APPENDICIES

Sub Basin	AREA		Av. Slope	Av. Exist. CN	Av. Pot. CN AMC	Tc' hrs.	Tp' hrs.	FLOW - cfs		Tb hrs.
	Ac.	Sq.Mi.						5 Yr.	100 Yr.	
1-A	1303	2.04		64	3 81	.541		858	2372	
1-B	815	1.27		63	3 80	.473		497	1524	
1-C	343	0.54		60	3 78	.538		176	561	
1-D	1186	1.85		60	3 78	.778		462	1580	
1-E	1210	1.89		61	2	.779		302	899	
1-F	672	1.05		59	3 77	.569		269	1011	
1-G	465	0.73		61	2	.581		115	403	
1-H	619	0.97		63	2	.408		182	683	
1-J	586	0.92		65	2	.376		223	750	
2-K	615	0.96		61	3 78	.463		262	1020	
2-L	1020	1.59		60	3 78	.560		365	1524	
2-M	1096	1.71		59	2	.662		232	782	
2-N	385	0.60		60	2	.466		85	333	
2-O	791	1.24		62	3 79	.422		384	1417	
2-P	1078	1.68		60	3 78	.585		372	1558	
2-R	590	0.92		60	2	.464		131	512	
2-S	476	0.74		62	2	.296		129	546	
2-T	526	0.82		64	2	.479		127	571	

HYDROLOGIC DATA SHEET 1 OF 3
APPENDIX A
INDIVIDUAL BASIN RUNOFF

LINCOLN DeVORE ENGINEERS · GEOLOGISTS
COLORADO: COLORADO SPRINGS, PUEBLO, GLENWOOD SPRINGS, GRAND JUNCTION, MONTROSE, WYOMING: ROCK SPRINGS

Sub Basin	AREA		Av. Slope	Av. Exist. CN	Av. Pot. CN	Tc' hrs.	Tp' hrs.	FLOW - cfs		Tb hrs.
	Ac.	Sq.Mi.						5 Yr.	100 Yr.	
$3\text{-}A_1$	125	0.20		68	74	.410		46	144	
$3\text{-}A_2$	148	0.23		68	70	.417		70	192	
$3\text{-}B_1$	93	0.15		76	81	.210		93	238	
$3\text{-}B_2$	65	0.10		77	81	.240		59	151	
$3\text{-}B_3$	91	0.14		79	82	.205		100	248	
$3\text{-}C_1$	69	0.11		82	87	.176		100	229	
$3\text{-}C_2$	45	0.07		84	86	.166		74	166	
$3\text{-}C_3$	60	0.09		77	84	.272		55	132	
$3\text{-}D_1$	131	0.21		84	88	.312		141	397	
$3\text{-}D_2$	87	0.14		83	86	.402		83	294	
3-E	64	0.10		86	86	.215		86	263	
3-F	172	0.27		68	70	.485		68	215	
$3\text{-}G_1$	177	0.28		69	72	.560		87	230	
$3\text{-}G_2$	202	0.32		74	78	.486		108	361	
3-H	283	0.44		72	75	.595		101	390	
3-J	134	0.21		72	75	.278		61	318	
3-K	103	0.16		72	76	.374		52	198	
3-L	67	0.11		84	86	.300		79	205	
3-M	107	0.17		76	84	.502		87	255	
3-N	196	0.31		90	92	.392		195	766	

HYDROLOGIC DATA SHEET 2 OF 3
APPENDIX A
INDIVIDUAL BASIN RUNOFF

Sub Basin	AREA		Av. Slope	Av. Exist. CN	Av. Pot. CN AMC	Tc' hrs.	Tp' hrs.	FLOW - cfs		Tb hrs.
	Ac.	Sq.Mi.						5 Yr.	100 Yr.	
4-A	317	0.50		70	72	.322		126	486	
4-B	441	0.69		70	72	.424		151	677	
4-C	103	0.16		76	78	.348		55	285	
4-D	158	0.25		79	81	.500		98	399	
4-E	130	0.20		70	76	.332		73	242	
4-F	182	0.28		70	74	.582		67	242	
4-G	156	0.24		78	80	.457		99	323	
$4\text{-}H_1$	136	0.21		83	87	.231		136	485	
$4\text{-}J_1$	60	0.09		90	94	.271		74	278	
$4\text{-}J_2$	89	0.14		80	82	.332		60	249	
4-K	102	0.16		80	84	.470		63	263	
$4\text{-}L_1$	193	0.30		79	84	.478		183	424	
$4\text{-}L_2$	109	0.17		76	82	.425		76	188	
4-M	63	0.10		82	84	.267		60	192	
4-N	144	0.22		84	86	.482		129	345	
4-O	313	0.49		79	84	.686		186	551	

HYDROLOGIC DATA SHEET 3 OF 3
APPENDIX A
INDIVIDUAL BASIN RUNOFF

Sub Basin	Pt.	AREA Ac.	AREA Sq.Mi.	Av. Slope	Av. Exist. CN	Av. Pot. CN	Tc hrs.	Tpo hrs.	FLOW - cfs 5 Yr.	FLOW - cfs 100 Yr.	Tb hrs.
1 A,B	1	2118	3.31	.256				3.25	1354	3896	
1 +D	2W	3304	5.16	.098					1486	4273	
1 +C	2	3647	5.70	.210				3.50	1598	4749	
1 +E	4N	4857	7.59	.181				3.75	1525	4868	
1 F,G	4S	1137	1.78	.271				3.50	258	1158	
1 combine all	4	5994	9.37					3.75	1735	5845	
1 +H	5	6613	10.33	.072				4.00	1685	5775	
1 +J	12 N	7199	11.25	.060				4.25	1650	5590	
2 K,L	7	1635	2.55	.206				3.25	579	2014	
2 +M	8	2731	4.27	.096				3.50	543	2253	
2 +N	11 N	3116	4.87	.083				3.75	540	2327	
2 O,P	10 W	1869	2.92	.217				3.50	690	2430	
2 +R	10	2459	3.84	.321				3.50	712	2754	
2 +S	11 S	2935	4.59	.069				3.75	675	2821	
2 combine all	11	6051	9.45					3.75	1197	4807	
2 +T	12 S	6577	10.28	.111				4.00	1173	4691	
combine 1&2	12	13776	21.53					4.25	2680	10119	

HYDROLOGIC DATA SHEET 1 OF
APPENDIX B
ACCUMULATIVE RUNOFF

LINCOLN DeVORE ENGINEERS · GEOLOGISTS
COLORADO: COLORADO SPRINGS, PUEBLO, GLENWOOD SPRINGS, GRAND JUNCTION, MONTROSE, WYOMING: ROCK SPRINGS

Sub Basin	Pt	AREA Ac.	AREA Sq.Mi.	Av. Slope	Av. Exist. CN	Av. Pot. CN	Tc hrs.	Tpo hrs.	FLOW - cfs 5 Yr.	FLOW - cfs 100 Yr.	Tb hrs.
3 G1,G2	13 W	14,155	22.12	.026				4.5	2568	9710	
3 +F	13	14,327	22.39					4.5	2576	9731	
3 +H	14	14,610	22.83	.021				4.75	2396	9164	
3 +J	15	14,744	23.04	.018				4.90	2342	8978	
3 +K	19 S	14,847	23.20	.015				5.00	2308	8870	
3 A1	16 A	125	0.20	.194				1.75	46	144	
3 B1	17 C	218	0.34	.041				1.75+	122	323	
3 A2	16 B	148	0.23	.188				1.75	70	192	
3 +B2	17 C	213	0.33	.039				1.75+	113	293	
combine A&B	17 C	704	1.10					1.75+	235	616	
3 +B-3	17 W	795	1.24	.033				1.90	287	727	
3 C1, C2,C3	17 A	174	0.27	.032				1.75	188	422	
combine 3-ABC	17	969	1.51					1.75+	468	1145	
3 +D2	18 W	1056	1.65	.021				2.00	497	1310	
3 +D1	18	1187	1.85					2.10	572	1492	
3 +E	19 N	1251	1.95	.017				2.25	546	1495	
combine 3 all	19	16,098	25.15					5.00	2359	9017	
3 +L	20 S	16,165	25.26	.012				5.25	2332	8963	
3 +N	20	16,361	25.56	.011				5.25	2335	8989	

HYDROLOGIC DATA SHEET 2 OF
APPENDIX B
ACCUMULATIVE RUNOFF

LINCOLN DeVORE ENGINEERS · GEOLOGISTS
COLORADO: COLORADO SPRINGS, PUEBLO, GLENWOOD SPRINGS, GRAND JUNCTION, MONTROSE,
WYOMING: ROCK SPRINGS

