TABLE 1 Drainage Parcels

Divide the entire site (including rooftops) into drainage parcels, each discharging to a single location.
For roof parcels, enter in the upper section:

- impervious area of the roof parcel
- pervious area of roof garden, either intensive (self-treating) or extensive (has runoff that must be treated)
- volume of long-term cistern storage (enclosed storage for future use)

For land parcels, enter in the lower section:

- impervious (paved) area of the land parcel
- pervious (not paved) area of the parcel, using the column corresponding to the appropriate slope

The spreadsheet will calculate the amount of stormwater runoff that must be treated from each parcel.
Identify design solutions to treat runoff from each parcel. There is a separate spreadsheet to calculate the required size for each facility type by parcel.
Enter the ID number from Table 1 corresponding to the parcel from which the facility will receive runoff (R1-R9 for roof parcels, 1-20 for land parcels).
The sizing spreadsheets will transfer data from Table 1 to calcuate the required facility size.
Design requirements are listed at the bottom of each spreadsheet.

TABLE 2 Metered Detention

This spreadsheet applies to short-term stormwater storage, for use in irrigation within 72 hours (vs long-term cistern storage on Table 1).
In Column 1, enter the ID number for each parcel that will drain to Metered Detention storage.
Column 2 will show the volume of water quality runoff to be stored.
Column 4 will show the irrigation area required to absorb water stored in the metered detention facility.
Enter the available irrigation area in Column 5. The spreadsheet will indicate if there is a shortfall and how much.

TABLE 3 BioRetention Basin

This spreadsheet applies to landscape areas designed to receive, retain and infiltrate stormwater runoff.
In Column 1, enter the ID number for each parcel that will drain to a BioRetention facility.
Column 3 will show the facility area required to treat runoff from that parcel.
Enter the area available for each BioRetention facility, either as a width and length (Columns 4 and 5) <u>or</u> as an area (Column 6).
The spreadsheet will indicate if there is a shortfall and how much, in terms of both facility area and contributing parcel area.

TABLE 4 Lowered Planter Strip

This spreadsheet applies to planter strips designed to receive, retain and infiltrate stormwater runoff.
In Column 1, enter the ID number for each parcel that will drain to a lowered planter strip.
Column 3 will show the facility area required to treat runoff from that parcel.
Enter the area available for each lowered planter strip, either as a width and length (Columns 4 and 5) <u>or</u> as an area (Column 6).
The spreadsheet will indicate if there is a shortfall and how much, in terms of both facility area and contributing parcel area.

TABLE 5 Flow-through Planter Box

This spreadsheet applies to planter boxes designed to receive, retain and infiltrate stormwater runoff.
In Column 1, enter the ID number for each parcel that will drain to a flow-through planter box.
Column 3 will show the facility area required to treat runoff from that parcel.
In Column 4, enter the area available for each planter box.
The spreadsheet will indicate if there is a shortfall and how much, in terms of both facility area and contributing parcel area.

TABLE 6 BioFiltration Swale

This spreadsheet applies to swales designed to filter stormwater runoff through soils and plant material via surface flow rather than infiltration.
Sizing criteria for biofiltration are different from infiltration criteria, so swale sizes may be significantly different than infiltration-based facility sizes.
In Column 1, enter the ID number for each parcel that will drain to a biofiltration swale.
Enter the swale design variables as indicated in Columns 8 - 11 (must meet design requirements shown at the top of each column).
Adjust the design variables until:

Design flow (Column 6) is equal to or less than Manning's flow (Column 7)
Hydraulic residence time (Column 12) is greater than 9 minutes

TABLE 7 Balancing

The spreadsheet tracks treatment capacity excess and shortages so that parcel areas can be redistributed if there is a shortfall.
Note any untreated parcel area in Columns 7 -10. This area should be redistributed to facilities with excess capacity (indicated in Columns 12 - 15).
For parcels with treatment shortage, reassign the excess parcel area to a parcel with excess capacity using Column 3.
Use Column 5 to track receiving parcels.
Check totals in Columns 3, 4 and 6 to make sure all shortages are accounted for.

