow has dropped below the surface, it is diverted through the basket, where it is intercepted by the patented energy dissipation mechanism. This reverses the direction of flow, disturbing the inflow evenly across the surface area of the sump.

The process of intercepting and distributing the flow enhances settling in the catch basin sump and reduces the resuspension of TSS, while retaining and storing gross solids (>5 mm) in a dry environment. Retention of organic gross pollutants and holding them dry impedes them from breaking down and releasing nutrients and other contaminants into the water.

### FEATURES

- High flow, dry gross solid capture
  - Enhanced nutrient removal
  - Reduced contaminant release
  - Hand maintenance of gross pollutant basket / no vactor truck or confined space entry needed
- Enhanced energy dissipation and flow distribution
  - 50% TSS removal
  - Reduced TSS resuspension
- Large sediment sump storage volume
  - Reduced maintenance costs
  - No confined space. Eductor truck maintenance frequency of the sump
- Engineered solution to accommodate high loading and hydraulic forces associated with intense rainfall events
- Batten reinforced basket to allow easy maintenance and maintain hydraulic capacity
Performance

The LittaTrap enhances the pollutant removal and retention of a standard catch basin. This was evaluated by a series of lab tests performed at Good Harbour Laboratories, Toronto, Canada. Gross pollutant removal, TSS removal, and sediment resuspension were evaluated for a LittaTrap enhanced catch basin and compared to a control catch basin without the LittaTrap.

The performance evaluation was based on a combination of Canadian Environmental Technology Verification Program (ETV), New Jersey Department of Environmental Protection (NJDEP) test protocols and California Department of Transportation (CALTRANS) performance evaluation protocols.

SEDIMENT REMOVAL AND FLOW RATE

The LittaTrap increases the sediment removal of the control catch basin from 20% to 50% at flow rate of 3.5 l/sec.

ANNUALIZED SEDIMENT REMOVAL

Some jurisdictions evaluate sediment removal on an annual basis based on flow rate or hydraulic loading. The results presented here were used to estimate the Maximum Treatment Flow Rate (MTFR). Using the weighting prescribed in the NJDEP HDS protocol a LT6060 LittaTrap installed in a 600mm x 600mm catch basin achieves a 50% weighted TSS removal @ 5.5 l/sec. Required treatable flow rate is calculated by catch basin catchment area and local water quantity sizing requirements.

<table>
<thead>
<tr>
<th>LT6060 Annualised Weighted TSS Removal @ 5.5 l/sec MTFR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatable flow rate</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>25%</td>
</tr>
<tr>
<td>50%</td>
</tr>
<tr>
<td>75%</td>
</tr>
<tr>
<td>100%</td>
</tr>
<tr>
<td>125%</td>
</tr>
</tbody>
</table>

Weighted Annualized TSS Removal Efficiency 50.1%

Table 2: Annualised Weighted TSS Removal EP22 @ 6.5 l/sec MTFR

SCOUR TESTING

As the LittaTrap is an online treatment device, it is important to evaluate scour. Graph 2 below compares the TSS resuspension of LittaTrap enhanced catch basin with a control. The LittaTrap almost eliminates resuspension of captured sediment in the catch basin.

Resuspension Testing

<table>
<thead>
<tr>
<th>LT6060 LittaTrap Grated and Combination Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>LT4545</td>
</tr>
<tr>
<td>LT6745</td>
</tr>
<tr>
<td>LT6060</td>
</tr>
<tr>
<td>LT6090</td>
</tr>
<tr>
<td>LT9090</td>
</tr>
</tbody>
</table>

Table 3: LittaTrap Grated and Combination Models

LittaTrap Gross Pollutant Test Results

<table>
<thead>
<tr>
<th>Flow Rate (l/sec)</th>
<th>Mass of Escaped Solids (g)</th>
<th>Estimated Gross Solids Capture Efficiency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>0.0275</td>
<td>100</td>
</tr>
<tr>
<td>10</td>
<td>0.1546</td>
<td>99.9</td>
</tr>
<tr>
<td>15</td>
<td>1.47</td>
<td>99.2</td>
</tr>
</tbody>
</table>

Table 1: LittaTrap Gross Pollutant Test Results

LittaTrap Vs Control Catch Basin Sediment Removal

Graph 1: Comparative removal efficiency of a LittaTrap enhanced catch basin and a control catch basin.

