

VOLUME 4 APPENDICES

APPENDIX 2.8 –

MANHOLE, STORM DRAIN, WEIR AND PUMP STATION DATA AS-BUILTS AND PLANS

CONTAINS :

Table MHE – Existing Conditions – SWMM Manhole and Storm Drain Data

Note – This table contains an index of page numbers – each page of the storm drain and manhole as-builts has a page number to correspond to Table MHE.

Table MHC – Existing Conditions – Manhole Headloss Coefficients

Organization – The manhole and storm drain as-builts are organized by streets, and each is included as a group

Description of Hand Annotated Copies of man-hole and storm drain as-builts follows:

1. Hand Drawings of manholes and associated storm drain pipes that were field measured (not surveyed) by NM Underground, Inc. and those drawings are hand annotated with actual surveyed elevations (1988 Vertical Datum) as surveyed by Survey Control Inc.
2. As-built Drawings of the manholes and storm drains systems as provided by the City of Albuquerque (these are the best as-built drawings available). Conversion of a few manholes from the 1929 vertical datum to the 1988 vertical datum was required and are documented as such.

Weir As-Builts / Plans in Manholes

Broadway- Lomas
14th St. and Iron

Pump Station As-Builts / Plans

Broadway Pump Station
Alcalde Pump Station
Barelas Pump Station
Urban Pump Station

TABLE MHE																								
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COA MH NAME	Page #	Location Description	Inflows (External Direct)	Invert Elev.	Max. Depth-Ground Surface - Invert	Rim Elev.	SWMM Pipe ID	Inlet Node	Outlet Node	Shape of the Pipe	Max. Depth of the Pipe	Length of the Pipe	Slope	Pipe Material	Pipe Roughness	Inlet Pipe Depth	Inlet Offset (Inlet Elev.)	Outlet Pipe Depth	Outlet Offset (Outlet Elevation)	Max.Flow	Entry Loss Coeff.	Exit Loss Coeff.	Ave. Loss Coeff.	Flap Gate
			(g)	(ft)	(ft)	(ft)	(c)			(dia-in)	(ft)	(ft)	(ft/ft)		n		(ft)		(ft)	(cfs)				Y / N
																	(d)		(e)	(h)	(f)	(f)	(f)	
7TH STREET / I-40																								
6149	1	7th / McKnight	No	4956.51	6.87	4963.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6231	3	7th / Haines	No	4955.06	7.35	4962.41	57	6149	6231	42	3.5	733	0.00138	RCP	0.014	6.87	4956.51	6.91	4955.50	11.00	0.35	0.30	3.10	N
6259	5	7th / Haines	No	4953.72	10.36	4964.08	58	6231	6259	48	4	298	0.00235	RCP	0.014	7.35	4955.06	9.72	4954.36	40.00	0.30	0.25	0.50	N
7638	7	7th / Bellamah	No	4952.62	8.10	4960.72	59	6259	7638	54	4.5	930	0.00118	RCP	0.014	10.36	4953.72	8.10	4952.62	40.00	0.25	0.40	2.20	N
25807	9	8th / Bellamah	No	4953.18	7.28	4960.46	60	7638	25807	54	4.5	310	-0.00181	RCP	0.014	8.10	4952.62	7.28	4953.18	70.00	0.40	0.30	0.60	N
25349	11	8th / Slate	No	4945.26	11.07	4956.33	61	25807	25349	66	5.5	2789	0.00284	RCP	0.014	7.28	4953.18	11.07	4945.26	90.00	0.30	0.30	3.90	N
25352	13	8th / Slate	No	4945.06	11.31	4956.37	62	25349	25352	66	5.5	60	0.00333	RCP	0.014	11.07	4945.26	11.31	4945.06	389.00	0.30	0.40	0.00	N
7815	15	8th / Lomas	No	4943.48	13.40	4956.88	63	25352	7815	66	5.5	305	0.00364	RCP	0.014	11.31	4945.06	12.93	4943.95	215.00	0.40	0.50	0.50	N
25253	17	8th / Tijeras	No	4941.66	12.95	4954.61	64	7815	25253	72	6	1481	0.00123	RCP	0.014	13.4	4943.48	12.95	4941.66	197.00	0.50	0.30	3.10	N
7977	19	8th / Tijeras	No	4941.94	13.08	4955.02	65	25253	7977	72	6	20	-0.014	RCP	0.014	12.95	4941.66	13.08	4941.94	193.00	0.30	0.35	0.00	N
25238	21	8th / Tijeras	No	4941.20	13.47	4954.67	66	7977	25238	72	6	137	0.00372	RCP	0.014	13.08	4941.94	13.24	4941.43	184.00	0.35	0.40	0.00	N
25240	23.1	8th / Tijeras	No	4941.15	13.87	4955.02	67	25238	25240	72	6	23	0.00217	RCP	0.014	13.47	4941.20	13.87	4941.15	184.00	0.40	0.50	0.00	N
22584	24	8th / Copper	No	4940.18	14.49	4954.67	68	25240	22584	72	6	490	0.00198	RCP	0.014	13.87	4941.15	14.49	4940.18	188.00	0.50	0.35	0.50	N
9260	26	8th / Gold	No	4938.02	14.78	4952.80	69	22584	9260	72	6	560	0.00227	RCP	0.014	14.49	4940.18	13.89	4938.91	178.00	0.35	0.25	1.50	N
13866	28	8th / Iron	No	4935.36	12.08	4947.44	70	9260	13866	84	7	1622	0.00118	RCP	0.014	14.78	4938.02	11.33	4936.11	202.00	0.25	0.50	3.20	N
7963.T	--	Tingley Pond	No	4932.21	9.25	4941.46	71	13866	7963.T	96	8	1026	0.00307	RCP	0.014	12.08	4935.36	9.25	4932.21	353.00	0.50	0.35	3.20	N
32981	30	8th / Atlantic	No	4931.39	17.86	4949.25	71A	7963.T	32981	96	8	149	0.0055	RCP	0.014	9.25	4932.21	17.86	4931.39	227.00	0.35	0.25	0.00	N
9121	--	8th / Atlantic	No	4931.16	17.50	4948.66	72	32981	9121	96	8	80	0.00288	RCP	0.014	17.86	4931.39	17.50	4931.16	227.00	0.25	0.25	0.00	N
9129	31	9th / El Bordo	No	4930.24	16.01	4946.25	73	9121	9129	96	8	327	0.00281	CMP	0.024	17.5	4931.16	16.01	4930.24	227.00	0.25	0.25	0.00	N
MHB22410	33.1	10th / El Bordo	No	4920.12	25.80	4945.92	74	9129	MHB22410	72	8	501	0.0202	CMP	0.024	16.01	4930.24	25.80	4920.12	227.00	0.50	0.25	0.00	N
22410	33	10th / El Bordo	No	4919.99	25.80	4945.79	74A	MHB22410	22410	96	8	19	0.00684	CMP	0.024	25.8	4920.12	25.80	4919.99	231.00	0.25	0.40	0.00	N
9141	35	10th / Pacific	No	4928.21	17.88	4946.09	75	22410	9141	96	8	196	-0.04194	CMP	0.024	25.80	4919.99	17.88	4928.21	229.00	0.40	0.40	0.00	N