Sub Basin	Pt	AREA Ac.	AREA Sq.Mi.	Av. Slope	Av. Exist. CN	Av. Pot. CN	Tc hrs.	Tpo hrs.	FLOW - cfs 5 Yr.	FLOW - cfs 100 Yr.	Tb hrs.
4 A	30	317	0.50	.368				1.70	126	486	
4 +B	31	758	1.18	.045				1.75	258	1149	
4 +C	32 W	861	1.35	.033				2.00	294	1214	
4 E	32 A	130	0.20	.199				1.75	73	242	
4 +F	32 S	312	0.49	.025				2.00	127	418	
4 combine all	32	1173	1.83					2.00	421	1632	
4 +D	33 W	1331	2.08	.021				2.05	499	1918	
4 Res spring run	33	1331	2.08	spillway				2.50	258	965	
4 Lake Ave.		1379	2.15	.031				3.00	119	834	
4 +G,H	34	1623	2.54	.030				4.25	134	387	
4 Pond 3	35 W	1623	2.54	.035				6.50	131	351	
4 +J1	35	1683	2.63	.019				6.50	135	351	
4 +J2	36	1772	2.77	.013				1.75	138	465	
4 Mini	38 W	1780	2.78	.012				2.00	137	486	
4 +L1	38	1973	3.08	.008				2.00	298	785	
4 +K	37 S	2067	3.23	.005				1.75	318	972	
4 +O	37	2380	3.72	.006				1.75	475	1523	

HYDROLOGIC DATA SHEET 3 OF
APPENDIX B
ACCUMULATIVE RUNOFF

Footnotes to Cost Analysis, Individual Costs on Inventory Sheets, Appendices C, E, & F

1. Estimated cost is all Developer Basin Cost.
2. Estimated cost is all Direct Basin Cost.
3. Estimated cost is all State Basin Cost.
4. 4% of estimate is Developer Basin cost. Balance is Direct Basin Cost.
5. 11% of estimate is Developer Basin cost. Balance is Direct Basin Cost.
6. 14% of estimate is Developer Basin cost. Balance is Direct Basin Cost.
7. 15% of estimate is Developer Basin cost. Balance is Direct Basin Cost.
8. 16% of estimate is Developer Basin cost. Balance is Direct Basin Cost.
9. 53% of estimate is Developer Basin cost. Balance is Direct Basin Cost.

10A. 76.7% of estimate is Developer Basin cost. Balance is Direct Basin Cost.

10B. 79.75% of estimate is Developer Basin cost. Balance is Direct Basin Cost.

10C. 89.13% of estimate is Developer Basin cost. Balance is Direct Basin Cost.

10D. 57.78% of estimate is Developer Basin cost. Balance is Direct Basin Cost.

10E. 96.71% of estimate is Developer Basin cost. Balance is Direct Basin Cost.

10F. 86.03% of estimate is Developer Basin cost. Balance is Direct Basin Cost.

10G. 72.23% of estimate is Developer Basin cost. Balance is Direct Basin Cost.

10H. 90.18% of estimate is Developer Basin cost. Balance is Direct Basin Cost.

10I. 85.70% of estimate is Developer Basin cost. Balance is Direct Basin Cost.

10J. 76.76% of estimate is Developer Basin cost. Balance is Direct Basin Cost.

10K. 86.21% of estimate is Developer Basin cost. Balance is Direct Basin Cost.

10L. 73.72% of estimate is Developer Basin cost. Balance is Direct Basin Cost.

10M. 94.00% of estimate is Developer Basin cost. Balance is Direct Basin Cost.

11. Estimated cost of storm warning system = $78,000. This was prorated on a per foot basis through Direct Basin Costs, items C & E.

Footnote Numbers are indicated in the right corner of the last column of Appendices C, E & F

LINCOLN DeVORE ENGINEERS GEOLOGISTS
COLORADO: COLORADO SPRINGS
GRAND JUNCTION, PUEBLO,
GLENWOOD SPRINGS
WYOMING: EVANSTON

Sub Basin	LOCATION		Length of Run	EXISTING					REQUIRED (full devel.)					Notes & Est. Cost $
	From	To		Bottom Width b-ft.	Top Width	Total Depth d-ft.	R/W ft.	cpy. flow cfs	Flow-cfs 5 Yr.	Flow-cfs 100 Yr.	Bottom Width b-ft	Depth d-ft	R/W ft	
3-G	Point 12	12+1850	1850	Nat. Stream	54'	7.7	None	6130	2680	10119				
3-G	12+1850	Mayhurst	990	Nat. Stream	30'	8.6	None	3215	2630	9909				
3-G	Mayhurst	Stratton	650	Nat. Stream	16'	6.5	None	1375	2600	9849				
3-G	Stratton	Cresta	1440	Nat. Stream	48'	11.7	None	6880	2576	9731				
$3\text{-}G_1$	Road "E"	Road "F"	620	Nat. Stream	35'	3.5	None	1062	22	58	2	3	28	Conc. lined 24,400 1
3-F	"A" Road	"E" Road	1580	Nat. Stream	62'	6	None	3126	49	148	4	3	30	Conc. lined 95,800 1
3-F	"E" Road	Cheyenne Blvd	1610	Nat. Stream	56'	5	None	3280	76	210	5	3	30	Conc. lined 100,200 1
3-F	Cheyenne Blvd	Cresta	600	Nat. Stream	62'	3.5	None	1158	79	215	6	3	32	Conc. lined 49,200 1
3-H	Cresta	Alsace	5720	Nat. Stream	38'	6.4	None	2032	2396	9164				
3-J	Alsace	Woodburn	2150	Nat. Stream	45'	5.8	None	2066	2358	9033				
3-J	Woodburn	Cheyenne Road	380	Nat. Stream	24'	5	None	1198	2342	8978				
3-K	Cheyenne Road	Cascade	180	Nat. Stream	24'	5.9	None	1427	2338	8965				4' drop of Bridge (exist) 8,200 2
3-K	Cascade	St. Elmo	730	Nat. Stream	23'	8	None	1726	2330	8940				
													R/W 3.1 Ac.	(this sheet)

HYDROLOGIC DATA SHEET 1 OF 6

APPENDIX C DITCH & STREAM INVENTORY-Main Streams

LINCOLN DeVORE ENGINEERS · GEOLOGISTS

COLORADO: COLORADO SPRINGS, PUEBLO, GLENWOOD SPRINGS, GRAND JUNCTION, MONTROSE, WYOMING: ROCK SPRINGS

Sub Basin	LOCATION			EXISTING					REQUIRED (full devel.)					Notes & Est. Cost $
	From	To	Length of Run	Bottom Width b-ft.	Top Width	Total Depth d-ft.	R/W ft.	cpy. flow cfs	Flow-cfs 5 Yr.	Flow-cfs 100 Yr.	Bottom Width b-ft	Depth d-ft	R/W ft	
3-K	St. Elmo	Ramona	650	Nat. Stream	47	6.1	None	1311	2317	8895				
3-K	Ramona	Jct. Point 19	380	Nat. Stream					2308	8870				
3-L	Jct. Point 19	Navajo	330	Nat. Stream	53	8.5	None	3841	2359	9017				
3-L	Navajo	Brookside	380	Nat. Stream	28	9.2	None	3236	2332	8990				
3-L	Brookside	Arvada	565	Nat. Stream	43	6.8	None	2807	2333	8963				
3-L	Arvada	I-25 Out-Fall Tube	370	Nat. Stream	66	12.8	None	7868	2335	8989				

