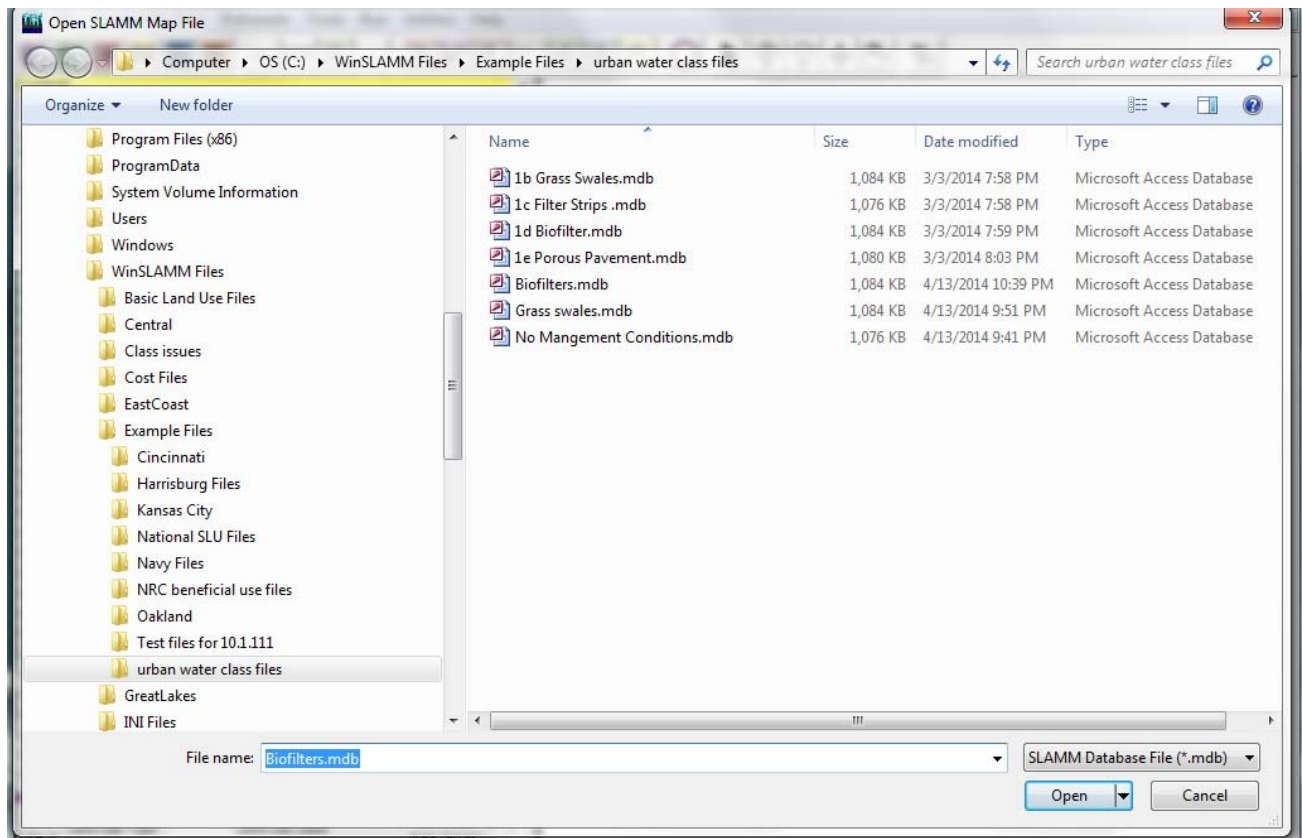


Porous Pavement Example

Porous Pavement Example

For this example, we will start with the model file we created for No Controls and add Porous Pavement. Only the parking stalls in the Parking Lot Source Area will be treated by the Porous Pavement.

Open the **No Controls** model file and Save the File with a new name.



Change the Site Description in the Current File Data to reflect the Porous Pavement.

Porous Pavement Example

Current File Data

SLAMM Data File Name:
C:\WinSLAMM Files\Example Files\urban water class files\Porous pavement.mdb

Site Descript.: Porous pavement, commercial development

Edit Seed: -42

Edit Rain File: C:\WinSLAMM Files\Rain Files\AL Birmingham 8799.RAN

Edit Start Date: 01/01/94 ☐ Winter Season Range
Edit End Date: 12/31/98 Start of Winter (mm/dd) End of Winter (mm/dd)

Edit Pollutant Probability Distribution File: C:\WinSLAMM Files\SouthEast April 05 2014.ppdx

Edit Runoff Coefficient File: C:\WinSLAMM Files\SouthEast April 05 2014.rsvx

Edit Particulate Solids Concentration File: C:\WinSLAMM Files\SouthEast April 05 2014.pscx

Edit Street Delivery File (Select LU)
☒ Residential LU ☐ Other Urban LU
☐ Institutional LU ☐ Freeways
☐ Commercial LU
☐ Industrial LU
Change all Street Delivery Files to Match the Current File

Edit Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\PSD source area SSC.csv

Use Cost
☒ Estimation Option **Select Cost Data File** C:\WinSLAMM Files\Birmingham Cost Data.csv

Replace Default Values with these Current File Data Values Use Default Values Replace all Particle Size Distribution Files with the Program Default file(s) Cancel Continue

Porous Pavement is only being applied to 1.46 acres of the parking lot in paved parking 1 source area (having a total of 2.85 acres). Select the PP (porous pavement) control as the first control practice for the paved parking 1 area. Porous pavement is only available as the first control practice in source areas, while other controls can be located as the second practice for any overflow.

