

## Excavated Inlet Protection (EIP)



### Practice Description

Excavated inlet protection is a sediment control technique formed around a storm drain inlet by excavating a small area around the inlet to act as a settling pool. The purpose is to help minimize sediment entering storm drains during construction. This practice applies where use of the storm drain system is necessary during construction and where inlets have a drainage area of 1 acre or less.

### Planning Considerations

Storm sewers that are made operational before their drainage area is stabilized can convey large amounts of sediment to natural drainageways. In case of extreme sediment loading, the storm sewer itself may clog and lose a major portion of its capacity. To avoid these problems, it is necessary to prevent sediment from entering the system at the inlets.

This practice is for drainage areas of less than 1 acre. Runoff from large disturbed areas should be routed through a sediment basin (see *Sediment Basin Practice*). This method is not recommended for areas where heavy flows are expected as it may overflow the excavated area.

The best way to prevent sediment from entering the storm sewer system is to minimize erosion by leaving as much of the site undisturbed as possible and disturbing the site in small increments, if possible. After disturbance, stabilize the site as quickly as possible to prevent erosion and sediment delivery.

## **Design Criteria and Construction**

### **Drainage Area**

Drainage area should be less than 1 acre per inlet.

### **Capacity**

The trap should be sized to provide a minimum storage of 67 cubic yards for 1 acre of drainage area.

### **Approach**

The approach to the block and gravel structure should be less than 1%.

### **Depth**

The depth of the trap should be no less than 1 foot and no more than 2 feet deep measured from the top of the inlet structure.

### **Side Slopes**

The side slopes of the trap should not exceed 3:1.

### **Dewatering**

Weep holes should be installed to allow for dewatering the pool (Figure EIP-1).

### **Site Preparation**

Determine exact location of underground utilities (see Appendix C: MS One-Call and 811 Color Coding available in the Appendices Volume).

Clear area of all debris that might hinder excavation and disposal of spoil.

Grade the approach to the inlet uniformly. The top elevation of the structure must be lower than the ground elevation downslope from the inlet. It is important that all storm flows pass over the structure and into the storm drain and not past the structure directly into the storm drain. Sediment may be excavated from inside the sediment pool for this purpose.

### **Erosion Control**

Stabilize disturbed areas in accordance with the vegetation plan.

### **Construction Verification**

Check finished grades and dimensions of block and gravel barrier. Check materials for compliance with specifications.

### **Safety**

Provide protection to prevent children from entering the area.

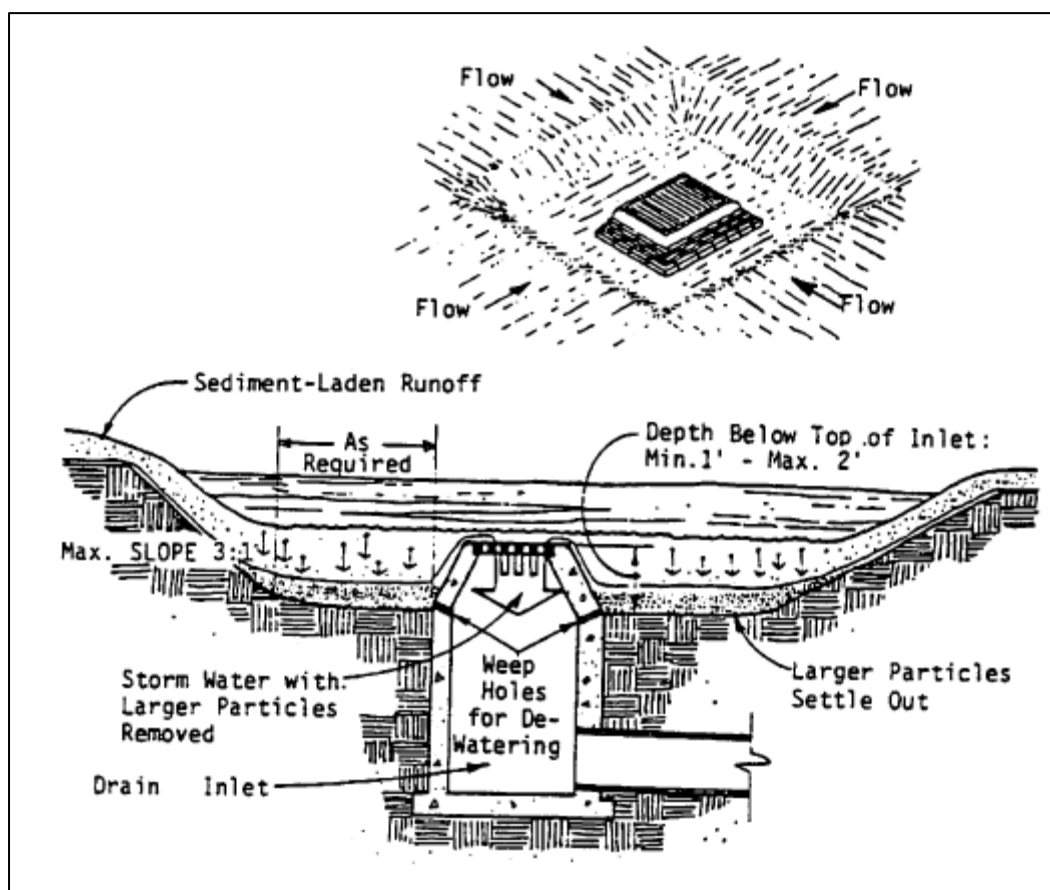


Figure EIP- 1 Excavated Inlet Protection

## Common Problems

*Consult with qualified design professional if the following occurs:*

Storm drains subject to heavy flows may not benefit from excavated inlet protection; changes in plan may be needed.

## Maintenance

Inspect the trap after each rain and make repairs as needed.

Remove sediment promptly following storms to provide adequate storage volume for subsequent rains and to prevent sediment entering the storm drain in subsequent rains.

When the contributing drainage area has been adequately stabilized, remove all materials and any sediment, bring the disturbed area to proper grade, and stabilize it with vegetation or other materials shown in the design plan.

## References

### BMPs from Volume 1

#### Chapter 4

Sediment Basin (SBN)

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