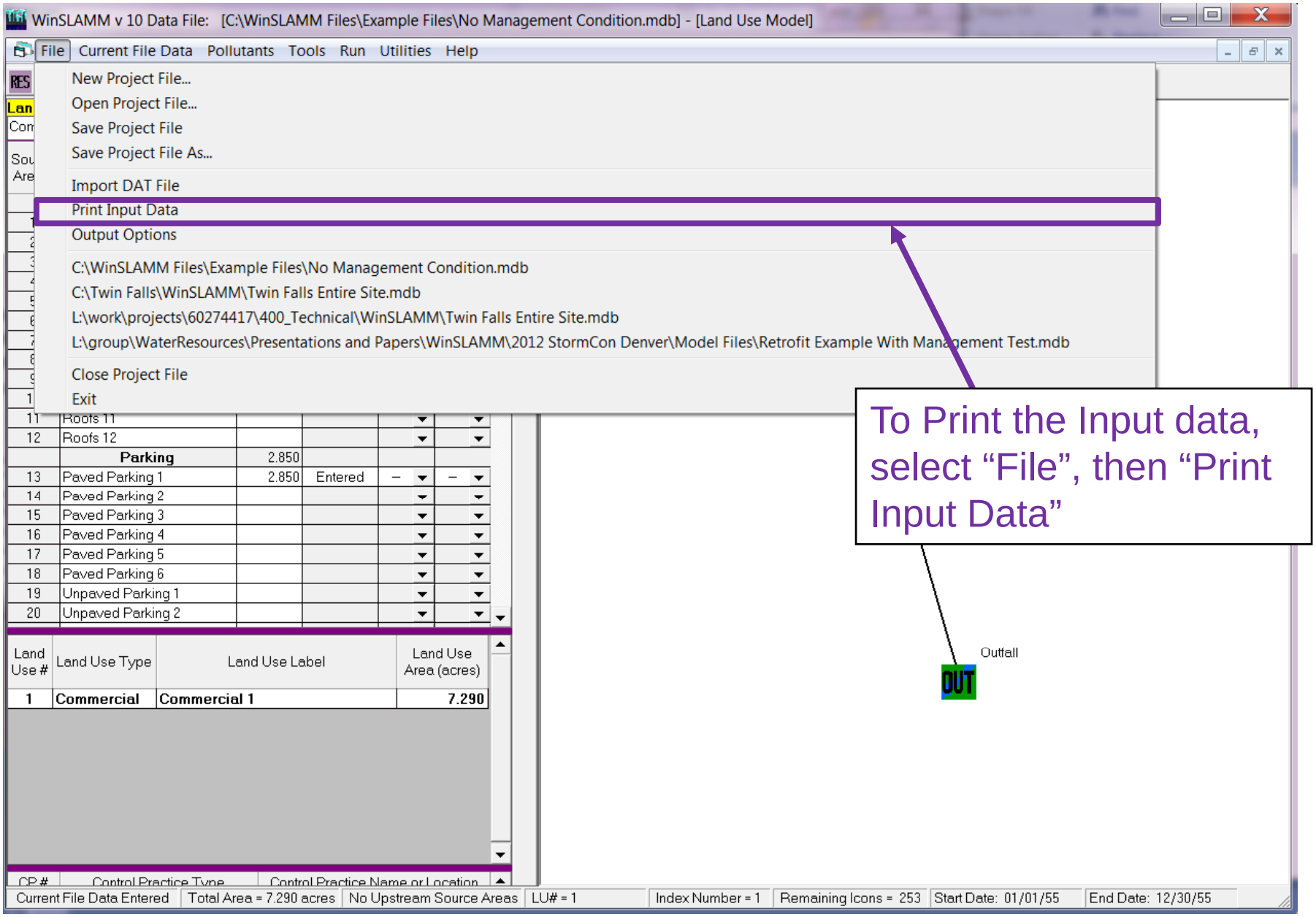
WinSLAMM v 10.2
User's Guide

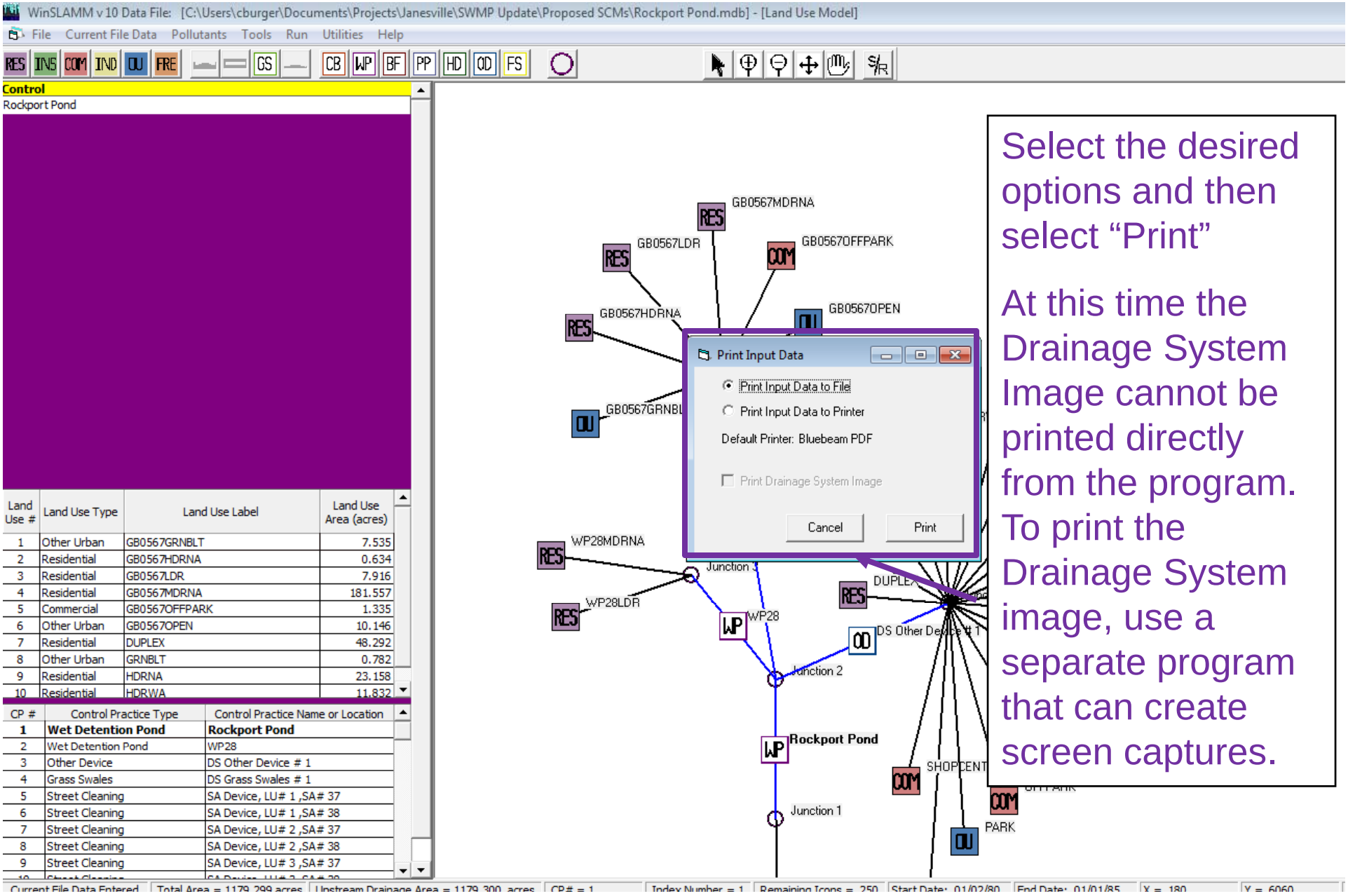
Input/Output

Printing the Input

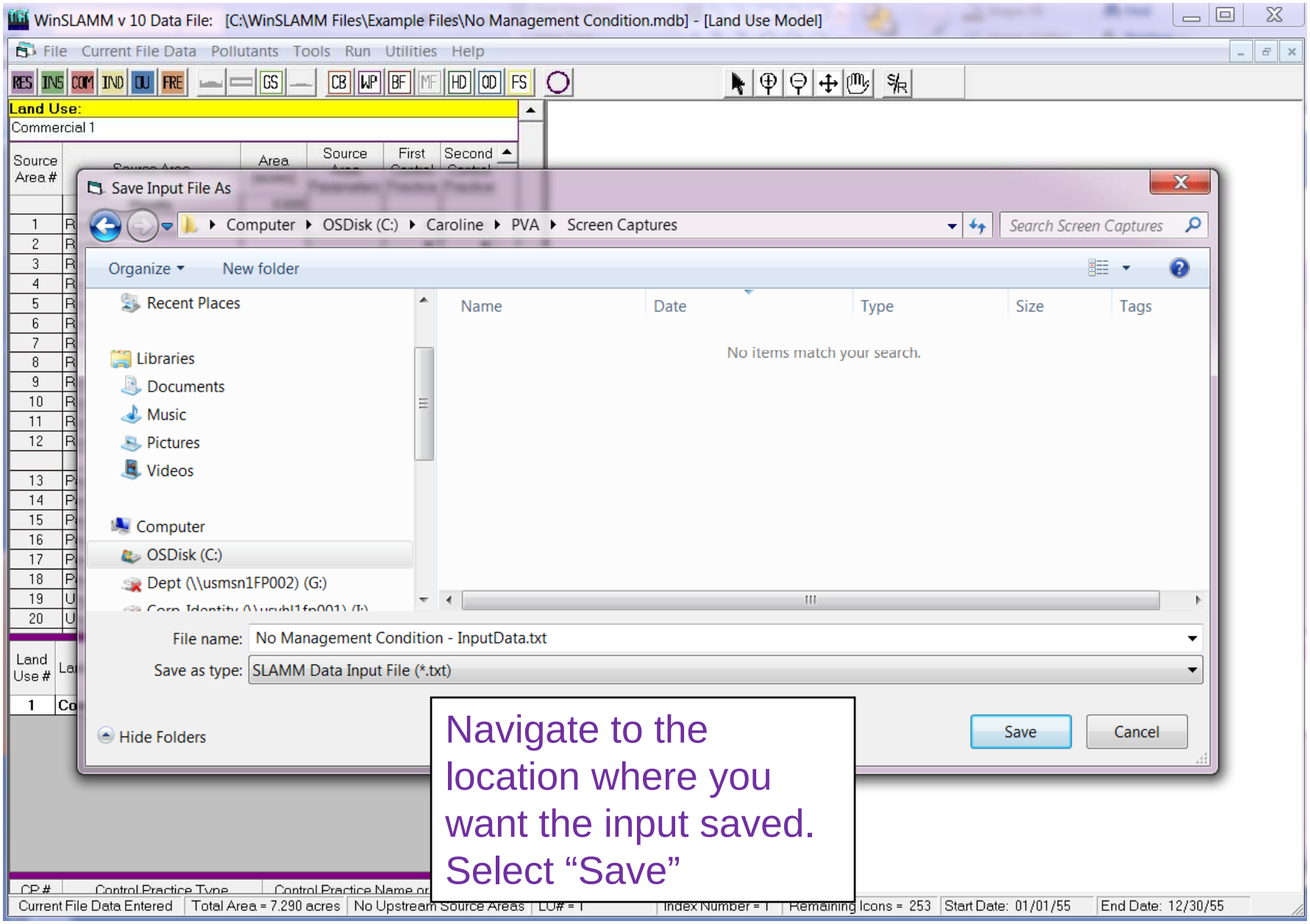
Printing the Input



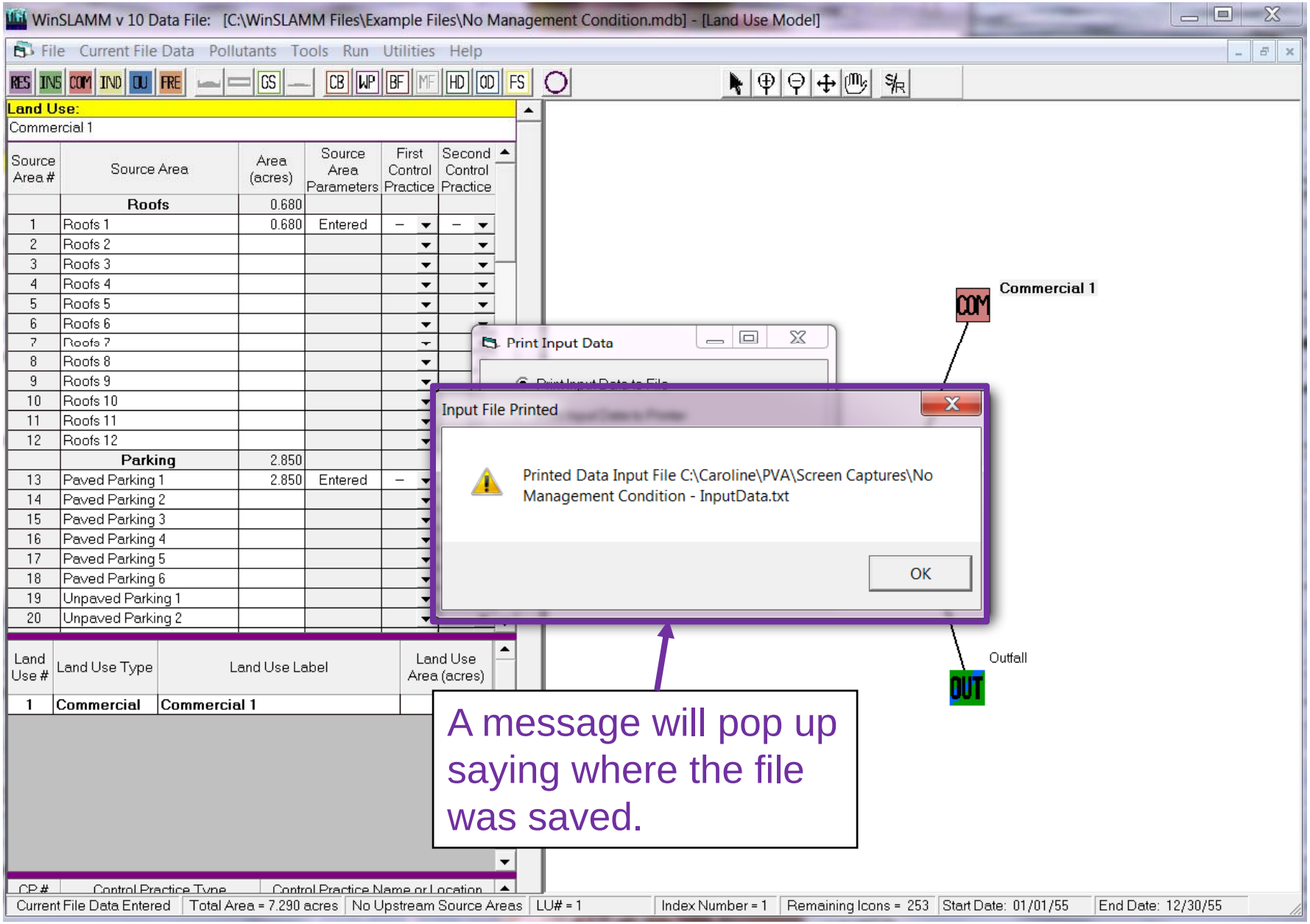
Printing the Input



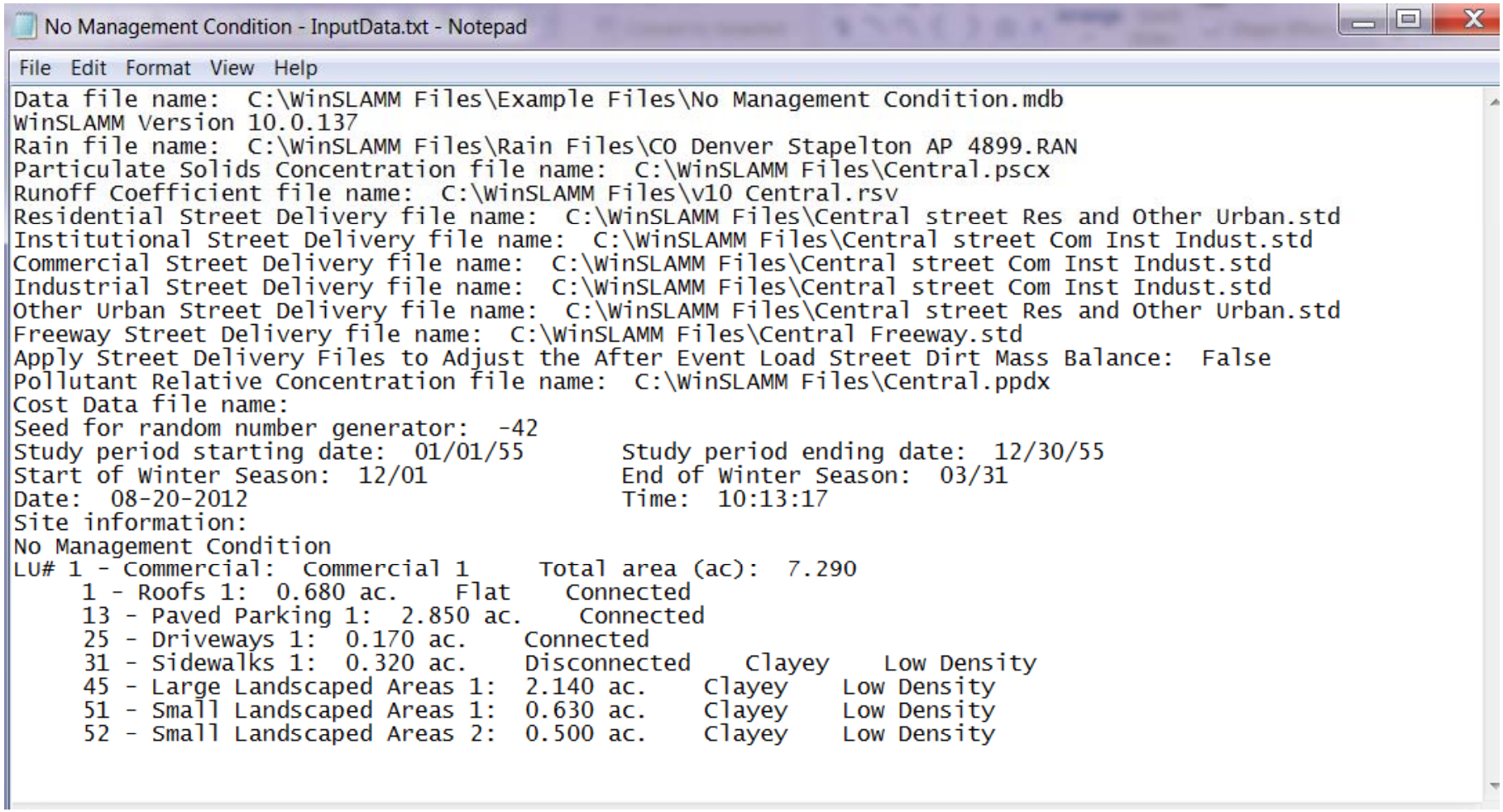
Printing the Input



Printing the Input



Printing the Input



No Management Condition - InputData.txt - Notepad

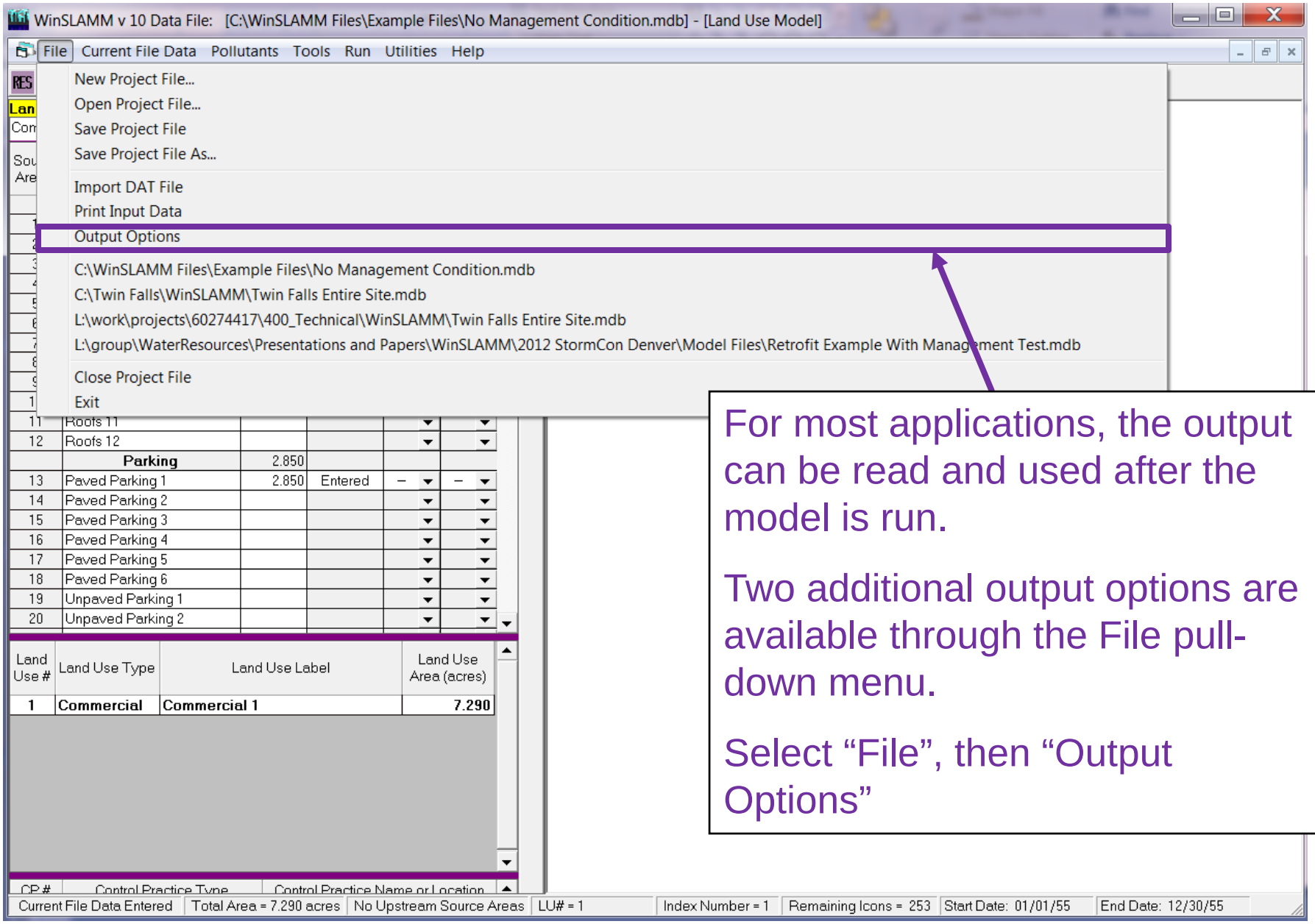
File Edit Format View Help

```
Data file name:  C:\WinSLAMM Files\Example Files\No Management Condition.mdb
WinSLAMM Version 10.0.137
Rain file name:  C:\WinSLAMM Files\Rain Files\CO Denver Stapelton AP 4899.RAN
Particulate Solids Concentration file name:  C:\WinSLAMM Files\Central.pscx
Runoff Coefficient file name:  C:\WinSLAMM Files\v10 Central.rsv
Residential Street Delivery file name:  C:\WinSLAMM Files\Central street Res and Other Urban.std
Institutional Street Delivery file name:  C:\WinSLAMM Files\Central street Com Inst Indust.std
Commercial Street Delivery file name:  C:\WinSLAMM Files\Central street Com Inst Indust.std
Industrial Street Delivery file name:  C:\WinSLAMM Files\Central street Com Inst Indust.std
Other Urban Street Delivery file name:  C:\WinSLAMM Files\Central street Res and Other Urban.std
Freeway Street Delivery file name:  C:\WinSLAMM Files\Central Freeway.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance:  False
Pollutant Relative Concentration file name:  C:\WinSLAMM Files\Central.ppdx
Cost Data file name:
Seed for random number generator:  -42
Study period starting date:  01/01/55       Study period ending date:  12/30/55
Start of Winter Season:  12/01              End of Winter Season:  03/31
Date:  08-20-2012                           Time:  10:13:17
Site information:
No Management Condition
LU# 1 - Commercial:  Commercial 1     Total area (ac):  7.290
     1 - Roofs 1:  0.680 ac.    Flat    Connected
     13 - Paved Parking 1:  2.850 ac.    Connected
     25 - Driveways 1:  0.170 ac.    Connected
     31 - Sidewalks 1:  0.320 ac.    Disconnected    Clayey    Low Density
     45 - Large Landscaped Areas 1:  2.140 ac.    Clayey    Low Density
     51 - Small Landscaped Areas 1:  0.630 ac.    Clayey    Low Density
     52 - Small Landscaped Areas 2:  0.500 ac.    Clayey    Low Density
```

The input file will have "…InputData.txt" in the file name. It is a text file and can be opened in any text file editor. It is easiest to view using 'Courier' or another fixed length font. It can then be printed or saved as a *.pdf for inclusion in reports.

Printing and Reading the Output Summary

File/Output Options

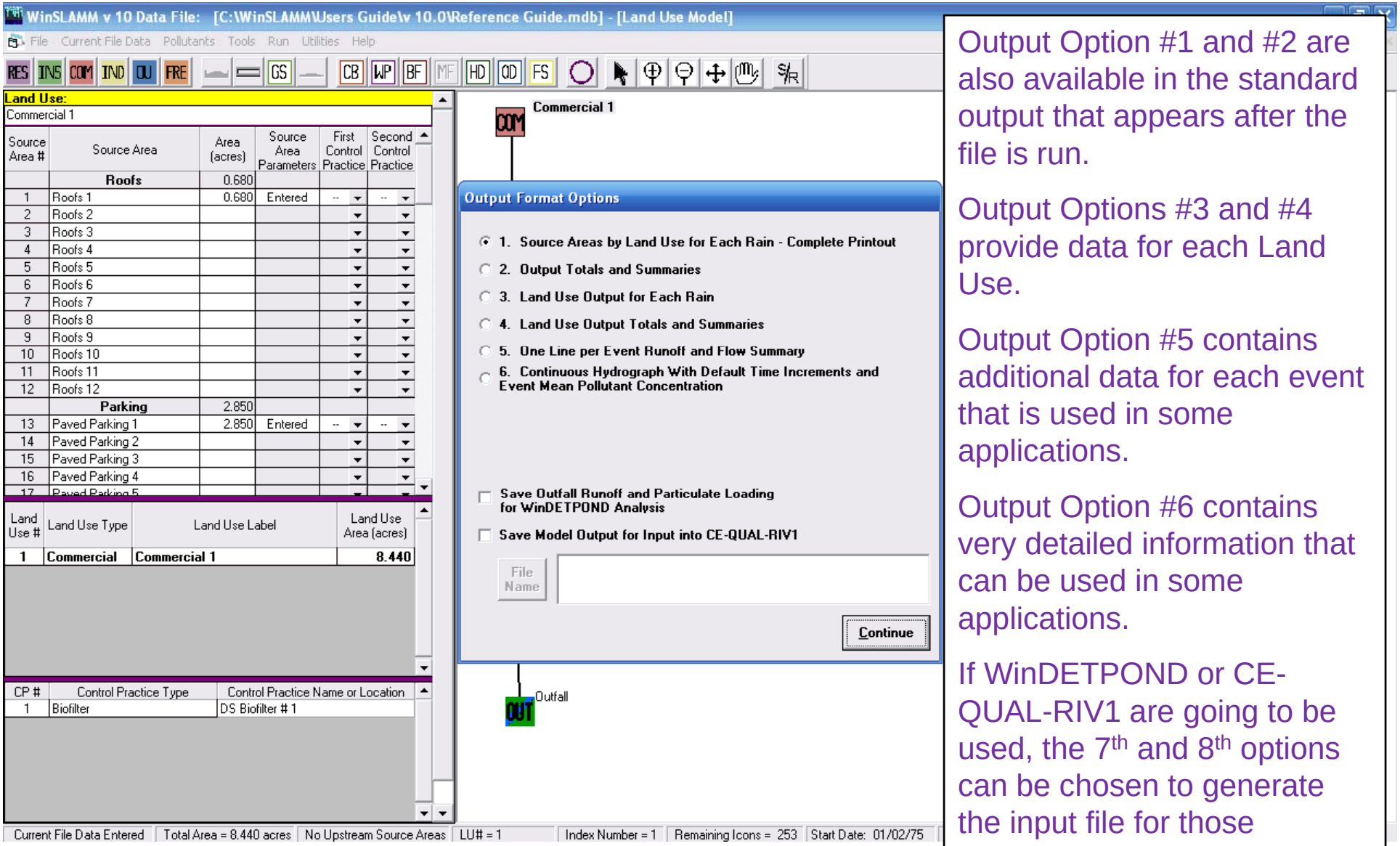


For most applications, the output can be read and used after the model is run.