TABLE 1
Identify Drainage Parcels

ROOF

ID#	ROOF Parcel Description	Impervious Area	Pervious Area (Extensive Rooftop Garden)[1]	Total Treatment Area	Pervious Area (Intensive Rooftop Garden)[2]	Long Term Cistern Storage[3]	Roof "C"	Water Quality Volume		Equivalent Impervious Area
		(feet^2)	*(feet^2)*	*(feet^2)*	*(feet^2)*	*(gallons)*		*(feet^3)*	*(gallons)*	(feet^2)
	C=	***0.85***	***0.4***							
R1				**0**			*0.00*	0	0	*0*
R2				**0**			*0.00*	0	0	*0*
R3				**0**			*0.00*	0	0	*0*
R4				**0**			*0.00*	0	0	*0*
R5				**0**			*0.00*	0	0	*0*
R6				**0**			*0.00*	0	0	*0*
R7				**0**			*0.00*	0	0	*0*
R8				**0**			*0.00*	0	0	*0*
R9				**0**			*0.00*	0	0	*0*
		100%	*85%*							

TOTAL ROOF AREA **0**

[1] *Extensive rooftops (green roofs) assumed to include 6" of substrate*
[2] *Intensive rooftops (roof gardens) assumed to be self-mitigating; not included in WQ volume calc.*
[3] *Enclosed storage for future use; not included in WQ volume calculation*

SITE

ID#	LAND Parcel Description	Impervious Area	Pervious Area[2,3]			Total		Parcel "C"	Water Quality Volume		Equivalent Impervious Area
			Flat	Average	Steep						
		(feet^2)	*(feet^2)*	*(feet^2)*	*(feet^2)*	*(feet^2)*	*(acres)*		*(feet^3)*	*(gallons)*	*(feet^2)*
	C=	***0.85***	***0.25***	***0.33***	***0.37***						
1						**0**	**0.00**	*0.00*	0	0	0
2						**0**	**0.00**	*0.00*	0	0	0
3						**0**	**0.00**	*0.00*	0	0	0
4						**0**	**0.00**	*0.00*	0	0	0
5						**0**	**0.00**	*0.00*	0	0	0
6						**0**	**0.00**	*0.00*	0	0	0
7						**0**	**0.00**	*0.00*	0	0	0
8						**0**	**0.00**	*0.00*	0	0	0
9						**0**	**0.00**	*0.00*	0	0	0
10						**0**	**0.00**	*0.00*	0	0	0
11						**0**	**0.00**	*0.00*	0	0	0
12						**0**	**0.00**	*0.00*	0	0	0
13						**0**	**0.00**	*0.00*	0	0	0
14						**0**	**0.00**	*0.00*	0	0	0
15						**0**	**0.00**	*0.00*	0	0	0
16						**0**	**0.00**	*0.00*	0	0	0
17						**0**	**0.00**	*0.00*	0	0	0
18						**0**	**0.00**	*0.00*	0	0	0
19						**0**	**0.00**	*0.00*	0	0	0
20						**0**	**0.00**	*0.00*	0	0	0
		100%	*70%*	*75%*	*80%*						

TOTAL SITE/ROOF AREA **0** sq.feet

NOTES

[2]

Pervious Area	**Ground Slope**
Flat	2% or Less
Average	2%-7%
Steep	Greater than 7%

Assuming Fair Condition of Pervious Surface (Grass cover on 50%-75% of total Area)
Source:Chow V., Maidment, D., Mays, L., Applied Hydrology, McGraw-Hill, Inc., 1988

[3] Pervious Areas includes grassy areas, areas paved with pervious pavers/pavement
as well as other pervious surfaces (ie gravel, vegetated, etc.)
Equivalent impervious area is a percentage of pervious area (70-80% depending on slope)

TABLE 2
Metered Detention Design (short term irrigation storage)

1	2	3	4	5		7	8	9	10	11
Parcel ID#	WQ Volume to be Stored (from Table1)	Equivalent Impervious Area	Minimum Irrigation Area Required	Irrigation Area Available On-Site		Facility Area Shortfall	Surplus Facility Area	Treatment Capacity (Contributing Area)*	Available Capacity (Contributing Area)	Untreated Contributing Area
ROOF	*(feet^3)*	*(feet^2)*	*(feet^2)*	*(feet^2)*		*(feet^2)*	*(feet^2)*	*(feet^2)*	*(feet^2)*	*(feet^2)*
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
LAND AREA										
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0
	0	0	0		OK	0	0	0	0	0

