MGS FLOOD
PROJECT REPORT

Program Version: MGSFlood 4.57
Program License Number: 202010002
Project Simulation Performed on: 02/11/2022 6:23 PM
Report Generation Date: 02/11/2022 6:23 PM

Input File Name: Bozarth_Rev0.fld
Project Name: Bozarth Multifamily
Analysis Title: Preliminary
Comments:

PRECIPITATION INPUT

Computational Time Step (Minutes): 15

Extended Precipitation Time Series Selected
Climatic Region Number: 25

Full Period of Record Available used for Routing
Precipitation Station : 97004405 Vancouver 44 in_5min 10/01/1939-10/01/2060
Evaporation Station : 971044 Vancouver 44 in MAP
Evaporation Scale Factor : 0.750

HSPF Parameter Region Number: 1
HSPF Parameter Region Name : Ecology Default

********** Default HSPF Parameters Used (Not Modified by User) **********

********** WATERSHED DEFINITION **********

Predevelopment/Post Development Tributary Area Summary

	Predeveloped	Post Developed
Total Subbasin Area (acres)	0.317	0.303
Area of Links that Include Precip/Evap (acres)	0.000	0.014
Total (acres)	0.317	0.317

----------SCENARIO: PREDEVELOPED
Number of Subbasins: 1

---------- Subbasin : Subbasin 1 ----------

	-------Area (Acres) --------
A/B, Forest, Flat	0.317
Subbasin Total	0.317

----------SCENARIO: POSTDEVELOPED
Number of Subbasins: 3

---------- Subbasin : Roof ----------

	-------Area (Acres) --------
ROADS/FLAT	0.177
Subbasin Total	0.177

---------- Subbasin : Sidewalk ----------

	-------Area (Acres) --------
SIDEWALKS/FLAT	0.024
Subbasin Total	0.024

---------- Subbasin : Parking Lot ----------

	-------Area (Acres) --------
ROADS/FLAT	0.102
Subbasin Total	0.102

********** **LINK DATA** **********

----------SCENARIO: PREDEVELOPED
Number of Links: 0

********** **LINK DATA** **********

----------SCENARIO: POSTDEVELOPED
Number of Links: 3

Link Name: POC
Link Type: Copy
Downstream Link: None

Link Name: New Infilt Trench Lnk2
Link Type: Infiltration Trench
Downstream Link Name: POC

Trench Type	: Trench at Toe of Embankment
Trench Length (ft)	: 50.00
Trench Width (ft)	: 8.00
Trench Depth (ft)	: 4.00
Trench Bottom Elev (ft)	: 100.00
Trench Rockfill Porosity (%)	: 30.00

Constant Infiltration Option Used
Infiltration Rate (in/hr): 3.19

Link Name: New CAVFS Lnk3
Link Type: Compost Amended Vegetated Filter Strip (CAVFS)
Downstream Link Name: New Infilt Trench Lnk2

Compost Thickness (ft)	: 1.000
Compost Porosity (%)	: 10.000
Compost Hydraulic Conductivity (in/hr)	: 1.000
CAVFS Length (ft)	: 60.000
CAVFS Width (ft)	: 10.000
CAVFS Slope, Z (ft/ft)	: 50.000
Gravel Spreader Width (ft)	: 2.000
Gravel Hydraulic Conductivity (in/hr)	: 2.000
Gravel Porosity (%)	: 30.000
Soil Infiltration Rate (in/hr)	: 3.190

Precipitation and Evaporation Applied to Surface of CAVFS

**********FLOOD FREQUENCY AND DURATION STATISTICS**********

----------SCENARIO: PREDEVELOPED
Number of Subbasins: 1
Number of Links: 0

----------SCENARIO: POSTDEVELOPED
Number of Subbasins: 3

Number of Links: 3

********** **Subbasin: Roof** **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	7.344E-02
5-Year	9.836E-02
10-Year	0.113
25-Year	0.141
50-Year	0.158
100-Year	0.197
200-Year	0.224
500-Year	0.260