Two additional output options are available through the File pull-down menu.

Select “File”, then “Output Options”

File/Output Options



Output Option #1 and #2 are also available in the standard output that appears after the file is run.

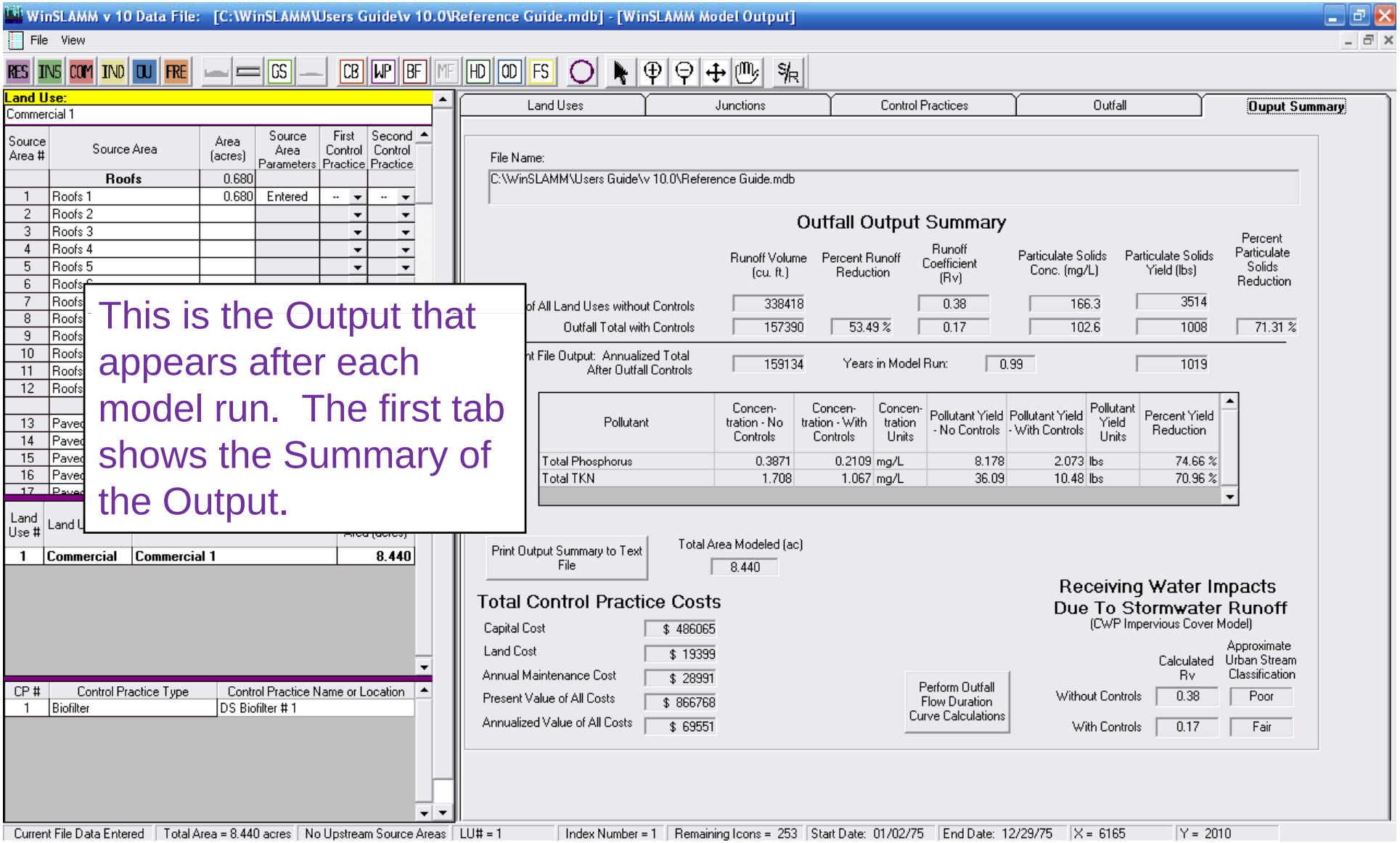
Output Options #3 and #4 provide data for each Land Use.

Output Option #5 contains additional data for each event that is used in some applications.

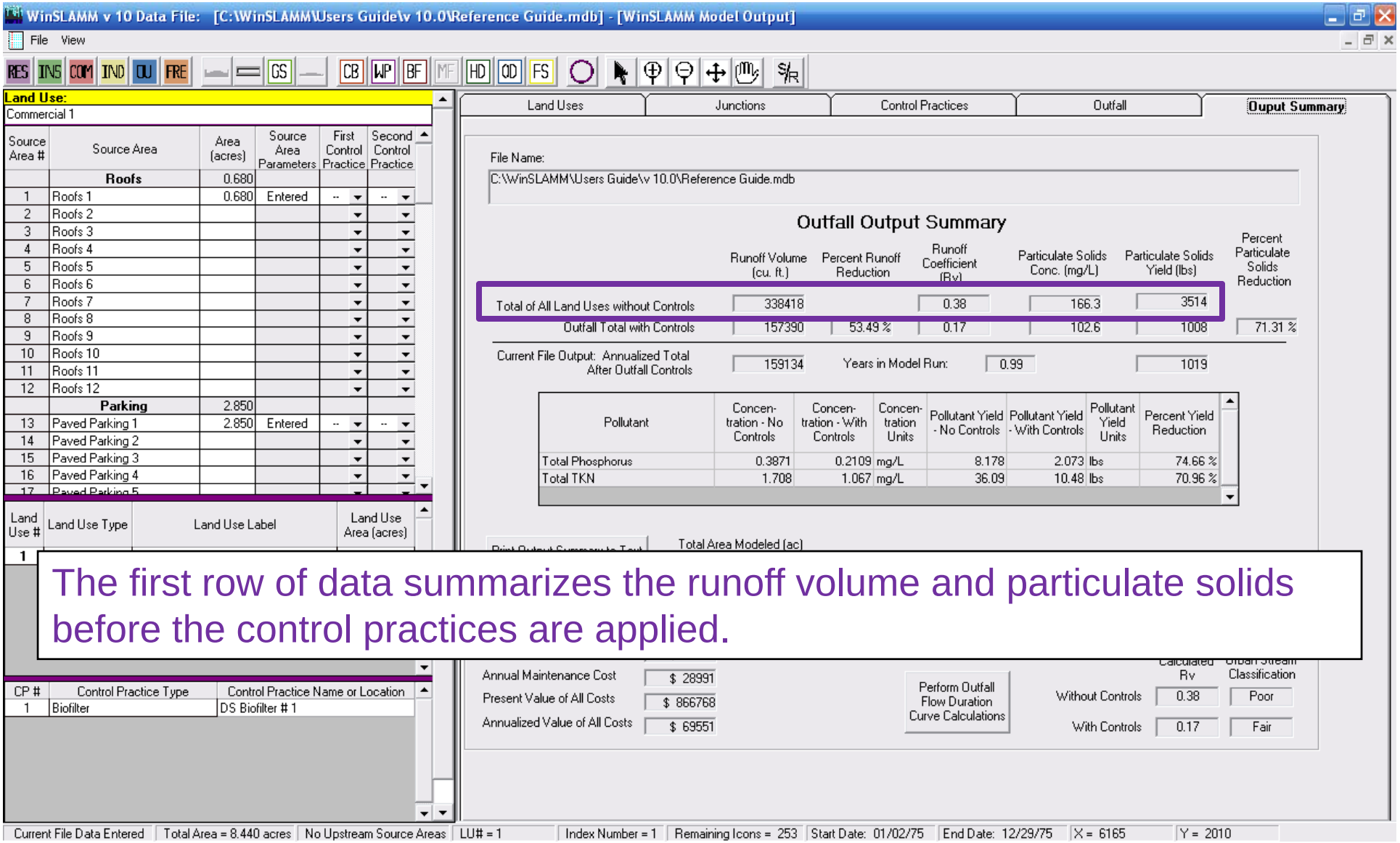
Output Option #6 contains very detailed information that can be used in some applications.

If WinDETPOND or CE-QUAL-RIV1 are going to be used, the 7th and 8th options can be chosen to generate the input file for those models.

Output Summary

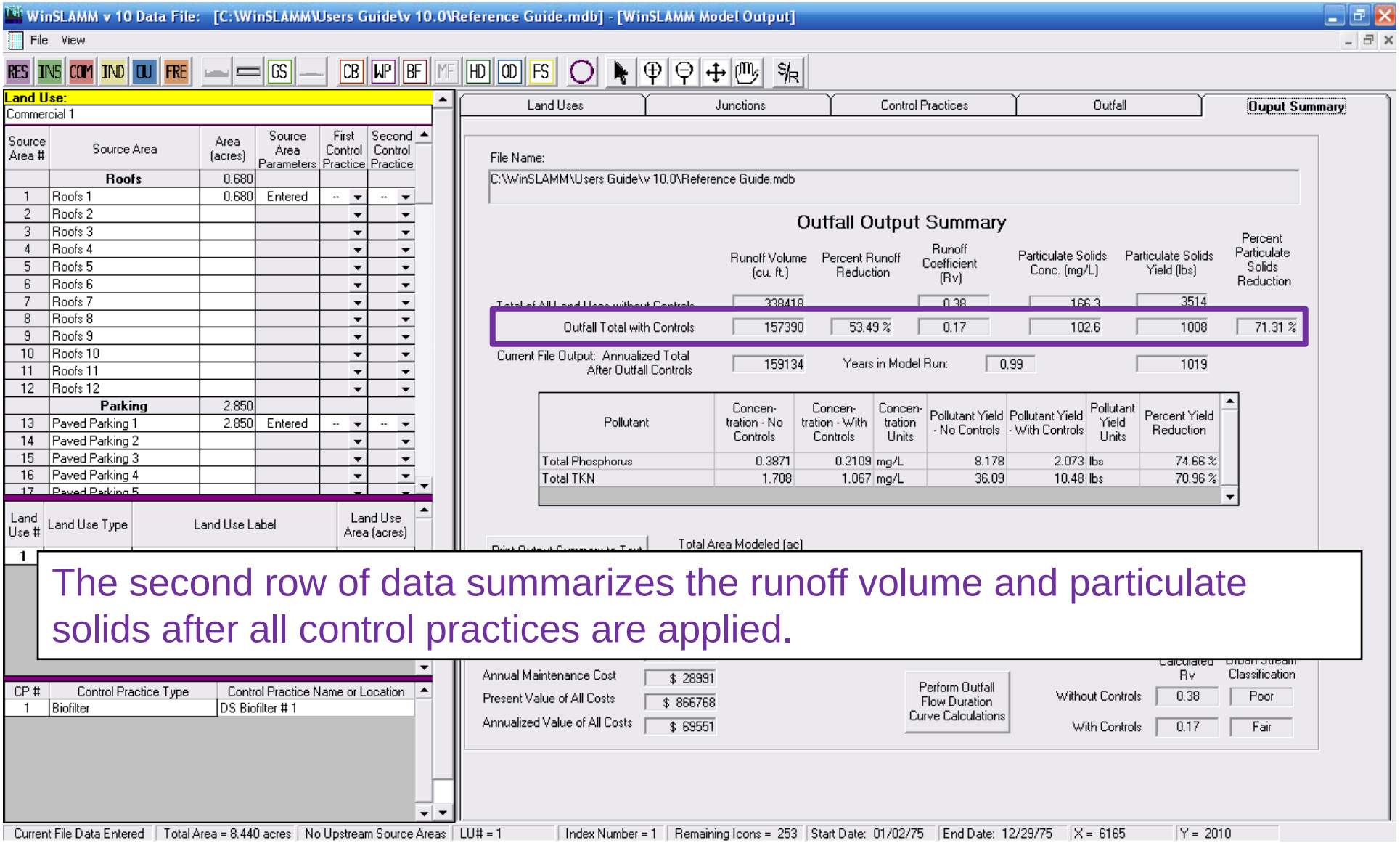


Output Summary



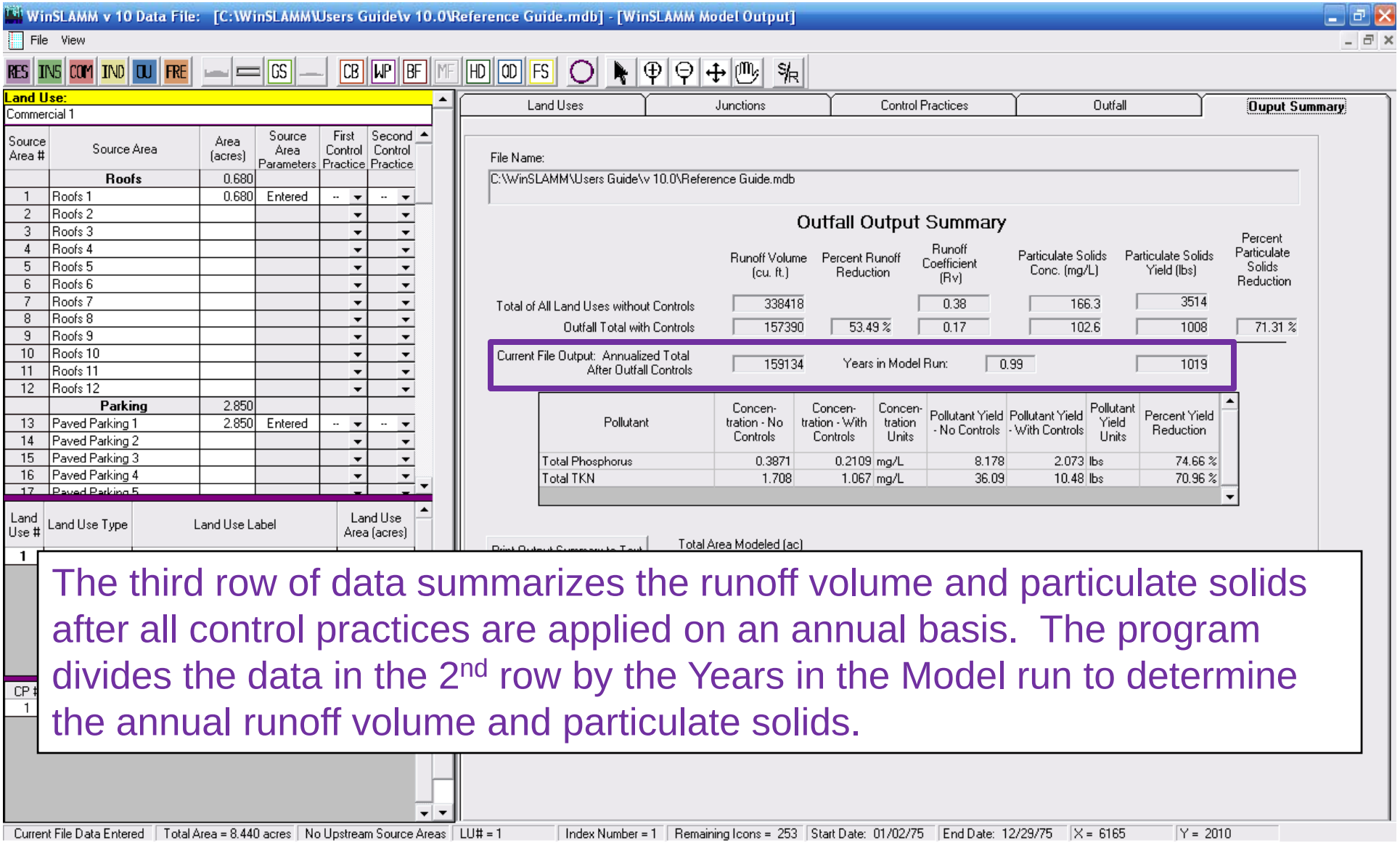
The first row of data summarizes the runoff volume and particulate solids before the control practices are applied.

Output Summary



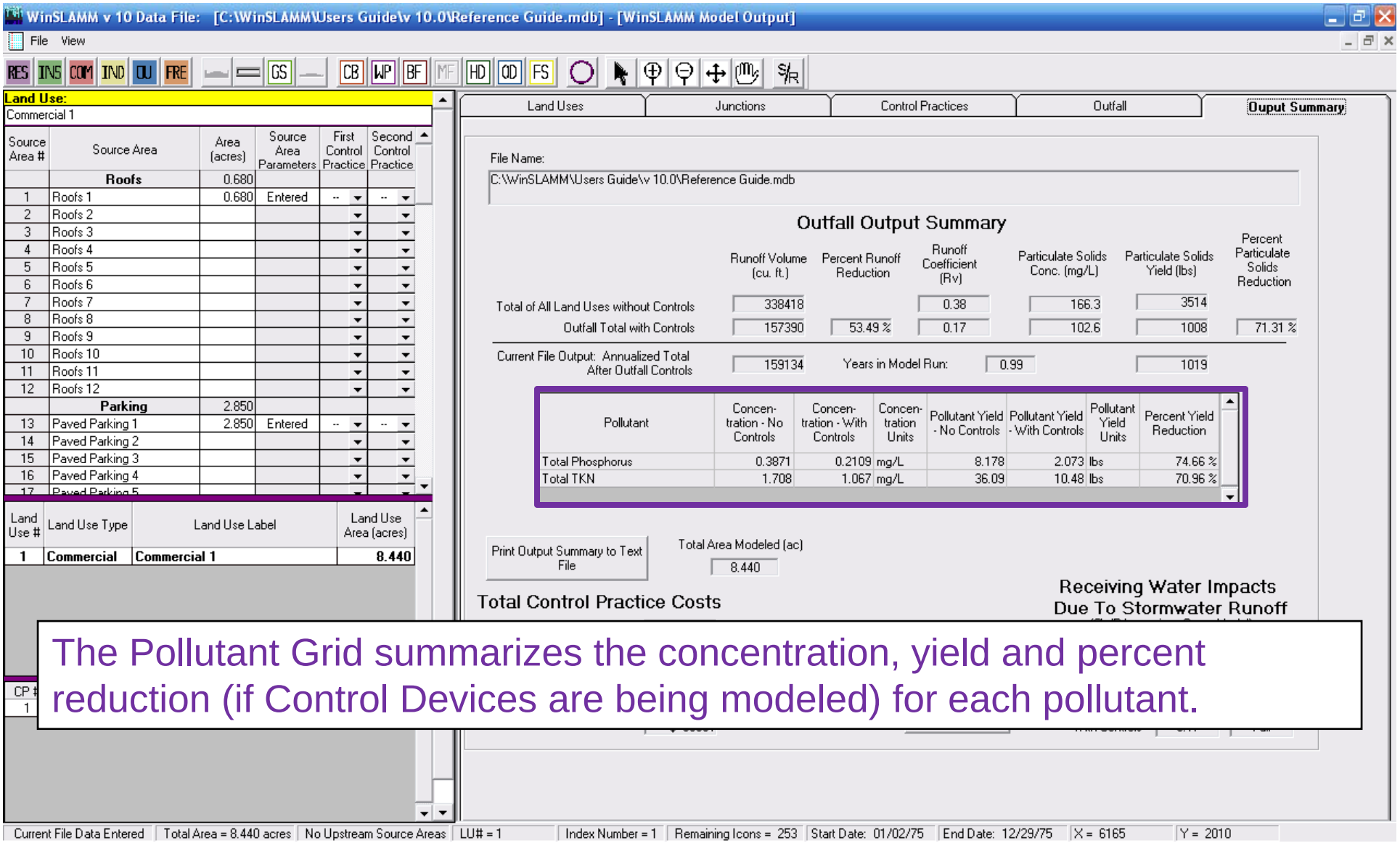
The second row of data summarizes the runoff volume and particulate solids after all control practices are applied.

Output Summary



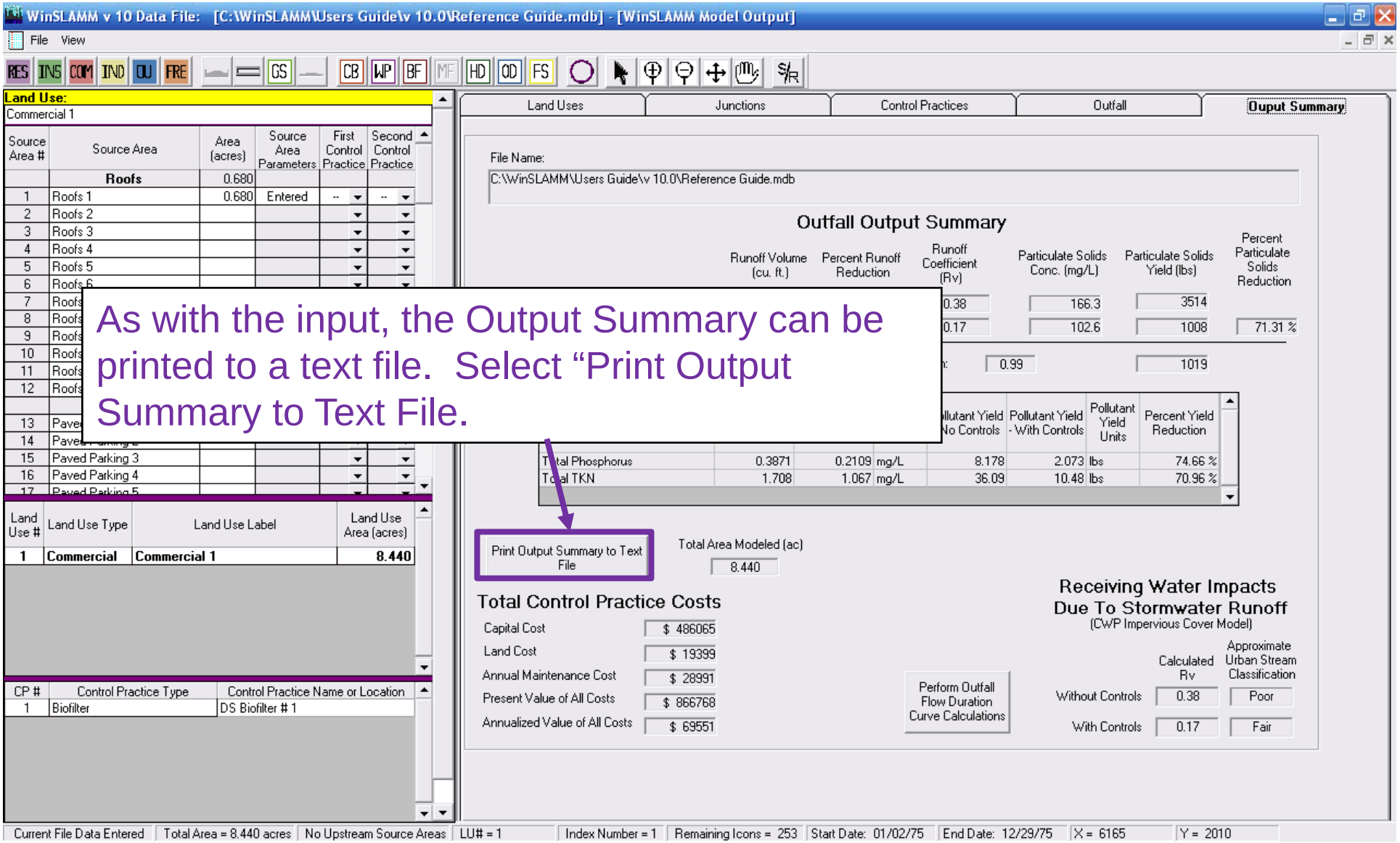
The third row of data summarizes the runoff volume and particulate solids after all control practices are applied on an annual basis. The program divides the data in the 2nd row by the Years in the Model run to determine the annual runoff volume and particulate solids.

Output Summary



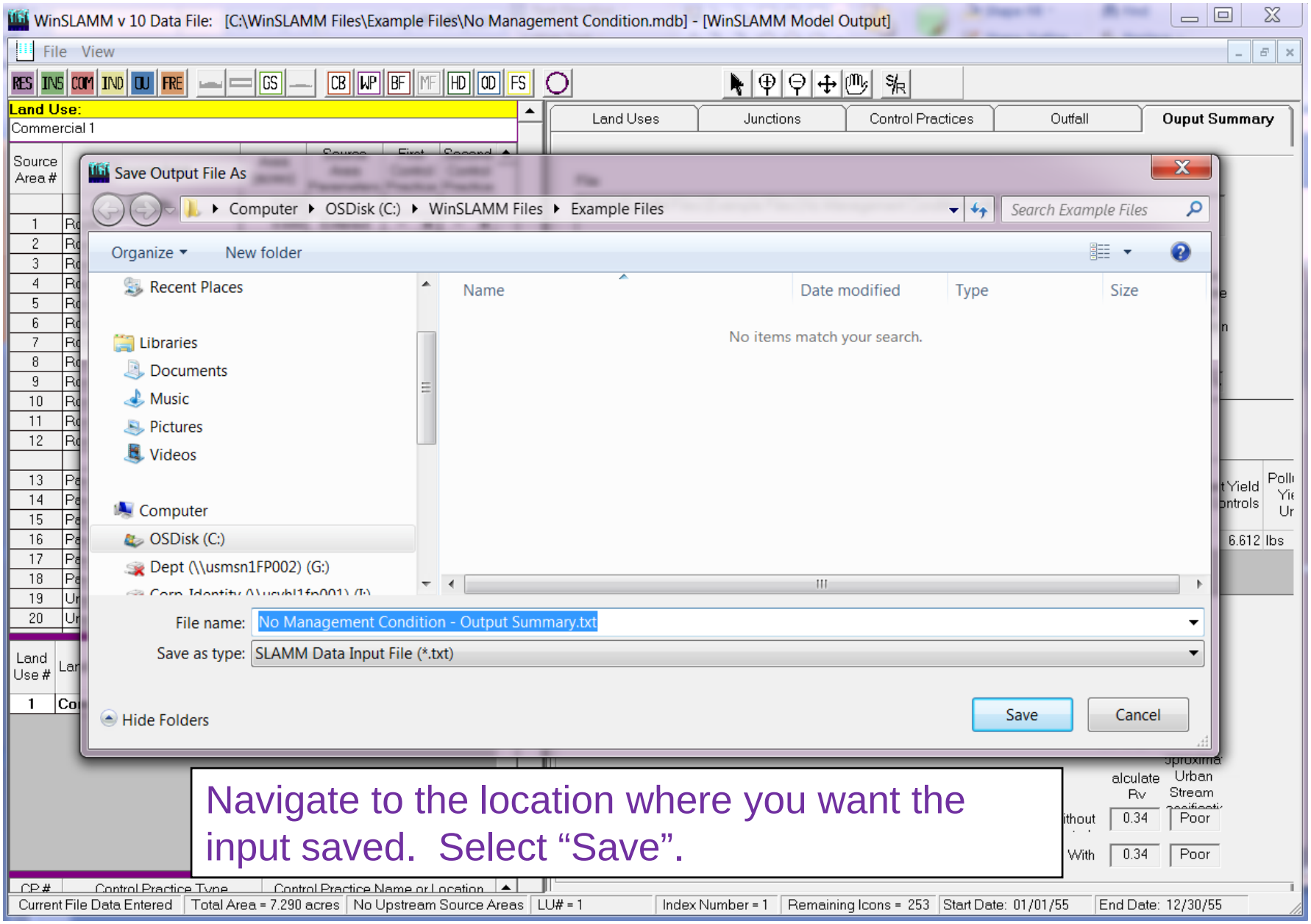
The Pollutant Grid summarizes the concentration, yield and percent reduction (if Control Devices are being modeled) for each pollutant.