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			(g)	(ft)	(ft)	(ft)	(c)			(dia-in)	(ft)	(ft)	(ft/ft)		n		(ft)		(ft)	(cfs)				Y / N
																	(d)		(e)	(h)	(f)	(f)	(f)	
4TH STREET / I-40																								
6045	37	4th / Cutler	No	4957.51	7.82	4965.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15184	39	4th / I40	No	4954.19	10.04	4964.23	35	6045	15184	36	3	802	0.00392	RCP	0.014	7.82	4957.51	9.86	4954.37	36.00	0.35	0.35	2.00	N
6218	41	4th / McKnight	No	4953.66	9.34	4963.00	34	15184	6218	36	3	622	9.6E-05	RCP	0.014	10.04	4954.19	8.87	4954.13	51.00	0.35	0.40	1.00	N
19719	43	3rd / McKnight	No	4952.30	9.98	4962.28	33	6218	19719	36	3	369	0.00146	RCP	0.014	9.34	4953.66	9.16	4953.12	58.00	0.40	0.40	0.50	N
7654	45	3rd / Constitution	No	4951.67	8.59	4960.26	32	19719	7654	48	4	1795	0.00071	RCP	0.014	9.33	4952.95	8.59	4951.67	75.00	0.40	0.25	3.00	N
7714	47	3rd / Mountain	No	4950.14	7.86	4958.00	31	7654	7714	48	4	1457	0.00103	RCP	0.014	8.59	4951.67	7.83	4950.17	60.00	0.25	0.25	1.50	N
7740	49	3rd / Granite	No	4949.69	8.25	4957.94	30	7714	7740	48	4	405	0.00111	RCP	0.014	7.86	4950.14	8.25	4949.69	91.00	0.25	0.50	3.00	N
7830	51	3rd / Lomas	No	4944.87	12.00	4956.87	29	7740	7830	54	4.5	1028	0.00157	RCP	0.014	8.25	4949.69	8.79	4948.08	86.00	0.50	0.50	5.90	N
7816	53	6th / Lomas	No	4944.19	13.17	4957.36	55	7830	7816	72	6	1092	0.00078	RCP	0.014	11.83	4945.04	13.17	4944.19	136.00	0.50	0.35	1.70	N
7815	55	8th / Lomas	No	4943.48	13.40	4956.88	56	7816	7815	72	6	739	0.00083	RCP	0.014	13.17	4944.19	13.30	4943.58	164.00	0.35	0.50	1.90	N
7830	57	3rd / Lomas	No	4944.87	12.00	4956.87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7865	58	3rd / Fruit	No	4946.34	10.46	4956.80	28	7830	7865	54	4.5	391	0.00161	RCP	0.014	8.92	4947.95	9.48	4947.32	91.00	0.50	0.50	1.10	N
7908	60	3rd / Roma	No	4946.15	10.00	4956.15	27	7865	7908	60	5	355	0.00054	RCP	0.014	10.46	4946.34	10.00	4946.15	136.00	0.50	0.50	1.00	N
7912	62	3rd / Roma	No	4945.61	10.68	4956.29	26	7908	7912	60	5	13	-0.05231	RCP	0.014	10.00	4946.15	9.46	4946.83	162.00	0.50	0.25	0.00	N
7955	64	3rd / Marquette	No	4943.49	12.00	4955.49	25	7912	7955	60	5	360	0.00108	RCP	0.014	10.68	4945.61	10.27	4945.22	104.00	0.25	0.50	0.80	N
22517	66	3rd / Copper	No	4943.59	11.00	4954.59	24	7955	22517	66	5.5	968	0.00133	RCP	0.014	10.61	4944.88	11.00	4943.59	99.00	0.50	0.35	1.50	N
9152	map pocket	Urban Pump Sta.	No	4929.67	27.00	4956.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9229	map pocket	Urban Pump Sta.	No	4913.15	27.00	4940.15	200	9152	9229	72	6	1665	0.00992	RCP	0.014	27.00	4929.67	27.00	4913.15	47.00	0.30	0.50	0.00	N
32823	map pocket	Urban Pump Sta.	No	4933.09	27.00	4960.09	201	9229	32823	18	2	230	-0.0867	RCP	0.014	27.00	4913.15	27.00	4933.09	13.00	0.50	0.40	0.00	N
UPSINLET	map pocket	Urban Pump Sta.	No	4930.49	28.66	4959.15	203	32823	UPS	42	3.5	103	0.02427	RCP	0.014	27.00	4933.09	28.56	4930.59	9.00	0.40	0.25	0.00	N