HYDRAULIC SPECIFICATION AND STANDARD MODELS

The table below the details the nominal dimensions and hydraulic capabilities of the standard LittaTrap models.

Other models are available on request, including manhole adaptors.

For more information and drawings, please contact Info@Enviropod.com

<table>
<thead>
<tr>
<th>Model</th>
<th>Length</th>
<th>Width</th>
<th>Treatable Flow Rate (Gross Polluants)</th>
<th>Bypass Flow Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT6060</td>
<td>2</td>
<td>600</td>
<td>1061</td>
<td>713</td>
</tr>
<tr>
<td>LT6090</td>
<td>2</td>
<td>900</td>
<td>1632</td>
<td>2044</td>
</tr>
</tbody>
</table>

Table 4: LittaTrap Grated and Combination Models

Graph 2: Scour testing results

Standard catch basin and a catch basin enhanced with LittaTrap.
**Health and Safety**

We recommend checking your local regulations for a Site-Specific Safety Plan before undertaking any installation or maintenance. Personal Protection Equipment (PPE) is required when installing or maintaining an LittaTrap. This will mean gloves, long sleeves, long pants, Hi-Viz clothing and closed shoes.

For additional advice on the relevant Health and Safety requirements, we recommend that you consult your local Health and Safety regulator.

**Installation**

Installing an LittaTrap is a simple process that takes approximately 15 minutes per catch basin.

See www.enviropod.com for instructional guides.

**Maintenance**

All treatment devices require maintenance to remove trapped contaminants and to minimize bypass. Due to the variable nature of stormwater pollution and localized site pollutant loadings, maintenance frequencies vary for different sites and different rainfall characteristics.

It is recommended to inspect the LittaTrap frequently over the first few years of operation to determine seasonal and annual maintenance requirements.

LittaTrap maintenance involves two activities. These are as follows:

1. Routine removal and emptying of the gross pollutant basket; and
2. Periodic vacuum of oils and sediment from the catch basin sump.

**LittaTrap Hand Maintenance**

It is recommended that the LittaTrap basket be emptied when 85% full. At this level, the basket can still convey 15 l/sec @ 99% gross solid removal.

To empty the LittaTrap basket, it is a simple one minute exercise “Lift Tip Replace”:

1. Establish a safe working area per typical catch basin service activity.
2. Remove grate / access cover.
3. Remove the basket with two lifting hooks or lift by hand through the loops on the top of the basket. Excess debris should be scooped out first if the basket is over half full.
4. Pour contents of the basket into a disposal container.
5. Replace grate.

The LittaTrap basket maintenance is typically required 1 or 2 times a year, however it is dependent on the catchments’ pollutant loading.

**Catch Basin Sump Maintenance**

It is recommended that the sump of the catch basin installed with an LittaTrap be vacuum cleaned when the sediment in the sump is 50 mm below the outlet.

The sump of the catch basin is easily accessed by removing the basket. Conventional catch basin cleaning equipment can be used.

It is anticipated that sump maintenance will be between 1 – 3 years depending on catch basin sump depth and pollutant loading.

The steps for induction maintenance are detailed below:

1. Establish a safe working area per typical catchpit service activity.
2. Remove grate / access cover.
3. Vacuum accumulated debris from the basket and remove.
4. Remove and inspect the oil absorbent pouches (if applicable).
5. Vacuum contents from sump.
6. Re–install oil absorbent pouches (if applicable).
7. Replace grate.
Applications

Pretreatment
Manufacturing
Retail
Industrial
Smoking Areas
Food Processing
Pedestrian Areas
City Streets
Car Parks

AVAILABLE AT

New Zealand
Stormwater360 New Zealand
Hume’s Pipelines New Zealand

Australia
Stormwater360 Australia

Canada
Imbrium Systems Canada
Minotaur Stormwater Services Canada

ABOUT ENVIROPOD

EnviroPod is Australasia’s leading catch basin insert technology provider. The company has over 25,000 installs of its technology worldwide, including catchment wide retrofits. The LittaTrap is a result of 25 years’ of research, implementation and operation of source treatment solutions.

For further information please see www.enviropod.com

1. Performance Testing of a LittaTrap Catch basin Filter, Good Harbour Labs
2. Canadian ETV license Number 2015-6 Certificate

International patent numbers for: CA – 2,810,974 ; USA – 9,642,658 ; AU – 2013023772 ; NZ – 588049 ; Other patents pending.