

Appendix E

Runoff and Sediment Reductions at North Huntsville Industrial Park

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The attached tables and figures present the volume and sediment reductions expected for the conservation design stormwater program at the North Huntsville Industrial Park, compared to conventional development. The base and controls conditions for each of the four subareas are summed and the total site runoff calculated. Areas A and B show higher levels of control than areas C and D due to the presence of the large drainage swales.

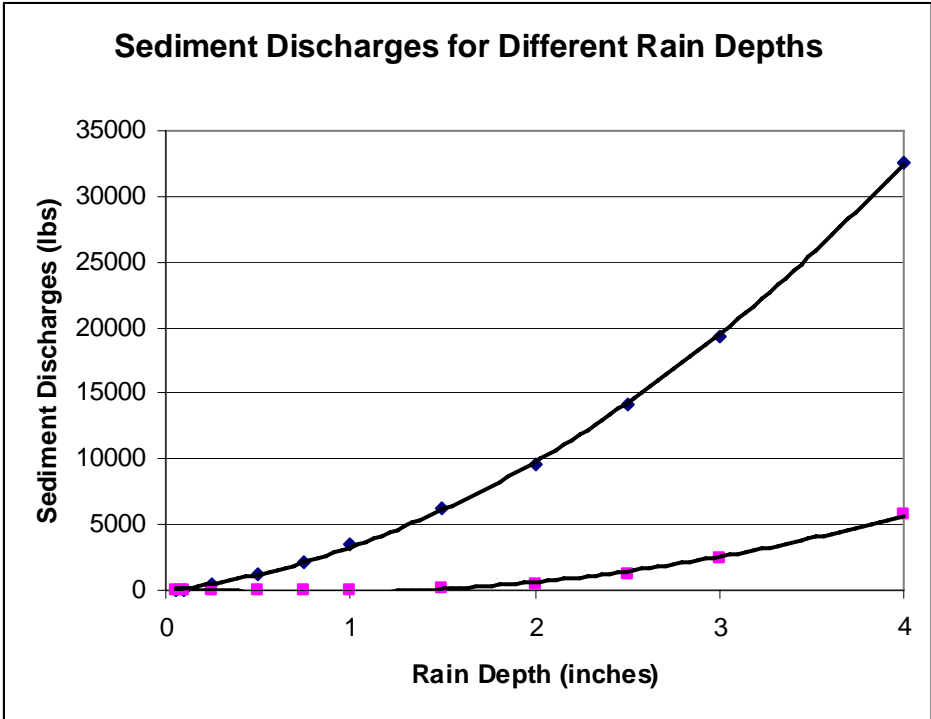
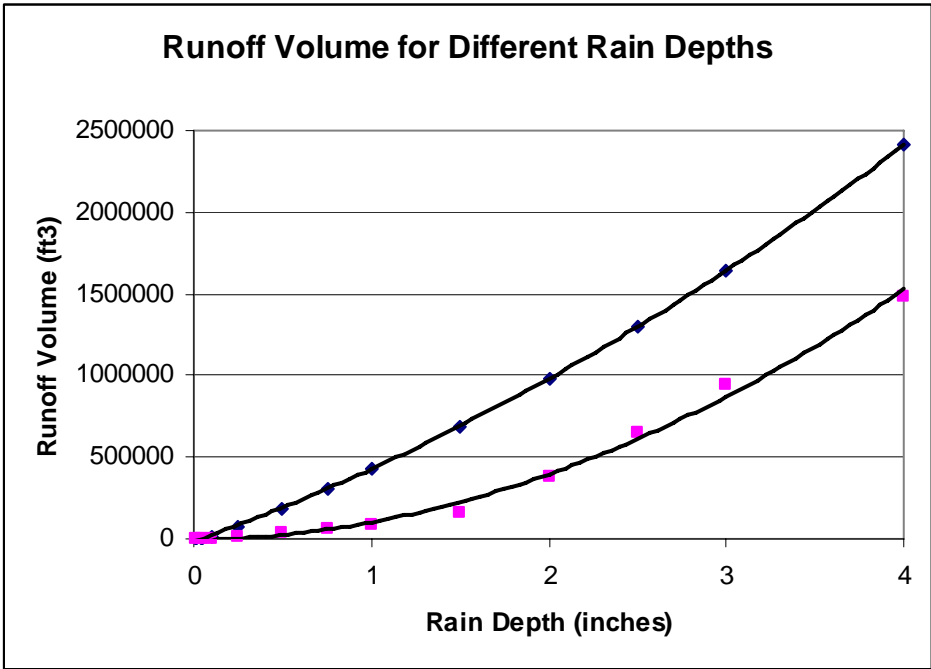
Runoff Volume (ft ³)					
Rain Depth (inches)	Base A	Base B	Base C	Base D	Total Runoff (ft ³)
0.01	20	21	11	48	100
0.05	564	592	368	2378	3902
0.10	2404	2525	1489	8588	15006
0.25	17140	16008	8084	35926	77158
0.50	44423	40427	19888	85155	189893
0.75	73538	66113	32226	137125	309002
1.0	102694	91289	44212	188555	426750
1.5	166124	146091	70606	306389	689210
2.0	238572	206076	98745	433152	976545
2.5	325907	273640	129030	572093	1300670
3.0	420180	345823	161121	719385	1646509
4.0	637535	503505	228764	1040278	2410082