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			(g)	(ft)	(ft)	(ft)	(c)			(dia-in)	(ft)	(ft)	(ft/ft)		n		(ft)		(ft)	(cfs)	(f)	(f)	(f)	Y / N
32823	map pocket	Urban Pump Sta.	No	4933.09	27.00	4960.09																		
MHB19A	map pocket	Urban Pump Sta.	No	4933.00	27.00	4960.00	202	32823	MHB19A	78	6.5	426	0.00021	RCP	0.014	27	4933.09	27.00	4933.00	4.00	0.40	0.25	0.00	N
9248	68	1st / Copper	No	4947.65	10.07	4957.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22517	70	3rd / Copper	No	4943.59	11.00	4954.59	23	9248	22517	48	4	821	0.00459	RCP	0.014	10.07	4947.65	10.71	4943.88	48.00	0.40	0.35	3.50	N
9310	71	3rd / Silver	No	4942.40	11.55	4953.95	22	22517	9310	66	5.5	1089	0.00109	RCP	0.014	11.00	4943.59	11.55	4942.40	135.00	0.35	0.50	4.50	N
9348	73	3rd / Iron	No	4939.63	11.79	4951.42	21	9310	9348	66	5.5	1101	0.00252	RCP	0.014	11.55	4942.40	11.79	4939.63	117.00	0.50	0.40	4.20	N
9344	75	4th / Iron	No	4935.83	15.71	4951.54	20	9348	9344	72	6	373	0.00129	RCP	0.014	11.75	4939.67	12.35	4939.19	164.00	0.40	0.40	0.50	N
9340	77	5th / Iron	No	4935.64	16.65	4952.29	19	9344	9340	72	6	375	0.00149	RCP	0.014	12.67	4938.87	13.98	4938.31	187.00	0.40	0.40	0.70	N
22250	79	6th / Iron	No	4937.56	13.58	4951.14	18	9340	22250	72	6	346	0.00153	RCP	0.014	14.20	4938.09	13.58	4937.56	190.00	0.40	0.50	0.00	N
22429	81	7th / Iron	No	4937.26	13.07	4950.33	17	22250	22429	72	6	366	0.00082	RCP	0.014	13.58	4937.56	13.07	4937.26	173.00	0.50	0.35	0.50	N
13866	83	8th / Iron	No	4935.36	12.08	4947.44	16	22429	13866	72	6	361	0.00471	RCP	0.014	13.07	4937.26	11.88	4935.56	200.00	0.35	0.50	0.00	N
COMMERCIAL / INDIAN SCHOOL																								
6195	84	Commercial / Indian School	No	4962.97	6.74	4969.71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6246	86	Commercial / McKnight	No	4962.06	7.85	4969.91	36	6195	6246	36	3	636	0.00143	RCP	0.014	6.74	4962.97	7.85	4962.06	44.00	0.40	0.40	1.50	N
29163	88	Commercial / McKnight	No	4962.01	8.38	4970.39	37	6246	29163	36	3	120	0.00292	RCP	0.014	7.55	4962.36	8.38	4962.01	73.00	0.40	0.40	0.00	N
7635	90	Commercial / Aspen	No	4957.34	7.29	4964.63	38	29163	7635	36	3	855	0.00566	RCP	0.014	8.21	4962.18	7.29	4957.34	34.00	0.40	0.25	2.00	N
7650	92	Commercial / Baca	No	4954.93	8.35	4963.28	39	7635	7650	36	3	613	0.00393	RCP	0.014	7.29	4957.34	8.35	4954.93	49.00	0.25	0.40	1.50	N
7656	94	Broadway / Odelia	No	4953.17	9.45	4962.62	40	7650	7656	36	3	386	0.00404	RCP	0.014	8.35	4954.93	9.25	4953.37	47.00	0.40	0.50	0.50	N
33007	96	High / Odelia	No	4994.87	10.60	5005.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33027	98	Broadway / Odelia	BR8-H2	4957.15	8.20	4965.35	42	33007	33027	48	4	1096	0.03422	RCP	0.014	10.60	4994.87	7.98	4957.37	42.00	0.25	0.25	2.50	N
7656	100	Broadway / Odelia	No	4953.17	9.45	4962.62	41	33027	7656	24	2	416	0.00743	RCP	0.014	8.20	4957.15	8.56	4954.06	18.00	0.25	0.50	0.00	N
7963.05A	101	Mountain / Edith	BR8-H1 + BR7-H2	4971.98	7.11	4979.09	125	7963.05A	7963.05M	60	5.0	1793	0.01076	RCP	0.014	7.11	4971.98	10.31	4952.69	48.00	0.35	0.25	6.70	N

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			(g)	(ft)	(ft)	(ft)	(c)			(dia-in)	(ft)	(ft)	(ft/ft)		n		(ft)		(ft)	(cfs)	(f)	(f)	(f)	Y / N
																	(d)		(e)	(h)	(f)	(f)	(f)	
29132	102	Broadway / McKnight	No	4960.03	14.23	4974.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7628	104	Broadway / Hannett	No	4960.44	11.03	4971.47	43	29132	7628	36	3	638	-0.00066	RCP	0.014	14.23	4960.03	11.02	4960.45	73.00	0.25	0.25	0.50	N
7656	106	Broadway / Odelia	No	4953.17	9.45	4962.62	44	7628	7656	36	3	831	0.00762	RCP	0.014	11.03	4960.44	8.51	4954.11	58.00	0.25	0.50	2.00	N
7963.11A	107	Broadway / Air Quality Pond	No	4951.67	9.48	4961.15	45	7656	7963.11A	48	4	319	0.0047	RCP	0.014	9.45	4953.17	9.48	4951.67	136.00	0.50	0.35	0.00	N
7717	108	Broadway / Rosemont	No	4949.54	9.19	4958.73	45A	7963.11A	7717	48	4	1213	0.00184	RCP	0.014	9.26	4951.89	9.07	4949.66	76.00	0.35	0.40	3.20	N
7716	109	Broadway / Rosemont	No	4948.88	9.23	4958.11	46 (h)	7717	7716	48	4	11	0.04364	RCP	0.014	9.19	4949.54	9.05	4949.06	94.00	0.40	0.40	0.00	N
7766JB	111	Broadway / Maggie	No	4943.95	12.33	4956.28	47(h)	7716	7766JB	48	4	725	0.00582	RCP	0.014	9.23	4948.88	11.62	4944.66	73.00	0.40	0.45	3.00	N
7769JB	113	Broadway / Maggie	No	4944.52	11.81	4956.33	48	7766JB	7769JB	48	4	78	-0.00603	RCP	0.014	11.76	4944.52	11.34	4944.99	56.00	0.45	0.50	0.00	N
32865	114	Broadway / Marble	No	4945.49	11.62	4957.11	49	7769JB	32865	42	3.5	307	-0.00322	RCP	0.014	11.81	4944.52	11.60	4945.51	56.00	0.50	0.40	0.80	N
32878.B	117	Lomas/Broadway Pond	No	4946.27	9.58	4955.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7769JB	116	Broadway / Maggie	No	4944.52	11.81	4956.33	134	32878.B	7769JB	54	4.5	595	0.00294	RCP	0.014	9.58	4946.27	11.81	4944.52	88.00	0.40	0.50	0.00	N
32878	117.2	Broadway / Lomas	No	4946.60	9.16	4955.76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32878.A	117	Lomas/Broadway Pond	No	4947.19	8.39	4955.58	132	32878	32878.A	54	4.5	60	-0.00983	RCP	0.014	9.16	4946.60	8.39	4947.19	170.00	0.35	0.40	0.00	N
EDITH / LOMAS																								
29178	118	Edith / Fruit	No	4956.78	9.45	4966.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7870	120	Edith / Lomas	BR7-H1	4957.75	12.84	4970.59	50	29178	7870	36	3	441	-0.00102	RCP	0.014	5.18	4961.05	9.09	4961.50	71.00	0.50	0.50	1.10	N
7861	122	Arno / Lomas	No	4947.76	10.18	4957.94	51	7870	7861	48	4	517	0.0189	RCP	0.014	12.84	4957.75	9.96	4947.98	213.00	0.50	0.40	1.00	N
32878	124	Broadway / Lomas	No	4946.60	9.16	4955.76	52	7861	32878	54	4.5	350	0.00274	RCP	0.014	10.18	4947.76	8.96	4946.80	213.00	0.40	0.30	2.70	N
7848	126	Broadway / Lomas	No	4947.67	8.71	4956.38	53	32878	7848	72	6	308	-0.00104	RCP	0.014	8.41	4947.35	8.71	4947.67	83.00	0.30	0.40	0.50	N
7830	128	3rd / Lomas	No	4944.87	12.00	4956.87	54	7848	7830	72	6	1435	0.00195	RCP	0.014	8.71	4947.67	12.00	4944.87	105.00	0.40	0.50	2.30	N
14TH STREET / MOUNTAIN																								