* Treatment Capacity is the contributing area (or equivalent

Quick Calculator

Enter Available Area for Irrigation: **400** sq. ft

You can use:
100 feet^3 **OR** *748* gallons

Enter gallons of irrigation storage: **650** gallons

You need irrigation area of:
348 sq ft

TABLE 3
BioRetention Basin Design

1	2	3	4	5	6	7	8	9	10	11	12	13
Parcel ID#	**Equivalent Impervious Area**	**Minimum Required Facility Area**	**Available Width (5ft min)**	**Available Length**	**-OR- Enter Available Area**	**Available Area**		**Facility Area Shortfall**	**Surplus Facility Area**	**Treatment Capacity (Contributing Area)**	**Available Capacity (Contributing Area)**	**Untreated Contributing Area**
ROOF	*(feet^2)*	*(feet^2)*	*(feet)*	*(feet)*	*(feet^2)*	*(feet^2)*		*(feet^2)*	*(feet^2)*	*(feet^2)*	*(feet^2)*	*(feet^2)*
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
LAND AREA												
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0
	0	0	5	0		0	OK	0	0	0	0	0

Quick Calculator

Enter area of BioRetention facility square feet

You can treat runoff from:
0 square feet
of impervious (or equivalent imp.) area

- **Minimum facility width is 5' (using parameters below)**
- **Minimum bottom width is 3'**
- **Line facility with at least 12" topsoil with minimum 5"/hour infiltration rate**
- **Maximum side slope is 2:1'**
- **Maximum ponding depth is 18"; minimum 6"**
- **Underdrains recommended due to high water table**
- **Provide overflow outlet to storm drain**
- **Do not install in locations with frequent pedestrian traffic**
- **Plant and irrigate**

TABLE 4
Lowered Planter Strip Design

1	2	3	4	5	6	7	8	9	10	11	12	13
Parcel ID#	**Equivalent Impervious Area**	**Minimum Required Facility Area**	**Available Width (5ft min)**	**Available Length**	**-OR- Enter Available Area**	**Available Area**		**Facility Area Shortfall**	**Surplus Facility Area**	**Treatment Capacity (Contributing Area)**	**Available Capacity (Contributing Area)**	**Untreated Contributing Area**
ROOF	*(feet^2)*	*(feet^2)*	*(feet)*	*(feet)*	*(feet^2)*	*(feet^2)*		*(feet^2)*	*(feet^2)*	*(feet^2)*	*(feet^2)*	*(feet^2)*
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
LAND AREA												
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0
	0	0	5			0	OK	0	0	0	0	0

Quick Calculator

Enter area of lowered planter strip ____ square feet

You can treat runoff from:

0 square feet

of impervious (or equivalent imp.) area

- **Minimum facility width is 5' (using parameters below)**
- **Minimum bottom width is 3'**
- **Line facility with at least 12" topsoil with minimum 5"/hour infiltration rate**
- **Maximum side slope is 2:1'**
- **Maximum ponding depth is 18"; minimum 6"**
- **Underdrains recommended due to high water table**
- **Provide overflow outlet to storm drain**
- **Do not install in locations with frequent pedestrian traffic**
- **Plant and irrigate**

TABLE 5
Flow-Through Planter Box Design

1	2	3	4	5	6	7	8	9	10
Parcel ID#	**Equivalent Impervious Area**	**Minimum Required Facility Area**	**Available Area on Site**		**Facility Area Shortfall**	**Surplus Facility Area**	**Treatment Capacity (Contributing Area)**	**Available Capacity (Contributing Area)**	**Untreated Contributing Area**
ROOF	*(feet^2)*	*(feet^2)*	*(feet^2)*		*(feet^2)*	*(feet^2)*	*(feet^2)*	*(feet^2)*	*(feet^2)*
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
LAND AREA									
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0
	0	0		OK	0	0	0	0	0

Quick Calculator

Enter area (interior dimension) of planter box ☐ square feet

You can treat runoff from:

0 square feet

of impervious (or equivalent imp.) area

- **Minimum planter box width is 18" (inside dimension)**
- **Minimum depth is 40" (between overflow and underdrain as outlined below)**
- **Underdrain and overflow outlet required**
- **Allow for 8" of ponding above topsoil**
- **18" topsoil with minimum 5"/hour infiltration rate required**
- **Pea gravel layer beneath topsoil (12" recommended)**
- **Plant and irrigate**

TABLE 6
BioFiltration Swale Design

Enter Parcel ID; enter facility design variables; check design flow<Mannings flow (column 6); check residence time >9 min (column 9)

1	2	3	4	5	6	7	8	9	10	11	12	13
Site Specific Information							**Design Variables**					
Parcel ID#	**Parcel Area**		**Parcel "C" Value**	**Intensity**	**Design Flow**	**Manning's Flow (calculated)**	**Length**	**Bottom Width**	**Side Slopes**	**Ground Slope**	**Hydraulic residence time**	**Swale Area**
	(feet^2)	*(acres)*		*(inches/hour)*	*(feet^3/sec)*	*(feet^3/sec)*	*(feet)*	*(feet)*	*(H:V)*	*(feet/feet)*	*(minutes)*	*(feet^2)*
					(<Mannings Flow)		**(MIN 100')**	**(2'-10')**	**(>3)**	**(0.01-0.025)**	**(MIN 9 minutes)**	**(depth = 1')**
ROOF												
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
LAND AREA												
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***
	0	*0.00*	**0.00**	*0.20*	*0.00*	*0.00*					*0.00*	***0***

TABLE 7

Parcel Balancing (Area Based)

All balancing areas refer to the area contributing runoff to the treatment facility (not facility size).

