



STORM SEWER SYSTEM

PID : 106959 **Date :** 04/03/2025 **Project :** DEL-71-8.91 (Phase A) **Location :** I-71 amd Sunbury Parkway

Description : East Sunbury Parkway, and Wilson Road outlet to BMP Pond

Designer : TAZ

Rainfall Area: C

Just Full Capacity Frequency (yrs.) : 10

Hydraulic Gradient Frequency (yrs.) : 25

Minimum Pipe Size : 12.00

Tailwater Elevation (ft.): 958.78*

JUNCTION	STATION	ΔAREA	ΔCA	BEGIN	RAINFALL	DISCHARGE		PIPE			F/L PIPE	MEAN	JUST FULL	FRICT	HYGR EL.	COVER	COVER	COVER	INLET TYPE	
From	To	Σ AREA	Σ CA	TIME	INTENSITY	(cfs.)	(cfs.)	DIAM.	LENGTH	SLOPE	IN / OUT	VEL	CAPACITY	SLOPE	IN / OUT	IN / OUT	MINUS	MINUS	MANNING'S	
	From To	(acres)		(min.)	(10 yrs.) (25 yrs.)	(10 yrs.) (25 yrs.)		(in.)	(ft.)	(ft./ft.)	(ft.)	(fps.)	(cfs.)	(ft./ft.)	(ft.)	(ft.)	HY GR	CROWN	'n'	
WR05	WR06	0.33	0.23	10.00	5.32	5.94	1.2	1.4	12	79.0	0.0150	971.74	4.30	4.07	0.0020	972.16	975.74	3.58	3.00	CB 3A
	begin	0.33	0.23									970.56				971.31	975.74			0.015
WR06	WR07	0.30	0.21	10.31	5.26	5.94	2.3	2.6	12	12.0	0.0150	970.56	5.05	4.07	0.0071	971.31	975.74	4.43	4.19	CB 3A
	107+50	0.63	0.44									970.38				971.22	976.70			0.015
WR07	WR10	0.00	0.00	10.35	5.25	5.75	2.3	2.5	12	196.0	0.0126	970.38	4.72	3.73	0.0067	971.01	976.70	5.69	5.32	MH 3
	105+50	0.63	0.44									967.91				968.91	973.10			0.015
WR08	WR09	0.28	0.20	10.00	5.32	5.75	1.1	1.1	12	79.0	0.0082	968.65	3.31	3.00	0.0014	969.10	972.15	3.05	2.50	CB 3A
	begin	0.91	0.64									968.01				968.97	972.15			0.015
WR09	WR10	0.27	0.18	10.40	5.24	5.75	2.0	2.2	12	12.0	0.0082	968.01	3.87	3.00	0.0051	968.97	972.15	3.18	3.15	CB 6
	105+50	1.18	0.82									967.91				968.91	973.10			0.015
WR10	WR14	0.00	0.00	11.04	5.12	5.75	4.2	4.7	15	46.0	0.0050	967.66	3.44	4.26	0.0071	968.91	973.10	4.19	4.19	MH 3
	105+00	1.18	0.82									967.43				968.50	972.95			0.015
WR11	WR12	5.23	2.65	33.61	2.85	3.29	7.6	8.7	18	27.0	0.0090	968.24	5.50	9.27	0.0092	969.84	971.24	1.40	1.50	CB 2-2B
	begin	6.41	3.47									968.00				969.60	971.99			0.015
WR17	WR12	0.33	0.28	10.00	5.32	3.29	1.5	0.9	12	46.0	0.0100	968.96	3.87	3.32	0.0009	969.63	972.15	2.51	2.19	CB 3A
	begin	6.75	3.75									968.50				969.60	971.99			0.015

* Critical Depth for 25 yr Freq. = 30.7"