TABLE MHE																								
Existing Conditions - SWMM Manhole and Storm Drain Data																								
COA Mid Valley Drainage Management Plan																								
STORM DRAIN - MANHOLE INFORMATION							STORM DRAIN - PIPE INFORMATION																	
COA MH NAME	Page #	Location Description	Inflows (External Direct)	Invert Elev.	Max. Depth-Ground Surface - Invert	Rim Elev.	SWMM Pipe ID	Inlet Node	Outlet Node	Shape of the Pipe	Max. Depth of the Pipe	Length of the Pipe	Slope	Pipe Material	Pipe Roughness	Inlet Pipe Depth	Inlet Offset (Inlet Elev.)	Outlet Pipe Depth	Outlet Offset (Outlet Elevation)	Max.Flow	Entry Loss Coeff.	Exit Loss Coeff.	Ave. Loss Coeff.	Flap Gate
				(ft)	(ft)	(ft)				(dia-in)	(ft)	(ft)	(ft/ft)		n		(ft)		(ft)	(cfs)				Y / N
			(g)				(c)										(d)		(e)	(h)	(f)	(f)	(f)	
25656	129	14th / Mountain	No	4948.86	10.32	4959.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25677	131	12th / Mountain	No	4948.59	10.97	4959.56	91	25656	25677	36	3	670	0.0004	RCP	0.014	10.32	4948.86	10.97	4948.59	53.00	0.25	0.40	2.00	N
25622	133	12th / Orchard	No	4948.24	9.58	4957.82	92	25677	25622	36	3	914	0.00031	RCP	0.014	10.90	4948.66	9.44	4948.38	43.00	0.40	0.50	2.00	N
25105	135	12th / Fruit	No	4946.31	10.20	4956.51	93	25622	25105	36	3	752	0.00235	RCP	0.014	9.58	4948.24	10.04	4946.47	47.00	0.50	0.40	1.50	N
25109	137	12th / Fruit	No	4945.87	10.67	4956.54	94	25105	25109	48	4	280	0.00157	RCP	0.014	10.20	4946.31	10.67	4945.87	99.00	0.40	0.25	1.00	N
25117	139	14th / Fruit	No	4945.26	11.29	4956.55	95	25109	25117	48	4	389	0.00152	RCP	0.014	10.67	4945.87	11.27	4945.28	71.00	0.25	0.40	1.20	N
25048	141	14th / Roma	No	4944.92	11.36	4956.28	96	25117	25048	48	4	342	0.00085	RCP	0.014	11.29	4945.26	11.31	4944.97	80.00	0.40	0.35	1.00	N
25034	143	14th / Central	No	4943.82	10.70	4954.52	97	25048	25034	60	5	747	0.00147	RCP	0.014	11.36	4944.92	10.70	4943.82	96.00	0.35	0.25	2.30	N
9045	145	14th / Lead	No	4941.61	8.65	4950.26	98	25034	9045	60	5	1976	0.00109	RCP	0.014	10.70	4943.82	8.59	4941.67	96.00	0.25	0.50	5.90	N
24902	147	14th / Iron	No	4939.07	10.00	4949.07	99	9045	24902	60	5	740	0.00165	RCP	0.014	8.65	4941.61	8.68	4940.39	137.00	0.50	0.40	2.30	N
RIO GRANDE / I-40																								
7444	149	Rio Grande / Carson	A14-H	4952.87	7.72	4960.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7476	151	Rio Grande / Dora	No	4950.32	7.85	4958.17	1	7444	7476	24	2	1361	0.00193	RCP	0.014	7.64	4952.95	7.84	4950.33	9.00	0.25	0.25	2.80	N
7518	153	Rio Grande / Central	No	4947.94	8.89	4956.83	2	7476	7518	24	2	895	0.00255	RCP	0.014	7.85	4950.32	8.79	4948.04	17.00	0.25	0.25	1.50	N
24834	155	San Pasquale / Chacoma	No	4944.52	7.06	4951.58	3	7518	24834	24	2	1804	0.00081	RCP	0.014	8.89	4947.94	5.11	4946.47	15.00	0.25	0.40	4.40	N
8985	157	San Pasquale / Laguna	No	4940.76	11.38	4952.14	4	24834	8985	36	3	1437	0.00162	RCP	0.014	7.06	4944.52	9.95	4942.19	41.00	0.40	0.40	1.70	N
24859	159	Kit Carson / Laguna	No	4938.64	12.00	4950.64	5	8985	24859	48	4	442	0.00434	RCP	0.014	11.38	4940.76	11.80	4938.84	60.00	0.40	0.50	1.50	N
9015	161	Kit Carson / Franz Huning	No	4942.91	8.45	4951.36	6	24859	9015	36	3	670	0.00482	RCP	0.014	4.5	4946.14	8.45	4942.91	19.00	0.50	0.35	0.50	N
9069	163	Kit Carson / Alcalde	No	4940.85	8.80	4949.65	7	9015	9069	36	3	1428	0.00137	RCP	0.014	8.45	4942.91	8.69	4940.96	18.00	0.35	0.45	1.00	N
8TH STREET / IRON																								
13866	164	8th / Iron	No	4935.36	12.08	4947.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
24930	165	10th / Iron	No	4937.17	11.05	4948.22	15	13866	24930	72	6	713	-0.00125	RCP	0.014	11.16	4936.28	11.05	4937.17	73.00	0.50	0.50	1.00	N
24916	167	12th / Iron	No	4938.25	10.36	4948.61	14	24930	24916	66	5.5	717	-0.00132	RCP	0.014	10.92	4937.30	10.36	4938.25	98.00	0.50	0.25	1.20	N

