

Drainage Catchment	Total Drainage Area (Acres)	IID Drain Accepting Runoff <sup>1</sup>	Existing Conditions 100-year Flow Discharges Q=CIA (cfs)
MSSF1, Parcel 1 (North)	393	Geeson Drain	448
MSSF1, Parcel 1 (South)	167	Brockman Drain	190
MSSF1, Parcel 2 (North)	167	Brockman Drain	190
MSSF1, Parcel 2 (South)	206	Geeson Drain	235
MSSF1, Parcel 3	332	Geeson Drain #2	378
MSSF1, Parcel 4	167	Wells Drain	190
CSF1(A)(North)	245	Woodbine Drain	279
CSF1(A)(South)	474	Geeson Drain	540
CSF1(B)(North)	166	Wells Drain	189
CSF1(B)(South)	446	All American Drain #3	508
CSF2(A)(North)	293	Wisteria Drain	334
CSF2(A)(South)	646	Brockman Drain	736
CSF2(B)	524	Wisteria Drain	597

Proposed Conditions 100-year Flow Discharges Q=CIA (cfs)	Difference Proposed - Existing (cfs)	% Increase
577	129	22
253	62	25
244	54	22
302	67	22
486	108	22
253	62	25
368	89	24
694	154	22
251	62	25
654	146	22
437	103	24
947	211	22
777	179	23

Figure 819.2A

### Runoff Coefficients for Undeveloped Areas Watershed Types

	Extreme	High	Normal	Low
Relief	.28 -.35 Steep, rugged terrain with average slopes above 30%	.20 -.28 Hilly, with average slopes of 10 to 30%	.14 -.20 Rolling, with average slopes of 5 to 10%	<b>.08 -.14</b> 0.09 Relatively flat land, with average slopes of 0 to 5%
Soil Infiltration	.12 -.16 No effective soil cover, either rock or thin soil mantle of negligible infiltration capacity	<b>.08 -.12</b> 0.08 Slow to take up water, clay or shallow loam soils of low infiltration capacity, imperfectly or poorly drained	.06 -.08 Normal; well drained light or medium textured soils, sandy loams, silt and silt loams	.04 -.06 High; deep sand or other soil that takes up water readily, very light well drained soils
Vegetal Cover	.12 -.16 No effective plant cover, bare or very sparse cover	.08 -.12 Poor to fair; clean cultivation crops, or poor natural cover, less than 20% of drainage area over good cover	.06 -.08 Fair to good; about 50% of area in good grassland or woodland, not more than 50% of area in cultivated crops	<b>.04 -.06</b> 0.04 Good to excellent; about 90% of drainage area in good grassland, woodland or equivalent cover
Surface Storage	.10 -.12 Negligible surface depression few and shallow; drainageways steep and small, no marshes	<b>.08 -.10</b> 0.09 Low; well defined system of small drainageways; no ponds or marshes	.06 -.08 Normal; considerable surface depression storage; lakes and pond marshes	.04 -.06 High; surface storage, high; drainage system not sharply defined; large flood plain storage or large number of ponds or marshes
Given	An undeveloped watershed consisting of; 1) rolling terrain with average slopes of 5%, 2) clay type soils, 3) good grassland area, and 4) normal surface depressions.		Solution: Relief                      0.14 0.09 Soil Infiltration        0.08 0.08 Vegetal Cover         0.04 0.04 Surface Storage <u>0.06</u> <u>0.09</u> C= 0.32 0.30	
Find	The runoff coefficient, C, for the above watershed.			

For 100-year event  $C=1.25 \times 0.30 = 0.38$