Printing the Output Summary

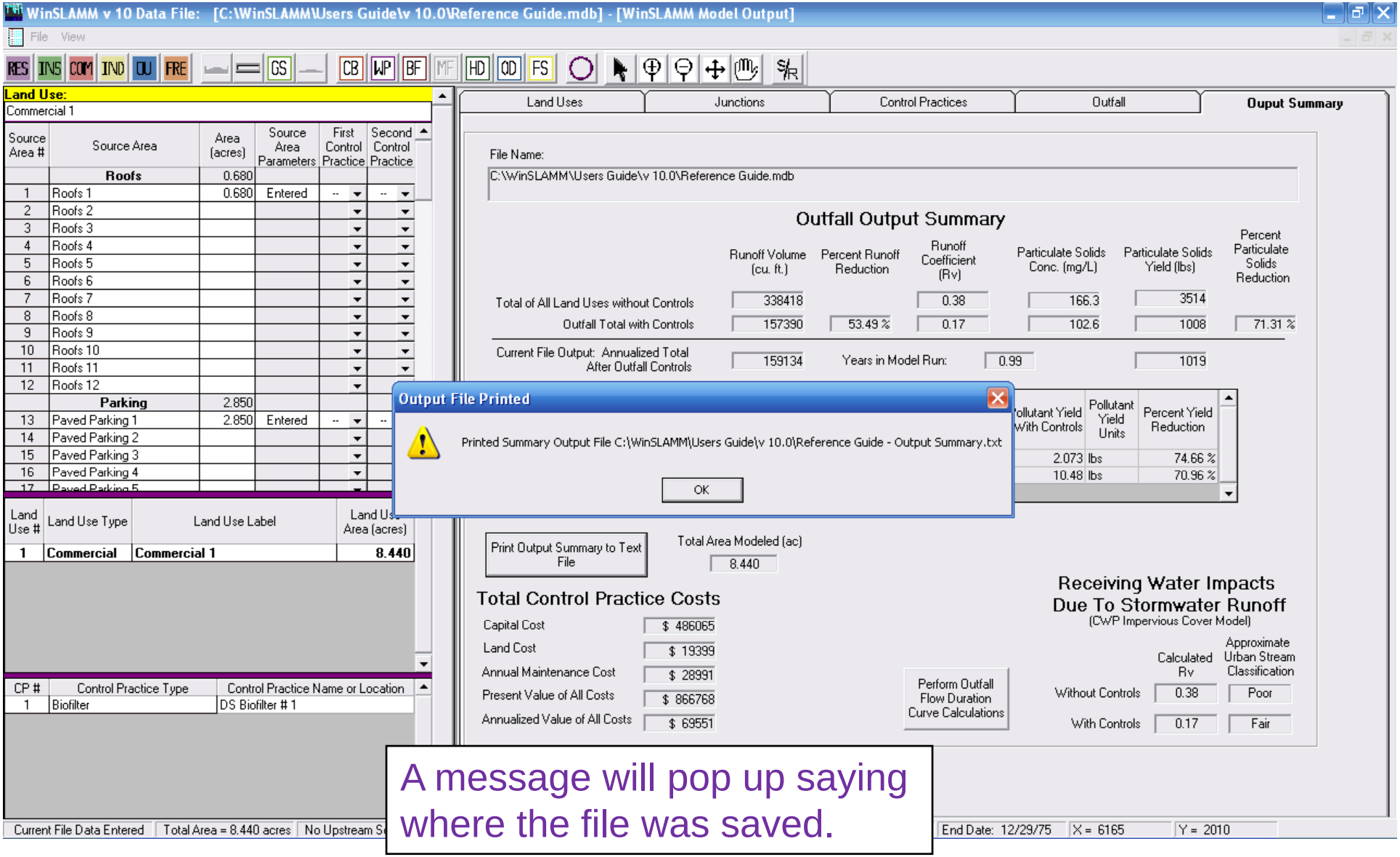


As with the input, the Output Summary can be printed to a text file. Select “Print Output Summary to Text File.

Printing the Output Summary

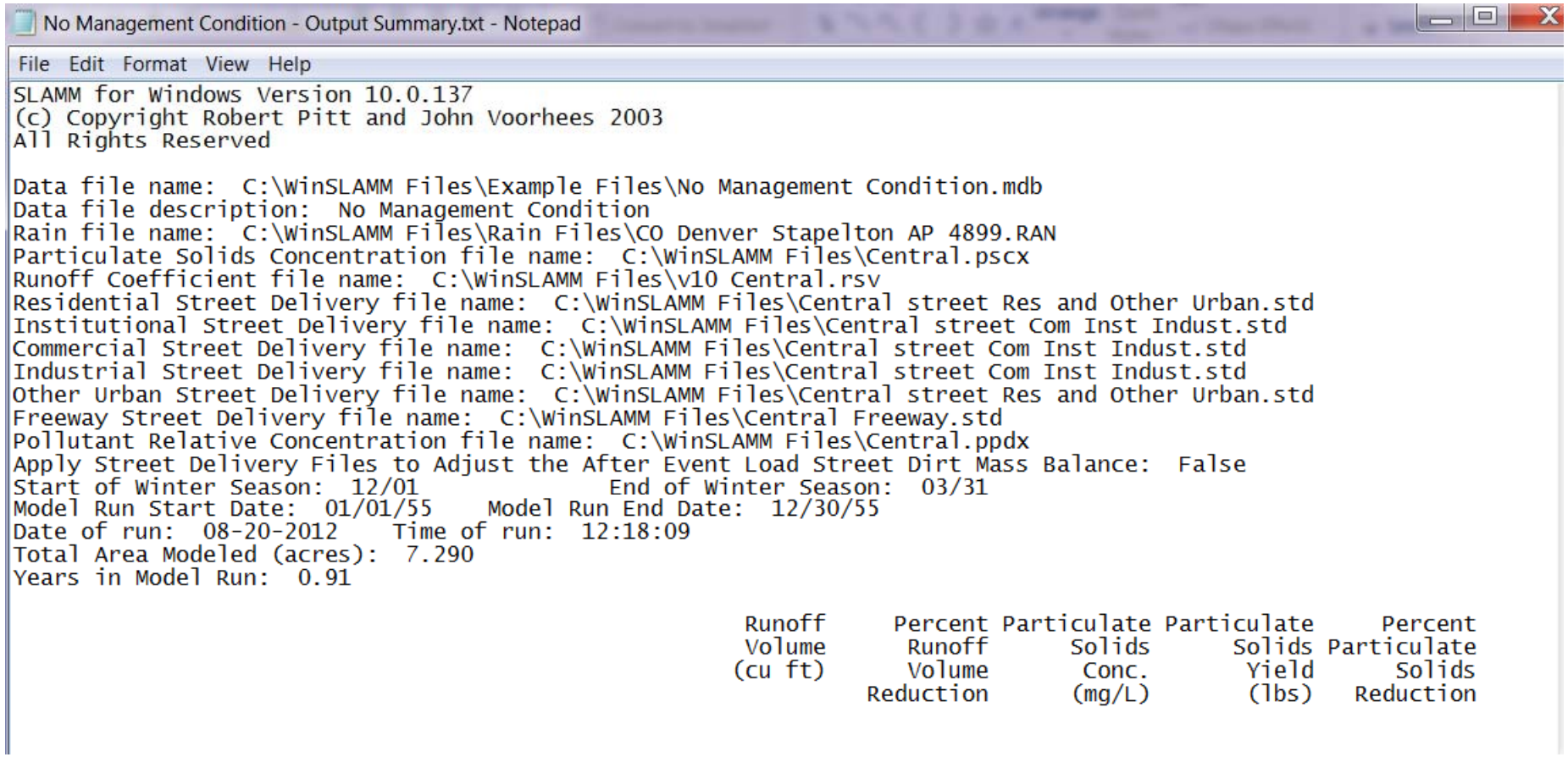


Printing the Output Summary



A message will pop up saying where the file was saved.

Printing the Output Summary



No Management Condition - Output Summary.txt - Notepad

File Edit Format View Help

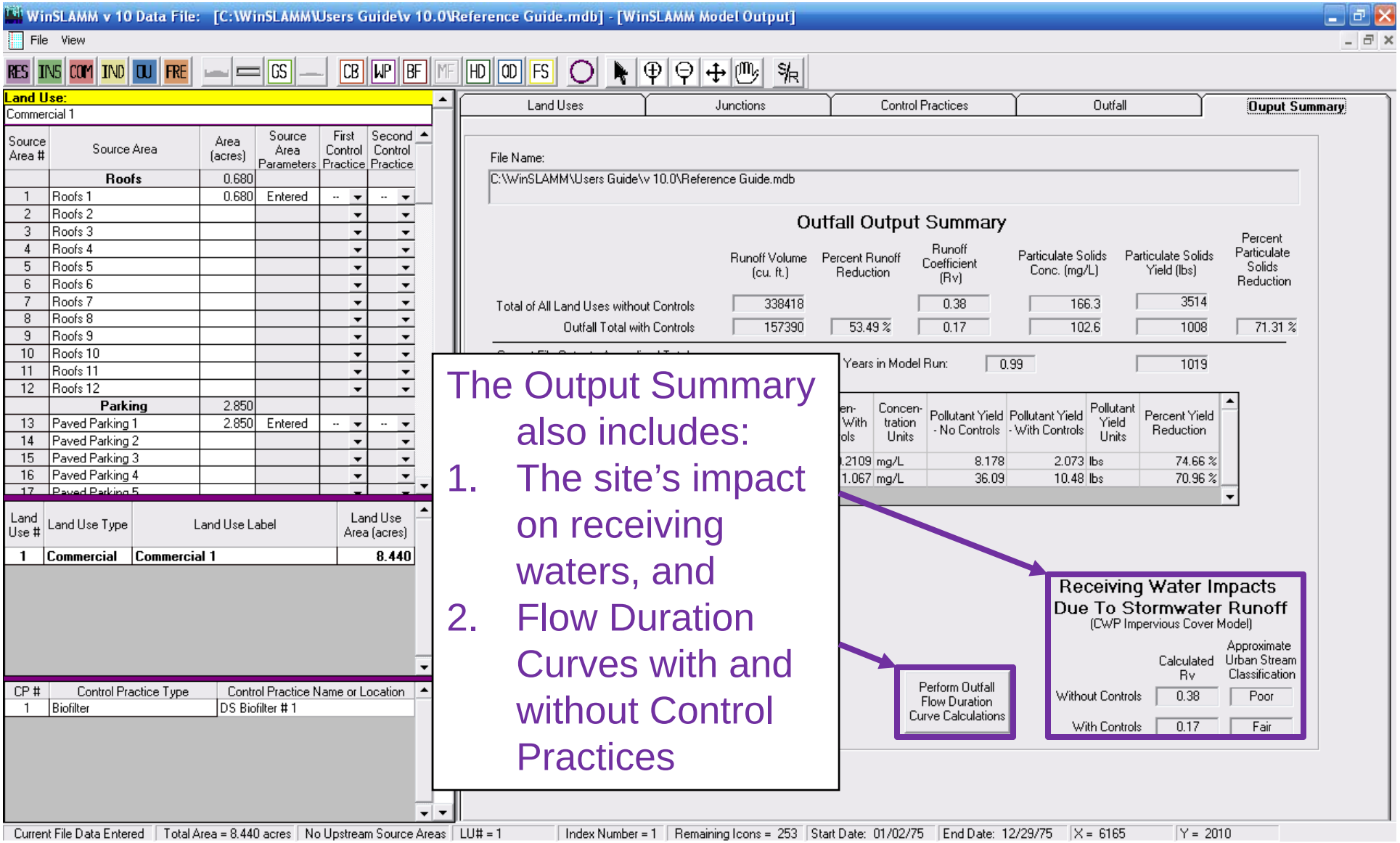
```
SLAMM for Windows Version 10.0.137
(c) Copyright Robert Pitt and John Voorhees 2003
All Rights Reserved

Data file name:  C:\WinSLAMM Files\Example Files\No Management Condition.mdb
Data file description:  No Management Condition
Rain file name:  C:\WinSLAMM Files\Rain Files\CO Denver Stapelton AP 4899.RAN
Particulate Solids Concentration file name:  C:\WinSLAMM Files\Central.pscx
Runoff Coefficient file name:  C:\WinSLAMM Files\v10 Central.rsv
Residential Street Delivery file name:  C:\WinSLAMM Files\Central street Res and Other Urban.std
Institutional Street Delivery file name:  C:\WinSLAMM Files\Central street Com Inst Indust.std
Commercial Street Delivery file name:  C:\WinSLAMM Files\Central street Com Inst Indust.std
Industrial Street Delivery file name:  C:\WinSLAMM Files\Central street Com Inst Indust.std
Other Urban Street Delivery file name:  C:\WinSLAMM Files\Central street Res and Other Urban.std
Freeway Street Delivery file name:  C:\WinSLAMM Files\Central Freeway.std
Pollutant Relative Concentration file name:  C:\WinSLAMM Files\Central.ppdx
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance:  False
Start of Winter Season:  12/01              End of Winter Season:  03/31
Model Run Start Date:  01/01/55    Model Run End Date:  12/30/55
Date of run:  08-20-2012    Time of run:  12:18:09
Total Area Modeled (acres):  7.290
Years in Model Run:  0.91

                                                  Runoff     Percent Particulate Particulate     Percent
                                                  Volume       Runoff      Solids      Solids Particulate
                                                 (cu ft)      Volume        Conc.       Yield      Solids
                                                            Reduction      (mg/L)       (lbs)   Reduction
```

The output summary file will have "…Output Summary.txt" in the file name. It is a text file and can be opened in any text file editor. It is easiest to view using 'Courier' or another fixed length font. It can then be printed or saved as a *.pdf for inclusion in reports.

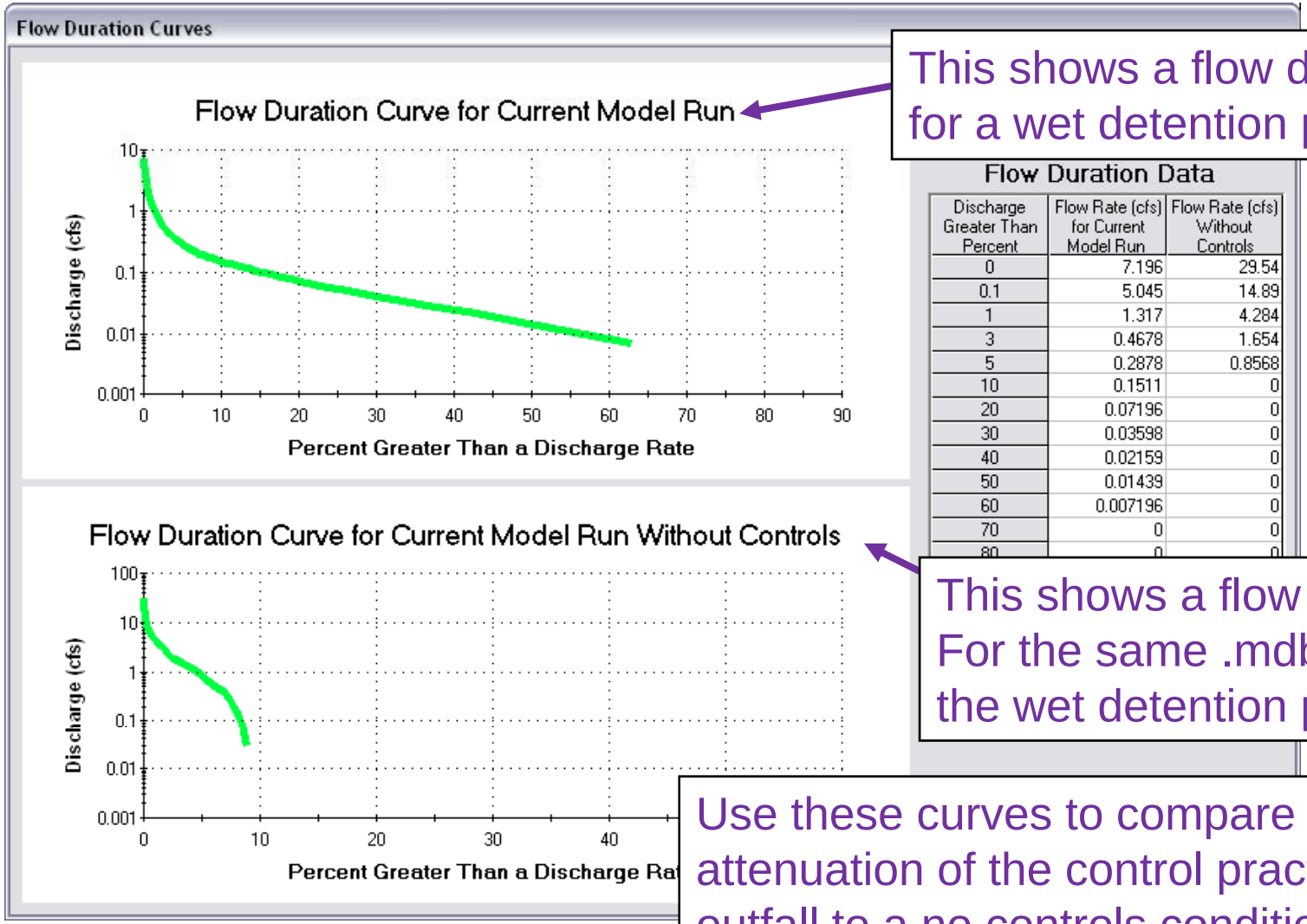
Output Summary



The Output Summary also includes:

1. The site's impact on receiving waters, and
2. Flow Duration Curves with and without Control Practices

Flow Duration Curves



This shows a flow duration curve for a wet detention pond.

Flow Duration Data

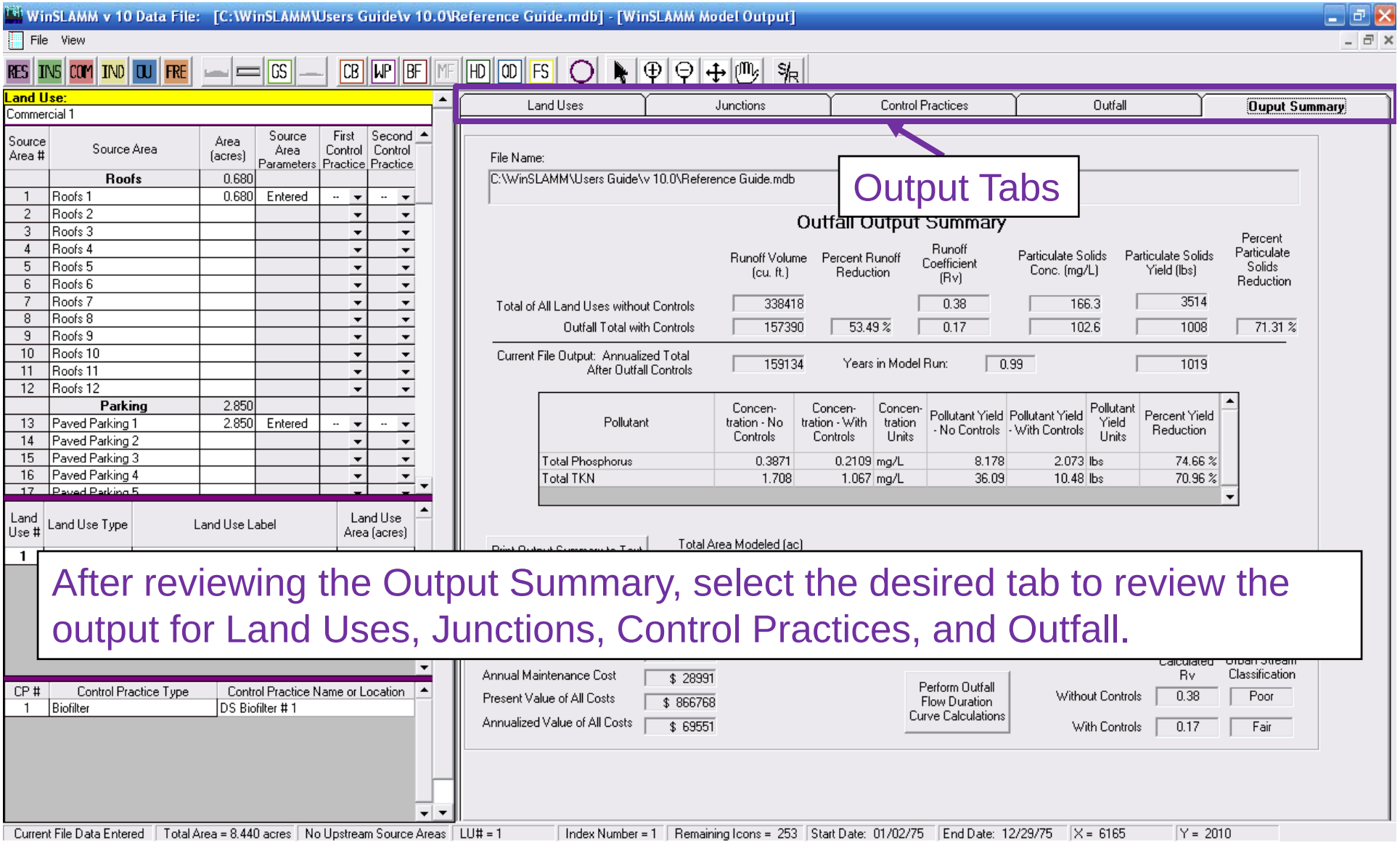
Discharge Greater Than Percent	Flow Rate (cfs) for Current Model Run	Flow Rate (cfs) Without Controls
0	7.196	29.54
0.1	5.045	14.89
1	1.317	4.284
3	0.4678	1.654
5	0.2878	0.8568
10	0.1511	0
20	0.07196	0
30	0.03598	0
40	0.02159	0
50	0.01439	0
60	0.007196	0
70	0	0
80	0	0

This shows a flow duration curve For the same .mdb file without the wet detention pond.

Use these curves to compare the attenuation of the control practices at the outfall to a no controls condition. See the Flow Duration Curves Help File Topic for more information.

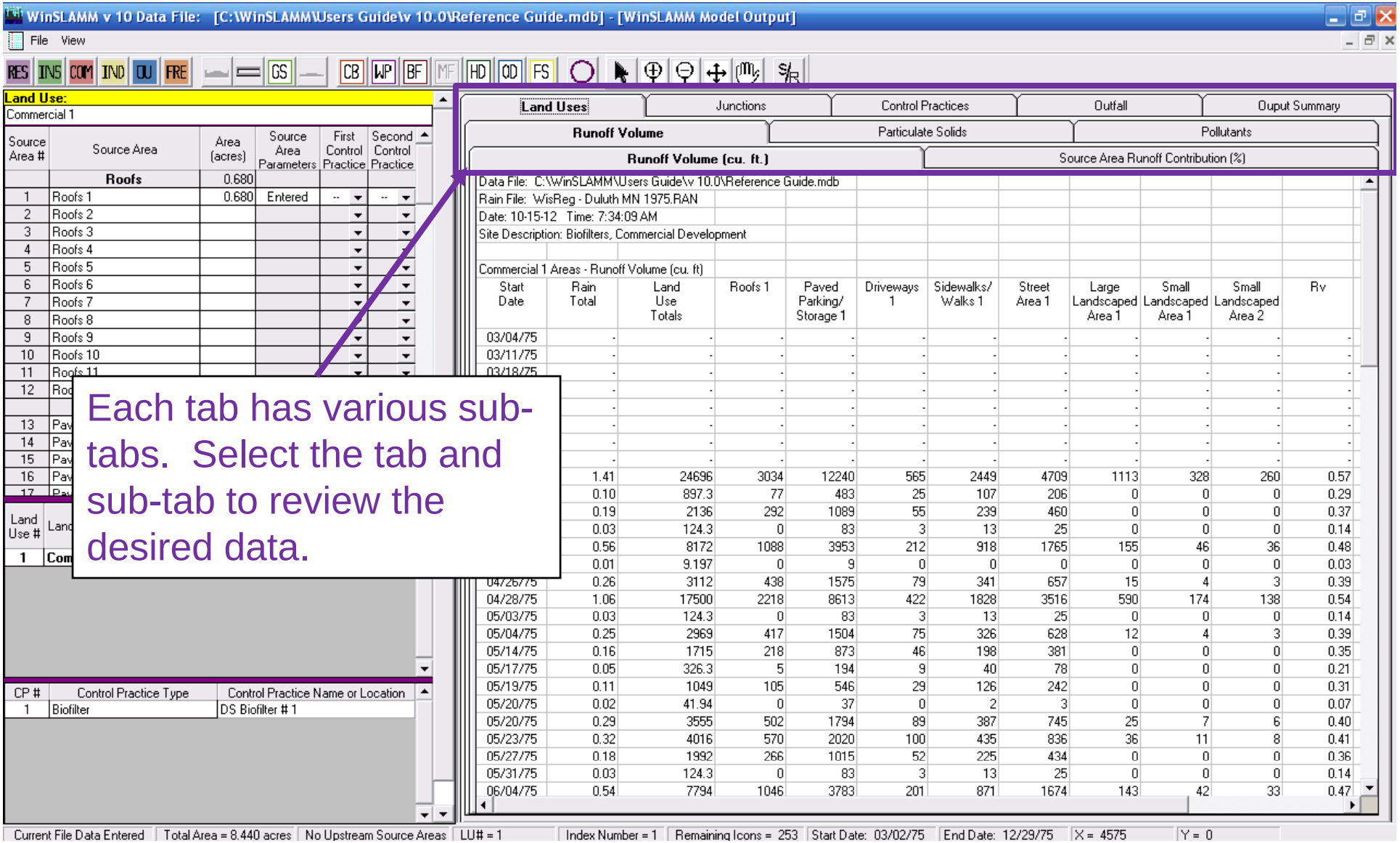
Reading Land Use, Junction, Control Practice and Outfall Output

Output

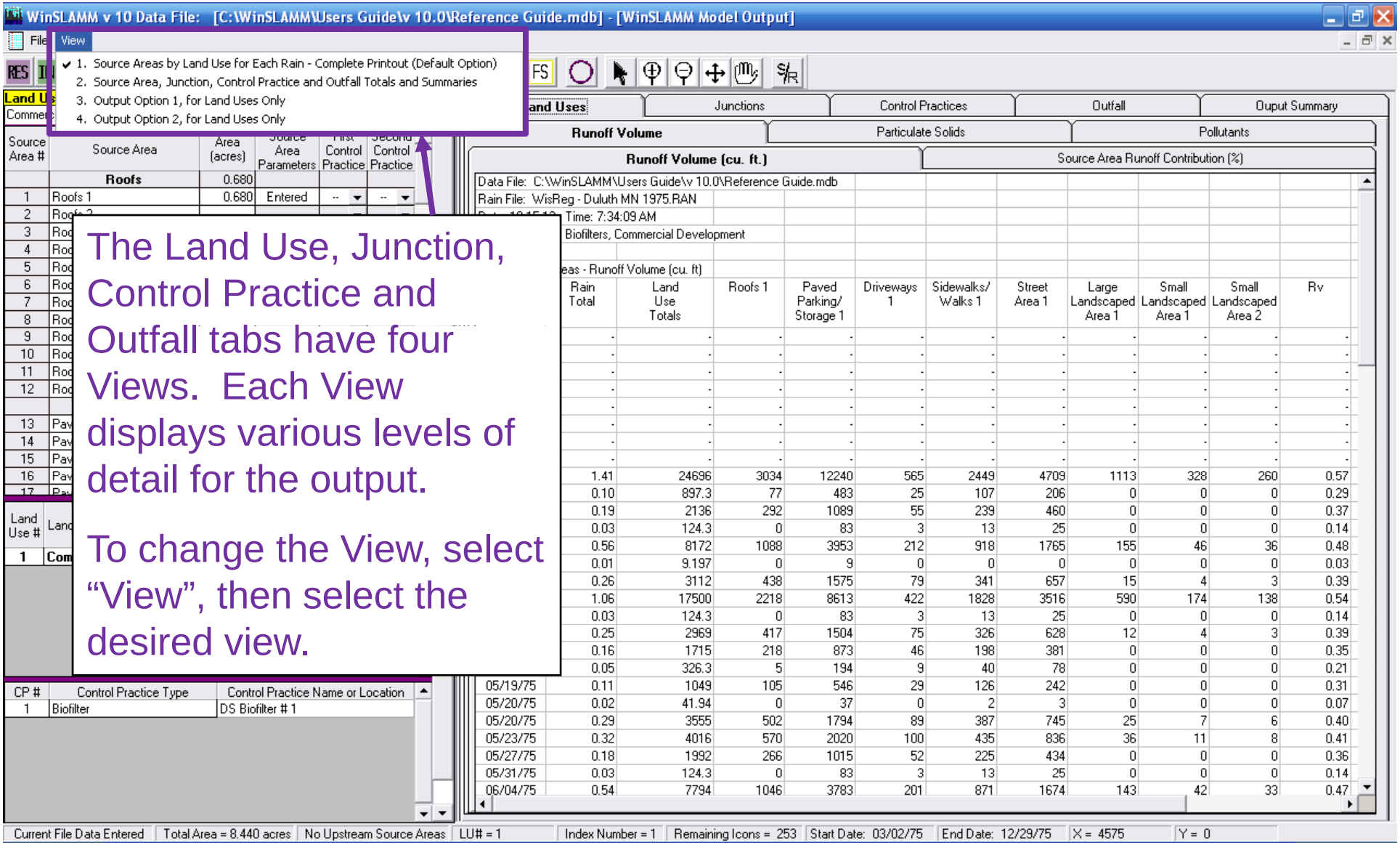


After reviewing the Output Summary, select the desired tab to review the output for Land Uses, Junctions, Control Practices, and Outfall.