Sub Basin	LOCATION		Length of Run	EXISTING					REQUIRED (full devel.)					Notes & Est. Cost $
	From	To		Bottom Width b-ft.	Top Width	Total Depth d-ft.	R/W ft.	cpy. flow cfs	Flow-cfs 5 Yr.	Flow-cfs 100 Yr.	Bottom Width b-ft	Depth d-ft	R/W ft	
3-A-1	"A" Road	21st St.	2090	Nat. Stream	57	5	None	3439	46	144	Split above school 4	3	28	Conc. lined 168,900 1
3-B-1	21st St.	"B" Road	960	Nat. Stream	48	5.5	None	2088	56	160	4	3	30	Conc. lined 92,400 1
3-B-1	"B" Road	Mercury	1150	Nat. Stream	58	9.5	None	4570	76	262	5	3	30	Conc. lined 143,700 1
3-A-2	"D" Road	"A" Road	2820	Nat. Stream	62	7.8	None	7114	28	94	3	3	28	Conc. lined 306,700 1
3-A-2	"A" Road	1050' West 21 st St.	1820	Nat. Stream	78	2.6	None	1803	32	108	4	3	30	Conc. lined 143,500 1
3-A-2	"D" Road	"A" Road	990	Nat. Stream	60	2.3	None	286	25	86	2	2	30	Included above
3-C-3	Parkview	450' N. of Arcturus	1010	Nat. Stream	110	1	None	122	100	229	6	3	32	Conc. lined 80,500 6
3-C-3	450' N of Arcturus	Arcturus	450	Nat. Stream	50	2	None	292	168	375	8	3	34	Conc. lined 42,400 6
3-B-3	Arcturus	480' S. of Arcturus	480	Nat. Stream	64	3.5	None	700	188	422	6	4	34	Conc. lined 46,900 5
3-B-3	Arcturus	8th St.	450	Nat. Stream	29	9.4	None	1564	468	1145	6	5	38	Conc. lined 49,900 5
3-D-2	LaClede	Loraine	1220	Nat. Stream	36	9.9	None	3278	497	1310	9	6	44	R/W (This sheet) 12.2 Ac. Conc. lined 150,200 2
3-E	Loraine	Arbor	1020	Nat. Stream	53	15.2	None	6950	508	1495	No Change		44	Not required for flow
3-E	Arbor	Woodburn	780	Nat. Stream	35	12	None	8276	516	1495	No Change		44	Conc. lined
3-E	Woodburn	Cascade	760	Nat. Stream	42	12.9	None	8081	540	1495	No Change		44	Conc. lined
3-E	Cascade	Tejon	240	Nat. Stream	30	16.1	None	9976	546	1495	No Change		44	Conc. lined
3-E	Tejon	Jct. Point 19	415	Nat. Stream					546	1495	No Change		44	Concrete section E. Bridge Conc. lined

Sub Basin	LOCATION			EXISTING					REQUIRED (full devel.)					Notes & Est. Cost $
	From	To	Length of Run	Bottom Width b-ft.	Top Width	Total Depth d-ft.	R/W ft.	cpy. flow cfs	Flow-cfs 5 Yr.	Flow-cfs 100 Yr.	Bottom Width b-ft	Depth d-ft	R/W ft	
4-C	Golf Course		550	Nat. Stream	90	3	None	927	258	1149	No Change			Private
4-C	Walnut	Fifth (Point 32)	3030	Nat. Stream	20	6	None	960	294	1214	10	4.5	44	Riprap lined 2 192,700
4-D	Fifth (Point 32)	Old Broadmoor Road	720	Nat. Stream	96	7.5	None	6427	421	1632	No Change		56	
4-D	Old Broadmoor Road	Spring Run #2	760	Nat. Stream	33	5.5	None	2983	499	1918	No Change		56	
4-E	PT 32A 1300'	Marland Rd (Point 32A)	1300	Nat. Stream	150	4.0	None	4973	73	242	No Change		32	Leave in native Condition
4-F	Marland (Pt 32A)	Jct.	1130	Nat. Stream	185	5.2	None	9748	108	356	No Change		34	Leave in native Condition-Restrict
4-F	Junction	Cheyenne Mtn Road	1680	Nat. Stream	185	5.2	None	9748	108	356	12	3	40	Riprap- 8 197,680
4-H	Spring Run #2	Spillway	400	45	53	5	?	1505 @ 3.5'	258	965	No Change			Leave spillway in Present condition
4-H	Spillway	(Pond 1) Lake Ave	1240	Nat. Stream	16.4	4.7	?	315	262	978	No Change			Back up area-ditch not representative
4-H	Lake Ave	(Pond 2) Hwy 115	760	Nat. Stream	54.3	10.6	Hwy R/W	4118	119	834	No Change			Back up area
4-G	Old Broadmoor Road	Point 34A	1220	Nat. Stream	112'	8.3	None	12750	99	323	No Change		34	At Sycamore - 100'+ West
4-H	Haney	Strickler	880	Nat. Stream	68'	4	None	1801	28	92	No Change		28	
4-J1	Hwy 115	Old Hwy 85 (Pond 3)	475	Nat. Stream	56.1	10.1	Hwy R/W	4781	134	387	No Change			Back up area Entry to J-1 Culvert
														R/W-(this sheet-9.6 ac) Pond 1- 6.2 Ac. Pond 3.1 Ac. Pond 2 12.3 Ac.

Sub Basin	LOCATION			EXISTING					REQUIRED (full devel.)					Notes & Est. Cost $
	From	To	Length of Run	Bottom Width b-ft.	Top Width	Total Depth d-ft.	R/W ft.	cpy. flow cfs	Flow-cfs 5 Yr.	Flow-cfs 100 Yr.	Bottom Width b-ft	Depth d-ft	R/W ft	
4-J2	Southgate	Bend in Cheyenne Road	870	7	15	3.5	15	461	135	351	8	3.5	38	Conc. lined 90,800 7
4-J2	Bend in Cheyenne Road	Mt. Werner Cul.	490	8	8	3.5	8	290	136	386	8	3.5	38	Conc. lined 55,600 7
4-J2	Mt. Werner Cul.	Mt. Werner	1710	Nat. Stream	19	2.9	None	217	137	421	10	3.5	40	Conc. lined 173,800 7
4-J2	Mt. Werner	Point 36	610	6	13.9	3.5	None	618	138	465	No Change		Easem.	Conc. ditch
4-J2	Mt. Werner Terrace	Point 36	175	8	8	1.5	None	130	21	56	No Change		Easem.	Conc. ditch
4-K	Cheyenne Road	Point 38	960	5'	15.4	5.0	15.4	1126	138	486	Ok-in place		32	Conc. ditch
4-L	Dustry	Point 38	1010	Borrow Ditch	62	3	Hwy.	792	62	145	3'	3'	30'	Conc. ditch 2-dior-1(85'-24" RCP 7 109,800
4-K	Point 38	Point 37	1530	Borrow Ditch	88	4.5	Hwy.	1128	318	972	6'	5'	Hwy	Borrow ditch Conc. lined 7 137,000
4-O	Arvada	Point 39	4000	Borrow Ditch	80	4.0	Hwy.	1070	186	547	12'	3'	Hwy	Borrow ditch earth lined 3 121,100
4-O	Point 39	Point 37	1090	Borrow Ditch	48	2.5	Hwy.	406	186	547	12'	3.5	Hwy	Borrow ditch Conc. lined 3 118,500
4-O	Cheyenne Road	Point 39	300	4.0	20	2.0	None	433	133	397			24"	Replace with Storm Sewer See Storm sewer
													R/W	(this sheet)-4.8Ac.

HYDROLOGIC DATA

APPENDIX C

DITCH & STREAM INVENTORY

Sub Basin	LOCATION		Length of Run	EXISTING					REQUIRED (full devel.)					Notes & Est. Cost $
	From	To		Bottom Width b-ft.	Top Width	Total Depth d-ft.	R/W ft.	cpy. flow cfs	Flow-cfs 5 Yr.	Flow-cfs 100 Yr.	Bottom Width b-ft	Depth d-ft	R/W ft	
4-L1	Southgate	Shaw	1100	2	8	2	North Borrow	137	20	49	4	2.5	Hwy.	Conc. lined 3 29,600
4-L1	Slater	Hancock +	880	0	18	1.5	North Borrow	186	26	65	8	2.5	Hwy.	Conc. lined 3 33,400
4-L1	School	Slater	800	2	6	2	North Borrow	122	24	60	No Change		Hwy.	
4-L2	Southgate	100' East	100	4	8	1.5	South Borrow	634	32	78	No Change		Hwy.	
4-L2	Near Southgate	W. Tenderfoot	1570	4	18	3.5	South Borrow	408	46	136	No Change		Hwy.	
4-L2	W. Tenderfoot	Slater	620	10	15	1.5	South Borrow	135	52	140	10	2.5	Hwy.	Conc. lined 3 25,800
4-L2	Slater	Hancock	400	a/c 0	20	1	South Borrow	81	63	178	12	2.0	Hwy.	Conc. lined 3 14,100
4-L2	Hancock	Venetucci	1060	8	14	2	South Borrow	142	76	224	18	2.5	Hwy.	Conc. lined 3 49,600
4-N	N. Janitell	Garden Valley	430	3	5	1	North Circle drain	203	20	47	3	2.0	Hwy.	Conc. lined 3 21,700

