

Project Description

File Name 323 - Wellington Industrial.SPF

Project Options

Flow Units CMS
 Elevation Type Elevation
 Hydrology Method EPA SWMM
 EPA SWMM Infiltration Method SCS Curve Number
 Link Routing Method Hydrodynamic
 Enable Overflow Ponding at Nodes YES
 Skip Steady State Analysis Time Periods ... NO

Analysis Options

Start Analysis On Apr 25, 2016 00:00:00
 End Analysis On Apr 26, 2016 00:00:00
 Start Reporting On Apr 25, 2016 00:00:00
 Antecedent Dry Days 0 days
 Runoff (Dry Weather) Time Step 0 00:00:10 days hh:mm:ss
 Runoff (Wet Weather) Time Step 0 00:00:10 days hh:mm:ss
 Reporting Time Step 0 00:00:10 days hh:mm:ss
 Routing Time Step 0.5 seconds

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (mm)	Rainfall Distribution
1		Time Series	25yr RI	Cumulative	mm	None	None	25	72.10	South Africa 24-hr, Type 2

Subbasin Hydrology**Subbasin : Post-Attenuation****Input Data**

Area (ha) 5.36
 Impervious Area (%) 80.00
 Weighted Curve Number 94.00
 Conductivity (mm/hr) 4.0000
 Drying Time (days) 7.00
 Average Slope (%) 1.0000
 Equivalent Width (m) 150.00
 Impervious Area
 Manning's Roughness 0.0150
 Pervious Area
 Manning's Roughness 0.1500
 Curb & Gutter Length (m) 0.00
 Rain Gage ID 323-Wellington

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
Urban commercial, 85% imp	5.36	C	94.00
Composite Area & Weighted CN	5.36		94.00

Subbasin Runoff Results

Total Rainfall (mm) 72.03
 Total Runon (mm) 0.00
 Total Evaporation (mm) 0.0000
 Total Infiltration (mm) 3.1000
 Total Runoff (mm) 66.24
 Peak Runoff (cms) 0.68
 Weighted Curve Number 94.00
 Time of Concentration (days hh:mm:ss) 0 01:57:25

Subbasin : Post-Development

Input Data

Area (ha) 5.36
 Impervious Area (%) 80.00
 Weighted Curve Number 94.00
 Conductivity (mm/hr) 4.0000
 Drying Time (days) 7.00
 Average Slope (%) 1.0000
 Equivalent Width (m) 150.00
 Impervious Area
 Manning's Roughness 0.0150
 Pervious Area
 Manning's Roughness 0.1500
 Curb & Gutter Length (m) 0.00
 Rain Gage ID 323-Wellington

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
Urban commercial, 85% imp	5.36	C	94.00
Composite Area & Weighted CN	5.36		94.00

Subbasin Runoff Results

Total Rainfall (mm) 72.03
 Total Runon (mm) 0.00
 Total Evaporation (mm) 0.0000
 Total Infiltration (mm) 3.1000
 Total Runoff (mm) 66.24
 Peak Runoff (cms) 0.68
 Weighted Curve Number 94.00
 Time of Concentration (days hh:mm:ss) 0 01:57:25

Subbasin : Pre-Development**Input Data**

Area (ha) 5.36
 Impervious Area (%) 25.00
 Weighted Curve Number 79.00
 Conductivity (mm/hr) 4.0000
 Drying Time (days) 7.00
 Average Slope (%) 1.0000
 Equivalent Width (m) 150.00
 Impervious Area
 Manning's Roughness 0.0150
 Pervious Area
 Manning's Roughness 0.1500
 Curb & Gutter Length (m) 0.00
 Rain Gage ID 323-Wellington

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
50 - 75% grass cover, Fair	5.36	C	79.00
Composite Area & Weighted CN	5.36		79.00

Subbasin Runoff Results

Total Rainfall (mm) 72.03
 Total Runon (mm) 0.00
 Total Evaporation (mm) 0.0000
 Total Infiltration (mm) 29.6870
 Total Runoff (mm) 36.89
 Peak Runoff (cms) 0.18
 Weighted Curve Number 79.00
 Time of Concentration (days hh:mm:ss) 0 03:05:56