TABLE MHE																								
Existing Conditions - SWMM Manhole and Storm Drain Data																								
COA Mid Valley Drainage Management Plan																								
STORM DRAIN - MANHOLE INFORMATION							STORM DRAIN - PIPE INFORMATION																	
COA MH NAME	Page #	Location Description	Inflows (External Direct)	Invert Elev.	Max. Depth-Ground Surface - Invert	Rim Elev.	SWMM Pipe ID	Inlet Node	Outlet Node	Shape of the Pipe	Max. Depth of the Pipe	Length of the Pipe	Slope	Pipe Material	Pipe Roughness	Inlet Pipe Depth	Inlet Offset (Inlet Elev.)	Outlet Pipe Depth	Outlet Offset (Outlet Elevation)	Max.Flow	Entry Loss Coeff.	Exit Loss Coeff.	Ave. Loss Coeff.	Flap Gate
			(g)	(ft)	(ft)	(ft)	(c)			(dia-in)	(ft)	(ft)	(ft/ft)		n		(ft)		(ft)	(cfs)	(f)	(f)	(f)	Y / N
																	(d)		(e)	(h)	(f)	(f)	(f)	
24902	169	14th / Iron	No	4939.07	10.00	4949.07	13	24916	24902	66	5.5	659	-0.0012	RCP	0.014	10.33	4938.28	10.00	4939.07	90.00	0.25	0.40	1.00	N
24902A	170	Broadcast Plaza / Iron	No	4939.73	8.82	4948.55	12	24902	24902A	72	6	479	0.00027	RCP	0.014	9.21	4939.86	8.82	4939.73	129.00	0.40	0.40	0.50	N
9083	171	Broadcast Plaza / Iron	No	4935.33	12.62	4947.95	11	24902A	9083	60	5	376	0.01247	RCP	0.014	8.53	4940.02	12.62	4935.33	124.00	0.40	0.40	0.00	N
24902A	172	Broadcast Plaza / Iron	No	4939.73	8.82	4948.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9069	173	Alcalde / Iron	No	4940.85	8.80	4949.65	9	24902A	9069	36	3	514	-0.00222	RCP	0.014	8.82	4939.73	8.78	4940.87	17.00	0.40	0.45	1.40	N
24997	175	Alcalde / Iron	No	4936.14	13.35	4949.49	8	9069	24997	36	3	19	0.07158	RCP	0.014	8.31	4941.34	9.51	4939.98	30.00	0.45	0.30	0.00	N
9083	177	Broadcast Plaza / Iron	No	4935.33	12.62	4947.95	10	24997	9083	48	4	384	0.00211	RCP	0.014	13.35	4936.14	12.62	4935.33	69.00	0.30	0.40	0.70	N
2ND STREET / ATLANTIC																								
9407	179	2nd / Atlantic	No	4944.40	6.42	4950.82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9426	181	2nd / Santa Fe	No	4943.03	6.39	4949.42	90	9407	9426	42	3.5	393	0.00338	RCP	0.014	6.42	4944.40	6.35	4943.07	15.00	0.30	0.35	0.00	N
22194	183	2nd / Pacific	No	4942.00	7.04	4949.04	89	9426	22194	48	4	356	0.00287	RCP	0.014	6.39	4943.03	7.03	4942.01	33.00	0.35	0.40	0.00	N
22191	185	3rd / Pacific	No	4940.79	8.13	4948.92	88	22194	22191	54	4.5	296	0.00409	RCP	0.014	7.04	4942.00	8.13	4940.79	33.00	0.40	0.25	0.00	N
9431	187	4th / Pacific	No	4939.27	9.59	4948.86	87	22191	9431	54	4.5	328	0.00463	RCP	0.014	8.13	4940.79	9.59	4939.27	33.00	0.25	0.50	0.50	N
22176	189	4th / Pacific	No	4938.45	10.72	4949.17	86	9431	22176	54	4.5	172	0.00552	RCP	0.014	9.46	4939.40	10.72	4938.45	42.00	0.50	0.25	0.00	N
22168	191	Barelas / Pacific	No	4936.56	9.92	4946.48	85	22176	22168	54	4.5	612	0.00309	RCP	0.014	10.72	4938.45	9.92	4936.56	42.00	0.25	0.50	1.00	N
22174	193	8th / Pacific	No	4928.49	16.58	4945.07	84	22168	22174	60	5	337	0.02395	RCP	0.014	9.92	4936.56	16.58	4928.49	42.00	0.50	0.40	0.50	N
22155	195	9th / Pacific	No	4928.35	16.89	4945.24	83	22174	22155	60	5	386	0.00036	RCP	0.014	16.58	4928.49	16.89	4928.35	50.00	0.40	0.50	0.50	N
9141	197	10th / Pacific	No	4928.21	17.88	4946.09	82	22155	9141	60	5	510	0.00027	CMP	0.024	16.89	4928.35	17.88	4928.21	66.00	0.50	0.40	0.00	N
9143	198	11th / Pacific	No	4927.28	20.70	4947.98	76	9141	9143	96	8	210	0.00443	CMP	0.024	17.88	4928.21	20.70	4927.28	235.00	0.40	0.40	0.00	N
22145	199	10th / Pacific	No	4925.85	24.38	4950.23	77	9143	22145	96	8	377	0.00379	CMP	0.024	20.70	4927.28	24.38	4925.85	235.00	0.40	0.25	0.00	N
22144	201	10th / Pacific	No	4924.79	22.45	4947.24	78	22145	22144	96	8	370	0.00286	CMP	0.024	24.38	4925.85	22.45	4924.79	235.00	0.25	0.25	0.00	N
22143	203	9th / Pacific	No	4923.99	22.50	4946.49	79	22144	22143	96	8	202	0.00396	CMP	0.024	22.45	4924.79	22.50	4923.99	235.00	0.25	0.25	0.00	N

TABLE MHE																									
Existing Conditions - SWMM Manhole and Storm Drain Data																									
COA Mid Valley Drainage Management Plan																									
STORM DRAIN - MANHOLE INFORMATION							STORM DRAIN - PIPE INFORMATION																		
COA MH NAME	Page #	Location Description	Inflows (External Direct)	Invert Elev.	Max. Depth-Ground Surface - Invert	Rim Elev.	SWMM Pipe ID	Inlet Node	Outlet Node	Shape of the Pipe	Max. Depth of the Pipe	Length of the Pipe	Slope	Pipe Material	Pipe Roughness	Inlet Pipe Depth	Inlet Offset (Inlet Elev.)	Outlet Pipe Depth	Outlet Offset (Outlet Elevation)	Max.Flow	Entry Loss Coeff.	Exit Loss Coeff.	Ave. Loss Coeff.	Flap Gate	
			(g)	(ft)	(ft)	(ft)				(dia-in)	(ft)	(ft)	(ft/ft)		n		(ft)		(ft)	(cfs)	(f)	(f)	(f)	Y / N	
							(c)										(d)		(e)	(h)	(f)	(f)	(f)		
10456	205	9th / Pacific	No	4922.76	20.45	4943.21	80	22143	10456	96	8	301	0.00409	CMP	0.024	22.50	4923.99	20.45	4922.76	235.00	0.25	0.35	0.00	N	
10457	207	Barelas Pump Sta.	No	4922.01	26.60	4948.61	81	10456	BaPSINLET	96	8	243	-0.04514	CMP	0.024	20.45	4922.76	14.88	4933.73	262.00	0.35	0.25	0.00	N	
22169	map pocket	Barelas / Pacific	No	4939.35	6.75	4946.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9453	map pocket	Barelas / Cromwell	No	4939.07	7.51	4946.58	204	22169	9453	30	2.5	194	0.00144	RCP	0.014	6.75	4939.35	7.51	4939.07	37.00	0.50	0.50	2.50	N	
22127	map pocket	Barelas / Lewis	No	4937.86	7.66	4945.52	205	9453	22127	30	2.5	870	0.00139	RCP	0.014	7.51	4939.07	7.66	4937.86	24.00	0.50	0.45	5.30	N	
10456	--	Riverside Drain	No	4922.76	20.45	4943.21	137	22127	10456	27	2.25	1157	0.01305	RCP	0.014	7.66	4937.86	20.45	4922.76	30.00	0.45	0.35	3.80	N	
24859	--	Kit Carson / Laguna	No	4938.64	12.00	4950.64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
24997	--	Alcalde / Iron	No	4936.14	13.35	4949.49	500	24859	24997	48	4.00	2116	0.00118	RCP	0.014	12	4938.64	13.35	4936.14	56.00	0.50	0.30	0.00	N	
(a) Additional depth of water beyond the maximum depth that is allowed before the junction floods (feet or meters). This parameter can be used to simulate bolted manhole covers or force main connections.																									
(b) Area occupied by ponded water atop the junction after flooding occurs (sq. feet or sq. meters). If the Allow Ponding simulation option is turned on, a non-zero value of the parameter will allow ponded water to be stored and subsequently returned to the conveyance system when capacity exists.																									
(c) Defined by Smith Engineering Co. - Not a City of Albuquerque number.																									
(d) Depth or elevation of the conduit invert above the node invert at the upstream end of the conduit (feet or meters)																									
(e) Depth or elevation of the conduit invert above the node invert at the downstream end of the conduit (feet or meters).																									
(f) See Table XX Manhole Headloss Coefficients																									
(g) Hydrographs computed from previous drainage reports.																									
(h) Two parallel 48-in. pipes																									