LOCATION			EXISTING			REQUIRED		
Sub Basin	Near Point	Street	Type of Structure	Flow-cfs 5 Yr.	Flow-cfs 100 Yr.	Equiv. Type Structure Required	Comment	Est. Cost
3-A1	16A	"A" Street	None	11	34	36"Ø RCP	45-60° wingwalls L=80'	1 5,340
3-A1	16A	"A" Street	None	20	62	42"Ø RCP	45-60° wingwalls L=80'	1 6,880
3-A2	16B	"D" Street	None	23	64	48"Ø RCP	wingwalls or head L=70'	1 7,680
3-A2	16B	"A" Street	None	47	128	54"Ø RCP	45-60° wingwalls L=80'	1 10,360
3-A2	16B	"C" Street	None	49	134	60"Ø RCP	45-60° wingwalls L=80'	1 11,840
3-B1	16A	21st Street	108" CMP	46	144	No Change		
3-B1	16A	"B" Street	None	27	63	6'X6' RCB	45-60° wingwalls L=10'	1 24,660
3-B2	16B	21st Street	36"x45"CMP	70	192	43x60 RCP	45-60° wingwalls L-120'	
3-B2	17C	Jupiter Dr	in/out CB-2 10" CMP			No change in pipe	Bypassed by storm sewer	
3-B3	17C	Saturn Dr.	in/out CB-2			No Change	See storm sewers	
3-B3	17A	Arcturus Dr	Entry xing 4-18"x32"CMP			No Change	South side Drive crossings	
3-B3	17A	Arcturus Dr	Entry xing 30" CMP			No change	North side Drive crossings	
3-C1	17B	Skyway Blvd	4'CB+50'Grate 14x22 CMP	100	229	48"x76" RCP	Ditch Entry	9 28,590
3-C3	17A	Arcturus Dr	1-CB-1.2x2.5' 1-CB-2x3' 18"CMP			No change	North side L=-410'	
3-C3	17A	Arcturus Dr	Headwall 3-36" CMP	188	422	3-54" RCP	45-60° wingwalls L-110'	6 41,110
3-D1	17	8th Street	72"CMP	468	1145	Enlarge to RCB	L=90'	
3-D1	17	Main Stream Apache	96" CMP	479	1208	No change in pipe	Transition to RCB L=20'	
3-D1	17	8th Street	72" CMP	468	1145	2-RCB 2-6x14 RCB	60° wingwalls See sulverts*	5 91,150

LOCATION			EXISTING			REQUIRED		
Sub Basin	Near Point	Street	Type of Structure	Flow-cfs 5 Yr.	Flow-cfs 100 Yr.	Equiv. Type Structure Required	Comment	Est. Cost
3-D1	18	Lorraine	Steel Frame 9.1'x 19	497	1310	No Change	Existing Bridge Large Enough	
3-D1	18	Lorraine	3-CB-4' 12" CMP			No Change	Pickup for Bridge L=100'	
3-D1	18	LaClede	108"CMP	479	1208	No Change in pipe	Outfall to stream L=60'	
3-D2	17	8th & Oxford	2-18" CB 16" CMP	36	130	No Change pipe	Convert to inlet	
3-D2	17	8th & Oxford	2-24" CB 30" CMP	36	130	No Change	Extends to Ditch*	
3-E	18	Arbor Way	Steel Frame 12.6'x 20	573	1493	No Change	Existing Bridge Large Enough	
3-E	18	Woodburn St.	2-110"CMP	559	1494	8x16 RCB	45-60° wingwalls	50,632 [5]
3-E	19	Cascade Ave	Conc. Arch 10'hx 19	546	1495	No Change	Existing Bridge Close Enough	
3-E	19	Tejon St.	Concrete 14'x20'	546	1495	No Change	Existing Bridge Close-Improve entry	
3-F	13	"A" Street	None	23	63	42" RCP	45-68° wingwalls L=80'	6,880 [1]
3-F	13	"A" Street	None	28	76	42" RCP	45-60° wingwalls L=80'	6,880 [1]
3-F	13	"A" Street	None	52	146	54" RCP	45-60° wingwalls L=80'	10,360 [1]
3-F	13	"E" Street	None	55	150	54" RCP	45-60° wingwalls L=70'	9,160 [1]
3-F	13	"E" Street	None	8	23	30" RCP	45-60° wingwalls L=70'	2,620 [1]
3-F	13	"E" Street	None	11	28	24" RCP	45-60° wingwalls L=70'	2,820 [1]
3-F	13	Cheyenne Blvd	Stone & Conc. 8'x5' Arch	76	206	No Change		
3-F	13	Cheyenne Rd	1-CB-1.5x2.5' 7x10 RCB	79	215	No Change		
3-G1	12	Evans	2-RCB 6.8x13.8	2680	10119	Full span 9x42	No center pier or Restricted abutments w-30	57,200 [4]
3-G1	12	Park Entry	Steel frame 6x32	2670	10082	Full span-8x46	No center pier or restricted, abutments w-30'	61,000 [4]
3-G1	12	W.Peo Entry	Timber 4.6x31	2650	10008	No Change	Private	
3-G1	12	W.Peo Entry	6.5x32	2640	9974	No Change	Private	

LOCATION			EXISTING			REQUIRED		
Sub Basin	Near Point	Street	Type of Structure	Flow-cfs 5 Yr.	Flow-cfs 100 Yr.	Equiv. Type Structure Required	Comment	Est. Cost
3-G1	13	Mayhurst	-RCB- 4.7 x 26	2630	9909	Full Span 9 x 44	No center pier or restricted, abut-ments w-30'	4 59,400
3-G1	13	Stratton	Steel Frame 7.1 x 16	2600	9849	Full Span 9 x 45	No center pier or restricted, abut-ments w-30'	4 61,700
3-G1	13	Res. Entry	7.3 x 22	2600	9849	No Change	Private	
3-G1	13	Res. Entry	Steel frame 2.5 x 32	2576	9731	No Change	Private	
3-G1	13	Res. Entry	Timber 13 x 16	2570	9715	No Change	Private	
3-G1	13	"E" Street	None	16	54	42" RCP	Headwall L=70	1 6,060
3-G1	13	"F" Street	None	18	60	42" RCP	Headwall L=70	1 6,060
3-G1	13	Cheyenne Rd & Mayhurst	1-CB-3.3'3 14x29 CMP	3' 21	62	No Change		
3-G2		Leaming Rd.	18" CMP	3	9	No Change		
3-G2	12	Alta Vista Rd	6' A/C Apron	12	39	No Change		
3-G2	12	Thayer Road	24" CMP	4	14	No Change		
3-G2	12	Mesa Ave.	None	31	84	36" RCP	Headwall L-120'	2 9,940
3-G2	12	Mesa Ave.	None	58	154	2-42" RCP	Headwall L-130'	24,800 2
3-G2	13	Pine Grove	None	64	163	2-48" RCP	Headwall L-80'	2 19,720
3-G2	13	Mesa Avenue	1-CS-2x3 18" CMP	6	21	No Change		
3-G2	13	Mesa Avenue	2-CB-1.3x1.5 10" CMP	7	23	18" RCP	Use exist. boxes L-210'	2 10,590
3-G2		Penrose	18" CMP	4	12	No Change		
3-H	13	(21st St) Cresta Road	2-RCB 10 x 11	2576	9731	Full Span-110 x 46	No center pier or restricted, abut-ments 2-44'	4 88,500
3-H		O'Malley	2.5' x 6' RCB	6	18	No Change		
3-H	14	Wolfe Ave.	2 in/out CB-2.5x5 11x16CMP	17	52	No Change		
3-H		Cheyenne Rd.	3x13 RCB	8	21	No Change		
3-H	13	Heather	18" RCB 24" CMP			No Change		
3-H	13	Heather	30x48 CMP			No Change		
3-J	14	Alsace Way	Concrete 6.4x25.4	2396	9164	Full Span-9x52	No center pier or restricted, abut-ments 2-36'	4 84,200