Storage Nodes

Storage Node : Attenuation Chamber

Input Data

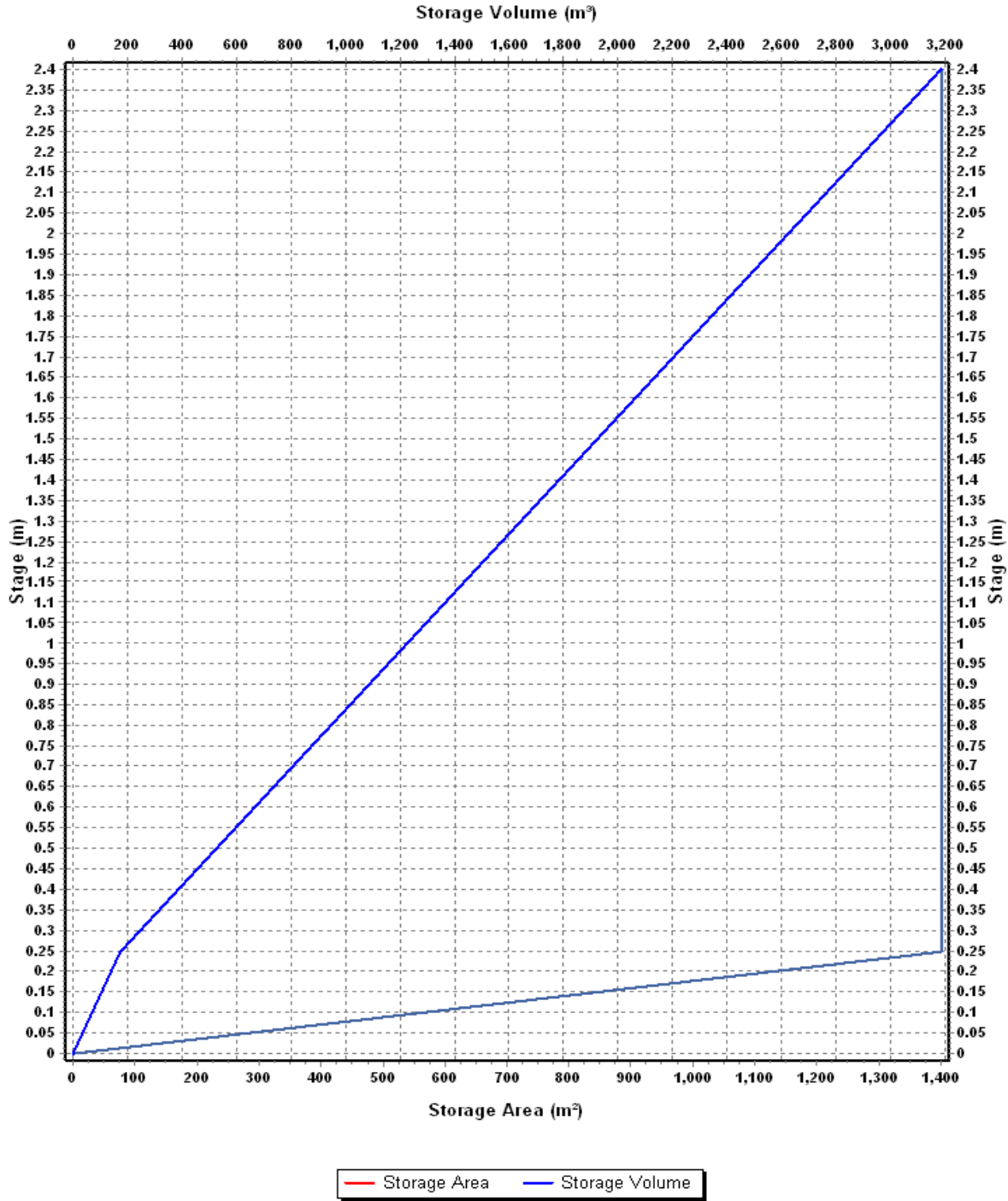
Invert Elevation (m) 1001.00
 Max (Rim) Elevation (m) 1002.50
 Max (Rim) Offset (m) 1.50
 Initial Water Elevation (m) 1001.00
 Initial Water Depth (m) 0.00
 Ponded Area (m²) 1400.00
 Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : POND

Stage (m)	Storage Area (m ²)	Storage Volume (m ³)
0	0	0.000
.25	1400	175.00
2.4	1400	3185.00

Storage Area Volume Curves



Storage Node : Attenuation Chamber (continued)**Outflow Weirs**

SN Element ID	Weir Type	Flap Gate	Crest Elevation (m)	Crest Offset (m)	Length (m)	Weir Total Height (m)	Discharge Coefficient	
1	Overflow Weir	Rectangular	No	1002.25	1.25	5.00	0.10	1.84

Outflow Orifices

SN Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (mm)	Rectangular Orifice Height (mm)	Rectangular Orifice Width (mm)	Orifice Invert Elevation (m)	Orifice Coefficient	
1	25yr Orifice	Bottom	Rectangular	No		1000.00	1000.00	1002.10	0.63
2	5yr Orifice	Side	CIRCULAR	No	250.00			1001.00	0.61

Output Summary Results

Peak Inflow (cms)	0.68
Peak Lateral Inflow (cms)	0.68
Peak Outflow (cms)	0.17
Peak Exfiltration Flow Rate (cmm)	0.00
Max HGL Elevation Attained (m)	1002.16
Max HGL Depth Attained (m)	1.16
Average HGL Elevation Attained (m)	1001.35
Average HGL Depth Attained (m)	0.35
Time of Max HGL Occurrence (days hh:mm)	0 13:03
Total Exfiltration Volume (1000-m ³)	0.000
Total Flooded Volume (ha-mm)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00