Output – Changing the View



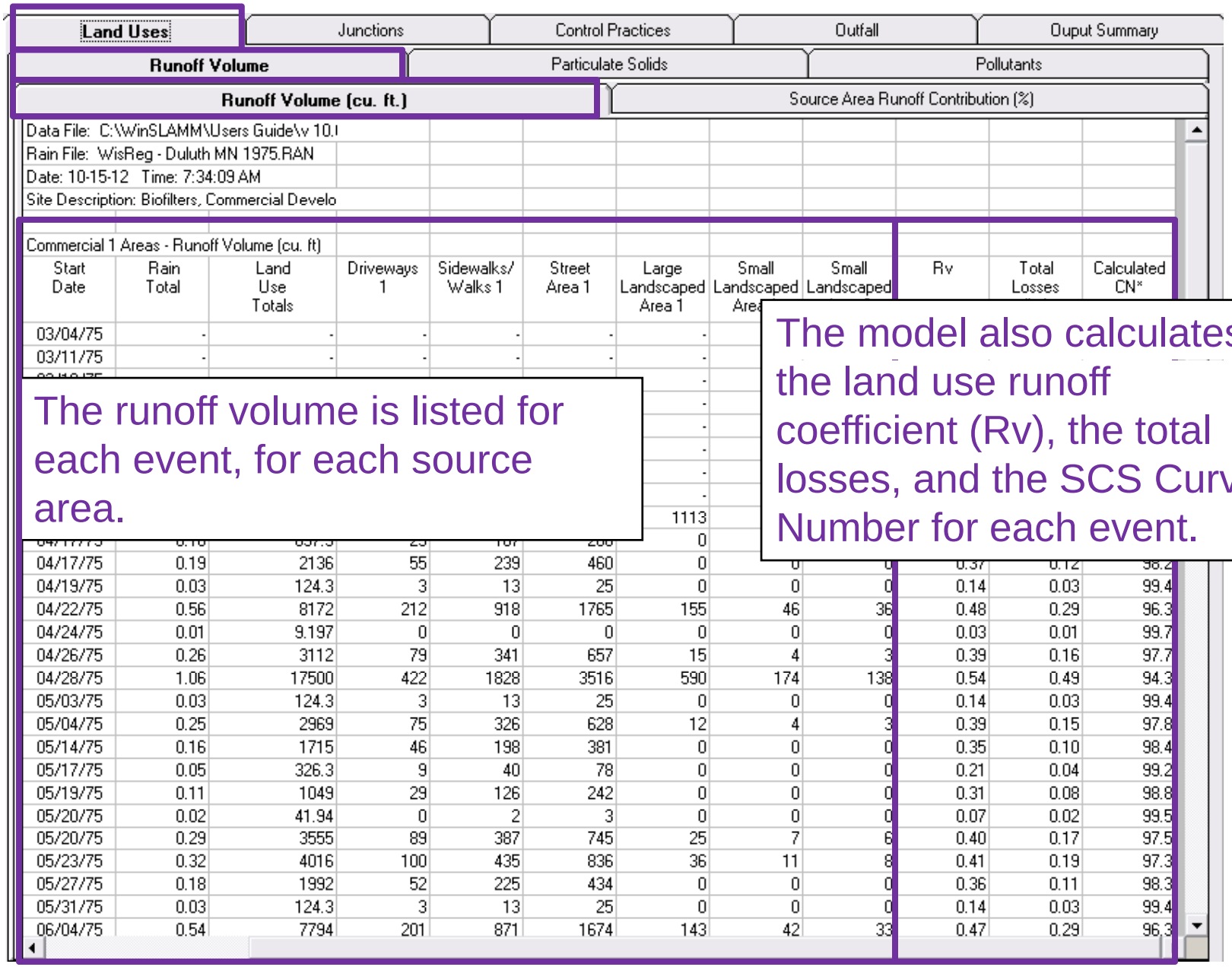
Output – Changing the View



The Land Use, Junction, Control Practice and Outfall tabs have four Views. Each View displays various levels of detail for the output.

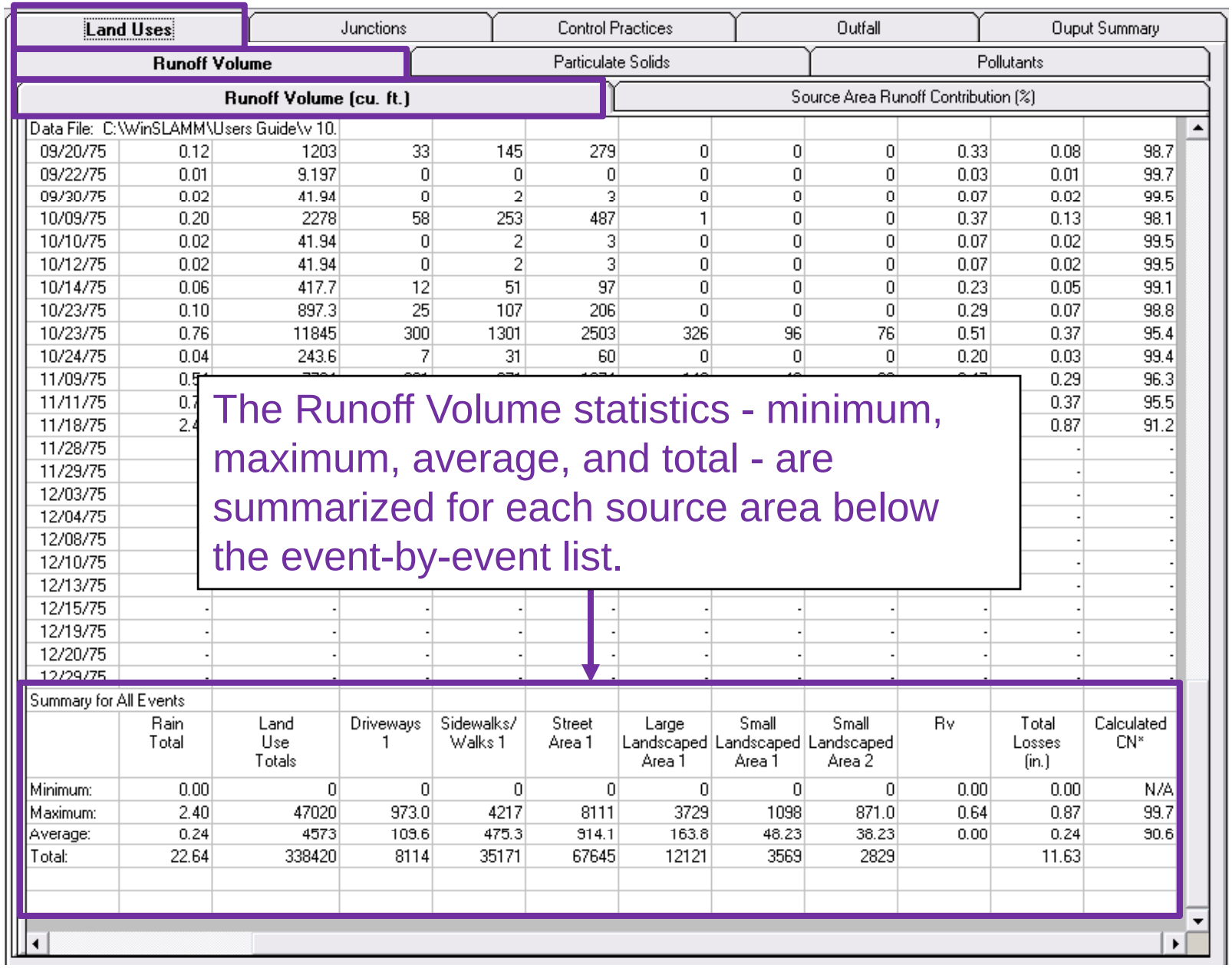
To change the View, select "View", then select the desired view.

Land Use - Runoff Volume Output

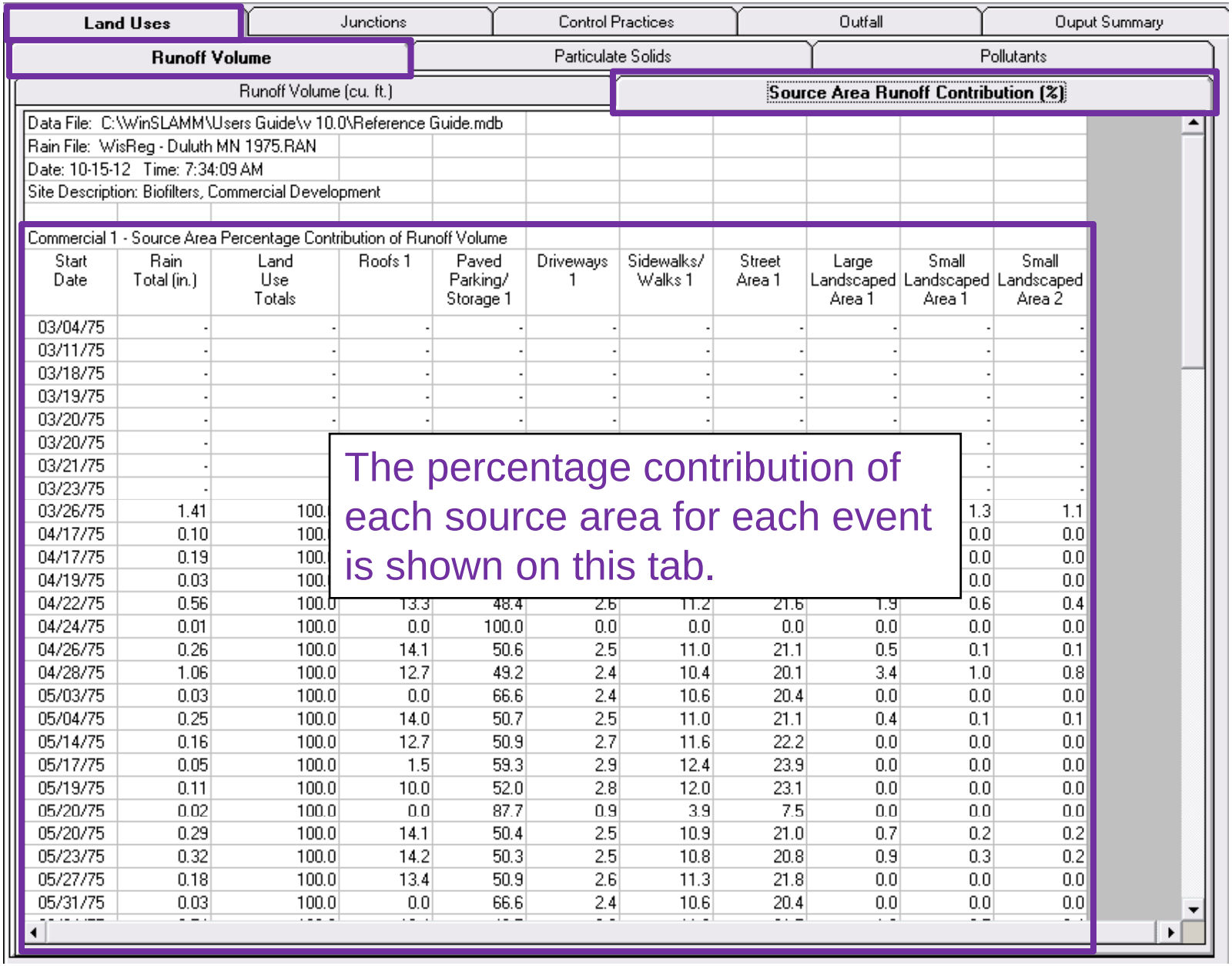


Start Date	Rain Total	Land Use Totals	Driveways 1	Sidewalks/ Walks 1	Street Area 1	Large Landscaped Area 1	Small Landscaped Area	Small Landscaped	Rv	Total Losses	Calculated CN*
03/04/75	-	-	-	-	-	-					
03/11/75	-	-	-	-	-	-					
						-					
						-					
						-					
						-					
						-					
						1113					
						0					
04/17/75	0.19	2136	55	239	460	0	0	0	0.37	0.12	96.2
04/19/75	0.03	124.3	3	13	25	0	0	0	0.14	0.03	99.4
04/22/75	0.56	8172	212	918	1765	155	46	36	0.48	0.29	96.3
04/24/75	0.01	9.197	0	0	0	0	0	0	0.03	0.01	99.7
04/26/75	0.26	3112	79	341	657	15	4	3	0.39	0.16	97.7
04/28/75	1.06	17500	422	1828	3516	590	174	138	0.54	0.49	94.3
05/03/75	0.03	124.3	3	13	25	0	0	0	0.14	0.03	99.4
05/04/75	0.25	2969	75	326	628	12	4	3	0.39	0.15	97.8
05/14/75	0.16	1715	46	198	381	0	0	0	0.35	0.10	98.4
05/17/75	0.05	326.3	9	40	78	0	0	0	0.21	0.04	99.2
05/19/75	0.11	1049	29	126	242	0	0	0	0.31	0.08	98.8
05/20/75	0.02	41.94	0	2	3	0	0	0	0.07	0.02	99.5
05/20/75	0.29	3555	89	387	745	25	7	6	0.40	0.17	97.5
05/23/75	0.32	4016	100	435	836	36	11	8	0.41	0.19	97.3
05/27/75	0.18	1992	52	225	434	0	0	0	0.36	0.11	98.3
05/31/75	0.03	124.3	3	13	25	0	0	0	0.14	0.03	99.4
06/04/75	0.54	7794	201	871	1674	143	42	33	0.47	0.29	96.3

Land Use - Runoff Volume Output



Land Use - Runoff Volume Output



Land Uses | Junctions | Control Practices | Outfall | Ouput Summary

Runoff Volume | Particulate Solids | Pollutants

Runoff Volume (cu. ft.) | Source Area Runoff Contribution (%)

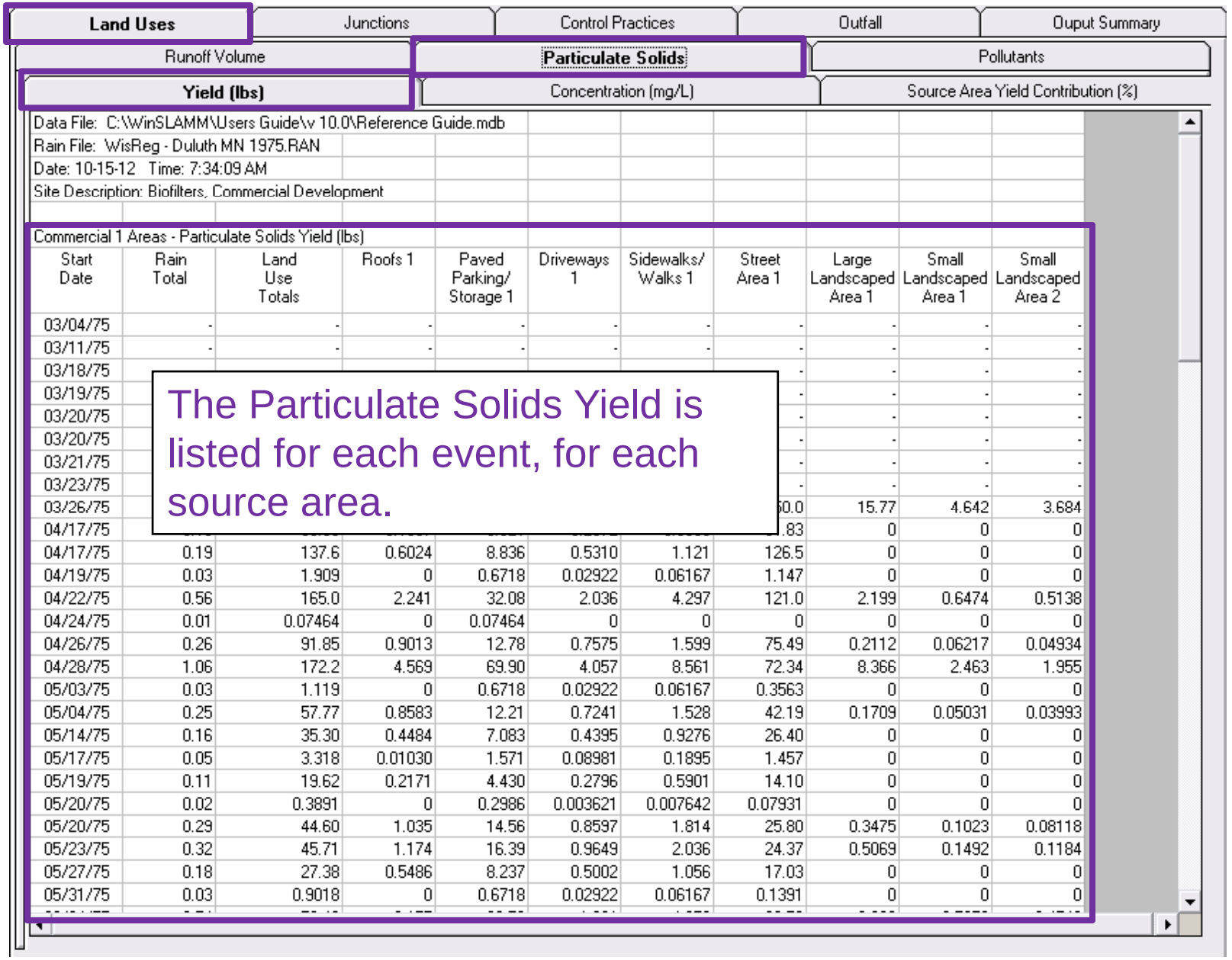
Data File: C:\WinSLAMM\Users Guide\v 10.0\Reference Guide.mdb
Rain File: WisReg - Duluth MN 1975.RAN
Date: 10-15-12 Time: 7:34:09 AM
Site Description: Biofilters, Commercial Development

Commercial 1 - Source Area Percentage Contribution of Runoff Volume

Start Date	Rain Total (in.)	Land Use Totals	Roofs 1	Paved Parking/ Storage 1	Driveways 1	Sidewalks/ Walks 1	Street Area 1	Large Landscaped Area 1	Small Landscaped Area 1	Small Landscaped Area 2
03/04/75	-	-	-	-	-	-	-	-	-	-
03/11/75	-	-	-	-	-	-	-	-	-	-
03/18/75	-	-	-	-	-	-	-	-	-	-
03/19/75	-	-	-	-	-	-	-	-	-	-
03/20/75	-	-	-	-	-	-	-	-	-	-
03/20/75	-								-	-
03/21/75	-								-	-
03/23/75	-								-	-
03/26/75	1.41	100.							1.3	1.1
04/17/75	0.10	100.							0.0	0.0
04/17/75	0.19	100.							0.0	0.0
04/19/75	0.03	100.							0.0	0.0
04/22/75	0.56	100.0	13.3	48.4	2.6	11.2	21.6	1.9	0.6	0.4
04/24/75	0.01	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
04/26/75	0.26	100.0	14.1	50.6	2.5	11.0	21.1	0.5	0.1	0.1
04/28/75	1.06	100.0	12.7	49.2	2.4	10.4	20.1	3.4	1.0	0.8
05/03/75	0.03	100.0	0.0	66.6	2.4	10.6	20.4	0.0	0.0	0.0
05/04/75	0.25	100.0	14.0	50.7	2.5	11.0	21.1	0.4	0.1	0.1
05/14/75	0.16	100.0	12.7	50.9	2.7	11.6	22.2	0.0	0.0	0.0
05/17/75	0.05	100.0	1.5	59.3	2.9	12.4	23.9	0.0	0.0	0.0
05/19/75	0.11	100.0	10.0	52.0	2.8	12.0	23.1	0.0	0.0	0.0
05/20/75	0.02	100.0	0.0	87.7	0.9	3.9	7.5	0.0	0.0	0.0
05/20/75	0.29	100.0	14.1	50.4	2.5	10.9	21.0	0.7	0.2	0.2
05/23/75	0.32	100.0	14.2	50.3	2.5	10.8	20.8	0.9	0.3	0.2
05/27/75	0.18	100.0	13.4	50.9	2.6	11.3	21.8	0.0	0.0	0.0
05/31/75	0.03	100.0	0.0	66.6	2.4	10.6	20.4	0.0	0.0	0.0

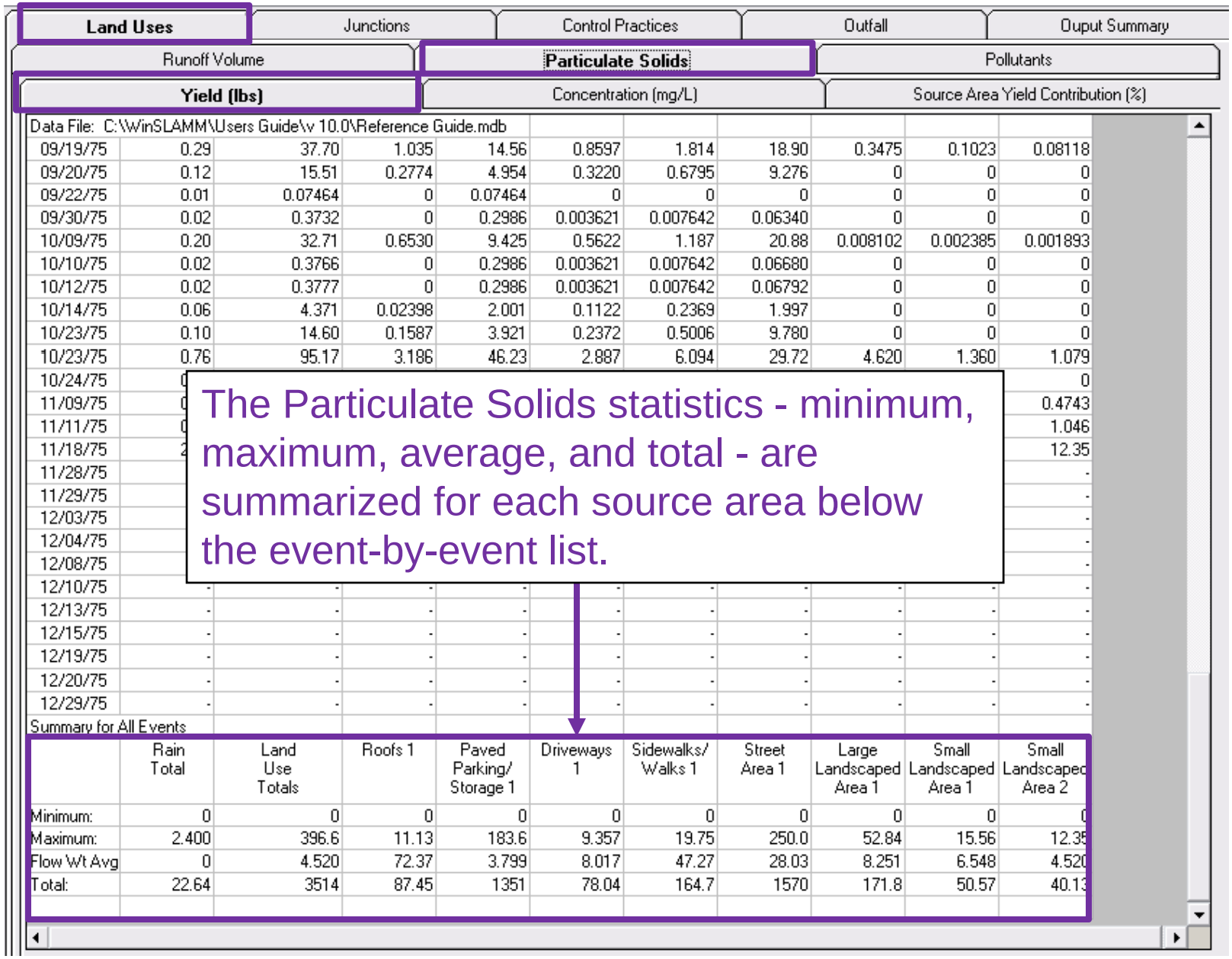
The percentage contribution of each source area for each event is shown on this tab.