LOCATION			EXISTING			REQUIRED		
Sub Basin	Near Point	Street	Type of Structure	Flow-cfs 5 Yr.	Flow-cfs 100 Yr.	Equiv. Type Structure Required	Comment	Est. Cost
3-J	15	Woodburn St.	RCB 8x19	2358	9033	Full Span-10x52	No center pier or restricted abutments 2-35'	4 85,000
3-K		Roanoke St.	CB-2'x3' 24" CMP	8	21	No Change		
3-K	15	Cheyenne Rd	TT Concrete 6.2x25'	2342	8978	Full span 8x58	No restricted abutments w=40'	4 104,400
3-K	15	Cascade Ave.	4.3x23	2338	8965	9x56	No restricted abutments w=34'	4 86,600
3-K	15	Sommerlyn Rd.	Plugged CB-3' 18" RCP	9	25	30'RCP L-80'	Clean & rebuild CB-Need 10'D10R	2 6,110
3-K	15	El Sereno	2-16"CMP	11	32	36" RCP	60° wingwalls L-80'	2 10,140
3-K	15	El Sereno	2-14x22 CMP	13	38	29x45 RCP	60° wingwalls L-90'-see also storm sewer	2 10,740
3-K	15	Mt.Washington	3-4x4 CB-30" CMP	14	42	No change		
3-K	16	St. Elmo St.	Steel/conc. 5.5x21.3	2330	8940	Full span-8x60	No restricted abutments w=34'	4 90,800
3-K	16	Ramona St.	TT Concrete 7.5x53	2317	8895	Full span-10x60	No restricted abutments w=40'	4 106,500
3-L	20	I-25 ramp	3x3' RCB			No change	Ramp drain	
3-L	20	I-25 ramp	30" RCP			No change	Ramp drain	
3-L	19	Cascade Ave.	2-3x4 grates 18" CMP	26	69	repair & tie to Prop.sewer	Plugged-can't follow Old irrigation line	2 1,940
3-L	20	I-25	7-CB-2.5x3 15" RCP (4)	8	19	No change	3 Median Drains	
3-L	19	Brookside	4x4 12" CMP	30	75	Replace See stm.sewers	See storm sewers St.Dropout to stream*	
3-L	19	Navajo St.	concrete-2-RCB 7'x 39	2359	9017	Full span-9x62'	No restricted abutments w=36'	4 98,600
3-L	19	Brookside St.	2-RCB 6.5x11+4x13	2332	8990	Full span-8x68'	No restricted abutments w=36'	4 110,200
3-L	20	Arvada St.	Concrete-6.5x40	2333	8963	Full span-8x70'	No restricted abutments w=40'	4 126,000
3-L	20	Commercial Site	3-RCB,8.7' x8.8',12.1'	2335 ,8.9'	8989	Add: 3-9x14 RCB	Private, but main stream outfall	4 335,500
3-M	20	I-25	24" CMP			No change	Hwy crossing	
3-M	20	I-25	2-CB-2.5x3 15" RCP	6	15	No change	Hwy crossing & Median Drain	
3-M	20	I-25	2-CB-2.7x3 15" RCP	24	62	No change	Hwy crossing & Median Drain	

LOCATION			EXISTING			REQUIRED		
Sub Basin	Near Point	Street	Type of Structure	Flow-cfs 5 Yr.	Flow-cfs 100 Yr.	Equiv. Type Structure Required	Comment	Est. Cost
3-M	20	I-25	2-CB-2'8"x3' 15" RCP	56	142	No change	Hwy crossing & Median Drain	
3-M		I-25	1-CB-3'x3' 24" CMP			No change	Median Drain	
3-M		I-25	30" CMP			No change	Abandoned Clover Ditch	
3-M		Arvada	30" CMP			Plug	Abandoned Clover Ditch	
3-M		Arvada/I-25	24" CMP	87	256	replace with sewer line	See Storm sewers L-160' *	
4-A	30	Cheyenne Mtn Zoo Road	5'x8'RCB	28	96	No change		
4-A	30	Penrose Blvd	24" CMP	12	42	No change		
4-A	30	Cheyenne Mtn Zoo Road	None	21	62	30" RCP	Headwall 75' L	2 4,190
4-A	30	Marland Rd.	24" CMP	8	26	No change	Headwall L-70'	2 480
4-A	30	Cheyenne Mtn Boulevard	4x8 RCB	126	486	Add: 4x8 RCB	Headwall L-70'	7 22,230
4-B		Upland Rd.	24" CMP	24	78	No change		
4-B		Leaming Rd	24" CMP	18	56	No change		
4-B		Hill Drive	Headwall 3-42" CMP	22	68	No change		
4-B		Pine Road	30" CMP	26	82	No change		
4-B		Pine Road	1-CB-2.5x2.7' 14x22 CMP	6	32	No change		
4-B		Menary Way	2-CB-2x2.5' 18" CMP	8	37	No change		
4-B		Midland Rd.	2-CB-2.5'x2.7' 14x22 CMP	36	128	No change		
4-B		Midland Rd.	36" CMP	10	41	No change		
4-B		Upland Rd.	24" CMP	12	44	No change		
4-B		Thayer Rd.	24" CMP	4	18	No change		
4-B		Thayer Rd.	30" CMP	20	62	No change		
4-B		Thayer Rd.	2-CB-2.5'x2.7' 14x22" CMP	7	28	No change		

LOCATION			EXISTING			REQUIRED		
Sub Basin	Near Point	Street	Type of Structure	Flow-cfs 5 Yr.	Flow-cfs 100 Yr.	Equiv. Type Structure Required	Comment	Est. Cost
4-B		Midland Rd.	24" CMP	12	45	No change		
4-B		Thayer Rd.	15" CMP	11	43	24" RCP	Conc. Headwall L-80'	2 4,300
4-B	31	Penrose Blvd	36" CMP	52	201	48" RCP	Conc. Flares L-150'	2 17,870
4-B	31	Near ElPomar Rd.	30" CMP	56	212	48" RCP	Conc. Flares L-80'	2 10,250
4-B		El Pomar	36" CMP	38	124	No Change		
4-B	31	Walnut Ave.	36" CMP	258	1149	4x12 RCB with overflow	45-60° Wingwalls L-65'	2 24,730
4-C	31	Second St.	4x8 RCB	260	1158	Add-4x12 RCB with overflow	Add Conc. overflow section-L-65'	2 23,580
4-C	32	Hutton Ln.	irrigation ditch headgate pipe buried	282	1194	CB-2'x24'-2-4x10 RCB		7 50,300
4-C	32	Pourtales Rd.	None	23	104	43x68 RCP	60° Wingwalls L=75'	2 11,690
4-D		Lake Circle	2-CB-1.4"Ø 10" CMP	5	18	No Change	in/out St. Crossing	
4-D		Lake Circle	2-CB-1.4"Ø 10" CMP	6	21	No Change	in/out St. Crossing	
4-D	33	Old Broadmoor Rd	2-CB-10' 18" RCP	28	91	No Change		
4-D	33	Old Broadmoor Rd	2-CB-8' 24" RCP	68	281	No Change		
4-E		Marland Rd	30" CMP	3	12	No Change		
4-E		Marland Rd	36" CMP	13	38	No Change		
4-E	32A	Marland Rd	None	73	242	68x106 RCP	45° - 60° wing walls	7 31,670
4-F	32	Old Broadmoor Road	3-RCB 7.5'x6', 12', 6'	421	1632	No change overflow sect.	45° wingwall & velocity apron	
4-F	32A	Marland Rd	36" CMP	8	25	No Change		
4-F	32	Old Broadmoor Rd	20" CIP	6	21	No Change	in/out St. Crossing	
4-F	32	Springlake Cr	CB-1.8'x18' 11x18 RCP	11	39	16x24 RCP Prop. Const.	in/out St. Transfer	

LOCATION			EXISTING			REQUIRED		
Sub Basin	Near Point	Street	Type of Structure	Flow-cfs 5 Yr.	Flow-cfs 100 Yr.	Equiv. Type Structure Required	Comment	Est. Cost
4-F	33	Cheyenne Mtn Blvd	2-6'D10R 21" RCP	18	70	No Change	Outfall to Res.	
4-F	33	Cheyenne Mtn Blvd	15" CMP	5	18	No Change	Outfall to Res.	
4-F	33	Miramar Dr	12" CMP	3	11	No Change		
4-F	33	Miramar Dr	18" CMP	4	13	No Change	Outfall to Res.	
4-F	33	Miramar Dr	12" CMP	2	7	No Change		
4-F	33	Miramar Dr	18" CMP	3	10	No Change	Outfall to Res.	
4-F	33	Miramar Dr	15" CMP	2	7	No Change	Outfall to Res.	
4-G		Maple Ave.	2-CB-2.5'x2.5' 14x22 CMP	9	34	No Change		
4-G		3rd St.	2-CB-2x2.5 18" CMP	18	69	No Change		
4-G		Elm Ave.	3-CB-2x2.5 18" CMP	23	78	No Change		
4-G		4th & Elm	2-CB-2x2.5' 18" CMP	26	83	No Change		
4-G		Berthe Circle	2-8' CI 18" CMP	25	80	No Change		
4-G		Polo Pony Dr	3-CB-4',4',6' 30" RCP	24.	76	Outfall to 7th St.		
4-G	34A	Polo Pony Dr	2-CB-4' 36" RCP	31	96	Outfall to 7th St.		
4-G	34A	Seventh St.	1-CB-4' 30x42 RCP	34	114	replace with stm sewer	See storm sewers*	
4-G	34A	Seventh St.	24" RCP	36	120	replace with stm sewer	See Storm sewers*	
4-G	34A	Vine Ave.	24x36 RCP	10	36	No Change		
4-G	34A	Old Broadmoor Rd	18" CMP	4	11	No Change		
4-G	34A	Sycamore	25x42 CMP	97	316	60" RCP	45-60° wingwalls L=60'	2 12,770
4-G	34A	Old Broadmoor Rd	10x10 RCB	88	298	No Change	60° wingwalls & apron Req'd	2 6,270