********** **Subbasin: Sidewalk** **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	9.958E-03
5-Year	1.334E-02
10-Year	1.527E-02
25-Year	1.917E-02
50-Year	2.146E-02
100-Year	2.669E-02
200-Year	3.040E-02
500-Year	3.530E-02

********** **Subbasin: Parking Lot** **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	4.232E-02
5-Year	5.668E-02
10-Year	6.490E-02
25-Year	8.147E-02
50-Year	9.119E-02
100-Year	0.113
200-Year	0.129
500-Year	0.150

********** Link: POC ********** Link Inflow Frequency Stats
Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	4.299E-06
5-Year	7.654E-06
10-Year	1.195E-05
25-Year	1.574E-05
50-Year	1.783E-05
100-Year	2.086E-02
200-Year	7.796E-02
500-Year	0.153

********** Link: New Infilt Trench Lnk2 ********** Link Inflow Frequency Stats
Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	7.344E-02
5-Year	9.854E-02
10-Year	0.121
25-Year	0.180
50-Year	0.212
100-Year	0.225
200-Year	0.227
500-Year	0.230

********** Link: New Infilt Trench Lnk2 ********** Link Outflow 1 Frequency Stats

Flood Frequency Data(cfs)

(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	4.299E-06
5-Year	7.654E-06
10-Year	1.195E-05
25-Year	1.574E-05
50-Year	1.783E-05
100-Year	2.086E-02
200-Year	7.796E-02
500-Year	0.153

********** Link: New Infilt Trench Lnk2 ********** Link WSEL Stats

WSEL Frequency Data(ft)

(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	WSEL Peak (ft)
1.05-Year	100.242
1.11-Year	100.362
1.25-Year	100.490
2.00-Year	100.860
3.33-Year	101.234
5-Year	101.531
10-Year	102.389
25-Year	103.147
50-Year	103.567
100-Year	103.773

********** Link: New CAVFS Lnk3 ********** Link Inflow Frequency Stats

Flood Frequency Data(cfs)

(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	5.228E-02
5-Year	7.002E-02
10-Year	8.017E-02
25-Year	0.101
50-Year	0.113
100-Year	0.140
200-Year	0.160
500-Year	0.185

********** Link: New CAVFS Lnk3 ********** Link Outflow 1 Frequency Stats

Flood Frequency Data(cfs)

(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	7.626E-06
5-Year	2.481E-05

10-Year	1.451E-02
25-Year	5.353E-02
50-Year	5.920E-02
100-Year	6.808E-02
200-Year	7.172E-02
500-Year	7.654E-02

************Groundwater Recharge Summary ***************
Recharge is computed as input to Perlnd Groundwater Plus Infiltration in Structures

Total Predeveloped Recharge During Simulation

Model Element	Recharge Amount (ac-ft)
Subbasin: Subbasin 1	77.213
Total:	77.213

Total Post Developed Recharge During Simulation

Model Element	Recharge Amount (ac-ft)
Subbasin: Roof	0.000
Subbasin: Sidewalk	0.000
Subbasin: Parking Lot	0.000
Link: POC 0.000	
Link: New Infilt Trench Ln	68.164
Link: New CAVFS Lnk3	53.932
Total:	122.095

Total Predevelopment Recharge is Less than Post Developed
Average Recharge Per Year, (Number of Years= 121)
Predeveloped: 0.638 ac-ft/year, Post Developed: 1.009 ac-ft/year

************Water Quality Facility Data ***************

----------SCENARIO: PREDEVELOPED

Number of Links: 0

----------SCENARIO: POSTDEVELOPED

Number of Links: 3

********** Link: POC **********

2-Year Discharge Rate : 0.000 cfs

15-Minute Timestep, Water Quality Treatment Design Discharge
On-line Design Discharge Rate (91% Exceedance): 0.02 cfs
Off-line Design Discharge Rate (91% Exceedance): 0.02 cfs