Land Use – Particulate Solids Output

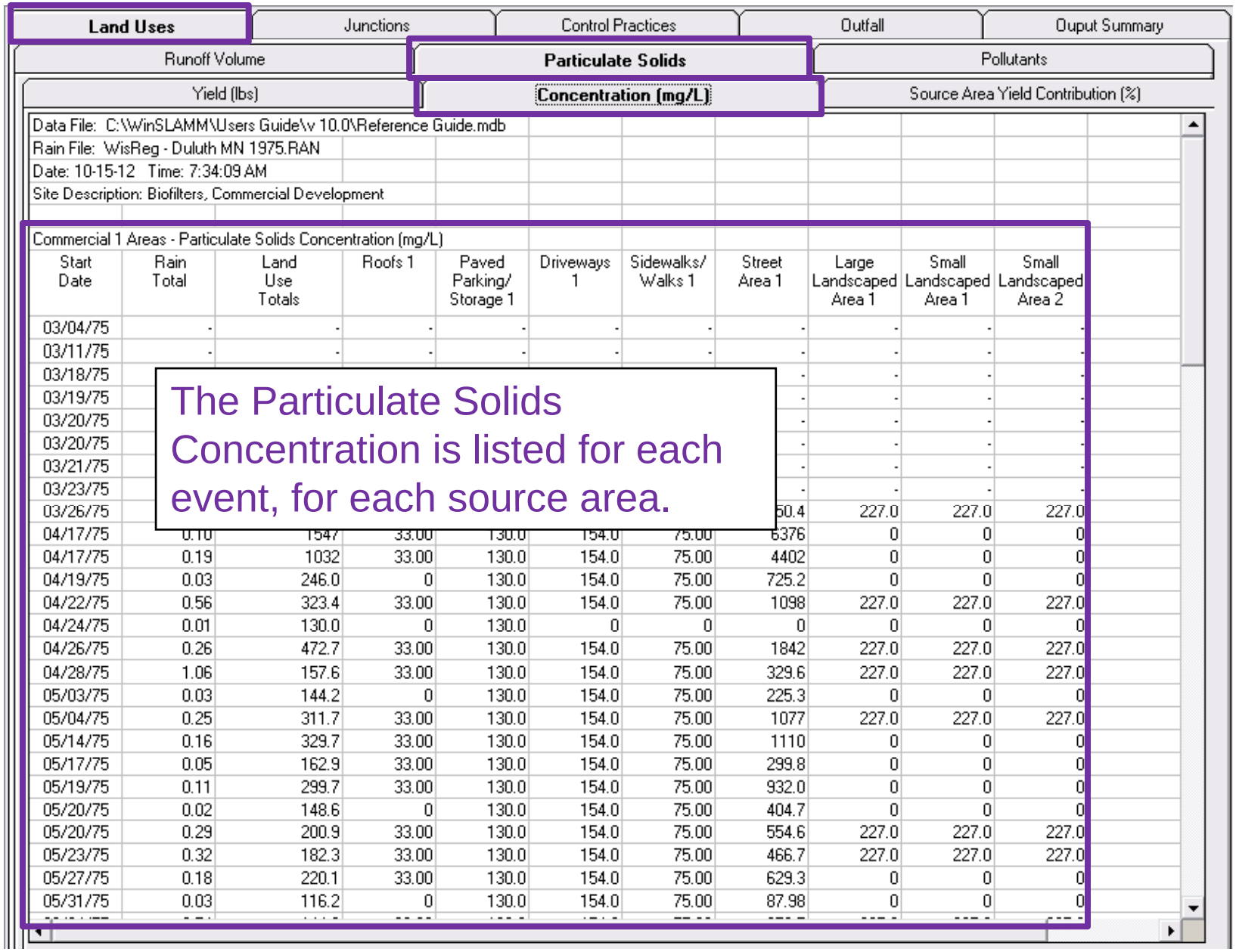


Start Date	Rain Total	Land Use Totals	Roofs 1	Paved Parking/ Storage 1	Driveways 1	Sidewalks/ Walks 1	Street Area 1	Large Landscaped Area 1	Small Landscaped Area 1	Small Landscaped Area 2
03/04/75	-	-	-	-	-	-	-	-	-	-
03/11/75	-	-	-	-	-	-	-	-	-	-
03/18/75							-	-	-	-
03/19/75							-	-	-	-
03/20/75							-	-	-	-
03/20/75							-	-	-	-
03/21/75							-	-	-	-
03/23/75							-	-	-	-
03/26/75							60.0	15.77	4.642	3.684
04/17/75							.83	0	0	0
04/17/75	0.19	137.6	0.6024	8.836	0.5310	1.121	126.5	0	0	0
04/19/75	0.03	1.909	0	0.6718	0.02922	0.06167	1.147	0	0	0
04/22/75	0.56	165.0	2.241	32.08	2.036	4.297	121.0	2.199	0.6474	0.5138
04/24/75	0.01	0.07464	0	0.07464	0	0	0	0	0	0
04/26/75	0.26	91.85	0.9013	12.78	0.7575	1.599	75.49	0.2112	0.06217	0.04934
04/28/75	1.06	172.2	4.569	69.90	4.057	8.561	72.34	8.366	2.463	1.955
05/03/75	0.03	1.119	0	0.6718	0.02922	0.06167	0.3563	0	0	0
05/04/75	0.25	57.77	0.8583	12.21	0.7241	1.528	42.19	0.1709	0.05031	0.03993
05/14/75	0.16	35.30	0.4484	7.083	0.4395	0.9276	26.40	0	0	0
05/17/75	0.05	3.318	0.01030	1.571	0.08981	0.1895	1.457	0	0	0
05/19/75	0.11	19.62	0.2171	4.430	0.2796	0.5901	14.10	0	0	0
05/20/75	0.02	0.3891	0	0.2986	0.003621	0.007642	0.07931	0	0	0
05/20/75	0.29	44.60	1.035	14.56	0.8597	1.814	25.80	0.3475	0.1023	0.08118
05/23/75	0.32	45.71	1.174	16.39	0.9649	2.036	24.37	0.5069	0.1492	0.1184
05/27/75	0.18	27.38	0.5486	8.237	0.5002	1.056	17.03	0	0	0
05/31/75	0.03	0.9018	0	0.6718	0.02922	0.06167	0.1391	0	0	0

Land Use – Particulate Solids Output

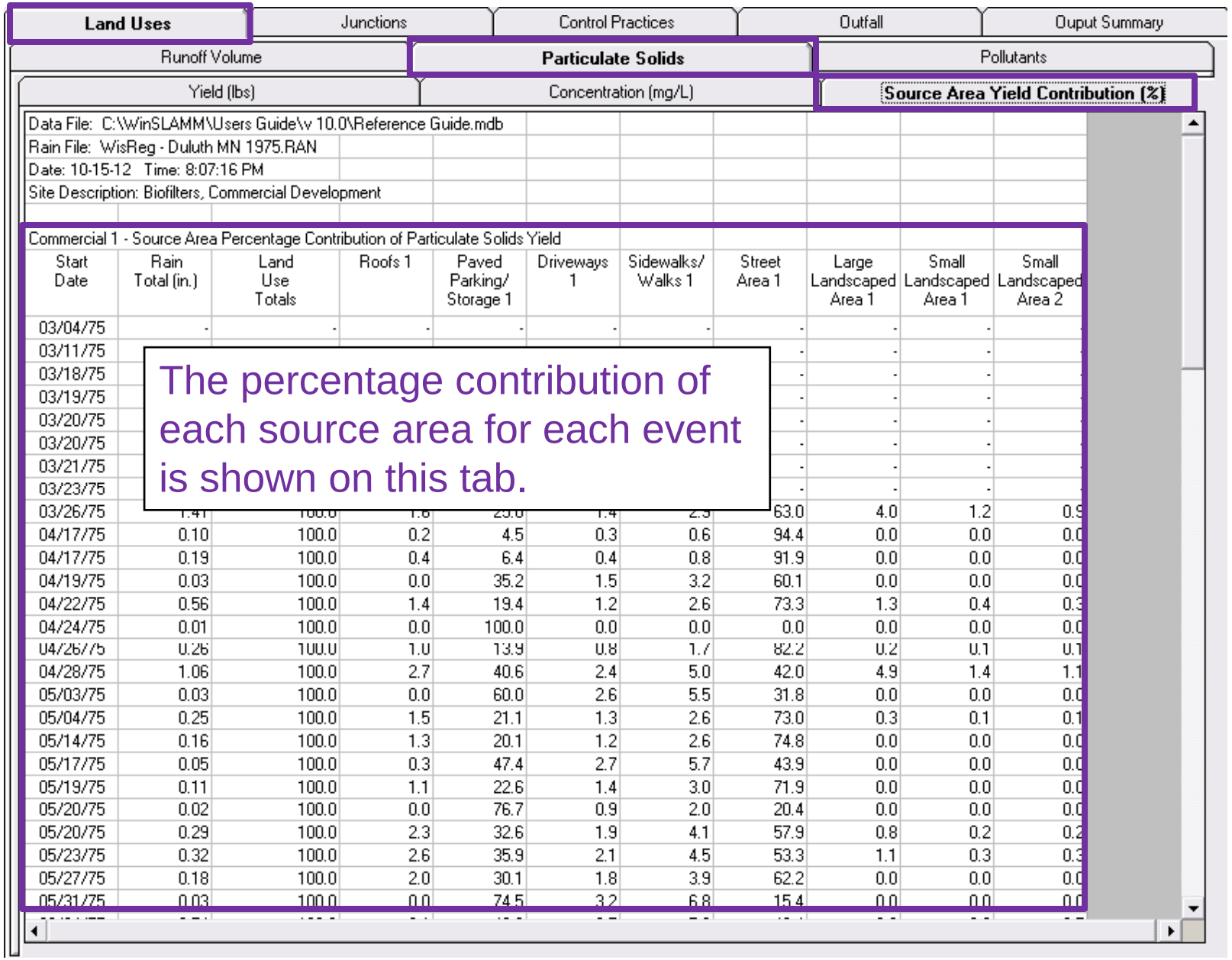


Land Use – Particulate Solids Output



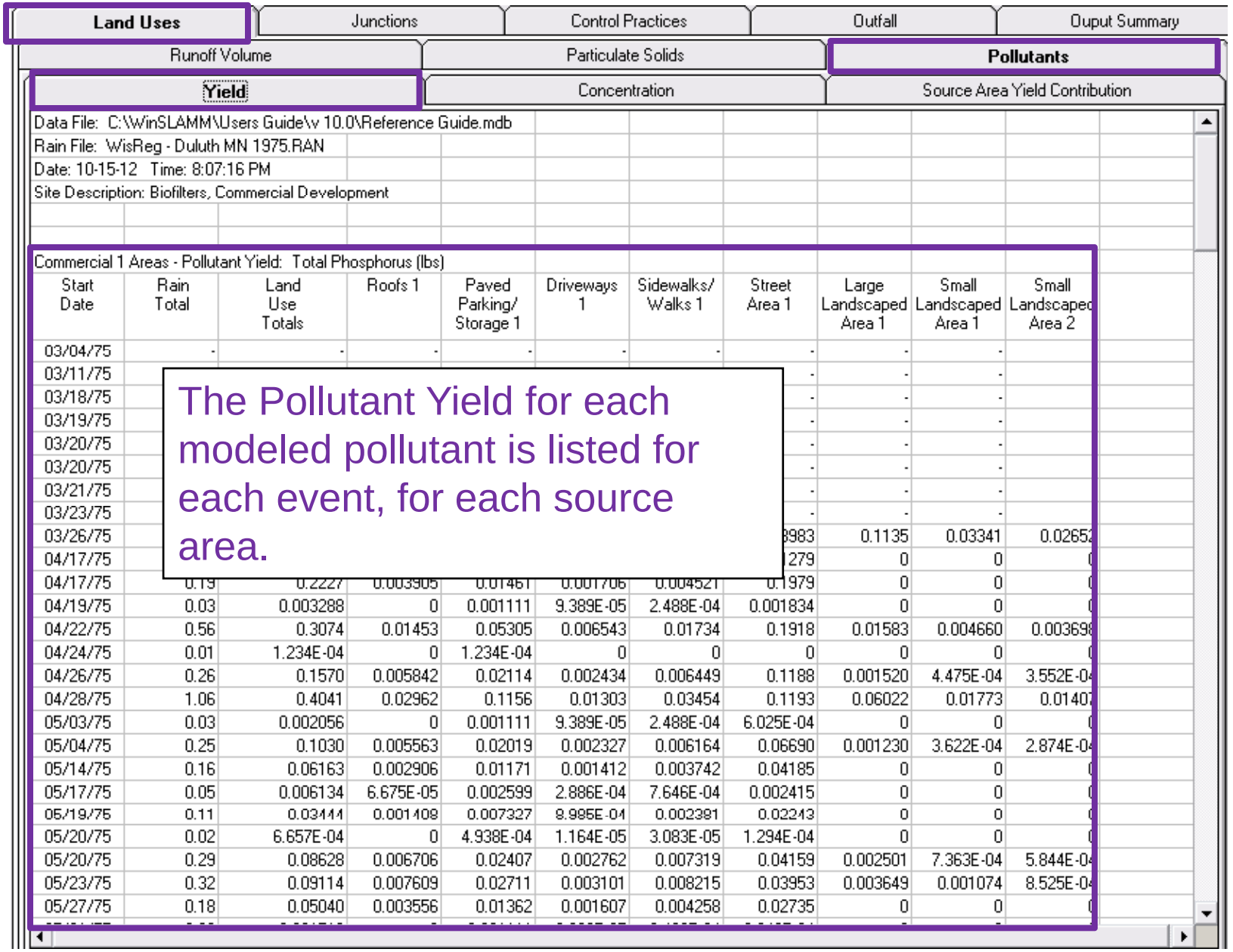
Start Date	Rain Total	Land Use Totals	Roofs 1	Paved Parking/ Storage 1	Driveways 1	Sidewalks/ Walks 1	Street Area 1	Large Landscaped Area 1	Small Landscaped Area 1	Small Landscaped Area 2
03/04/75	-	-	-	-	-	-	-	-	-	-
03/11/75	-	-	-	-	-	-	-	-	-	-
03/18/75							-	-	-	-
03/19/75							-	-	-	-
03/20/75							-	-	-	-
03/20/75							-	-	-	-
03/21/75							-	-	-	-
03/23/75							-	-	-	-
03/26/75							60.4	227.0	227.0	227.0
04/17/75	0.10	1547	33.00	130.0	154.0	75.00	6376	0	0	0
04/17/75	0.19	1032	33.00	130.0	154.0	75.00	4402	0	0	0
04/19/75	0.03	246.0	0	130.0	154.0	75.00	725.2	0	0	0
04/22/75	0.56	323.4	33.00	130.0	154.0	75.00	1098	227.0	227.0	227.0
04/24/75	0.01	130.0	0	130.0	0	0	0	0	0	0
04/26/75	0.26	472.7	33.00	130.0	154.0	75.00	1842	227.0	227.0	227.0
04/28/75	1.06	157.6	33.00	130.0	154.0	75.00	329.6	227.0	227.0	227.0
05/03/75	0.03	144.2	0	130.0	154.0	75.00	225.3	0	0	0
05/04/75	0.25	311.7	33.00	130.0	154.0	75.00	1077	227.0	227.0	227.0
05/14/75	0.16	329.7	33.00	130.0	154.0	75.00	1110	0	0	0
05/17/75	0.05	162.9	33.00	130.0	154.0	75.00	299.8	0	0	0
05/19/75	0.11	299.7	33.00	130.0	154.0	75.00	932.0	0	0	0
05/20/75	0.02	148.6	0	130.0	154.0	75.00	404.7	0	0	0
05/20/75	0.29	200.9	33.00	130.0	154.0	75.00	554.6	227.0	227.0	227.0
05/23/75	0.32	182.3	33.00	130.0	154.0	75.00	466.7	227.0	227.0	227.0
05/27/75	0.18	220.1	33.00	130.0	154.0	75.00	629.3	0	0	0
05/31/75	0.03	116.2	0	130.0	154.0	75.00	87.98	0	0	0

Land Use – Particulate Solids Output

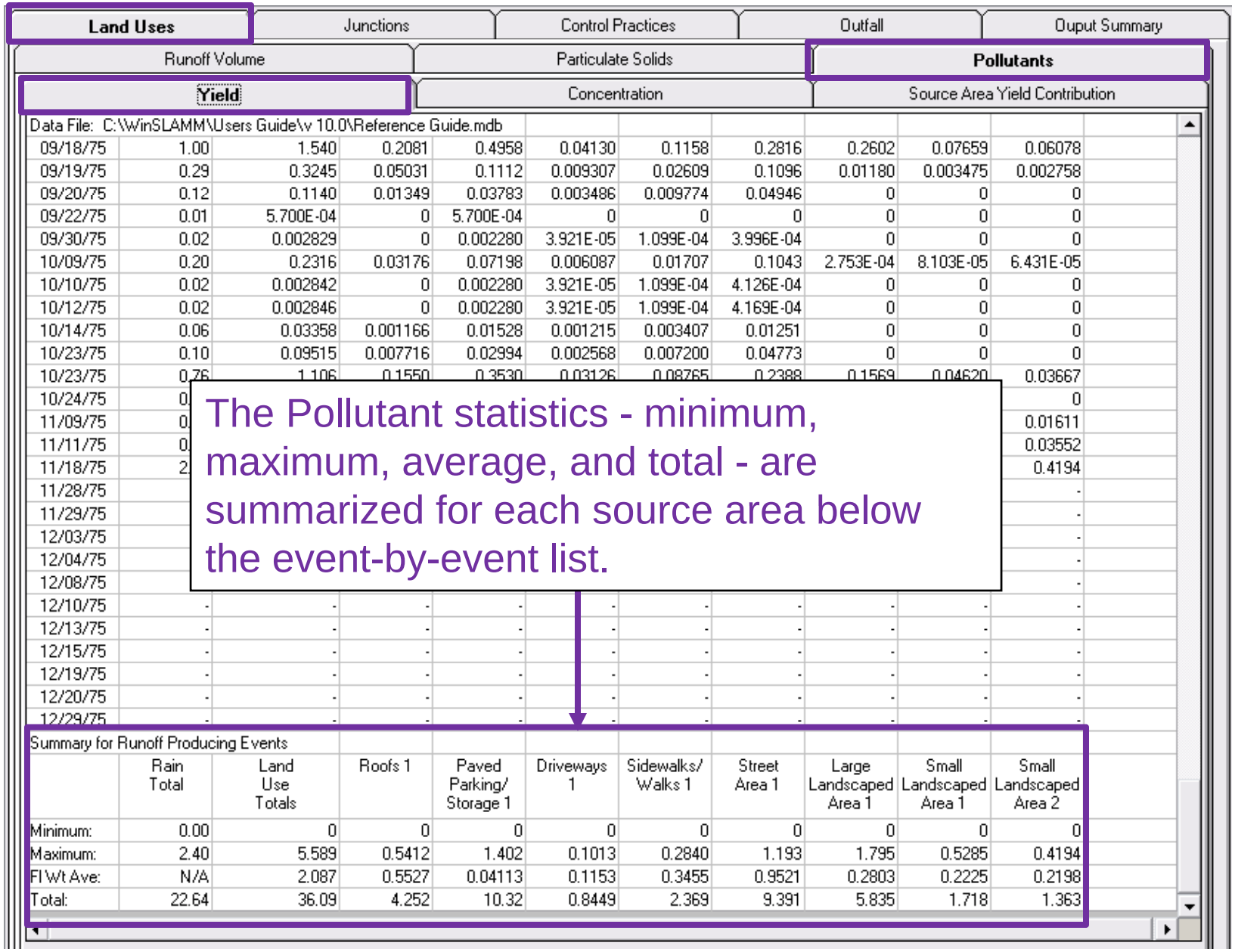


Start Date	Rain Total (in.)	Land Use Totals	Roofs 1	Paved Parking/ Storage 1	Driveways 1	Sidewalks/ Walks 1	Street Area 1	Large Landscaped Area 1	Small Landscaped Area 1	Small Landscaped Area 2
03/04/75	-	-	-	-	-	-	-	-	-	
03/11/75							-	-	-	
03/18/75							-	-	-	
03/19/75							-	-	-	
03/20/75							-	-	-	
03/20/75							-	-	-	
03/21/75							-	-	-	
03/23/75							-	-	-	
03/26/75	1.41	100.0	1.6	25.0	1.4	2.3	63.0	4.0	1.2	0.9
04/17/75	0.10	100.0	0.2	4.5	0.3	0.6	94.4	0.0	0.0	0.0
04/17/75	0.19	100.0	0.4	6.4	0.4	0.8	91.9	0.0	0.0	0.0
04/19/75	0.03	100.0	0.0	35.2	1.5	3.2	60.1	0.0	0.0	0.0
04/22/75	0.56	100.0	1.4	19.4	1.2	2.6	73.3	1.3	0.4	0.3
04/24/75	0.01	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
04/26/75	0.26	100.0	1.0	13.9	0.8	1.7	82.2	0.2	0.1	0.1
04/28/75	1.06	100.0	2.7	40.6	2.4	5.0	42.0	4.9	1.4	1.1
05/03/75	0.03	100.0	0.0	60.0	2.6	5.5	31.8	0.0	0.0	0.0
05/04/75	0.25	100.0	1.5	21.1	1.3	2.6	73.0	0.3	0.1	0.1
05/14/75	0.16	100.0	1.3	20.1	1.2	2.6	74.8	0.0	0.0	0.0
05/17/75	0.05	100.0	0.3	47.4	2.7	5.7	43.9	0.0	0.0	0.0
05/19/75	0.11	100.0	1.1	22.6	1.4	3.0	71.9	0.0	0.0	0.0
05/20/75	0.02	100.0	0.0	76.7	0.9	2.0	20.4	0.0	0.0	0.0
05/20/75	0.29	100.0	2.3	32.6	1.9	4.1	57.9	0.8	0.2	0.2
05/23/75	0.32	100.0	2.6	35.9	2.1	4.5	53.3	1.1	0.3	0.3
05/27/75	0.18	100.0	2.0	30.1	1.8	3.9	62.2	0.0	0.0	0.0
05/31/75	0.03	100.0	0.0	74.5	3.2	6.8	15.4	0.0	0.0	0.0