LOCATION			EXISTING			REQUIRED		
Sub Basin	Near Point	Street	Type of Structure	Flow-cfs 5 Yr.	Flow-cfs 100 Yr.	Equiv. Type Structure Required	Comment	Est. Cost
4-H	34A	Lake Ave.	14x24 RCP	10	35	No Change		
4-H	34A	Spring Meadow	flares 12" RCP	3	10	No Change		
4-H	34	Lake Ave.	78" CMP	119	834	No Change	Pond 1 exit	
4-H	34	Lake Ave.	24" CMP			No Change	Pond 1 exit	
4-H		Hwy 115	84" CMP	134	387	No Change	Pond 2 exit	
4-H		Hwy 115	30" CMP			No Change	Pond 2 exit	
4-H		Hwy 115	24" CMP			No Change	Pond 2 exit	
4-H		Hwy 115	24" CMP	5	18	No Change		
4-H		Hwy 115	1-CB-3'x3' 24" CMP	2	6	No Change	Median Drain	
4-J2	35	Southgate Rd	2-RCB 2'6"x13.2'	135	351	No change Improve inlet	L=20'	4,500 [2]
4-J2	35	Mt.Werner Cir. Cul.	2-RCB 3.2'x11'&11'	136	390	No Change	existing bridge large enough	
4-J2	36	Mt.Werner Circle	2-RCB 2-2.5.3x12.3	138	465	No Change	existing bridge large enough	
4-J1	34	Hwy 115	2-CB-3'x3' 24" CMP	2	6	No Change	Median Drain	
4-J1		Hwy 85-87	1-CB-3x3' 24" CMP	5	14	No Change	Median Drain	
4-J1		Hwy 85-87	1-CB-2'x2.5' 24" CMP	8	30	No Change	in/out CB Crossing	
4-J2	36	Mt. Werner Terrace	1-CB-6'	21	56	No Change	Dropout to Ditch	

LOCATION			EXISTING			REQUIRED		
Sub Basin	Near Point	Street	Type of Structure	Flow-cfs 5 Yr.	Flow-cfs 100 Yr.	Equiv. Type Structure Required	Comment	Est. Cost
4-K	37	Cheyenne Rd.	1-CB-2.5'ø 12" CMP	6	14	No Change	Dropout to Ditch	
4-K	37	I-25	1-CB-3'x3' 30" CMP	475	1523	3-9x18 RCB	Outfall for Basin & Median Drain	3 300,540
4-K	38	Rand	Concrete RCB-4x10	138	486	No Change	existing bridge large enough	
4-L1		Hwy 85-87	1-CB-2'x2.5' 24" CMP	12	32	No Change	3x2 RCB	
4-L1		Southgate	3x2 RCB	18	47	No Change	To North Ditch-Lake	
4-L1		Hwy 115	1-CB-3'x3' 24" CMP	3	8	No Change	Median Drain	
4-L1		Southgate	1-CB-54x74 2-30" CMP	32	78	No Change	OK for 5 yr Storm	
4-L1		Shaw	18" CMP	24	62	No Change	Entry Crossing	
4-L1		(School Dist.2) Shaw to El Paso	24" CMP	24	62	No Change	Entry Crossing	
4-L1		El Paso	16"x28" CMP	26	66	38x60 RCP	45-60° Wingwalls L-120'	2 14,840
4-L1	38	Cheyenne Rd/ Florence	4-CB-1.3'x1.5' 2-10" CMP	26	70	Change-See Stm Sewer	in/out CB-Siphons	
4-L1	38	Cheyenne Rd/ Richards	4-CB-1.3'x1.5' 2-10" CMP	10	26	Change-See Stm Sewer	in/out CB-Siphons	
4-L1	38	Cheyenne Rd/ Pando	4-CB-1.3'x1.5' 2-10" CMP	10	26	Change-See Stm Sewer	in/out CB-Siphons	
4-L1	38	Cheyenne Rd/ Rockwood	4-CB-1.3'x1.5' 2-10" CMP	30	80	Change-See Stm Sewer	in/out CB-Siphons	
4-L1	38	Rand/ Rockwood	3-CB-1.3'x1.5' 2-10" CMP	35	92	Change-See Stm Sewer	in/out CB-Siphons	
4-L1	38	Rand/ Pando	3-CB-1.3'x1.5' 2-10" CMP	18	46	Change-See Stm Sewer	in/out CB-Siphons	
4-L1	38	Rand/ Richards	3-CB-1.3x1.5' 2-10" CMP	20	52	Change-See Storm Sewers	in/out CB-Siphons	
4-L1	38	Rand/ Florence	3-CB-1.3x1.5' 2-10" CMP	42	102	Change-See Storm Sewers	in/out CB-Siphons	
4-L1	38	I-25	1-CB-3'x3' 24" RCP	32	78	Change-See Storm Sewers		
4-L1	40	Lake Ave.	32x56 CMP	10	24	No Change	To median	

LOCATION			EXISTING			REQUIRED		
Sub Basin	Near Point	Street	Type of Structure	Flow-cfs 5 Yr.	Flow-cfs 100 Yr.	Equiv. Type Structure Required	Comment	Est. Cost
4-L2		Southpointe Circle	1-10" CB 24" RCP	22	50	No Change	Dropout to Ditch on 85-87	
4-L2	40	Tenderfoot Hill	54" RCP	46	136	No Change	Will carry 5 yr flow	
4-L2	40	Venetucci Blvd	3-36x58 CMP	76	224	No Change	will carry 5 yr flow	
4-L2	40	Lake Plaza Drive	11"x18" CMP	12	30	No Change	out of basin crossing 4' Head req'd	
4-L2	40	Tenderfoot Hill	2-CB-12"x12" 12" CMP	5	11	No Change	in/out CB-Siphons	
4-L2	40	Lake Ave.	CB-3'x3' 24" CMP	6	13	No Change	Median Drain	
4-M	38	I-25	24" RCP	30	71	No Change		
4-M	38	Commercial Blvd.	24" RCP	32	78	No Change		
4-N		I-25 Access Ramp	18" CMP	78	236	No Change		
4-N		Hwy 85-87	24" CMP			Badly damaged repair outlet	L-60'	2,150 [3]
4-N		NW I-25 Access Ramp	24" RCP			No Change		
4-N		SW I-25 Access Ramp	24" RCP			No Change		
4-N		SE I-25 Access Ramp	24" RCP			No Change		
4-N		I-25	24" RCP	8	18	No Change		
4-N		NE I-25 Access Ramp	24" RCP			No Change		
4-N		Commercial Blvd.	24" CMP	10	22	No Change	entry to ditch	
4-N		Commercial Blvd & Entry	24" CMP	5	12	No change		
4-N		Circle Dr & Entry	24" CMP	16	38	No change		
4-N		Janitell Rd North	CB-2-4' 24" CMP	19	44	36" RCP	Headwall L=65'	5,770 [2]
4-N		Janitell Rd South	28"x42" CMP	33	81	43"x68" RCP	Headwall L=120'	20,300 [2]

LOCATION			EXISTING			REQUIRED		
Sub Basin	Near Point	Street	Type of Structure	Flow-cfs 5 Yr.	Flow-cfs 100 Yr.	Equiv. Type Structure Required	Comment	Est. Cost
4-N		Janitell Rd South	24" CMP	33	81	No Change		
4-N		(Garden Valley) Circle Dr.	48" CMP	52	130	60" RCP	Headwall L=240'	43,140 [2]
4-N		Circle Dr.	36" CMP	35	88	54" RCP	Headwall L=200'	31,030 [2]
4-O		Corona/ St.Elmo	2-CB-10"* 10" CMP	3	8	No Change	in/out CB-Siphon	
4-O		Corona/ Hunter	1-CB-18x24 10" CMP	7	18	No Change		
4-O		Asbury	Conc.apron b=6' d=1'	6	17	No Change	Street Dropout	
4-O		Asbury	conc.apron b=6' d=1'	8	21	No Change	Street Dropout	
4-O		Hwy 115	1-CB-3'x3' 24" CMP	8	22	No Change	Median Drain	
4-O	39	Cheyenne Rd	3-CB-2'x2' 30" CMP	87	212	Replace	See Storm Sewers	
4-O	39	Cheyenne Rd Outfall	36" CMP	87	212	Replace	See Storm Sewers	
4-O	39	I-25	1-CB-3'x3' 24" CMP	96	242	No Change	Hwy crossing & Median drain	
4-O	39	I-25	1-CB-3'x3' 24" RCP	90	230	No Change	Hwy crossing & Median drain	
4-O	39	I-25	1-CB-3'x3' 24" RCP	78	184	No Change	Hwy crossing & Median drain	
4-O		I-25	1-CB-3'x3' 24" RCP	64	148	No Change	Hwy crossing & Median drain	
4-O		I-25	1-CB-3'x3' 24" RCP	32	88	No Change	Hwy crossing & Median drain	