Infiltration/Filtration Statistics----------
Inflow Volume (ac-ft): 0.00
Inflow Volume Including PPT-Evap (ac-ft): 0.00
Total Runoff Infiltrated (ac-ft): 0.00, 0.00%
Total Runoff Filtered (ac-ft): 0.00, 0.00%
Primary Outflow To Downstream System (ac-ft): 0.00
Secondary Outflow To Downstream System (ac-ft): 0.00
Volume Lost to ET (ac-ft): 0.00
Percent Treated (Infiltrated+Filtered+ET)/Total Volume: 0.00%

********** Link: New Infilt Trench Lnk2 **********

2-Year Discharge Rate : 0.000 cfs

15-Minute Timestep, Water Quality Treatment Design Discharge
On-line Design Discharge Rate (91% Exceedance): 0.03 cfs
Off-line Design Discharge Rate (91% Exceedance): 0.02 cfs

Infiltration/Filtration Statistics----------
Inflow Volume (ac-ft): 68.16
Inflow Volume Including PPT-Evap (ac-ft): 68.16
Total Runoff Infiltrated (ac-ft): 68.16, 100.00%
Total Runoff Filtered (ac-ft): 0.00, 0.00%
Primary Outflow To Downstream System (ac-ft): 0.00
Secondary Outflow To Downstream System (ac-ft): 0.00
Volume Lost to ET (ac-ft): 0.00
Percent Treated (Infiltrated+Filtered+ET)/Total Volume: 100.00%

********** Link: New CAVFS Lnk3 **********

2-Year Discharge Rate : 0.000 cfs

15-Minute Timestep, Water Quality Treatment Design Discharge
On-line Design Discharge Rate (91% Exceedance): 0.02 cfs
Off-line Design Discharge Rate (91% Exceedance): 0.01 cfs

Infiltration/Filtration Statistics----------
Inflow Volume (ac-ft): 48.50
Inflow Volume Including PPT-Evap (ac-ft): 53.93
Total Runoff Infiltrated (ac-ft): 53.93, 100.00%
Total Runoff Filtered (ac-ft): 0.00, 0.00%
Primary Outflow To Downstream System (ac-ft): 0.03
Secondary Outflow To Downstream System (ac-ft): 0.00
Volume Lost to ET (ac-ft): 0.00
Percent Treated (Infiltrated+Filtered+ET)/Total Volume: 100.01%

**********Compliance Point Results **********

Scenario Predeveloped Compliance Subbasin: Subbasin 1

Scenario Postdeveloped Compliance Link: POC

*** Point of Compliance Flow Frequency Data ***
Recurrence Interval Computed Using Gringorten Plotting Position

Predevelopment Runoff		Postdevelopment Runoff	
Tr (Years)	Discharge (cfs)	Tr (Years)	Discharge (cfs)
2-Year	2.462E-04	2-Year	0.000
5-Year	2.543E-04	5-Year	0.000
10-Year	3.869E-04	10-Year	0.000
25-Year	1.589E-03	25-Year	0.000
50-Year	2.327E-03	50-Year	0.000
100-Year	2.841E-03	100-Year	2.086E-02
200-Year	3.595E-03	200-Year	7.796E-02
500-Year	4.592E-03	500-Year	0.153

** Record too Short to Compute Peak Discharge for These Recurrence Intervals

**** Flow Duration Performance ****

Excursion at Predeveloped 50%Q2 (Must be Less Than or Equal to 0%):	-99.9%	PASS
Maximum Excursion from 50%Q2 to Q2 (Must be Less Than or Equal to 0%):	-98.2%	PASS
Maximum Excursion from Q2 to Q50 (Must be less than 10%):	-30.8%	PASS
Percent Excursion from Q2 to Q50 (Must be less than 50%):	0.0%	PASS

MEETS ALL FLOW DURATION DESIGN CRITERIA: PASS

**** LID Duration Performance ****

Excursion at Predeveloped 8%Q2 (Must be Less Than 0%):	-100.0%	PASS
Maximum Excursion from 8%Q2 to 50%Q2 (Must be Less Than 0%):	-99999.0%	PASS

MEETS ALL LID DURATION DESIGN CRITERIA: PASS