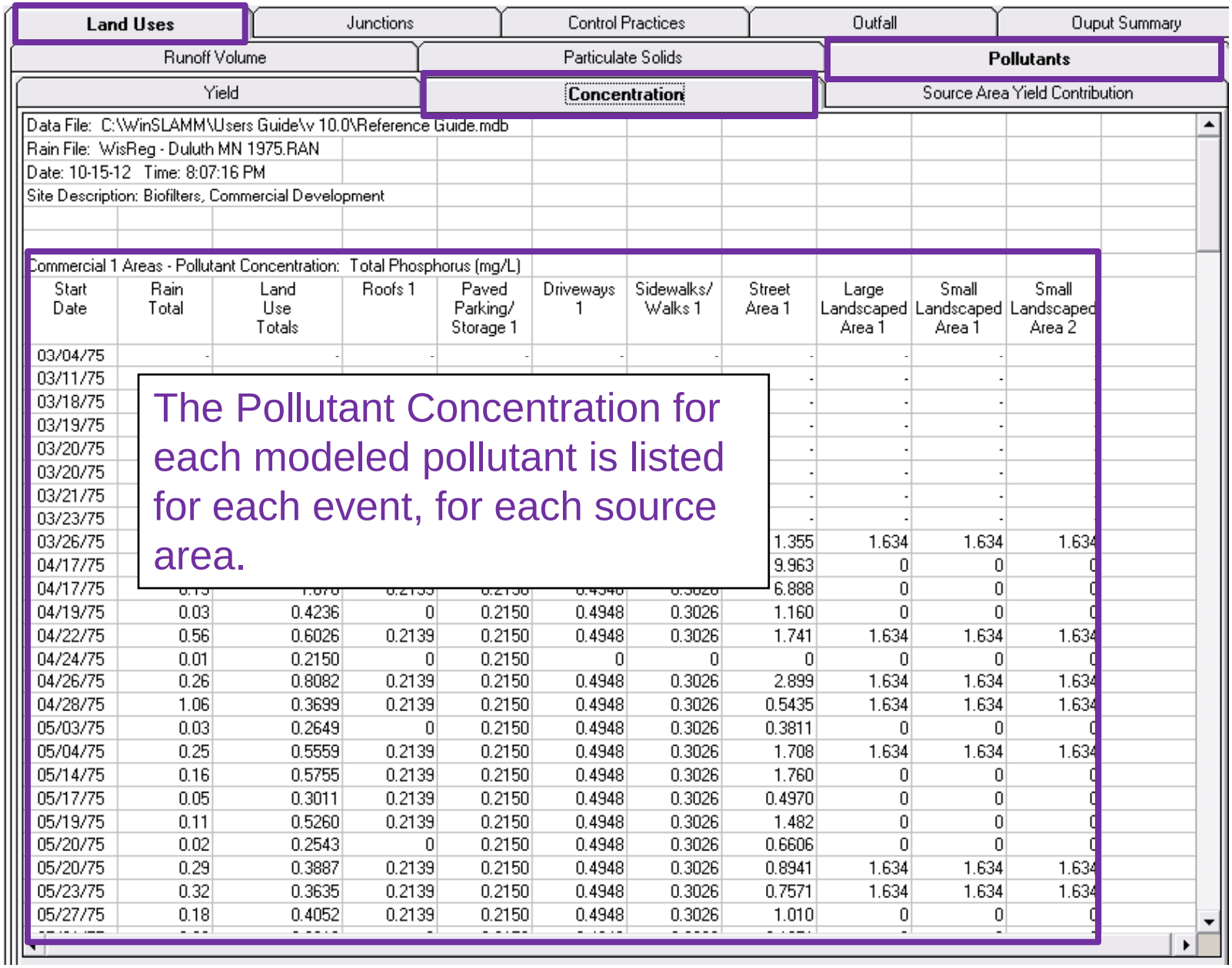
Land Use – Pollutant Output



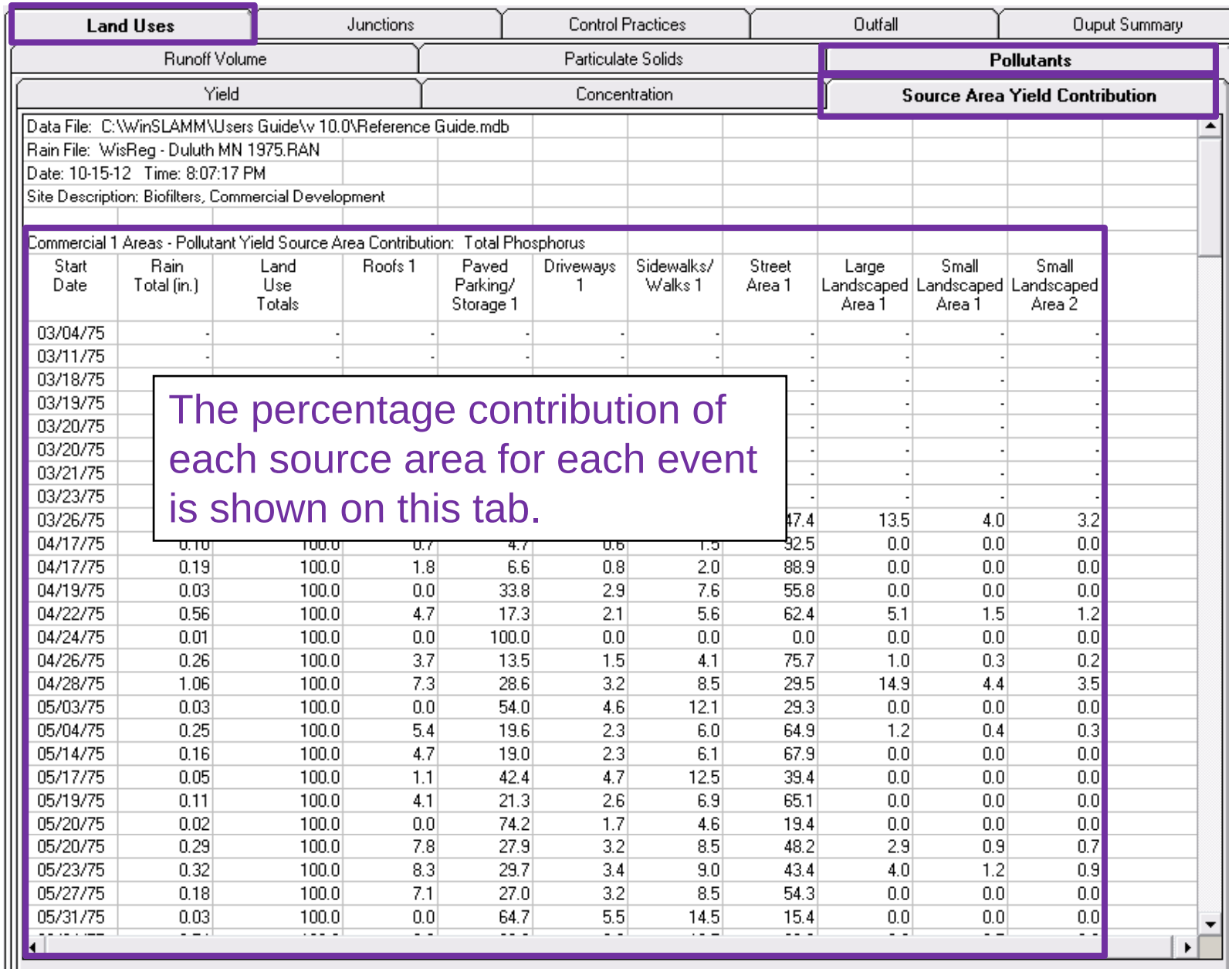
Land Use – Pollutant Output



Land Use – Pollutant Output

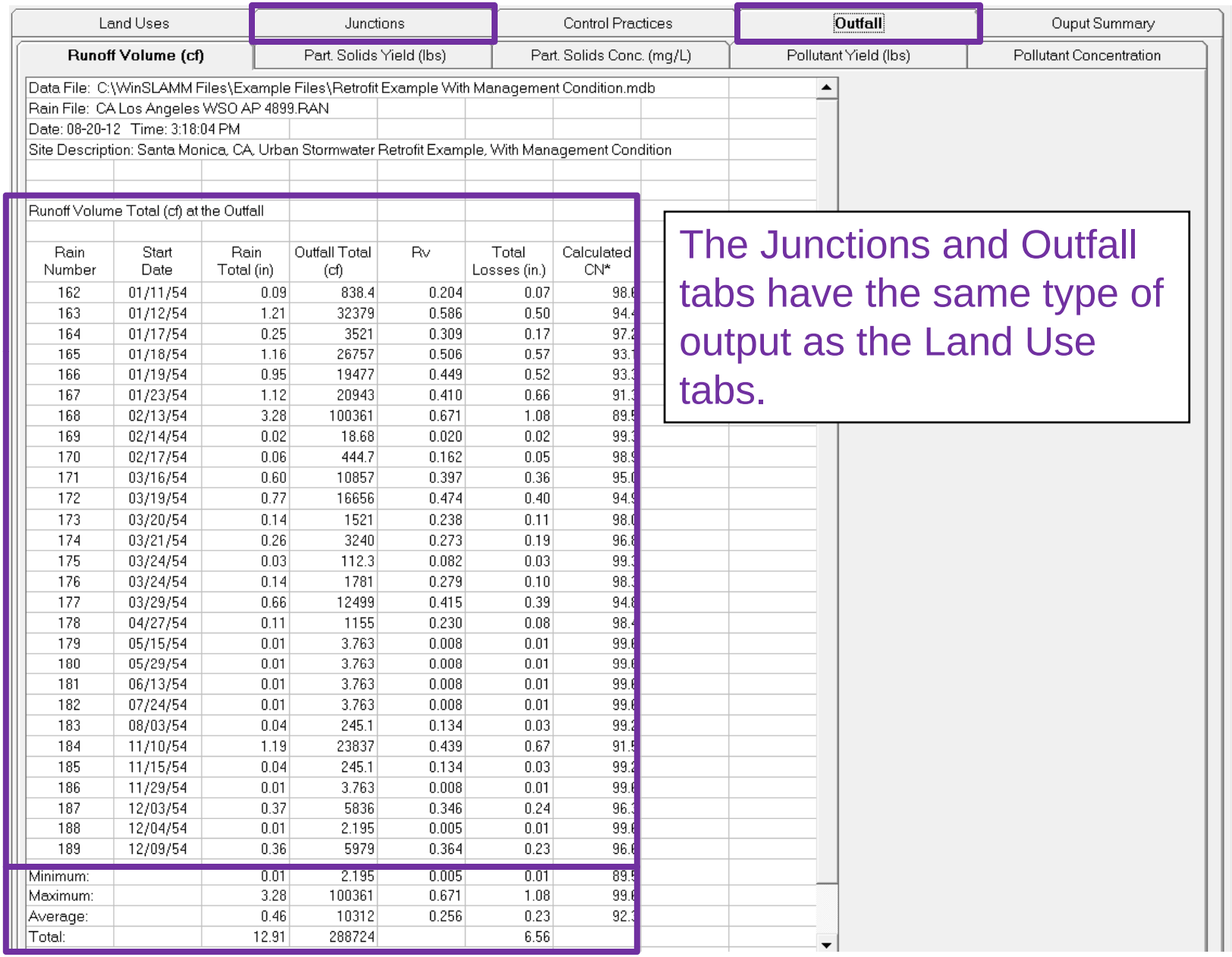


Land Use – Pollutant Output



Start Date	Rain Total (in.)	Land Use Totals	Roofs 1	Paved Parking/ Storage 1	Driveways 1	Sidewalks/ Walks 1	Street Area 1	Large Landscaped Area 1	Small Landscaped Area 1	Small Landscaped Area 2
03/04/75	-	-	-	-	-	-	-	-	-	-
03/11/75	-	-	-	-	-	-	-	-	-	-
03/18/75							-	-	-	-
03/19/75							-	-	-	-
03/20/75							-	-	-	-
03/20/75							-	-	-	-
03/21/75							-	-	-	-
03/23/75							-	-	-	-
03/26/75							47.4	13.5	4.0	3.2
04/17/75	0.10	100.0	0.7	4.7	0.6	1.5	92.5	0.0	0.0	0.0
04/17/75	0.19	100.0	1.8	6.6	0.8	2.0	88.9	0.0	0.0	0.0
04/19/75	0.03	100.0	0.0	33.8	2.9	7.6	55.8	0.0	0.0	0.0
04/22/75	0.56	100.0	4.7	17.3	2.1	5.6	62.4	5.1	1.5	1.2
04/24/75	0.01	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
04/26/75	0.26	100.0	3.7	13.5	1.5	4.1	75.7	1.0	0.3	0.2
04/28/75	1.06	100.0	7.3	28.6	3.2	8.5	29.5	14.9	4.4	3.5
05/03/75	0.03	100.0	0.0	54.0	4.6	12.1	29.3	0.0	0.0	0.0
05/04/75	0.25	100.0	5.4	19.6	2.3	6.0	64.9	1.2	0.4	0.3
05/14/75	0.16	100.0	4.7	19.0	2.3	6.1	67.9	0.0	0.0	0.0
05/17/75	0.05	100.0	1.1	42.4	4.7	12.5	39.4	0.0	0.0	0.0
05/19/75	0.11	100.0	4.1	21.3	2.6	6.9	65.1	0.0	0.0	0.0
05/20/75	0.02	100.0	0.0	74.2	1.7	4.6	19.4	0.0	0.0	0.0
05/20/75	0.29	100.0	7.8	27.9	3.2	8.5	48.2	2.9	0.9	0.7
05/23/75	0.32	100.0	8.3	29.7	3.4	9.0	43.4	4.0	1.2	0.9
05/27/75	0.18	100.0	7.1	27.0	3.2	8.5	54.3	0.0	0.0	0.0
05/31/75	0.03	100.0	0.0	64.7	5.5	14.5	15.4	0.0	0.0	0.0

Junction and Outfall - Output



Land Uses | Junctions | Control Practices | Outfall | Ouput Summary

Runoff Volume (cf) | Part. Solids Yield (lbs) | Part. Solids Conc. (mg/L) | Pollutant Yield (lbs) | Pollutant Concentration

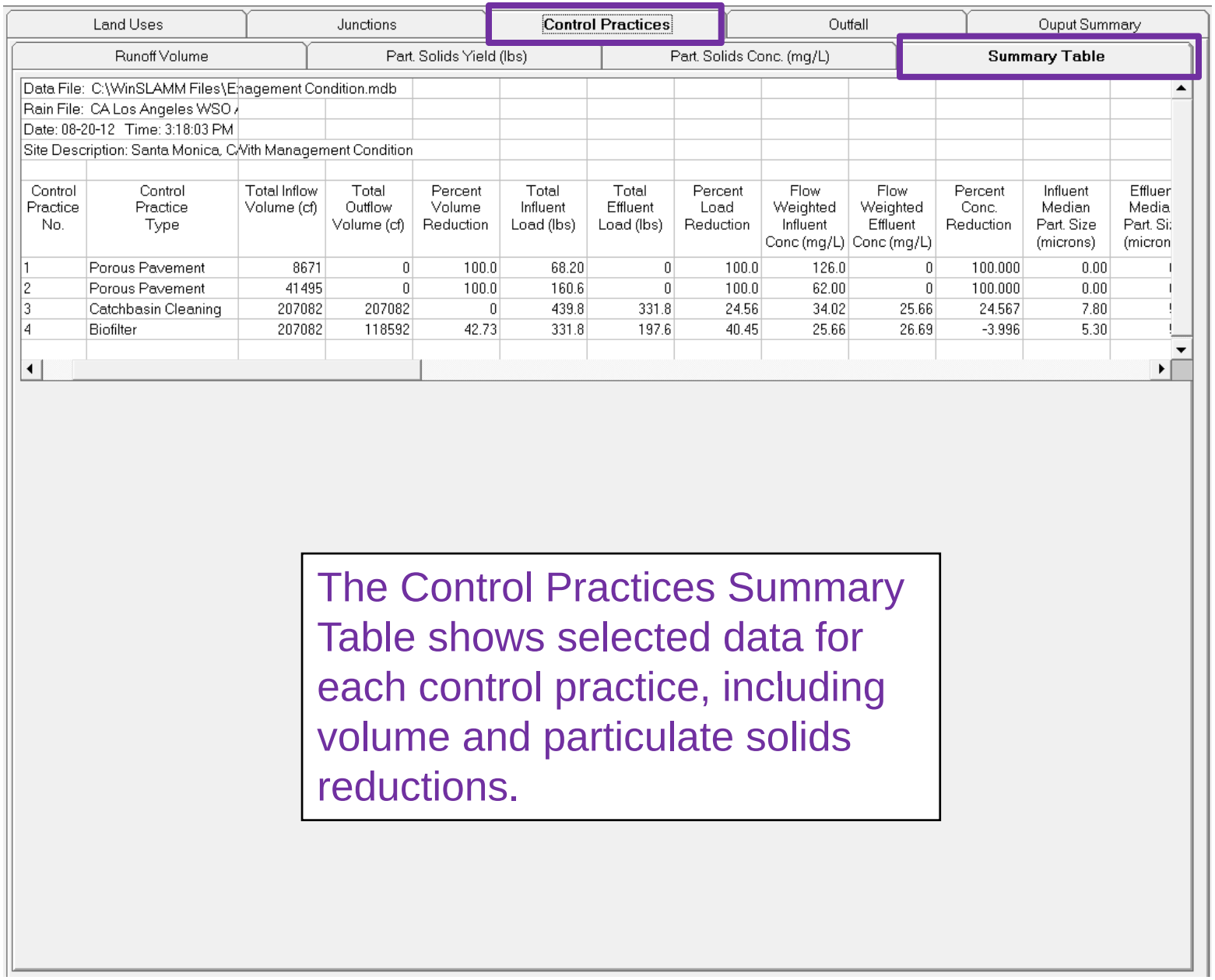
Data File: C:\WinSLAMM Files\Example Files\Retrofit Example With Management Condition.mdb
Rain File: CA Los Angeles WSO AP 4899.RAN
Date: 08-20-12 Time: 3:18:04 PM
Site Description: Santa Monica, CA, Urban Stormwater Retrofit Example, With Management Condition

Runoff Volume Total (cf) at the Outfall

Rain Number	Start Date	Rain Total (in)	Outfall Total (cf)	Rv	Total Losses (in.)	Calculated CN*
162	01/11/54	0.09	838.4	0.204	0.07	98.6
163	01/12/54	1.21	32379	0.586	0.50	94.4
164	01/17/54	0.25	3521	0.309	0.17	97.2
165	01/18/54	1.16	26757	0.506	0.57	93.1
166	01/19/54	0.95	19477	0.449	0.52	93.3
167	01/23/54	1.12	20943	0.410	0.66	91.3
168	02/13/54	3.28	100361	0.671	1.08	89.5
169	02/14/54	0.02	18.68	0.020	0.02	99.3
170	02/17/54	0.06	444.7	0.162	0.05	98.9
171	03/16/54	0.60	10857	0.397	0.36	95.0
172	03/19/54	0.77	16656	0.474	0.40	94.9
173	03/20/54	0.14	1521	0.238	0.11	98.0
174	03/21/54	0.26	3240	0.273	0.19	96.8
175	03/24/54	0.03	112.3	0.082	0.03	99.3
176	03/24/54	0.14	1781	0.279	0.10	98.3
177	03/29/54	0.66	12499	0.415	0.39	94.8
178	04/27/54	0.11	1155	0.230	0.08	98.4
179	05/15/54	0.01	3.763	0.008	0.01	99.6
180	05/29/54	0.01	3.763	0.008	0.01	99.6
181	06/13/54	0.01	3.763	0.008	0.01	99.6
182	07/24/54	0.01	3.763	0.008	0.01	99.6
183	08/03/54	0.04	245.1	0.134	0.03	99.2
184	11/10/54	1.19	23837	0.439	0.67	91.5
185	11/15/54	0.04	245.1	0.134	0.03	99.2
186	11/29/54	0.01	3.763	0.008	0.01	99.6
187	12/03/54	0.37	5836	0.346	0.24	96.3
188	12/04/54	0.01	2.195	0.005	0.01	99.8
189	12/09/54	0.36	5979	0.364	0.23	96.6
Minimum:		0.01	2.195	0.005	0.01	89.5
Maximum:		3.28	100361	0.671	1.08	99.6
Average:		0.46	10312	0.256	0.23	92.3
Total:		12.91	288724		6.56	

The Junctions and Outfall tabs have the same type of output as the Land Use tabs.

Control Practices - Summary

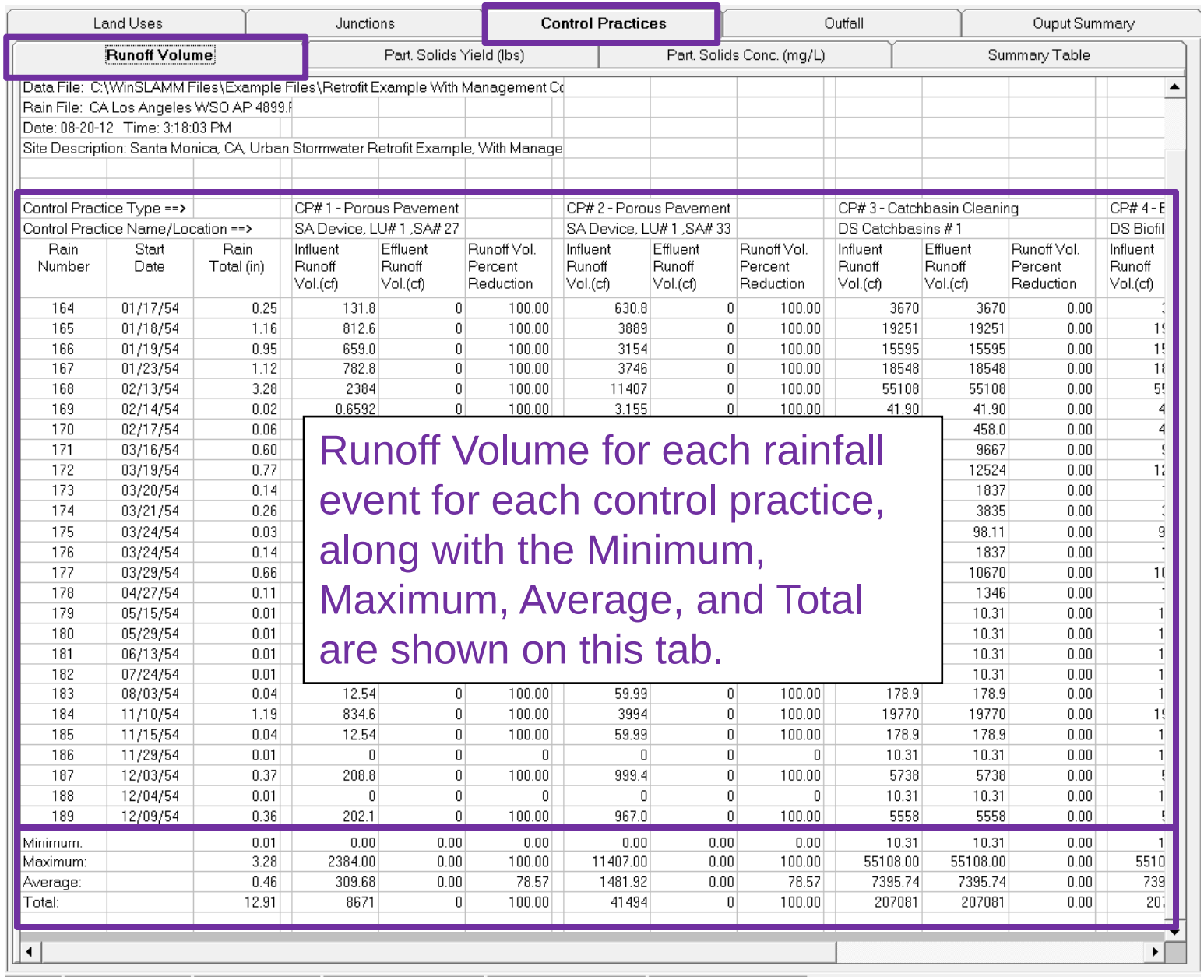


Data File: C:\WinSLAMM Files\Enhagement Condition.mdb
Rain File: CA Los Angeles WSO A
Date: 08-20-12 Time: 3:18:03 PM
Site Description: Santa Monica, CA With Management Condition

Control Practice No.	Control Practice Type	Total Inflow Volume (cf)	Total Outflow Volume (cf)	Percent Volume Reduction	Total Influent Load (lbs)	Total Effluent Load (lbs)	Percent Load Reduction	Flow Weighted Influent Conc (mg/L)	Flow Weighted Effluent Conc (mg/L)	Percent Conc. Reduction	Influent Median Part. Size (microns)	Effluer Media Part. Si: (micron
1	Porous Pavement	8671	0	100.0	68.20	0	100.0	126.0	0	100.000	0.00	
2	Porous Pavement	41495	0	100.0	160.6	0	100.0	62.00	0	100.000	0.00	
3	Catchbasin Cleaning	207082	207082	0	439.8	331.8	24.56	34.02	25.66	24.567	7.80	
4	Biofilter	207082	118592	42.73	331.8	197.6	40.45	25.66	26.69	-3.996	5.30	

The Control Practices Summary Table shows selected data for each control practice, including volume and particulate solids reductions.

Control Practices – Runoff Volume



Land Uses | Junctions | **Control Practices** | Outfall | Ouput Summary

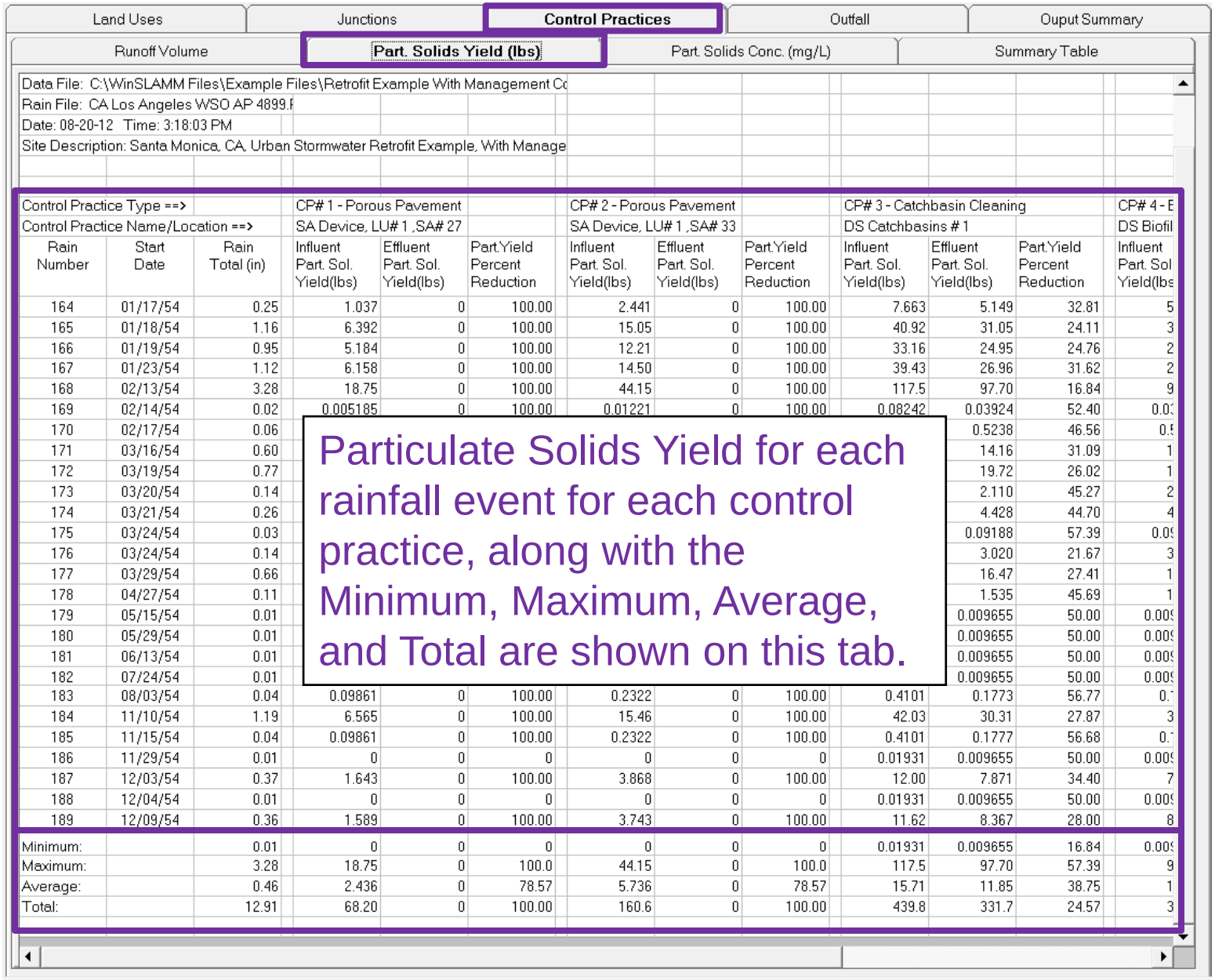
Runoff Volume | Part. Solids Yield (lbs) | Part. Solids Conc. (mg/L) | Summary Table

Data File: C:\WinSLAMM Files\Example Files\Retrofit Example With Management Co
Rain File: CA Los Angeles WSO AP 4899.
Date: 08-20-12 Time: 3:18:03 PM
Site Description: Santa Monica, CA, Urban Stormwater Retrofit Example, With Manage

Control Practice Type ==>			CP# 1 - Porous Pavement			CP# 2 - Porous Pavement			CP# 3 - Catchbasin Cleaning			CP# 4 - E
Control Practice Name/Location ==>			SA Device, LU# 1 ,SA# 27			SA Device, LU# 1 ,SA# 33			DS Catchbasins # 1			DS Biofil
Rain Number	Start Date	Rain Total (in)	Influent Runoff Vol.(cf)	Effluent Runoff Vol.(cf)	Runoff Vol. Percent Reduction	Influent Runoff Vol.(cf)	Effluent Runoff Vol.(cf)	Runoff Vol. Percent Reduction	Influent Runoff Vol.(cf)	Effluent Runoff Vol.(cf)	Runoff Vol. Percent Reduction	Influent Runoff Vol.(cf)
164	01/17/54	0.25	131.8	0	100.00	630.8	0	100.00	3670	3670	0.00	
165	01/18/54	1.16	812.6	0	100.00	3889	0	100.00	19251	19251	0.00	19
166	01/19/54	0.95	659.0	0	100.00	3154	0	100.00	15595	15595	0.00	15
167	01/23/54	1.12	782.8	0	100.00	3746	0	100.00	18548	18548	0.00	18
168	02/13/54	3.28	2384	0	100.00	11407	0	100.00	55108	55108	0.00	55
169	02/14/54	0.02	0.6592	0	100.00	3.155	0	100.00	41.90	41.90	0.00	4
170	02/17/54	0.06								458.0	0.00	4
171	03/16/54	0.60								9667	0.00	9
172	03/19/54	0.77								12524	0.00	12
173	03/20/54	0.14								1837	0.00	1
174	03/21/54	0.26								3835	0.00	3
175	03/24/54	0.03								98.11	0.00	9
176	03/24/54	0.14								1837	0.00	1
177	03/29/54	0.66								10670	0.00	10
178	04/27/54	0.11								1346	0.00	1
179	05/15/54	0.01								10.31	0.00	1
180	05/29/54	0.01								10.31	0.00	1
181	06/13/54	0.01								10.31	0.00	1
182	07/24/54	0.01								10.31	0.00	1
183	08/03/54	0.04	12.54	0	100.00	59.99	0	100.00	178.9	178.9	0.00	1
184	11/10/54	1.19	834.6	0	100.00	3994	0	100.00	19770	19770	0.00	19
185	11/15/54	0.04	12.54	0	100.00	59.99	0	100.00	178.9	178.9	0.00	1
186	11/29/54	0.01	0	0	0	0	0	0	10.31	10.31	0.00	1
187	12/03/54	0.37	208.8	0	100.00	999.4	0	100.00	5738	5738	0.00	5
188	12/04/54	0.01	0	0	0	0	0	0	10.31	10.31	0.00	1
189	12/09/54	0.36	202.1	0	100.00	967.0	0	100.00	5558	5558	0.00	5
Minimum:		0.01	0.00	0.00	0.00	0.00	0.00	0.00	10.31	10.31	0.00	1
Maximum:		3.28	2384.00	0.00	100.00	11407.00	0.00	100.00	55108.00	55108.00	0.00	5510
Average:		0.46	309.68	0.00	78.57	1481.92	0.00	78.57	7395.74	7395.74	0.00	739
Total:		12.91	8671	0	100.00	41494	0	100.00	207081	207081	0.00	207

Runoff Volume for each rainfall event for each control practice, along with the Minimum, Maximum, Average, and Total are shown on this tab.