TABLE MHC																							
Existing Conditions SWMM Manhole Headloss Coefficient Table																							
Storm Drain	Inlet Manhole				Outlet Manhole				Manholes in Between														
	COA #	Headloss Coefficient Through MH			COA #	Headloss Coefficient Through MH			Headloss Coefficient Through MH														
		Type of MH (A to G)	HL Coeff.	Total Inlet Loss Coeff.		Type of MH (A to G)	HL Coeff.	Total Outlet Loss Coeff.	A		B		C		D		E		F		G		Total Avg. Loss Coeff.
SWMM Conduit #								# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.		
57	6149	D	0.7	0.35	6231	B	0.6	0.30	5	0.5	1	0.6		0.8		0.7		0.8		0.9		1.0	3.10
35	6045	D	0.7	0.35	15184	D	0.7	0.35	1	0.5		0.6		0.8	1	0.7	1	0.8		0.9		1.0	2.00
34	15184	D	0.7	0.35	6218	C	0.8	0.40	2	0.5		0.6		0.8		0.7		0.8		0.9		1.0	1.00
36	6195	E	0.8	0.40	6246	C	0.8	0.40	3	0.5		0.6		0.8		0.7		0.8		0.9		1.0	1.50
37	6246	C	0.8	0.40	29163	C	0.8	0.40		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
38	29163	C	0.8	0.40	7635	A	0.5	0.25	4	0.5		0.6		0.8		0.7		0.8		0.9		1.0	2.00
39	7635	A	0.5	0.25	7650	C	0.8	0.40	3	0.5		0.6		0.8		0.7		0.8		0.9		1.0	1.50
40	7650	C	0.8	0.40	7656	G	1	0.50	1	0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.50
43	29132	A	0.5	0.25	7628	A	0.5	0.25	1	0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.50
44	7628	A	0.5	0.25	7656	G	1	0.50	4	0.5		0.6		0.8		0.7		0.8		0.9		1.0	2.00
42	33007	A	0.5	0.25	33027	A	0.5	0.25	5	0.5		0.6		0.8		0.7		0.8		0.9		1.0	2.50
41	33027	A	0.5	0.25	7656	G	1	0.50		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
45	7656	G	1	0.50	7963.11A	D	0.7	0.35		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
45A	7963.11A	D	0.7	0.35	7717	C	0.8	0.40	5	0.5		0.6		0.8	1	0.7		0.8		0.9		1.0	3.20
46	7717	C	0.8	0.40	7716	C	0.8	0.40		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
33	6218	C	0.8	0.40	19719	C	0.8	0.40	1	0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.50
32	19719	C	0.8	0.40	7654	A	0.5	0.25	6	0.5		0.6		0.8		0.7		0.8		0.9		1.0	3.00
31	7654	A	0.5	0.25	7714	A	0.5	0.25	3	0.5		0.6		0.8		0.7		0.8		0.9		1.0	1.50
58	6231	B	0.6	0.30	6259	A	0.5	0.25	1	0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.50
59	6259	A	0.5	0.25	7638	C	0.8	0.40	2	0.5	2	0.6		0.8		0.7		0.8		0.9		1.0	2.20
60	7638	C	0.8	0.40	25807	B	0.6	0.30		0.5	1	0.6		0.8		0.7		0.8		0.9		1.0	0.60
61	25807	B	0.6	0.30	25349	B	0.6	0.30	5	0.5		0.6		0.8	2	0.7		0.8		0.9		1.0	3.90
91	25656	A	0.5	0.25	25677	C	0.8	0.40	4	0.5		0.6		0.8		0.7		0.8		0.9		1.0	2.00
92	25677	C	0.8	0.40	25622	G	1	0.50	4	0.5		0.6		0.8		0.7		0.8		0.9		1.0	2.00
1	7444	A	0.5	0.25	7476	A	0.5	0.25	4	0.5		0.6	1	0.8		0.7		0.8		0.9		1.0	2.80
2	7476	A	0.5	0.25	7518	A	0.5	0.25	3	0.5		0.6		0.8		0.7		0.8		0.9		1.0	1.50
3	7518	A	0.5	0.25	24834	E	0.8	0.40	4	0.5		0.6		0.8	1	0.7	1	0.8	1	0.9		1.0	4.40
47	7716	C	0.8	0.40	JB7766	F	0.9	0.45	6	0.5		0.6		0.8		0.7		0.8		0.9		1.0	3.00
48	JB7766	F	0.9	0.45	JB7769	G	1	0.50		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
49	JB7769	G	1	0.50	32865	C	0.8	0.40		0.5		0.6	1	0.8		0.7		0.8		0.9		1.0	0.80
50	29178	G	1	0.50	7870	G	1	0.50	1	0.5	1	0.6		0.8		0.7		0.8		0.9		1.0	1.10
51	7870	G	1	0.50	7861	E	0.8	0.40	2	0.5		0.6		0.8		0.7		0.8		0.9		1.0	1.00
52	7861	E	0.8	0.40	32878	B	0.6	0.30	3	0.5	2	0.6		0.8		0.7		0.8		0.9		1.0	2.70
53	32878	B	0.6	0.30	7848	C	0.8	0.40	1	0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.50
54	7848	C	0.8	0.40	7830	G	1	0.50	3	0.5		0.6	1	0.8		0.7		0.8		0.9		1.0	2.30
30	7714	A	0.5	0.25	7740	G	1	0.50	6	0.5		0.6		0.8		0.7		0.8		0.9		1.0	3.00
29	7740	G	1	0.50	7830	G	1	0.50	5	0.5	3	0.6	1	0.8		0.7	1	0.8		0.9		1.0	5.90
28	7830	G	1	0.50	7865	G	1	0.50	1	0.5	1	0.6		0.8		0.7		0.8		0.9		1.0	1.10
27	7865	G	1	0.50	7908	G	1	0.50	2	0.5		0.6		0.8		0.7		0.8		0.9		1.0	1.00
26	7908	G	1	0.50	7912	A	0.5	0.25		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
25	7912	A	0.5	0.25	7955	G	1	0.50		0.5		0.6		0.8		0.7	1	0.8		0.9		1.0	0.80