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From	To	From To	Σ AREA (acres)	Σ CA	TIME (min.)	(10 yrs.)	(25 yrs.)	(10 yrs.)	(25 yrs.)	DIAM. (in.)	LENGTH (ft.)	SLOPE (ft./ft.)	IN / OUT (ft.)	VEL (fps.)	CAPACITY (cfs.)	SLOPE (ft./ft.)	IN / OUT (ft.)	IN / OUT (ft.)	MINUS HY GR	MINUS CROWN	MANNING'S 'n'
WR12	WR13	105+00 105+00	0.14 6.89	0.11 3.86	33.69	2.85	3.29	8.6	10.0	18	79.0	0.0090	968.00 967.29	5.57	9.28	0.0120	969.60 968.65	971.99 971.99	2.40	2.50	CB 3 0.015
WR13	WR14	105+00 105+00	0.43 7.31	0.30 4.15	33.93	2.84	3.29	9.4	10.9	21	12.0	0.0090	967.04 966.93	5.90	14.01	0.0063	968.50 968.42	971.99 972.95	3.50	3.21	CB 3 0.015
WR14	WR16	105+00 102+90	0.00 7.31	0.00 4.15	33.96	2.84	3.24	11.8	13.4	27	206.0	0.0025	966.43 965.92	3.81	14.44	0.0025	968.28 967.68	972.95 975.55	4.67	4.27	MH 3 0.015
WR15	WR16	102+90 begin 102+90	0.15 7.47	0.14 4.29	10.00	5.32	5.98	0.7	0.8	12	42.0	0.0400	969.99 968.31	5.29	6.64	0.0007	970.24 969.00	974.99 975.55	4.75	4.00	I 2 0.015
WR16	16	102+90 109+23	0.00 7.47	0.00 4.29	34.86	2.79	3.23	12.0	13.9	27	34.0	0.0075	965.92 965.66	5.89	25.00	0.0027	967.52 967.43	975.55 975.30	8.03	7.38	MH 3 0.015
SP40	SP41	105+75 begin 105+75	0.49 7.96	0.37 4.66	10.00	5.32	6.01	1.9	2.2	12	5.0	0.0200	973.61 973.51	5.39	4.70	0.0050	974.35 974.33	978.61 979.36	4.26	4.00	CB 3A 0.015
SP41	SP43	105+75 107+76	0.00 7.96	0.00 4.66	10.02	5.32	5.72	1.9	2.1	12	197.0	0.0112	973.51 971.31	4.33	3.51	0.0046	974.09 972.31	979.36 977.16	5.27	4.85	MH 3 0.015
SP42	SP43	107+76 begin 107+76	0.54 8.50	0.40 5.05	10.00	5.32	5.72	2.1	2.3	12	5.0	0.0200	971.41 971.31	5.52	4.70	0.0054	972.34 972.31	976.41 977.16	4.07	4.00	CB 3 0.015
SP43	SP44	107+76 109+17	0.00 8.50	0.00 5.05	10.77	5.17	5.72	3.9	4.4	15	137.0	0.0050	971.06 970.38	3.68	4.26	0.0060	972.31 971.42	977.16 976.00	4.85	4.85	MH 3 0.015
WR01	WR02	100+21 begin 100+37	0.26 8.76	0.19 5.24	15.00	4.47	5.09	0.8	1.0	12	14.0	0.0100	971.50 971.36	3.34	3.32	0.0010	972.08 972.06	973.00 975.31	0.92	0.50	CB 2-2B 0.015
WR02	SP44	100+37 109+17	0.02 8.78	0.02 5.25	15.07	4.46	5.06	0.9	1.0	12	48.0	0.0153	971.36 970.63	4.00	4.11	0.0011	971.71 971.34	975.31 976.00	3.60	2.95	CB 3A 0.015