Control Practices – Particulate Solids Yield



Land Uses | Junctions | **Control Practices** | Outfall | Ouput Summary

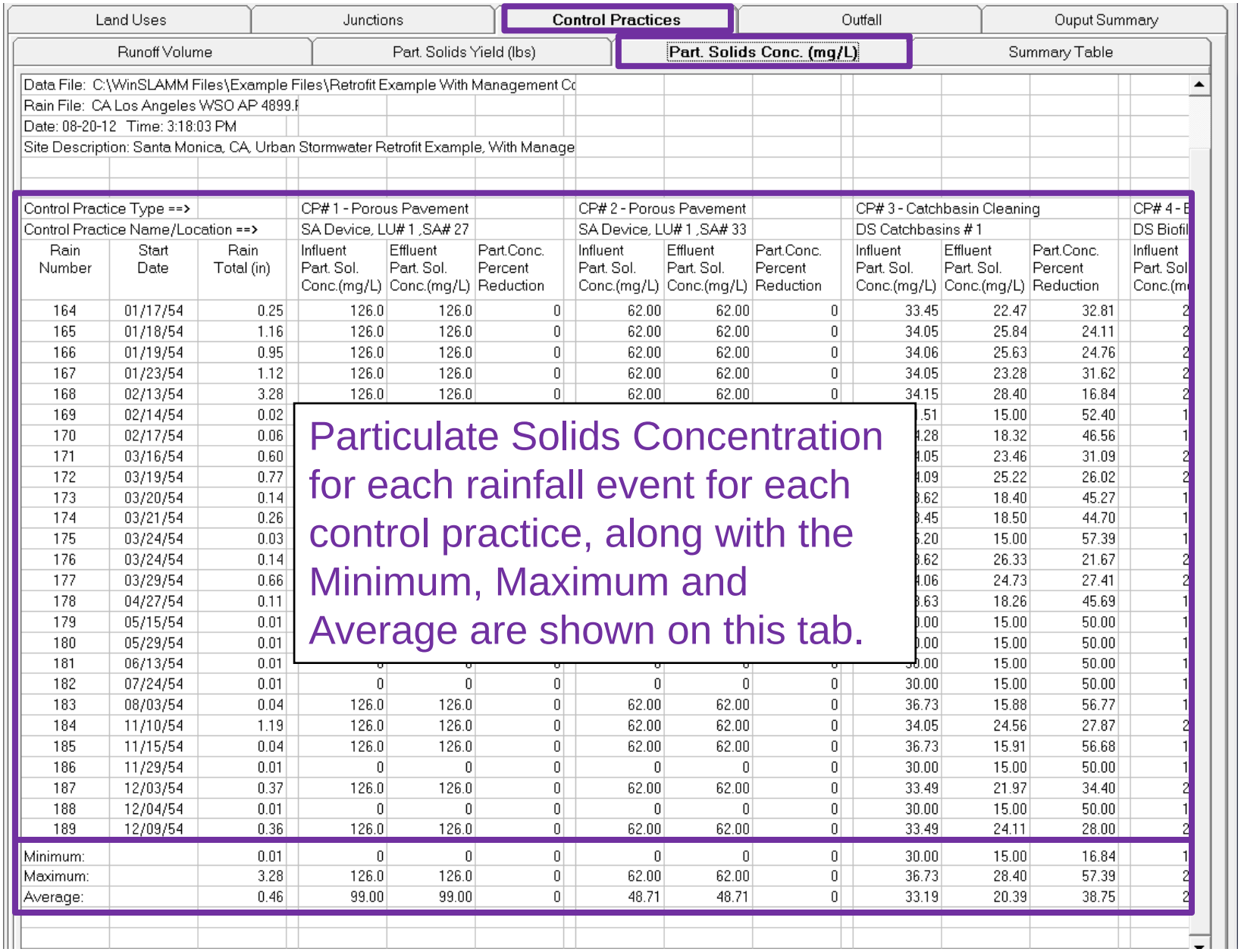
Runoff Volume | **Part. Solids Yield (lbs)** | Part. Solids Conc. (mg/L) | Summary Table

Data File: C:\WinSLAMM Files\Example Files\Retrofit Example With Management Co
Rain File: CA Los Angeles WSO AP 4899.
Date: 08-20-12 Time: 3:18:03 PM
Site Description: Santa Monica, CA, Urban Stormwater Retrofit Example, With Manage

Control Practice Type ==>			CP# 1 - Porous Pavement			CP# 2 - Porous Pavement			CP# 3 - Catchbasin Cleaning			CP# 4 - E
Control Practice Name/Location ==>			SA Device, LU# 1 ,SA# 27			SA Device, LU# 1 ,SA# 33			DS Catchbasins # 1			DS Biofil
Rain Number	Start Date	Rain Total (in)	Influent Part. Sol. Yield(lbs)	Effluent Part. Sol. Yield(lbs)	Part.Yield Percent Reduction	Influent Part. Sol. Yield(lbs)	Effluent Part. Sol. Yield(lbs)	Part.Yield Percent Reduction	Influent Part. Sol. Yield(lbs)	Effluent Part. Sol. Yield(lbs)	Part.Yield Percent Reduction	Influent Part. Sol Yield(lbs
164	01/17/54	0.25	1.037	0	100.00	2.441	0	100.00	7.663	5.149	32.81	5
165	01/18/54	1.16	6.392	0	100.00	15.05	0	100.00	40.92	31.05	24.11	3
166	01/19/54	0.95	5.184	0	100.00	12.21	0	100.00	33.16	24.95	24.76	2
167	01/23/54	1.12	6.158	0	100.00	14.50	0	100.00	39.43	26.96	31.62	2
168	02/13/54	3.28	18.75	0	100.00	44.15	0	100.00	117.5	97.70	16.84	9
169	02/14/54	0.02	0.005185	0	100.00	0.01221	0	100.00	0.08242	0.03924	52.40	0.0
170	02/17/54	0.06								0.5238	46.56	0.5
171	03/16/54	0.60								14.16	31.09	1
172	03/19/54	0.77								19.72	26.02	1
173	03/20/54	0.14								2.110	45.27	2
174	03/21/54	0.26								4.428	44.70	4
175	03/24/54	0.03								0.09188	57.39	0.0
176	03/24/54	0.14								3.020	21.67	3
177	03/29/54	0.66								16.47	27.41	1
178	04/27/54	0.11								1.535	45.69	1
179	05/15/54	0.01								0.009655	50.00	0.00
180	05/29/54	0.01								0.009655	50.00	0.00
181	06/13/54	0.01								0.009655	50.00	0.00
182	07/24/54	0.01								0.009655	50.00	0.00
183	08/03/54	0.04	0.09861	0	100.00	0.2322	0	100.00	0.4101	0.1773	56.77	0.
184	11/10/54	1.19	6.565	0	100.00	15.46	0	100.00	42.03	30.31	27.87	3
185	11/15/54	0.04	0.09861	0	100.00	0.2322	0	100.00	0.4101	0.1777	56.68	0.
186	11/29/54	0.01	0	0	0	0	0	0	0.01931	0.009655	50.00	0.00
187	12/03/54	0.37	1.643	0	100.00	3.868	0	100.00	12.00	7.871	34.40	7
188	12/04/54	0.01	0	0	0	0	0	0	0.01931	0.009655	50.00	0.00
189	12/09/54	0.36	1.589	0	100.00	3.743	0	100.00	11.62	8.367	28.00	8
Minimum:		0.01	0	0	0	0	0	0	0.01931	0.009655	16.84	0.00
Maximum:		3.28	18.75	0	100.0	44.15	0	100.0	117.5	97.70	57.39	9
Average:		0.46	2.436	0	78.57	5.736	0	78.57	15.71	11.85	38.75	1
Total:		12.91	68.20	0	100.00	160.6	0	100.00	439.8	331.7	24.57	3

Particulate Solids Yield for each rainfall event for each control practice, along with the Minimum, Maximum, Average, and Total are shown on this tab.

Control Practices – Particulate Solids Concentration



Land Uses | Junctions | **Control Practices** | Outfall | Ouput Summary

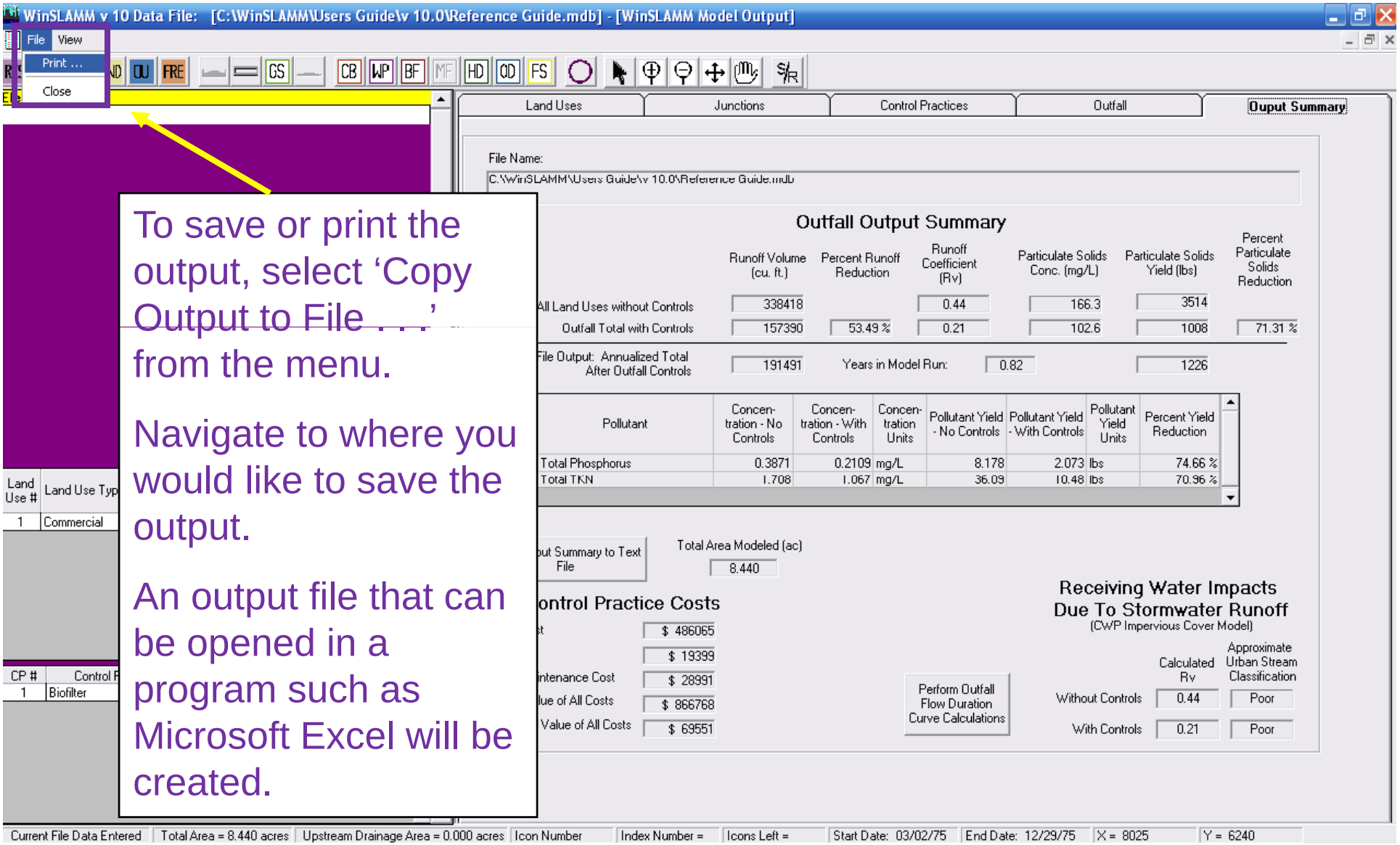
Runoff Volume | Part. Solids Yield (lbs) | **Part. Solids Conc. (mg/L)** | Summary Table

Data File: C:\WinSLAMM Files\Example Files\Retrofit Example With Management Co
Rain File: CA Los Angeles WSO AP 4899.
Date: 08-20-12 Time: 3:18:03 PM
Site Description: Santa Monica, CA, Urban Stormwater Retrofit Example, With Manage

Control Practice Type ==>			CP# 1 - Porous Pavement			CP# 2 - Porous Pavement			CP# 3 - Catchbasin Cleaning			CP# 4 - B
Control Practice Name/Location ==>			SA Device, LU# 1 ,SA# 27			SA Device, LU# 1 ,SA# 33			DS Catchbasins # 1			DS Biofil
Rain Number	Start Date	Rain Total (in)	Influent Part. Sol. Conc.(mg/L)	Effluent Part. Sol. Conc.(mg/L)	Part.Conc. Percent Reduction	Influent Part. Sol. Conc.(mg/L)	Effluent Part. Sol. Conc.(mg/L)	Part.Conc. Percent Reduction	Influent Part. Sol. Conc.(mg/L)	Effluent Part. Sol. Conc.(mg/L)	Part.Conc. Percent Reduction	Influent Part. Sol Conc.(m
164	01/17/54	0.25	126.0	126.0	0	62.00	62.00	0	33.45	22.47	32.81	2
165	01/18/54	1.16	126.0	126.0	0	62.00	62.00	0	34.05	25.84	24.11	2
166	01/19/54	0.95	126.0	126.0	0	62.00	62.00	0	34.06	25.63	24.76	2
167	01/23/54	1.12	126.0	126.0	0	62.00	62.00	0	34.05	23.28	31.62	2
168	02/13/54	3.28	126.0	126.0	0	62.00	62.00	0	34.15	28.40	16.84	2
169	02/14/54	0.02							.51	15.00	52.40	1
170	02/17/54	0.06							4.28	18.32	46.56	1
171	03/16/54	0.60							4.05	23.46	31.09	2
172	03/19/54	0.77							4.09	25.22	26.02	2
173	03/20/54	0.14							3.62	18.40	45.27	1
174	03/21/54	0.26							3.45	18.50	44.70	1
175	03/24/54	0.03							5.20	15.00	57.39	1
176	03/24/54	0.14							3.62	26.33	21.67	2
177	03/29/54	0.66							4.06	24.73	27.41	2
178	04/27/54	0.11							3.63	18.26	45.69	1
179	05/15/54	0.01							0.00	15.00	50.00	1
180	05/29/54	0.01							0.00	15.00	50.00	1
181	06/13/54	0.01							0.00	15.00	50.00	1
182	07/24/54	0.01	0	0	0	0	0	0	30.00	15.00	50.00	1
183	08/03/54	0.04	126.0	126.0	0	62.00	62.00	0	36.73	15.88	56.77	1
184	11/10/54	1.19	126.0	126.0	0	62.00	62.00	0	34.05	24.56	27.87	2
185	11/15/54	0.04	126.0	126.0	0	62.00	62.00	0	36.73	15.91	56.68	1
186	11/29/54	0.01	0	0	0	0	0	0	30.00	15.00	50.00	1
187	12/03/54	0.37	126.0	126.0	0	62.00	62.00	0	33.49	21.97	34.40	2
188	12/04/54	0.01	0	0	0	0	0	0	30.00	15.00	50.00	1
189	12/09/54	0.36	126.0	126.0	0	62.00	62.00	0	33.49	24.11	28.00	2
Minimum:		0.01	0	0	0	0	0	0	30.00	15.00	16.84	1
Maximum:		3.28	126.0	126.0	0	62.00	62.00	0	36.73	28.40	57.39	2
Average:		0.46	99.00	99.00	0	48.71	48.71	0	33.19	20.39	38.75	2

Particulate Solids Concentration for each rainfall event for each control practice, along with the Minimum, Maximum and Average are shown on this tab.

Saving/Printing the Output

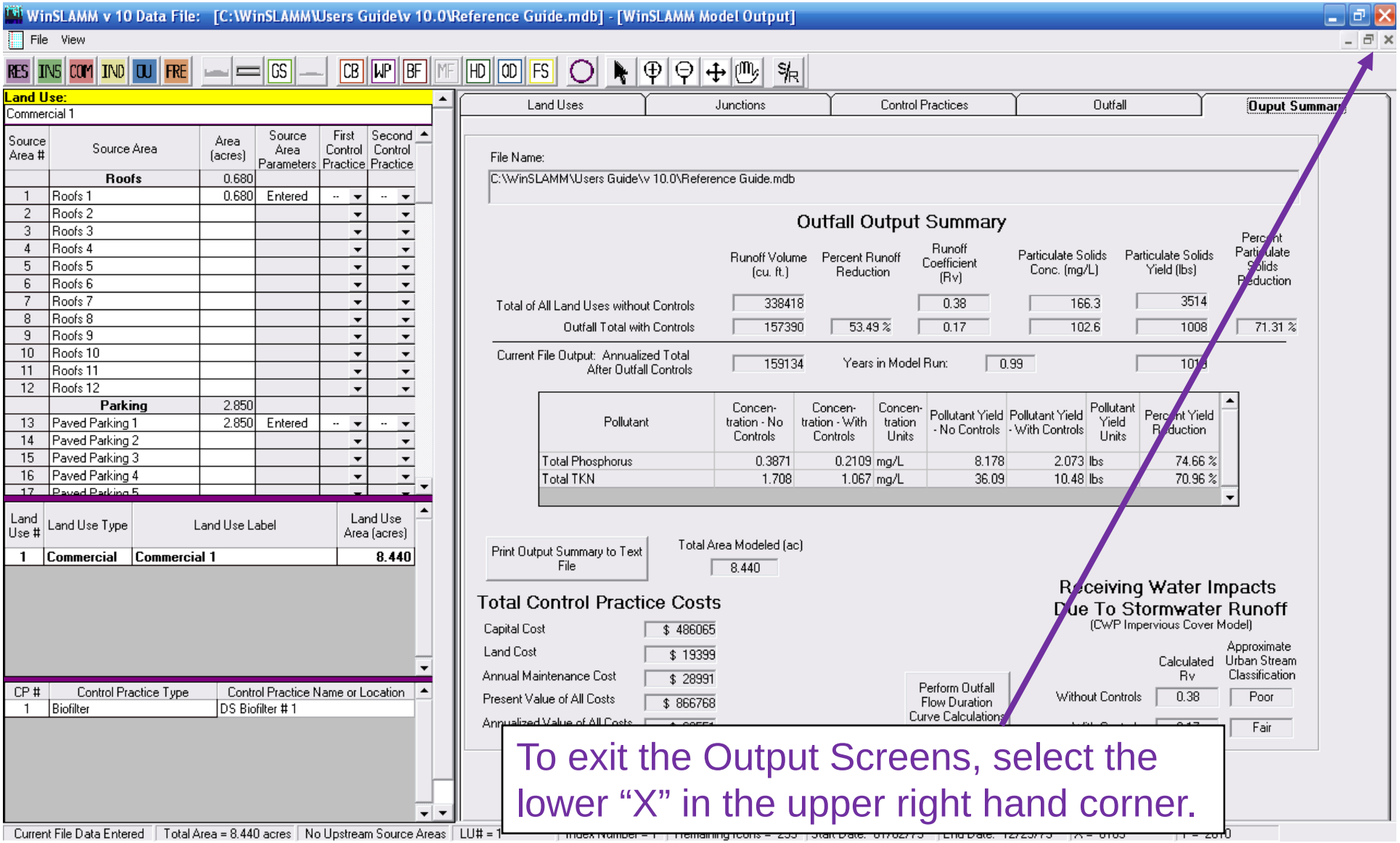


To save or print the output, select 'Copy Output to File . . .' from the menu.

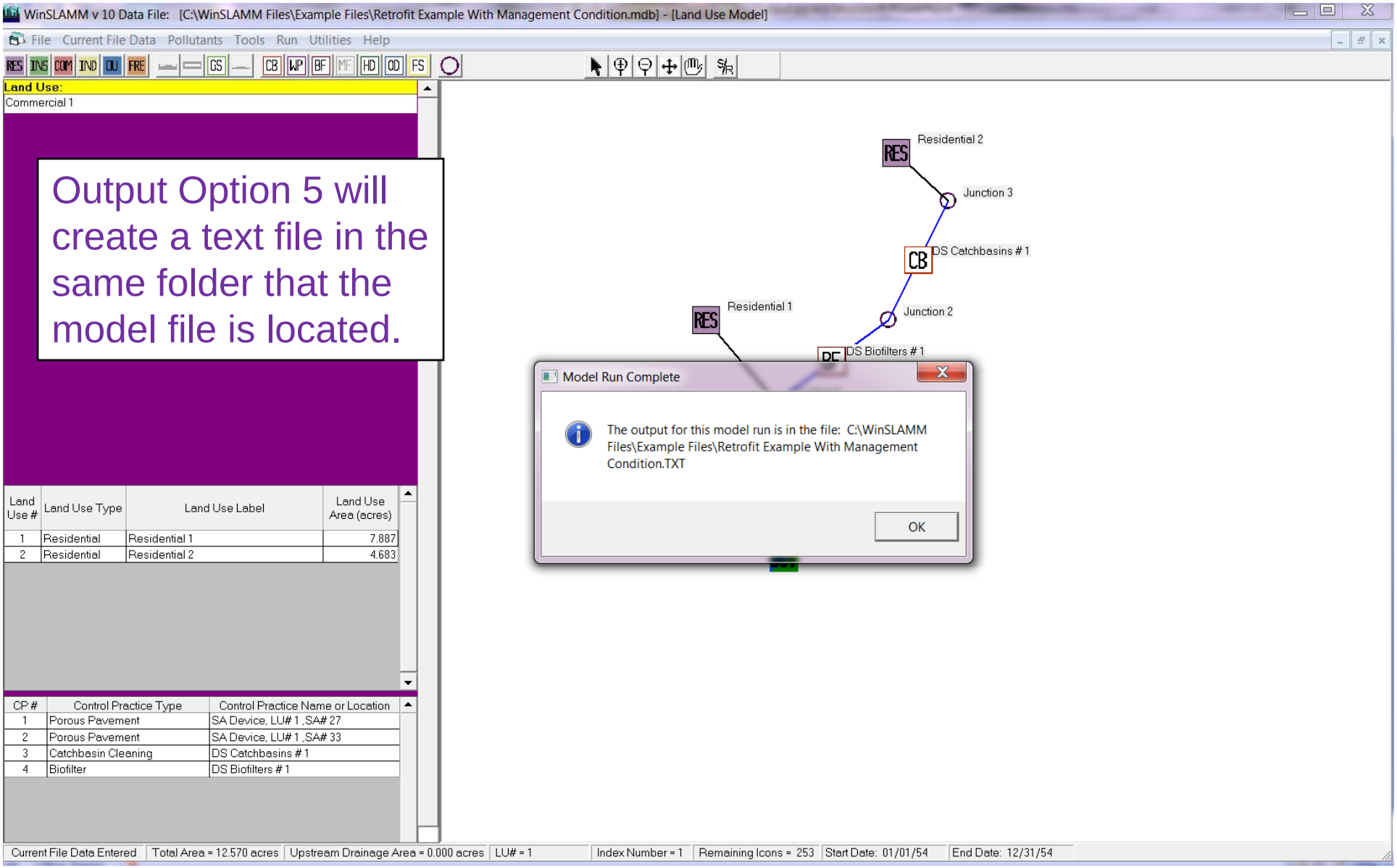
Navigate to where you would like to save the output.

An output file that can be opened in a program such as Microsoft Excel will be created.

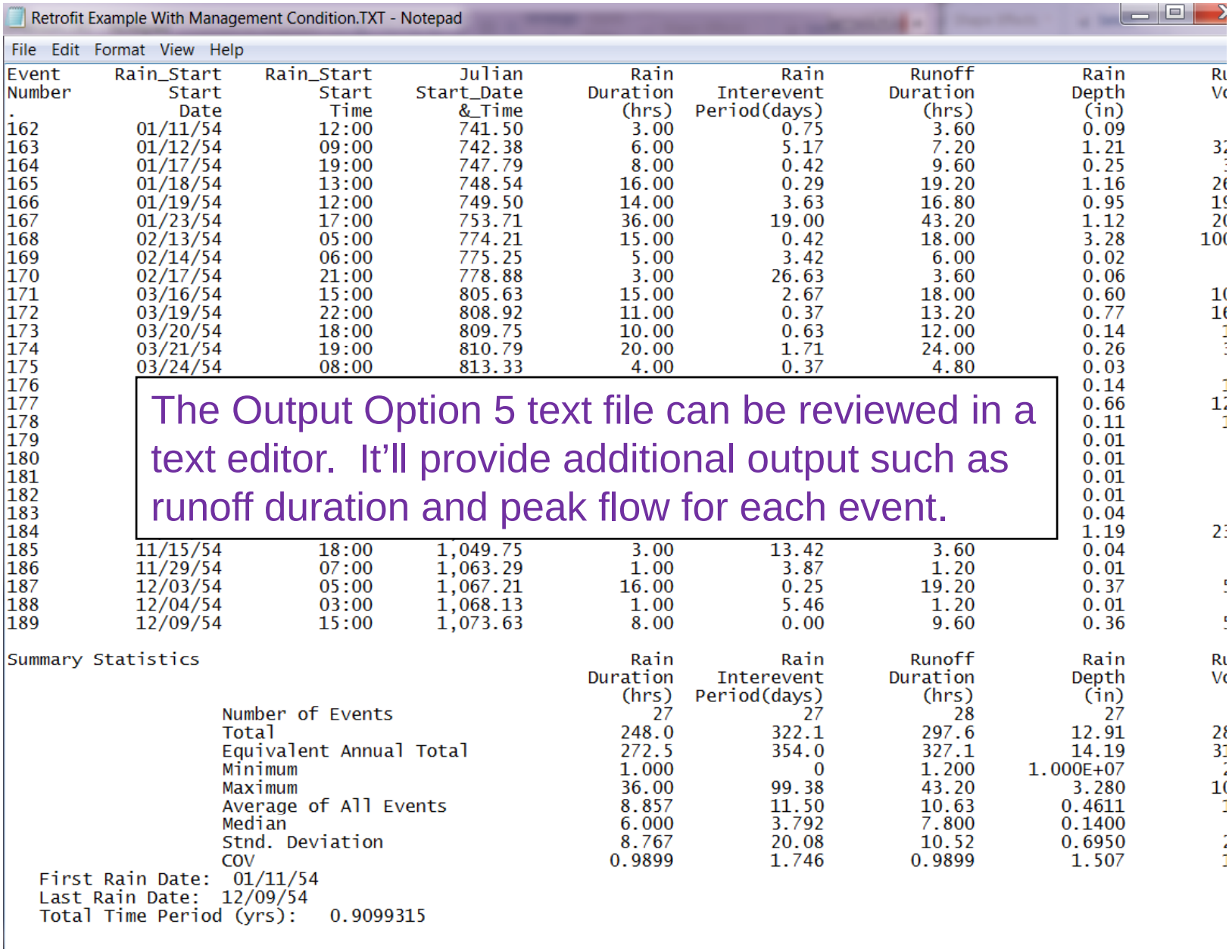
Exiting the Output



Output Option 5
One Line per Event Summary



Output Option 5 - One Line per Event Summary



Retrofit Example With Management Condition.TXT - Notepad

File Edit Format View Help

Event Number	Rain_Start Start Date	Rain_Start Start Time	Julian Start_Date &_Time	Rain Duration (hrs)	Rain Interevent Period(days)	Runoff Duration (hrs)	Rain Depth (in)	Ru Vo
162	01/11/54	12:00	741.50	3.00	0.75	3.60	0.09	
163	01/12/54	09:00	742.38	6.00	5.17	7.20	1.21	3
164	01/17/54	19:00	747.79	8.00	0.42	9.60	0.25	
165	01/18/54	13:00	748.54	16.00	0.29	19.20	1.16	2
166	01/19/54	12:00	749.50	14.00	3.63	16.80	0.95	1
167	01/23/54	17:00	753.71	36.00	19.00	43.20	1.12	2
168	02/13/54	05:00	774.21	15.00	0.42	18.00	3.28	10
169	02/14/54	06:00	775.25	5.00	3.42	6.00	0.02	
170	02/17/54	21:00	778.88	3.00	26.63	3.60	0.06	
171	03/16/54	15:00	805.63	15.00	2.67	18.00	0.60	1
172	03/19/54	22:00	808.92	11.00	0.37	13.20	0.77	1
173	03/20/54	18:00	809.75	10.00	0.63	12.00	0.14	
174	03/21/54	19:00	810.79	20.00	1.71	24.00	0.26	
175	03/24/54	08:00	813.33	4.00	0.37	4.80	0.03	
176							0.14	
177							0.66	1
178							0.11	
179							0.01	
180							0.01	
181							0.01	
182							0.01	
183							0.04	
184							1.19	2
185	11/15/54	18:00	1,049.75	3.00	13.42	3.60	0.04	
186	11/29/54	07:00	1,063.29	1.00	3.87	1.20	0.01	
187	12/03/54	05:00	1,067.21	16.00	0.25	19.20	0.37	
188	12/04/54	03:00	1,068.13	1.00	5.46	1.20	0.01	
189	12/09/54	15:00	1,073.63	8.00	0.00	9.60	0.36	

The Output Option 5 text file can be reviewed in a text editor. It'll provide additional output such as runoff duration and peak flow for each event.