Existing Conditions SWMM Manhole Headloss Coefficient Table																							TABLE MHC
Storm Drain	Inlet Manhole				Outlet Manhole				Manholes in Between														
	COA #	Headloss Coefficient Through MH			COA #	Headloss Coefficient Through MH			Headloss Coefficient Through MH														
		Type of MH (A to G)	HL Coeff.	Total Inlet Loss Coeff.		Type of MH (A to G)	HL Coeff.	Total Outlet Loss Coeff.	A		B		C		D		E		F		G		Total Avg. Loss Coeff.
SWMM Conduit #								# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.		
24	7955	G	1	0.50	22517	D	0.7	0.35	1	0.5		0.6		0.8		0.7		0.8		0.9	1	1.0	1.50
55	7830	G	1	0.50	7816	D	0.7	0.35		0.5		0.6		0.8	1	0.7		0.8		0.9	1	1.0	1.70
56	7816	D	0.7	0.35	7815	G	1	0.50	1	0.5	1	0.6		0.8		0.7	1	0.8		0.9		1.0	1.90
62	25349	B	0.6	0.30	25352	E	0.8	0.40		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
63	25352	E	0.8	0.40	7815	G	1	0.50	1	0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.50
64	7815	G	1	0.50	25253	B	0.6	0.30	1	0.5	2	0.6		0.8	2	0.7		0.8		0.9		1.0	3.10
65	25253	B	0.6	0.30	7977	D	0.7	0.35		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
66	7977	D	0.7	0.35	25238	C	0.8	0.40		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
67	25238	C	0.8	0.40	25240	G	1	0.50		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
68	25240	G	1	0.50	22584	D	0.7	0.35	1	0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.50
69	22584	D	0.7	0.35	9260	A	0.5	0.25	3	0.5		0.6		0.8		0.7		0.8		0.9		1.0	1.50
93	25622	G	1	0.50	25105	C	0.8	0.40	3	0.5		0.6		0.8		0.7		0.8		0.9		1.0	1.50
94	25105	C	0.8	0.40	25109	A	0.5	0.25		0.5		0.6		0.8		0.7		0.8		0.9	1	1.0	1.00
95	25109	A	0.5	0.25	25117	C	0.8	0.40	1	0.5		0.6		0.8	1	0.7		0.8		0.9		1.0	1.20
96	25117	C	0.8	0.40	25048	D	0.7	0.35	2	0.5		0.6		0.8		0.7		0.8		0.9		1.0	1.00
97	25048	D	0.7	0.35	25034	A	0.5	0.25	3	0.5		0.6		0.8		0.7	1	0.8		0.9		1.0	2.30
98	25034	A	0.5	0.25	9045	G	1	0.50	9	0.5		0.6		0.8	2	0.7		0.8		0.9		1.0	5.90
4	24834	E	0.8	0.40	8985	E	0.8	0.40	1	0.5	2	0.6		0.8		0.7		0.8		0.9		1.0	1.70
5	8985	E	0.8	0.40	24859	G	1	0.50	1	0.5		0.6		0.8		0.7		0.8		0.9	1	1.0	1.50
6	24859	G	1	0.50	9015	D	0.7	0.35	1	0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.50
7	9015	D	0.7	0.35	9069	F	0.9	0.45	2	0.5		0.6		0.8		0.7		0.8		0.9		1.0	1.00
23	9248	E	0.8	0.40	22517	D	0.7	0.35	4	0.5	1	0.6		0.8		0.7		0.8	1	0.9		1.0	3.50
22	22517	D	0.7	0.35	9310	G	1	0.50	5	0.5		0.6		0.8		0.7		0.8		0.9	2	1.0	4.50
21	9310	G	1	0.50	9348	C	0.8	0.40	7	0.5		0.6		0.8	1	0.7		0.8		0.9		1.0	4.20
20	9348	C	0.8	0.40	9944	E	0.8	0.40	1	0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.50
19	9344	E	0.8	0.40	9340	E	0.8	0.40		0.5		0.6		0.8	1	0.7		0.8		0.9		1.0	0.70
18	9340	E	0.8	0.40	22250	G	1	0.50		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
17	22250	G	1	0.50	22429	D	0.7	0.35	1	0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.50
16	22429	D	0.7	0.35	13866	G	1	0.50		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
70	9260	A	0.5	0.25	13866	G	1	0.50	5	0.5		0.6		0.8	1	0.7		0.8		0.9		1.0	3.20
71	13866	G	1	0.50	7963.T	D	0.7	0.35	4	0.5	2	0.6		0.8		0.7		0.8		0.9		1.0	3.20
71A	7963.T	D	0.7	0.35	32981	A	0.5	0.25		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
72	32981	A	0.5	0.25	9121	A	0.5	0.25		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
73	9121	A	0.5	0.25	9129	A	0.5	0.25		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
15	13866	G	1	0.50	24930	G	1	0.50	2	0.5		0.6		0.8		0.7		0.8		0.9		1.0	1.00
14	24930	G	1	0.50	24916	A	0.5	0.25	1	0.5		0.6		0.8	1	0.7		0.8		0.9		1.0	1.20
13	24916	A	0.5	0.25	24902	E	0.8	0.40	2	0.5		0.6		0.8		0.7		0.8		0.9		1.0	1.00
99	9045	G	1	0.50	24902	E	0.8	0.40	2	0.5	1	0.6		0.8	1	0.7		0.8		0.9		1.0	2.30
12	24902	E	0.8	0.40	24902A	E	0.8	0.40	1	0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.50
11	24902A	E	0.8	0.40	9083	E	0.8	0.40		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
9	24902A	E	0.8	0.40	9069	F	0.9	0.45	1	0.5		0.6		0.8		0.7		0.8	1	0.9		1.0	1.40