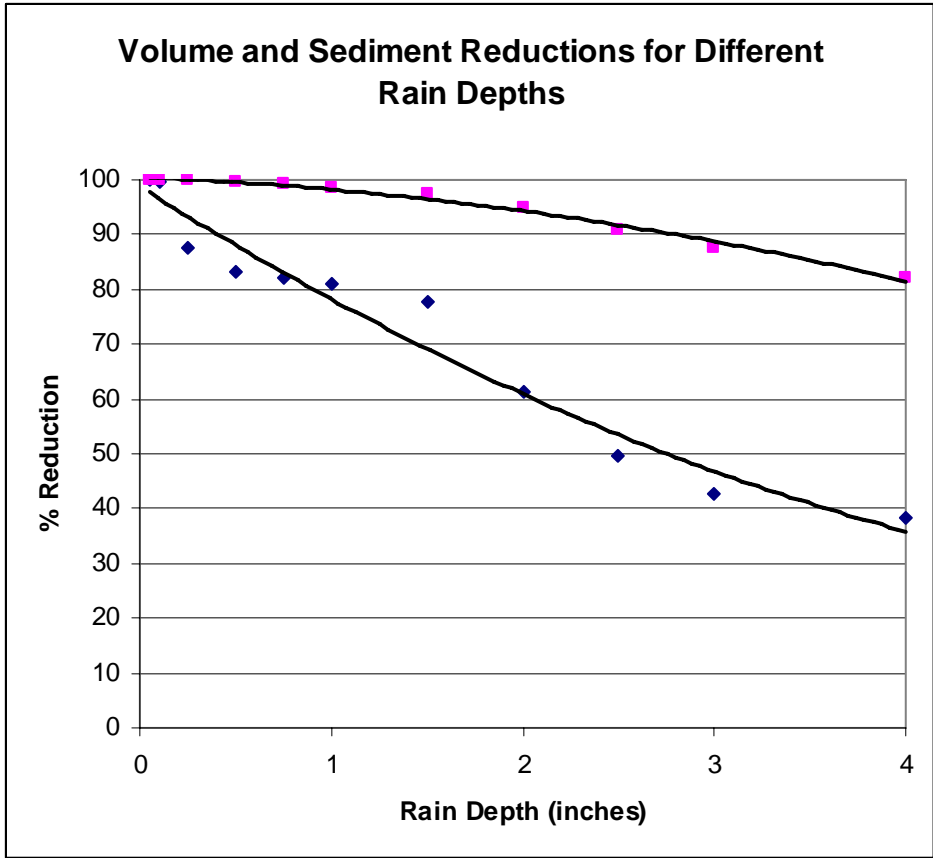
Runoff Volume (ft ³)					
Rain Depth (inches)	Controls A	Controls B	Controls C	Controls D	Total Runoff (ft ³)
0.01	0	0	0	0	0
0.05	0	0	0	0	0
0.10	0	0	0	50	50
0.25	0	0	0	9562	9562
0.50	0	0	1145	30402	31547
0.75	0	0	4433	51365	55798
1.0	0	0	4718	76589	81307
1.5	0	0	13573	140217	153790
2.0	60684	81299	26807	209538	378328
2.5	163975	154200	39409	297367	654951
3.0	260714	227463	50976	404368	943521
4.0	432899	380314	68078	604983	1486274

Sediment Discharges (lbs)					
Rain Depth (inches)	Base A	Base B	Base C	Base D	Sediment Discharges (lbs)
0.01	0	0	0	0	0
0.05	0	0	0	1	1
0.10	1	1	1	6	9
0.25	134	73	25	158	390
0.50	423	237	82	509	1251
0.75	723	412	148	914	2197
1.0	1152	657	237	1477	3523
1.5	2107	1183	416	2584	6290
2.0	3327	1830	619	3806	9582
2.5	5039	2724	892	5462	14117
3.0	6939	3714	1207	7528	19388
4.0	11924	6307	1998	12354	32583

Sediment Discharges (lbs)					
Rain Depth (inches)	Controls A	Controls B	Controls C	Controls D	Sediment Discharges (lbs)
0.01	0	0	0	0	0
0.05	0	0	0	0	0
0.10	0	0	0	0	0
0.25	0	0	0	0	0
0.50	0	0	0	3	3
0.75	0	0	0	18	18
1.0	0	0	0	49	49
1.5	0	0	3	165	168
2.0	37	115	11	342	505
2.5	274	335	23	638	1270
3.0	626	627	39	1116	2408
4.0	1788	1507	85	2401	5781

Rain Depth (inches)	% volume reduction	% sediment reduction
0.05	100	100
0.10	100	100
0.25	88	100
0.50	83	100
0.75	82	99
1.0	81	99
1.5	78	97
2.0	61	95
2.5	50	91
3.0	43	88
4.0	38	82





note: top curve for sediment discharges and bottom curve for runoff volume