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JUNCTION		STATION	ΔAREA	ΔCA	BEGIN	RAINFALL		DISCHARGE		PIPE			F/L PIPE	MEAN	JUST FULL	FRICT	HYGR EL.	COVER	COVER	COVER	INLET TYPE
From	To	From To	Σ AREA (acres)	Σ CA	TIME (min.)	(10 yrs.)	(25 yrs.)	(10 yrs.)	(25 yrs.)	DIAM. (in.)	LENGTH (ft.)	SLOPE (ft./ft.)	IN / OUT (ft.)	VEL (fps.)	CAPACITY (cfs.)	SLOPE (ft./ft.)	IN / OUT (ft.)	IN / OUT (ft.)	MINUS HY GR	MINUS CROWN	MANNING'S 'n'
SP44	SP45	109+17 109+42	0.00 8.78	0.00 5.25	15.27	4.44	5.03	4.3	4.9	18	36.0	0.0050	970.13 969.95	3.90	6.92	0.0028	971.22 971.12	976.00 975.23	4.78	4.38	MH 3 0.015
SP45	SP46	109+42 109+42	0.17 8.95	0.15 5.40	15.42	4.42	4.97	4.9	5.5	18	91.0	0.0050	969.95 969.49	4.01	6.92	0.0037	971.06 970.72	975.23 975.09	4.17	3.79	CB 3A 0.015
SP46	SP51	109+42 109+42	0.17 9.12	0.15 5.56	15.80	4.36	4.97	5.5	6.3	18	15.0	0.0050	969.49 969.42	4.10	6.92	0.0048	970.72 970.65	975.09 975.40	4.37	4.10	CB 3A 0.015
SP47	SP48	105+75 begin	0.43 9.55	0.32 5.88	10.00	5.32	6.01	1.7	1.9	12	5.0	0.0200	973.71 973.61	5.23	4.70	0.0040	974.43 974.41	978.71 979.46	4.28	4.00	CB 3A 0.015
SP48	SP50	105+75 107+63	0.00 9.55	0.00 5.88	10.02	5.32	5.85	1.7	1.9	12	184.0	0.0112	973.61 971.55	4.21	3.51	0.0038	974.16 972.34	979.46 977.40	5.30	4.85	MH 3 0.015
SP49	SP50	107+63 begin	0.39 9.94	0.31 6.19	10.00	5.32	6.01	1.7	1.9	12	5.0	0.0200	971.65 971.55	5.19	4.70	0.0037	972.36 972.34	976.65 977.40	4.29	4.00	CB 3 0.015
SP50	SP51	107+63 109+42	0.00 9.94	0.00 6.19	10.74	5.17	5.73	3.3	3.6	15	175.0	0.0093	971.30 969.67	4.62	5.82	0.0042	972.05 970.68	977.40 975.40	5.35	4.85	MH 3 0.015
SP51	16	109+42 109+23	0.00 9.94	0.00 6.19	15.86	4.36	4.96	8.3	9.4	18	46.0	0.0367	969.42 967.73	9.75	18.76	0.0107	970.20 969.07	975.40 975.30	5.20	4.49	MH 3 0.015
17	16	107+50 begin	14.31 24.25	12.16 18.36	10.00	5.32	3.19	64.7	38.8	42	174.0	0.0055	965.37 964.41	7.66	69.56	0.0020	967.57 967.23	974.00 975.30	6.43	5.13	CB 2-2B 0.015
16	15	109+23 111+98	0.00 24.25	0.00 18.36	34.96	2.78	3.19	51.1	58.6	42	274.0	0.0050	964.41 963.04	7.16	66.32	0.0045	967.23 965.99	975.30 973.45	8.07	7.39	MH 3 0.015
15	14	111+98 114+72	0.00 24.25	0.00 18.36	35.60	2.75	3.16	50.5	58.0	48	274.0	0.0050	962.54 961.17	7.24	94.69	0.0022	964.91 964.32	973.45 971.85	8.54	6.91	MH 3 0.015



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From	To	From To	Σ AREA (acres)	Σ CA	TIME (min.)	(10 yrs.)	(25 yrs.)	(10 yrs.)	(25 yrs.)	DIAM. (in.)	LENGTH (ft.)	SLOPE (ft./ft.)	IN / OUT (ft.)	VEL (fps.)	CAPACITY (cfs.)	SLOPE (ft./ft.)	IN / OUT (ft.)	IN / OUT (ft.)	MINUS HY GR	MINUS CROWN	MANNING'S 'n'
14	13	114+72 117+04	0.00 24.25	0.00 18.36	36.23	2.72	3.13	49.9	57.5	48	232.0	0.0050	961.17 960.01	7.22	94.69	0.0021	963.64 963.15	971.85 970.45	8.21	6.68	MH 3 0.015
18	13	117+03 begin	29.35 53.60	8.81 27.16	20.00	3.87	4.43	34.1	39.0	30	36.0	0.0075	964.75 964.48	6.94	33.12	0.0120	967.25 966.78	967.25 970.45	0.00	0.00	HW Half He 0.015
Warning																					
13	12	117+04 11+87	0.00 53.60	0.00 27.16	36.76	2.69	3.10	73.2	84.3	54	232.0	0.0041	959.51 958.56	7.35	117.32	0.0024	962.72 962.15	970.45 969.40	7.73	6.44	MH 3 0.015
12	11	11+87 14+19	0.00 53.60	0.00 27.16	37.29	2.67	3.07	72.5	83.5	54	232.0	0.0035	958.56 957.75	6.89	108.33	0.0024	961.89 961.34	969.40 968.50	7.51	6.34	MH 3 0.015
11	10	14+19 16+26	0.00 53.60	0.00 27.16	37.85	2.64	3.05	71.8	82.7	54	207.0	0.0032	957.75 957.09	6.63	103.52	0.0024	961.16 960.67	968.50 967.70	7.34	6.25	MH 3 0.015
10	9	16+27 19+06	0.00 53.60	0.00 27.16	38.37	2.62	3.01	71.2	81.8	60	280.0	0.0035	956.59 955.61	6.91	143.65	0.0013	959.76 959.39	967.70 963.20	7.94	6.11	MH 3 0.015
9	8	19+06 final 20+80	0.00 53.60	0.00 27.16	39.05	2.59	2.99	70.3	81.3	60	174.0	0.0035	955.61 955.00	6.89	143.76	0.0013	959.01 958.78	963.20 960.00	4.19	2.59	MH 3 0.015