WinSLAMM v 10 Data File: [C:\WinSLAMM Files\Example Files\Oakland\commercial porous pavement.mdb] - [Land Use Model]

File Current File Data Pollutants Tools Run Utilities Help

RES INS COM IND OU FRE GS CB WP BF MF HD OD FS

Land Use:

Commercial 1

Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
Roofs					
1	Roofs 1	0.680	Entered	--	--
2	Roofs 2				
3	Roofs 3				
4	Roofs 4				
5	Roofs 5				
6	Roofs 6				
7	Roofs 7				
8	Roofs 8				
9	Roofs 9				
10	Roofs 10				
11	Roofs 11				
12	Roofs 12				
Parking					
13	Paved Parking 1	2.850	Entered	PP	--
14	Paved Parking 2				
15	Paved Parking 3				
16	Paved Parking 4				
17	Paved Parking 5				
18	Paved Parking 6				
19	Unpaved Parking 1				
20	Unpaved Parking 2				
21	Unpaved Parking 3				
22	Unpaved Parking 4				
23	Unpaved Parking 5				
24	Unpaved Parking 6				
Driveways/Sidewalks					
25	Driveways 1	0.490	Entered	--	--
26	Driveways 2	0.170			
27	Driveways 3				
28	Driveways 4				

Land Use # Land Use Type Land Use Label Land Use Area (acres)

1 Commercial Commercial 1 7.290

Current File Data Entered Total Area = 7.290 acres No Upstream Source Areas LU# = 1 Index Number = 1 Remaining Icons = 253 Start Date: 01/01/01

```

graph LR
    Commercial1[Commercial 1] --> Junction1((Junction 1))
    Junction1 --> Outfall[Outfall]
  
```

Use the Pull Down menu next to the Parking Lot Source Area to select the Porous Pavement control measure.

Enter the data shown below. Only the parking stalls will have Porous Pavement (1.46 acres), and this setup assumes that runoff from the remaining parking lot area drains towards this porous pavement area.

Note: when moving through the Porous Pavement form, press the "Enter" key to move to the next cell, not the "Tab" key.

##

Porous Pavement Example

Land Uses	Junctions	Control Practices	Outfall	Output Summary											
<p>File</p> <p>C:\WinSLAMM Files\Example Files\urban water class files\Porous pavement.mdb</p>															
Outfall Output Summary															
	Runoff Volume (cu. ft.)	Percent Runoff Reduction	Runoff Coefficient (Rv)	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction									
Total of All Land Uses without Controls	3.181E+06		0.43	67.67	13439										
Outfall Total with Controls	999917	68.57 %	0.14	90.61	5656	57.91 %									
<p>Current File Output: Annualized Total After Outfall Controls 200975 Years in Model Run: 4.98 1137</p>															
Pollutant	Concentration - No Controls	Concentration - With Controls	Concentration Units	Pollutant Yield - No Controls	Pollutant Yield - With Controls	Percent Yield Reduction									
Particulate Solids	67.67	90.61	mg/L	13439	5656 lbs	57.91 %									
Total Phosphorus	1.294	2.347	mg/L	257.0	146.5 lbs	42.99 %									
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 30%;"> <p>Print Output Summary to Text File</p> <p>Print Output Summary to .csv File</p> </div> <div style="width: 30%;"> <p>Total Area Modeled</p> <p>7.290</p> </div> <div style="width: 35%; text-align: center;"> <p>Receiving Water Impacts Due To (CWP Impervious Cover Model)</p> <table style="margin: auto;"> <tr> <td></td> <td>Calculated Rv</td> <td>Approximate Urban Stream Classification</td> </tr> <tr> <td>Without Controls</td> <td>0.43</td> <td>Poor</td> </tr> <tr> <td>With Controls</td> <td>0.14</td> <td>Fair</td> </tr> </table> </div> </div>								Calculated Rv	Approximate Urban Stream Classification	Without Controls	0.43	Poor	With Controls	0.14	Fair
	Calculated Rv	Approximate Urban Stream Classification													
Without Controls	0.43	Poor													
With Controls	0.14	Fair													
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Total Control Practice</p> <p>Capital Cost \$ 172866</p> <p>Land Cost \$ 0</p> <p>Annual Maintenance \$ 578</p> <p>Present Value of All \$ 180076</p> <p>Annualized Value of All \$ 14449</p> </div> <div style="width: 50%; text-align: center;"> <p>Perform Outfall Flow Duration Curve Calculations</p> </div> </div>															

The pollution reduction reported at the outfall is the overall pollution reduction for the entire site.

To see the pollution reduction from just the Porous Pavement, select the "Control Practices" tab.

Porous Pavement Example

Land Uses			Junctions						Control Practices
Runoff Volume			Part. Solids Yield (lbs)						
Data File: C:\WinSLAMM Files\Example Files\urban water class files\Porous pavement.mdb									
Rain File: AL Birmingham 8799.RAN									
Date: 04-13-14 Time: 11:23:19 PM									
Site Description: Porous pavement, commercial development									
Control Practice No.	Control Practice Type	Control Practice Name or Location	Total Inflow Volume (cf)	Total Outflow Volume (cf)	Percent Volume Reduction	Total Influent Load (lbs)	Total Effluent Load (lbs)	Percent Load Reduction	
1	Porous Pavement	SA Device, LU# 1 ,SA# 13	2.213E+06	31120	98.59	7789	6.738	99.91	

Control Practices						Outfall				
s Yield (lbs)			Part. Solids Conc. (mg/L)						Summ	

The Porous Pavement is reducing the runoff volume and the TSS load by very close to 100% for the complete Parking Lot, even with the runoff from the area with conventional pavement.

Porous Pavement Example