Summary Statistics

	Rain Duration (hrs)	Rain Interevent Period(days)	Runoff Duration (hrs)	Rain Depth (in)	Ru Vo
Number of Events	27	27	28	27	
Total	248.0	322.1	297.6	12.91	28
Equivalent Annual Total	272.5	354.0	327.1	14.19	31
Minimum	1.000	0	1.200	1.000E+07	
Maximum	36.00	99.38	43.20	3.280	1
Average of All Events	8.857	11.50	10.63	0.4611	
Median	6.000	3.792	7.800	0.1400	
Stnd. Deviation	8.767	20.08	10.52	0.6950	
COV	0.9899	1.746	0.9899	1.507	

First Rain Date: 01/11/54
Last Rain Date: 12/09/54
Total Time Period (yrs): 0.9099315

Output Option 5 - One Line per Event Summary

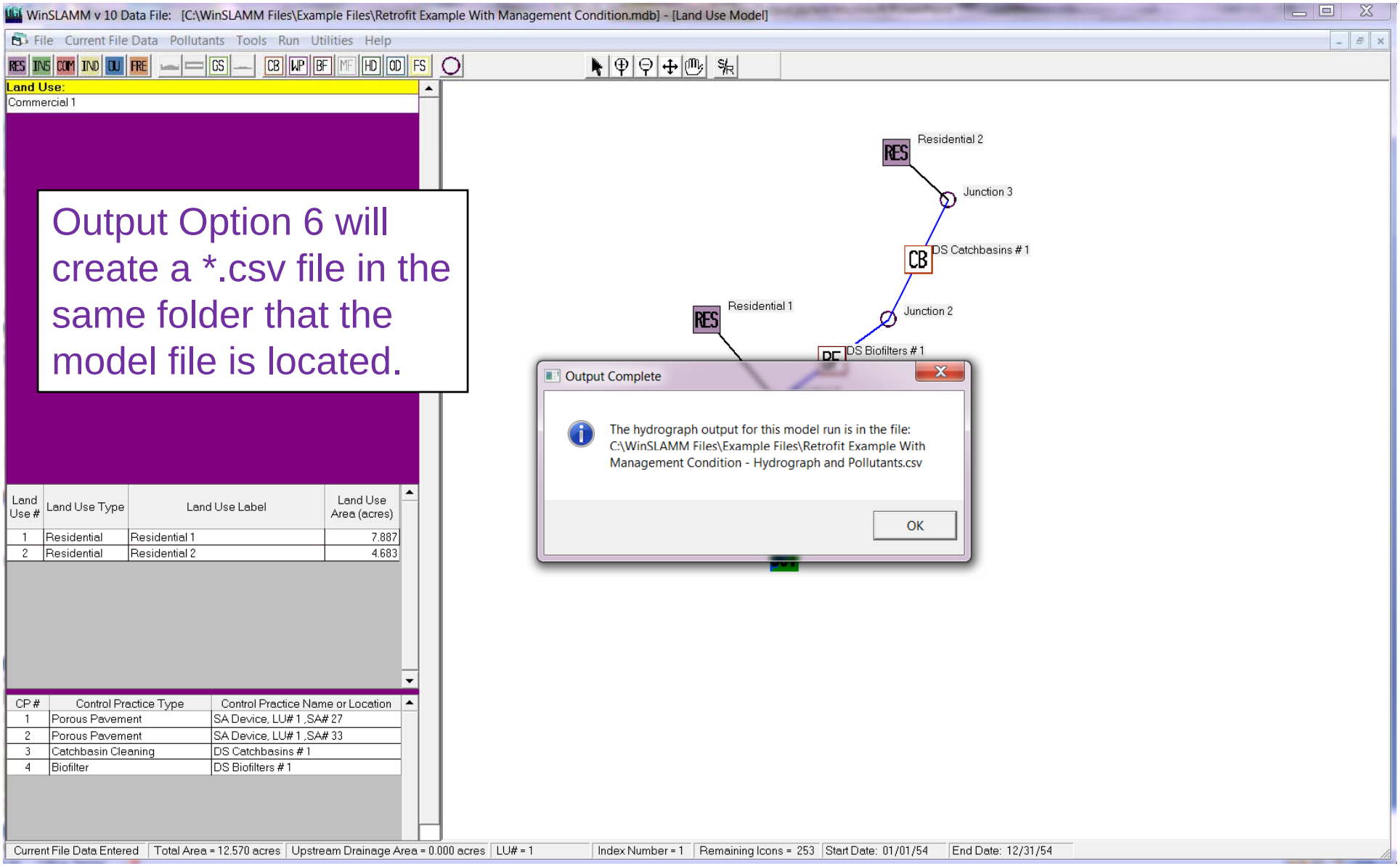
Retrofit Example With Management Condition.TXT - Notepad

File Edit Format View Help

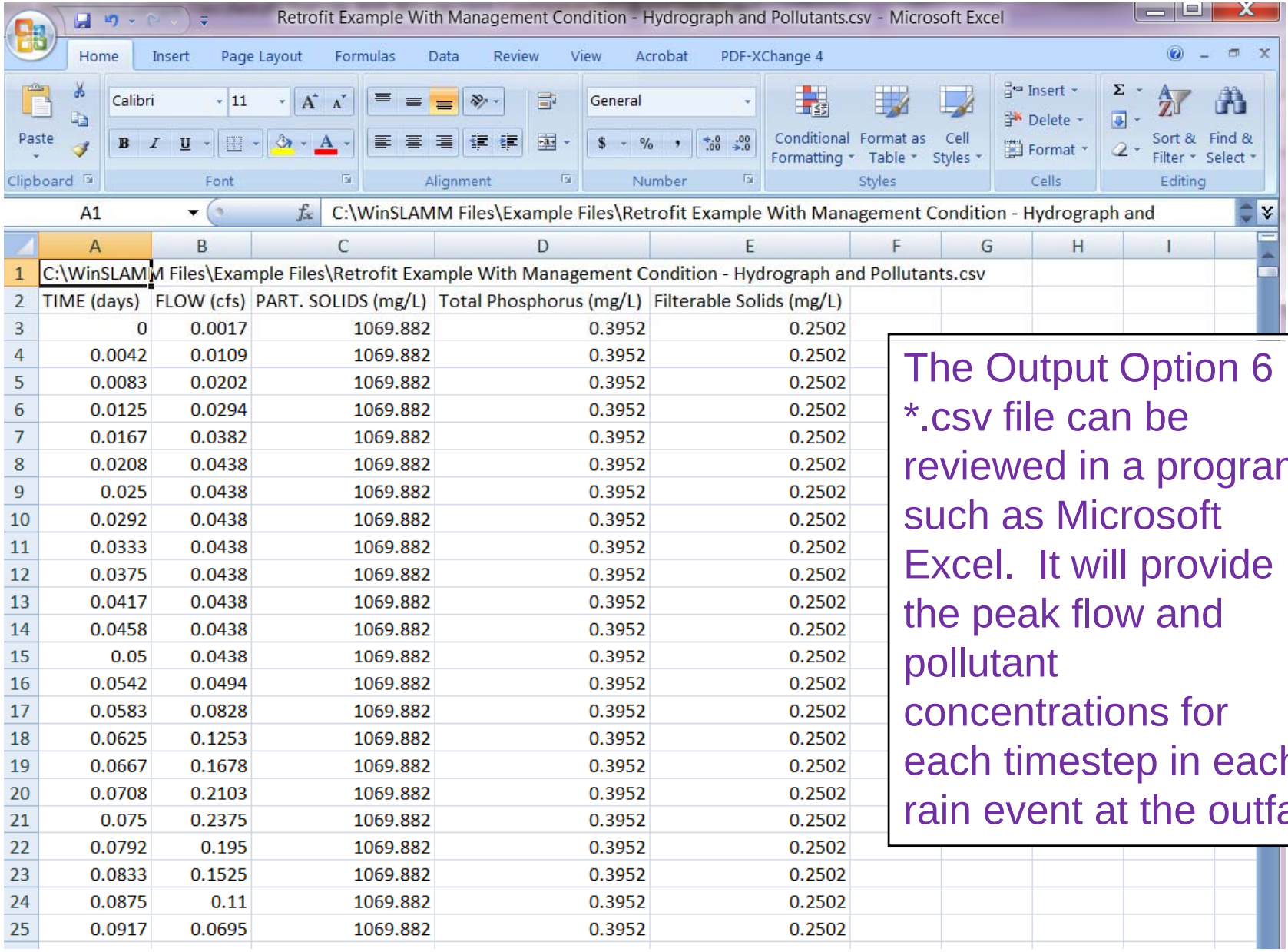
Rain epth (in)	Runoff Volume (cf)	R_sub_v . .	Average Flow (cfs)	Peak Flow (cfs)	Suspended Solids Conc(mg/L)	Suspended Solids Mass(lbs)	Pre-Develop. Runoff Volume (cf)
0.09	838	0.20	0.06	0.24	1,070	56	
1.21	32,379	0.59	1.25	4.40	106	214	
0.25	3,521	0.31	0.10	0.33	361	79	
1.16	26,757	0.51	0.39	1.17	93	156	
0.95	19,477	0.45	0.32	1.02	101	123	
1.12	20,943	0.41	0.13	0.42	100	130	
3.28	100,361	0.67	1.55	5.37	49	310	
0.02	19	0.02	0.00	0.00	3,235	4	
0.06	445	0.16	0.03	0.12	819	23	
0.60	10,857	0.40	0.17	0.53	203	137	
0.77	16,656	0.47	0.35	1.05	138	143	
0.14	1,521	0.24	0.04	0.14	524	50	
0.26	3,240	0.27	0.04	0.14	318	64	
0.03	112	0.08	0.01	0.02	1,066	7	
0.14	1,781	0.28	0.41	1.40	394	44	
0.66	12,499	0.42	0.26	0.78	132	103	
0.11	1,155	0.23	0.04	0.13	805	58	
0.01	4	0.01	0.00	0.00	466	0	
0.01	4	0.01	0.00	0.00	466	0	
0.01	4	0.01	0.00	0.00	466	0	
0.01	4	0.01	0.00	0.00	466	0	
0.04	245	0.13	0.03	0.10	2,888	44	
1.19	23,837	0.44	0.20	0.60	166	246	
0.04	245	0.13	0.02	0.07	2,325	36	
0.01	4	0.01	0.00	0.00	466	0	
0.37	5,836	0.35	0.08	0.27	398	145	
0.01	2	0.00	0.00	0.00	787	0	
0.36	5,979	0.36	0.17	0.51	334	125	

Rain epth (in)	Runoff Volume (cf)	R sub v	Average Flow (cfs)	Peak Flow (cfs)	Suspended Solids Conc(mg/L)	Suspended Solids Mass(lbs)	Pre-Develop. Runoff Volume (cf)
27	28	28	28	28	28	28	Number of Events
2.91	288725	n/a	n/a	n/a	n/a	2299	Total
4.19	317304	n/a	n/a	n/a	n/a	2526	Equivalent Annual Total
E+07	2.195	0.004811	5.081E-04	0.002170	49.48	0.1079	Minimum
.280	100361	0.6706	1.549	5.375	3235	310.0	Maximum
4611	10312	0.2560	0.2022	0.6728	669.3	82.09	Average of All Events
1400	1651	0.2556	0.05144	0.1889	432.0	57.02	Median
5950	20090	0.1973	0.3638	1.263	817.7	82.11	Stnd. Deviation
.507	1.948	0.7708	1.799	1.878	1.222	1.000	COV

Output Option 6 – Hydrograph with Concentrations



Output Option 6 – Hydrograph with Concentrations

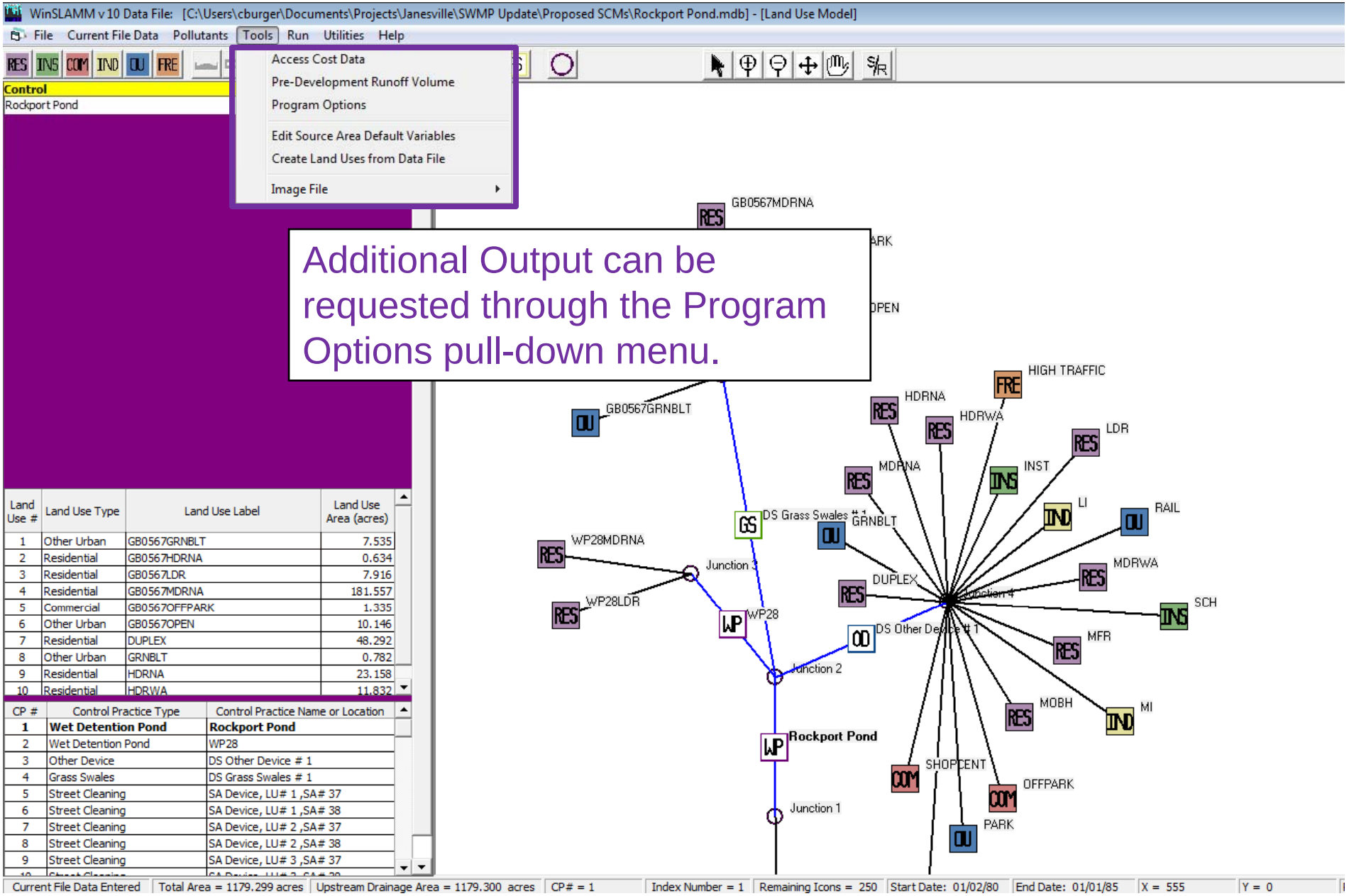


	A	B	C	D	E	F	G	H	I
1	C:\WinSLAM	M Files\Example Files\Retrofit Example With Management Condition - Hydrograph and Pollutants.csv							
2	TIME (days)	FLOW (cfs)	PART. SOLIDS (mg/L)	Total Phosphorus (mg/L)	Filterable Solids (mg/L)				
3	0	0.0017	1069.882	0.3952	0.2502				
4	0.0042	0.0109	1069.882	0.3952	0.2502				
5	0.0083	0.0202	1069.882	0.3952	0.2502				
6	0.0125	0.0294	1069.882	0.3952	0.2502				
7	0.0167	0.0382	1069.882	0.3952	0.2502				
8	0.0208	0.0438	1069.882	0.3952	0.2502				
9	0.025	0.0438	1069.882	0.3952	0.2502				
10	0.0292	0.0438	1069.882	0.3952	0.2502				
11	0.0333	0.0438	1069.882	0.3952	0.2502				
12	0.0375	0.0438	1069.882	0.3952	0.2502				
13	0.0417	0.0438	1069.882	0.3952	0.2502				
14	0.0458	0.0438	1069.882	0.3952	0.2502				
15	0.05	0.0438	1069.882	0.3952	0.2502				
16	0.0542	0.0494	1069.882	0.3952	0.2502				
17	0.0583	0.0828	1069.882	0.3952	0.2502				
18	0.0625	0.1253	1069.882	0.3952	0.2502				
19	0.0667	0.1678	1069.882	0.3952	0.2502				
20	0.0708	0.2103	1069.882	0.3952	0.2502				
21	0.075	0.2375	1069.882	0.3952	0.2502				
22	0.0792	0.195	1069.882	0.3952	0.2502				
23	0.0833	0.1525	1069.882	0.3952	0.2502				
24	0.0875	0.11	1069.882	0.3952	0.2502				
25	0.0917	0.0695	1069.882	0.3952	0.2502				

The Output Option 6 *.csv file can be reviewed in a program such as Microsoft Excel. It will provide the peak flow and pollutant concentrations for each timestep in each rain event at the outfall.

Additional Output

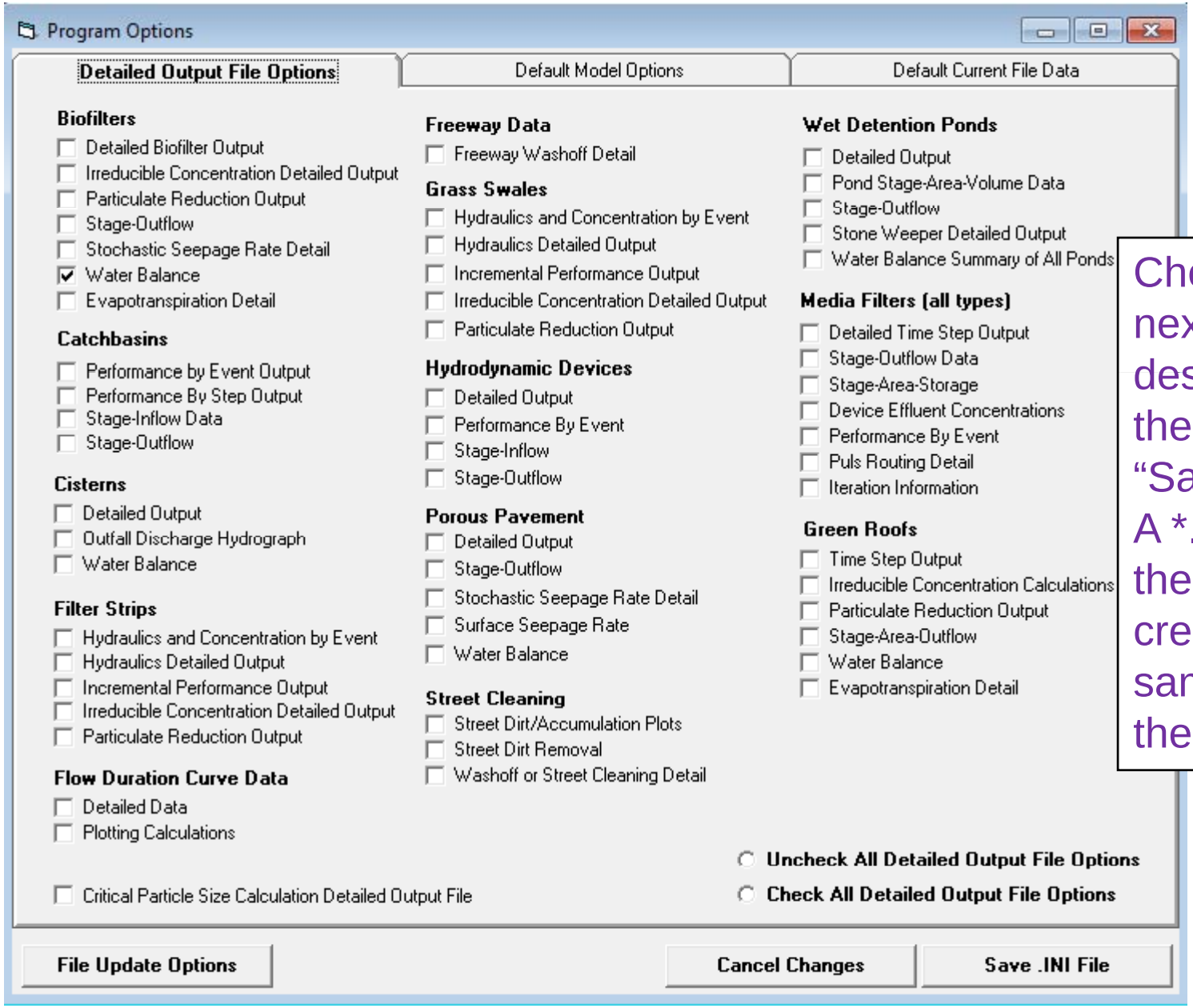
Additional Output



Land Use #	Land Use Type	Land Use Label	Land Use Area (acres)
1	Other Urban	GB0567GRNBLT	7.535
2	Residential	GB0567HDRNA	0.634
3	Residential	GB0567LDR	7.916
4	Residential	GB0567MDRNA	181.557
5	Commercial	GB0567OFFPARK	1.335
6	Other Urban	GB0567OPEN	10.146
7	Residential	DUPLEX	48.292
8	Other Urban	GRNBLT	0.782
9	Residential	HDRNA	23.158
10	Residential	HDRWA	11.832

CP #	Control Practice Type	Control Practice Name or Location
1	**Wet Detention Pond**	**Rockport Pond**
2	Wet Detention Pond	WP28
3	Other Device	DS Other Device # 1
4	Grass Swales	DS Grass Swales # 1
5	Street Cleaning	SA Device, LU# 1 ,SA# 37
6	Street Cleaning	SA Device, LU# 1 ,SA# 38
7	Street Cleaning	SA Device, LU# 2 ,SA# 37
8	Street Cleaning	SA Device, LU# 2 ,SA# 38
9	Street Cleaning	SA Device, LU# 3 ,SA# 37

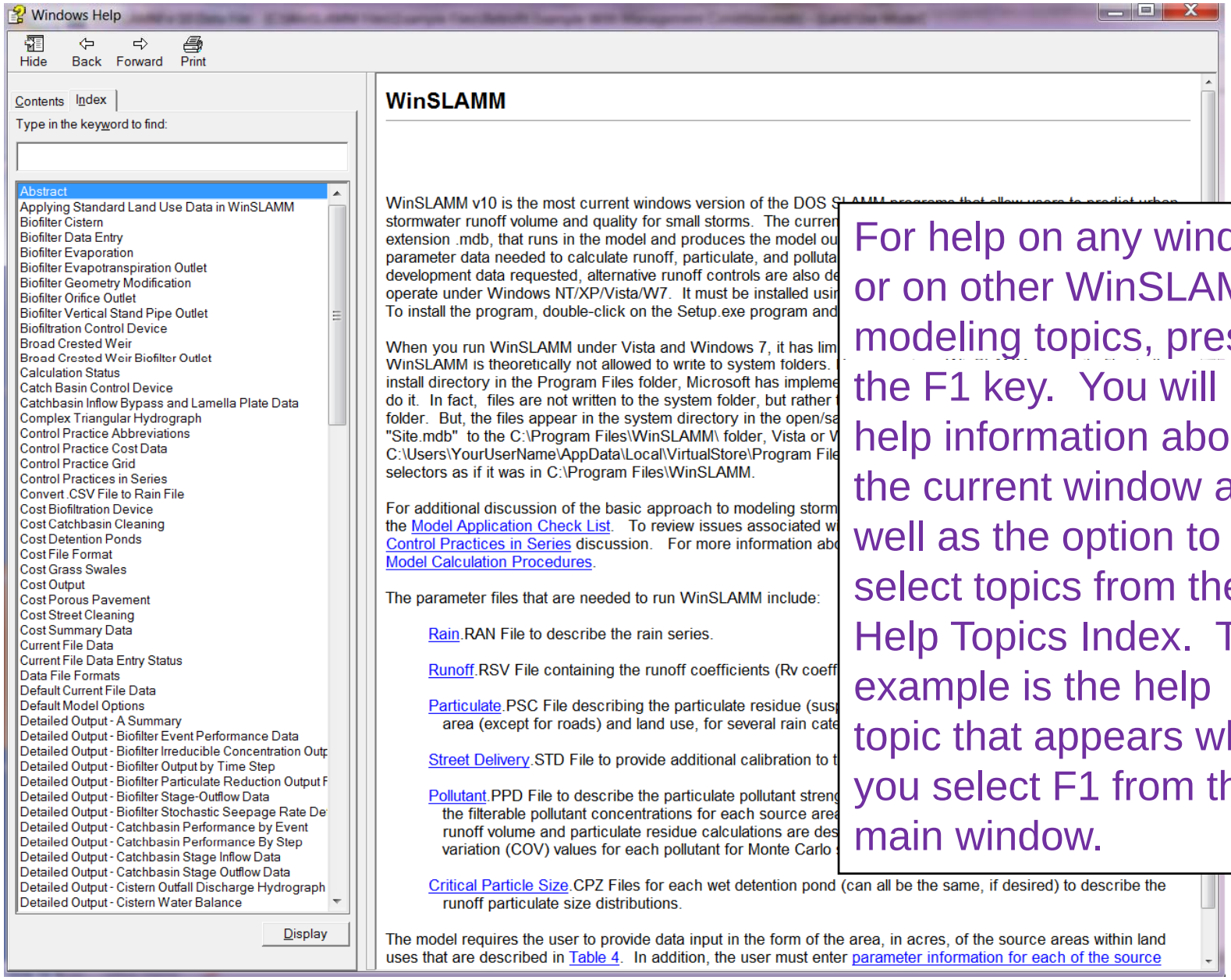
Additional Output



Check the box next to the desired output, then select “Save .INI File”. A *.csv file with the output will be created in the same folder as the model file.

For Additional Information See . . .

The Context-Sensitive Help in the Program



For help on any window or on other WinSLAMM modeling topics, press the F1 key. You will get help information about the current window as well as the option to select topics from the Help Topics Index. This example is the help topic that appears when you select F1 from the main window.

Questions?

For model information, go to www.winslamm.com

Remember to Press the "F1" to access the Help File