1	2	3	4	5	6		7	8	9	10	11	12	13	14	15
							TREATMENT SHORTAGE					AVAILABLE CAPACITY			
Roof Parcels	***Initial Treatment Area Requirement***	***Treatment Area from Adjacent Parcels***	***TOTAL SHORTAGE***	***PARCEL SHORTAGE MOVED TO***	***AVAILABLE EXCESS***		***Metered Detention***	***BioRetention Basin***	***Flow-Through Planter Box***	***Lowered Planter Strip***		***Metered Detention***	***BioRetention Basin***	***Flow-Through Planter Box***	***Lowered Planter Strip***
	(feet^2)	*(feet^2)*	*(feet^2)*	*parcel ID*	*(feet^2)*		*(feet^2)*	*(feet^2)*	*(feet^2)*	*(feet^2)*		*(feet^2)*	*(feet^2)*	*(feet^2)*	*(feet^2)*
R1	0		0		0		0	0	0	0		0	0	0	0
R2	0		0		0		0	0	0	0		0	0	0	0
R3	0		0		0		0	0	0	0		0	0	0	0
R4	0		0		0		0	0	0	0		0	0	0	0
R5	0		0		0		0	0	0	0		0	0	0	0
R6	0		0		0		0	0	0	0		0	0	0	0
R7	0		0		0		0	0	0	0		0	0	0	0
R8	0		0		0		0	0	0	0		0	0	0	0
R9	0		0		0		0	0	0	0		0	0	0	0
Land Area															
1	0		0		0		0	0	0	0		0	0	0	0
2	0		0		0		0	0	0	0		0	0	0	0
3	0		0		0		0	0	0	0		0	0	0	0
4	0		0		0		0	0	0	0		0	0	0	0
5	0		0		0		0	0	0	0		0	0	0	0
6	0		0		0		0	0	0	0		0	0	0	0
7	0		0		0		0	0	0	0		0	0	0	0
8	0		0		0		0	0	0	0		0	0	0	0
9	0		0		0		0	0	0	0		0	0	0	0
10	0		0		0		0	0	0	0		0	0	0	0
11	0		0		0		0	0	0	0		0	0	0	0
12	0		0		0		0	0	0	0		0	0	0	0
13	0		0		0		0	0	0	0		0	0	0	0
14	0		0		0		0	0	0	0		0	0	0	0
15	0		0		0		0	0	0	0		0	0	0	0
16	0		0		0		0	0	0	0		0	0	0	0
17	0		0		0		0	0	0	0		0	0	0	0
18	0		0		0		0	0	0	0		0	0	0	0
19	0		0		0		0	0	0	0		0	0	0	0
20	0		0		0		0	0	0	0		0	0	0	0
		0	0		0	CHECK TOTALS -- Column 3 should be equal to or greater than 4, and less than 6									

Resources:

General References:

http://www.sanjoseca.gov/planning/stormwater/index.htm#6
(this site includes several links to other stormwater treatment resources on the web)
http://www.stormwatercenter.net/
(click on "Assorted Fact Sheets" link, and then browse the fact sheets on different Stormwater BMPs

California Stormwater Best Management Practice Handbook, January 2003

Camp Dresser & McKee, et al., California Stormwater Quality Association: Stormwater Best Management Practice Handbook, January, 2003.
online at:
http://www.cabmphandbooks.com/Development.asp
(note, if above link will not open, go to : www.cabmphandbooks.com, and click on the picture link entitled "New Development and Redevelopment"

Portland Stormwater Management Manual, revision #3, September 2004

http://www.portlandonline.com/bes/index.cfm?c=35122

Hydrology Reference

Chow V., Maidment, D., Mays, L., Applied Hydrology, McGRaw-Hill, Inc., 1988

Greenroofs run-off coefficients

http://www.biw.kuleuven.be/lbh/lbnl/ecology/pdf-files/pdf-art/jeroen/procgreenroofs.pdf