LOCATION			EXISTING			REQUIRED		
Sub Basin	Near Point	Street	Type of Structure	Flow-cfs 5 Yr.	Flow-cfs 100 Yr.	Equiv. Type Structure Required	Comment	Est. Cost
1-J	12	N. Cheyenne Can	Stone 5x11' Arch	1650	5590	(Full span- 6x42)	No center pier- if RCB, used, Min= 6-6x13' (too large)	2 56,700

LOCATION			EXISTING				FLOW-cfs		REQUIRED (full devel.)				
Sub Basin	Near Point	Street	Pipe	Length ft.	CB	Outlet Struct.	5 Yr.	100 Yr.	Pipe	Length ft.	CB Equiv. D-10R	Outlet Structure	Notes & Est. Cost $
3-A2	16B	School Dist. 12 None	30"RCP	1180'	+Open pipe	36X45CMP	38	144	24"RCP	480	2-16' lead pipe	30" RCP No Util	1 21,880
3-B1	17C	Mercury	None				122	323	48"RCP	850	3-12' 6-20'	72" RCP Util	10A 142,750
3-B1	17C	Mercury	None						24"RCP	360		48"RCP Util	2 12,830
3-B2	16B	Skyway Blvd Extended	None				92	230	30"RCP	1360	4-20'	36"RCP No Util	1 79,340
3-B2	16B	Back of Fire Station	None						24"RCP	580	3-16'	30"RCP Util	1 42,470
3-B2	16B	Skyway Blvd Extended	None						24"RCP	160'		30"RCP No Util	1 4,850
3-B2	16B	Back of Fire Station	None						18"RCP	120'		24"RCP Util	1 3,260
3-B2	17C	Skyway Blvd	None				113	293	36"RCP	1160'	3-16' 4-20'	72"RCP Util	10B 133,340
3-B2	17C	Skyway Blvd	None						24"RCP	280'		36"RCP Util	2 9,980
3-B3	17C	Skyway Blvd	None				235	616	72"RCP	800	4-20 2-16	84"RCP Util	10C 217,200
3-B3	17C	Skyway Blvd	None						30"RCP	250	2-16 2-12	84"RCP Util	10D 28,900
3-B3	17C	Skyway Blvd	None						24"RCP	400		72"RCP	2 14,260
3-B3	17	Saturn Dr	None				287	727	84"RCP	1100	1-20 3-12	North Branch Cheyenne Creek Util	10E 373,800
3-B3	17	Saturn Dr	None						24"RCP	180		84"RCP Util	2 7,010

HYDROLOGIC DATA
APPENDIX F

SHEET 1 OF 10
STORM SEWER INVENTORY

LOCATION			EXISTING				FLOW-cfs		REQUIRED (full devel.)				
Sub Basin	Near Point	Street	Pipe	Length ft.	CB	Outlet Struct.	5 Yr.	100 Yr.	Pipe	Length ft.	CB Equiv. D-10R	Outlet Structure	Notes & Est. Cost $
3-C-3	17B	Skyway Blvd & Milky Way	None	-	-	-	58	121	36" RCP	460	1-20 3-16	Ditch to 17A Util.	54,410 10F
3-C-3	17B	Skyway Blvd & Milky Way	None				-	-	24" RCP	160		36" RCP Util.	9,700 2
3-C3	17A	Arcturus No.	None				94	209	30"RCP	580		Ditch to 17A No Util	26,160 1
3-C3	17A	Arcturus No.	None				-	-	24" RCP	120	2-20 2-16	30" RCP Util	21,870 1
3-D1	18	Loraine	None				141	397	42" RCP	700	3-20 2-16 1-12	Ditch 17-18 Util.	101,080 2
3-D1	18	Loraine	None				95	263	36" RCP	380	1-20 2-16	42" RCP Util.	46,340 2
3-D1	18	Loraine	None				63	168	24" RCP	760	1-16 2-12 2-10	36" RCP Util.	59,880 2
3-D1	18	Loraine	None				-	-	24" RCP	300		42" & 36" RCP Util	18,190 2
3-D1	18	Loraine	None				-	-	18" RCP	170		24" RCP Util	8,140 2
3-D2	17	Oxford/8th	30"CMP	1100	2-24" Grated	96" CMP	36	130					
3-D2	17	Oxford/8th	24"CMP	45'		30" CMP	-	-					
3-D2	17	Oxford/8th	16"CMP	250'	1-18" 1-6"X48" Grated	30" CMP	-	-					

LOCATION			EXISTING				FLOW-cfs		REQUIRED (full devel.)				
Sub Basin	Near Point	Street	Pipe	Length ft.	CB	Outlet Struct.	5 Yr.	100 Yr.	Pipe	Length ft.	CB Equiv. D-10R	Outlet Structure	Notes & Est. Cost $
3-G1	13	Cheyenne Rd	None				34	95	30" RCP	650	2-16 2-12	Cheyenne Creek Util.	10G 43,940
3-G1	13	Cheyenne BV	None				28	74	24" RCP	360	2-16 1-10	30" RCP Util.	1 29,720
3-G1	13	Cheyenne BV	None				-	-	24" RCP	120	Open	30" RCP Util	2 3,960
3-G1	13	Cheyenne BV	None				-	-	18" RCP	96		24" RCP Util	1 2,680
3-H	14	Bear Paw	42" RCP	200	1-	Franzhurst Lake	11	31					
3-H	14	Bear Paw	18" RCP	110	1-	42" RCP	-	-					
3-H	14	Bear Paw	24" RCP	10	1-10	Cheyenne Creek	7	16					
3-H	14	Alsace	30" RCP	280	1-	Cheyenne Creek	9	25					
3-H	14	Alsace	21" RCP	170	2-	30" RCP	-	-					
3-H	14	Alsace	18" RCP	420	2-	21" RCP	-	-					
3-H	14	Alsace	16X24 CMP	100	Open	30" RCP	-	-					
3-J	14	Alsace	27" CMP	350	1-	Cheyenne Creek	8	21					
3-J	14	Alsace	24" CMP	160	2-	30" CMP	-	-					

LOCATION			EXISTING				FLOW-cfs		REQUIRED (full devel.)				
Sub Basin	Near Point	Street	Pipe	Length ft.	CB	Outlet Struct.	5 Yr.	100 Yr.	Pipe	Length ft.	CB Equiv. D-10R	Outlet Structure	Notes & Est. Cost $
3-J	15	Woodburn	12"RCP	360	1-4X4.5	Cheyenne Creek	48	128	24"RCP	300	1-10 1-8	To Cheyenne Creek Woodburn Util	21,390 [2]
3-J	15	Sommerlyn	18"CMP	230	1-2X3.5	12"RCB	-	-	21"RCP	440	1-10 2-8	Pierce 24" RCP Util	29,430 [2]
3-J	15	Sommerlyn	12"RCP	240	1-2X3.5	18"CMP	-	-	18"RCP	150		Pierce All Util	6,230 [2]
3-K	15	Cheyenne Rd	24"RCP	320	1-2'X60'	Cheyenne Creek	8	28					
3-K	19	Nevada	24"VCP	450	2-12"X12"	Cheyenne Creek	16	43				Tie to line north Cut line on Ramona	
3-K	19	Nevada	21"VCP	500	1-18"X18" 1-10"X10"	24"VCP	-	-					
3-K	19	Nevada	18"VCP	620	1-12"X10'	21"VCP	-	-					
3-K	19	Nevada	15"VCP	160		ALL	-	-					
3-L	19	Nevada	24"VCP	180	1-12X12" 1-10X10"	Cheyenne Creek	31	86	36"RCP	740	2-24"X24"	Fountain Creek cut line on Arvada	61,320 [3]
3-L	19	Nevada	21"VCP	480	2-10X10"	24"VCP	-	-	30"RCP	840	1-18"X18"		58,240 [3]
3-L	19	Nevada	18"VCP	340	1-15X15" 1-12X12"	21"VCP	-	-	24"RCP	720	1-24"X24" 1-18"X18"		41,060 [3]
3-L	19	Nevada	15"VCP	230		ALL	-	-	15"RCP	550			12,740 [3]

LOCATION			EXISTING				FLOW-cfs		REQUIRED (full devel.)				
Sub Basin	Near Point	Street	Pipe	Length ft.	CB	Outlet Struct.	5 Yr.	100 Yr.	Pipe	Length ft.	CB Equiv. D-10R	Outlet Structure	Notes & Est. Cost $
3-L	19	Brookside	12"CMP	220	2-2.5X4	Cheyenne Creek	48	121	24"RCP	400	1-16' 2-10'	Cheyenne Creek Util	32,660 2
3-L	19	Brookside	None	-	2-2.5X3.5	Unknown	-	-	18"RCP	360	1-16' 1-8'	24" RCP Util	24,620 2
3-L	19	Brookside	None				-	-	18"RCP	160		All Util	6,050 2
3-M	-	Arvada	24"CMP	160'	-	Remove	87	255	36"RCP	1120	2-12' 2-10'	I-25 Borrow Ditch Util	103,840 2
3-M	-	Wahsatch	None						30"RCP	450	2-12'	36"RCP Util	36,050 2
3-M	-	Wahsatch	None						24"RCP	250	2-12' 1-10'	30"RCP Util	20,560 2
3-M	-	Arvada	None						24"RCP	210		36"&30"RCP Util	9,580 2
3-M	-	Wahsatch	None						18"RCP	100		24"RCP Util	3,650 2