Existing Conditions SWMM Manhole Headloss Coefficient Table																							TABLE MHC
Storm Drain	Inlet Manhole				Outlet Manhole				Manholes in Between														
	COA #	Headloss Coefficient Through MH			COA #	Headloss Coefficient Through MH			Headloss Coefficient Through MH														
		Type of MH (A to G)	HL Coeff.	Total Inlet Loss Coeff.		Type of MH (A to G)	HL Coeff.	Total Outlet Loss Coeff.	A		B		C		D		E		F		G		Total Avg. Loss Coeff.
SWMM Conduit #								# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.		
8	9069	F	0.9	0.45	24997	B	0.6	0.30		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
10	24997	B	0.6	0.30	9083	E	0.8	0.40		0.5		0.6		0.8	1	0.7		0.8		0.9		1.0	0.70
90	9407	B	0.6	0.30	9426	D	0.7	0.35		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
89	9426	D	0.7	0.35	22194	C	0.8	0.40		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
88	22194	C	0.8	0.40	22191	A	0.5	0.25		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
87	22191	A	0.5	0.25	9431	G	1	0.50	1	0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.50
86	9431	G	1	0.50	22176	A	0.5	0.25		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
85	22176	A	0.5	0.25	22168	G	1	0.50	2	0.5		0.6		0.8		0.7		0.8		0.9		1.0	1.00
84	22168	G	1	0.50	22174	E	0.8	0.40	1	0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.50
83	22174	E	0.8	0.40	22155	G	1	0.50	1	0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.50
82	22155	G	1	0.50	9141	E	0.8	0.40		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
74	9129	A	0.5	0.25	MHB22410	E	0.8	0.40		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
74A	MHB22410	E	0.8	0.40	22410	E	0.8	0.40		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
75	22410	E	0.8	0.40	9141	E	0.8	0.40		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
76	9141	E	0.8	0.40	9143	C	0.8	1.4 [a]		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
77	9143	C	0.8	0.40	22145	A	0.5	0.25		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
78	22145	A	0.5	0.25	22144	A	0.5	0.25		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
79	22144	A	0.5	0.25	22143	A	0.5	0.25		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
80	22143	A	0.5	0.25	10456	D	0.7	0.35		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
81	10456	D	0.7	0.35	10457	A	0.5	0.25		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
125	7963.05A	D	0.7	0.35	7963.05M	A	0.5	0.25	3	0.5	6	0.6	2	0.8		0.7		0.8		0.9		1.0	6.70
132	32878	D	0.7	0.35	32878.A	C	0.8	0.40		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
134	32878.B	C	0.8	0.40	JB7769	G	1	0.50		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
129	7963.05A	G	1	0.50	AQ Pond	G	1	0.50		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
128	33027	G	1	0.50	AQ Pond	G	1	0.50		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
127	AQ Pond	G	1	0.50	7963.11A	G	1	0.50		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
131	B. Pond	G	1	0.50	32878.B	G	1	0.50		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
130	32878.A	G	1	0.50	B. Pump	G	1	0.50		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
126	7963.T	G	1	0.50	Ting. Pond	G	1	0.50		0.5		0.6		0.8		0.7		0.8		0.9		1.0	0.00
74A	MHB22410	G	1	0.50	22410	A	0.5	0.25		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.00
204	22169	G	1	0.50	9453	G	1	0.50		0.5		0.0		0.0		0.0		0.0		0.0		0.0	0.00
205	9453	G	1	0.50	22127	F	0.9	0.45	5	0.5		0.0		0.0	4.0	0.7		0.0		0.0		0.0	5.30
137	22127	F	0.9	0.45	10456	D	0.7	0.35	2	0.5		0.0		0.0	4.0	0.7		0.0		0.0		0.0	3.80
200	9152	B	0.6	0.30	9229	G	1	0.50		0.0		0.0		0.8		0.0		0.8		0.0		0.0	0.00
201	9229	G	1	0.50	32823	C	0.8	0.40		0.0		0.0		0.8		0.0		0.0		0.0		0.0	0.00
202	32823	C	0.8	0.40	UPSINLET	A	0.5	0.25		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.00
203	32823	C	0.8	0.40	MHB19A	A	0.5	0.25		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.00
500	24859	G	1	0.50	24997	B	0.6	0.30		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.00

- A. Trunkline only with no bend at the junction.
B. Trunkline only with 45° bend at the junction.
C. Trunkline only with 90° bend at the junction.

SEE HEADLOSS COEFFICIENT - TABLE HC - ATTACHED

Existing Conditions SWMM Manhole Headloss Coefficient Table																							TABLE MHC
Storm Drain	Inlet Manhole				Outlet Manhole			Manholes in Between															
	COA #	Headloss Coefficient Through MH			COA #	Headloss Coefficient Through MH		Headloss Coefficient Through MH															
Type of MH (A to G)		HL Coeff.	Total Inlet Loss Coeff.	Type of MH (A to G)		HL Coeff.	Total Outlet Loss Coeff.	A		B		C		D		E		F		G		Total Avg. Loss Coeff.	
								# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.	# of MH	HL Coeff.		# of MH
SWMM Conduit #																							
D. Trunkline with one lateral.																							
E. Two roughly equivalent entrance lines with <90° between lines.																							
F. Two roughly equivalent entrance lines with >90° between lines.																							
G. Three or more entrance lines.																							
a. Total Outlet Coefficient increased to 1.4 to account for losses within MH due to crossing 72" SD																							

Headloss Coefficients for Junctions

TABLE HC (1 OF 2)



These are typical headloss coefficients used in the standard method for estimating headloss through manholes and junctions.

Table B-3: Typical Headloss Coefficients

Type of Manhole	Diagram	Headloss Coefficient
Trunkline only with no bend at the junction		0.5 A
Trunkline only with 45° bend at the junction		0.6 B
Trunkline only with 90° bend at the junction		0.8 C
Trunkline with one lateral		Small 0.6 Large 0.7 D
Two roughly equivalent entrance lines with angle < 90° between lines		0.8 E ✓
Two roughly equivalent entrance lines with angle > 90° between lines		0.9 F
Three or more entrance lines		1.0 G

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SOURCE: BENTLEY SEWER GEMS

TABLE HC (20F2)

ENTRANCE LOSS COEFFICIENTS

Outlet Control, Full or Partly Full Entrance Head Loss

Pipe, Concrete

Projecting from fill, socket end (groove-end)	0.2
Projecting from fill, sq. cut end	0.5
Headwall or headwall and wingwalls	
Socket end of pipe (groove-end)	0.2
Square-edge	0.5
Rounded (radius = 1/12D)	0.2
Mitered to conform to fill slope	0.7
*End-Section conforming to fill slope	0.5
Beveled edges, 33.7° or 45° bevels	0.2
Side- or slope-tapered inlet	0.2

Pipe, or Pipe-Arch, Corrugated Metal

Projecting from fill (no headwall)	0.9
Headwall or headwall and wingwalls square-edge	0.5
Mitered to conform to fill slope, paved or unpaved slope	0.7
* End-Section conforming to fill slope	0.5
Beveled edges, 33.7° or 45° bevels	0.2
Side- or slope-tapered inlet	0.2

Box, Reinforced Concrete

Headwall parallel to embankment (no wingwalls)	
Square-edged on 3 edges	0.5
Rounded 3 edges to radius of 1/12 barrel dimension, or beveled edges 3 sides	0.2
Wingwalls at 30° to 75° to barrel	
Square-edged at crown	0.4
Crown edge rounded to radius of 1/12 barrel dimension, or beveled top edge	0.2
Wingwall at 10° to 25° to barrel	
Square-edged at crown	0.5
Wingwalls parallel (extension of sides)	
Square-edged at crown	0.7
Side- or slope-tapered inlet	0.2

*Note: "End Section conforming to fill slope," made of either metal or concrete, are the sections commonly available from manufacturers. From limited hydraulic tests they are equivalent in operation to a headwall in both inlet and outlet control. Some end sections, incorporating a closed taper in their design have a superior hydraulic performance.

SOURCE: BENTLY CULVERT MASTER