HYDROLOGIC DATA
APPENDIX F

SHEET 5 OF 10
STORM SEWER INVENTORY

LOCATION			EXISTING				FLOW-cfs		REQUIRED (full devel.)				
Sub Basin	Near Point	Street	Pipe	Length ft.	CB	Outlet Struct.	5 Yr.	100 Yr.	Pipe	Length ft.	CB Equiv. D-10R	Outlet Structure	Notes & Est. Cost $
4-A	30	Near Chey.Mtn.Rd.	2-48"CMP	Fin.Total + 1200'		Ditch Golf Course	32	103					
4-B	-	El Pomar	24"CMP	510	2-2'x2.5'	Ditch Golf Course	58	162					
4-B	-	El Pomar	2-30"CMP	180	2-4X7.5'	Ditch Golf Course	T-70	206					
4-B	-	El Pomar	2-24"CMP	200		30"CMP	-	-					
4-B	-	El Pomar	30"CMP	90	1-4X4	24"CMP	T-70	206					
4-B	-	El Pomar	24"CMP	180		Ditch Golf Course	T-70	206					
4-B	-	El Pomar	2-24"CMP	1340'	1-2.5X7	Ditch Golf Course	-	-					Transfer from 3G2-Irrigation Pipe
4-D	33	Broadmoor Ave.	None				72	181	36"RCP	380	2-8' 1-20	Spring Run #2 Util	36,410 [2]
4-D	33	Broadmoor Ave							30"RCP	860	1-16 2-10	36"RCP Util	75,460 [2]
4-D	33	Broadmoor Ave							24"RCP	220	2-8'	30"RCP Util	15,540 [2]
4-D	33	Broadmoor Ave							24"RCP	190		36"&30"RCP Util	8,670 [2]
									18"RCP	70		24" RCP Util	2,550 [2]

LOCATION			EXISTING				FLOW-cfs		REQUIRED (full devel.)				
Sub Basin	Near Point	Street	Pipe	Length ft.	CB	Outlet Struct.	5 Yr.	100 Yr.	Pipe	Length ft.	CB Equiv. D-10R	Outlet Structure	Notes & Est. Cost $
4-F	32	Cheyenne Mtn Road	None				130	400	42"RCP	1200	5-12'	Spring Run Util	10H 137,420
4-F	32	Cheyenne Mtn Road					-	-	36"RCP	1220	2-12' 3-10' 24 ø	42"RCP Util	10I 118,160
4-F	32	Cheyenne Mtn Road					-	-	24"RCP	200	2-6ø open	36"RCP Util	10J 11,190
4-F	32	Cheyenne Mtn Road					-	-	24"RCP	340'		ALL Util	2 15,510
4-G	34A	Seventh	None				74	184	36"RCP	490	1-20'	Ditch #11 Util	2 47,800
4-G	34A	Seventh					-	-	30"RCP	740	3-16' 2-10'	36" RCP Util	2 69,240
4-G	34A	Elm Ave					-	-	24"RCP	460	2-12'	30"RCP Util	2 30,990
4-G	34A	Seventh					-	-	24"RCP	200		36&30"RCP Util	2 10,130
4-G	34A	Elm Ave.					-	-	18"RCP	70		24" RCP Util	2 2,910

LOCATION			EXISTING				FLOW-cfs		REQUIRED (full devel.)				
Sub Basin	Near Point	Street	Pipe	Length ft.	CB	Outlet Struct.	5 Yr.	100 Yr.	Pipe	Length ft.	CB Equiv. D-10R	Outlet Structure	Notes & Est. Cost $
4-J1	35	Southgate Shopping Ctr	Arch MP 11"-6"CMP	200?	Open	60"CMP	132	351					
4-J1	35	Southgate Shopping Ctr	60"CMP	750?	Open	66"CMP	-	-					
4-J1	35	Southgate Shopping Ctr	66"CMP	200?	Open	Southgate Ditch	-	-					
4-J1	35	Southgate Shopping Ctr	24"CMP	980?	5-1x1.5' CB	60"CMP	-	-					
4-J1	35	Southgate Rd	30"CMP	620		Southgate Ditch	74	278					
4-J1	35	Southgate Rd	12"CMP	910	10-1x1.5 CB	30"CMP	-	-					
4-J1	35	Southgate Rd					74	278	30"RCP	200	1-10'	30" CMP(exist) Util	10K 18,130
4-J1	35	Southgate Rd					-	-	24"RCP	370	3-2X6	30"RCP Util	10L 30,440
4-J1	35	Southgate Rd					-	-	24"RCP	30		30"RCP Util	2 1,530
							-	-	18"RCP	100		24"RCP Util	2 4,160
4-J2	36	Montrose	None				27	81	21"RCP	1550	3-10 2-8	Mainline Outfall Util	2 99,340
4-J2	36	Montrose	None				-	-	18"RCP	175		21"RCP Util	2 7,270

HYDROLOGIC DATA
APPENDIX F

SHEET 8 OF 10
STORM SEWER INVENTORY

LOCATION			EXISTING				FLOW-cfs		REQUIRED (full devel.)				
Sub Basin	Near Point	Street	Pipe	Length ft.	CB	Outlet Struct.	5 Yr.	100 Yr.	Pipe	Length ft.	CB Equiv. D-10R	Outlet Structure	Notes & Est. Cost $
4-K	37	Aspen	None				33	79	24"RCP	440	4-8'	Outfall Ditch Util	35,880 [2]
4-K	37	Aspen					-	-	18"RCP	530	2-8'	24"RCP Util	31,700 [2]
4-K	37	Aspen					-	-	18"RCP	200		ALL Util	8,300 [2]
4-K	36	Corona	24"RCP	920	1-3'8X4.3'	Conc. Ditch	138	486	54"RCP	920'	connect existing	Outfall Ditch Util	140,220 [10M]
4-L1	38	Rand	None				102	286	54"RCP	550	2-20'	Outfall Ditch Util	95,790 [2]
4-L1	38	Florence					49	124	42"RCP	620	3-10'	54"RCP Util	77,450 [2]
4-L1	38	Rand					-	-	36"RCP	270	2-10'	54"RCP Util	30,110 [2]
4-L1	38	Florence					-	-	30"RCP	270	2-10"	36"RCP Util	25,730 [2]
4-L1	38	Rand/Pando/ Rockwood					26	70	30"RCP	880	1-20' 1-12'	42"RCP Util	77,860 [2]
4-L1	38	Florence					-	-	24"RCP	1530	7-10'	30"RCP Util	110,270 [2]
4-L1	38	Hancock/ Cheyenne Rd					-	-	21"RCP	660	3-16 1-12	30"RCP Util	43,290 [2]
4-L1	38	All Above					-	-	18"RCP	520	4-10	30"RCP Util	36,790 [2]
4-L1	38	All Above					-	-	24"RCP	410		Above 24" Util	20,760 [2]
							-	-	18"RCP	480		24" below Util	19,920 [2]

LOCATION			EXISTING				FLOW-cfs		REQUIRED (full devel.)				
Sub Basin	Near Point	Street	Pipe	Length ft.	CB	Outlet Struct.	5 Yr.	100 Yr.	Pipe	Length ft.	CB Equiv. D-10R	Outlet Structure	Notes & Est. Cost $
4-0	39	Cheyenne Rd	None				133	397	54"RCP	630	1-10' 2-8'	Util I25 Borrow Ditch	106,890 [2]
4-0	39	Cheyenne Rd					-	-	48"RCP	800	2-16' 2-12' 4-10'	54"RCP Util	129,530 [2]
4-0	39	Cheyenne Rd					-	-	42"RCP	910	2-20' 2-16' 1-8'	48"RCP Util	120,080 [2]
4-0	-	Cheyenne Rd					52	143	36"RCP	800	2-10' 5-8'	42"RCP Util	86,410 [2]
4-0		Cheyenne Rd					-	-	24"RCP	1120	1-12' 2-10' 2-8'	36"RCP Util	72,170 [2]
4-0	-	Cheyenne Rd					-	-	24"RCP	840		36"RCP+ Util	42,530 [2]
4-0	-	Cheyenne Rd					-	-	18"RCP	180		24"RCP+ Util	7,470 [2]