

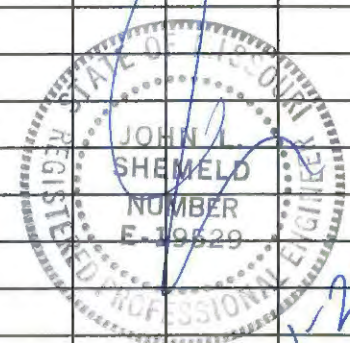
PROJECT NAME : PREMIER 3 AUTO
 PROJECT NUMBER : 2013-01
 ENGINEER/DESIGNER : JDN
 DATE COMPLETED : JAN. 19, 2013

CLIENT/DEVELOPER : MISSION HILLS DEVELOPMENT

SHEET 1 OF 1 DATE REVISED :

HYDRAULIC COMPUTATIONS

LINE		PIPE CHARACTERISTICS					STRUCT. TOPS		DEPTH	ELEV. HYD. GR'D		HYD. GRADE	FRICT. HEAD LOSS	VEL.	V ² /2g	VEL. HEAD LOSS	TURN LOSS	INLETS		FLOW REQUIREMENTS				PIPE CAP.
UPPER	LOWER	LENGTH	SIZE	F.L. GRADE	F.L. UPPER	F.L. LOWER	UPPER	LOWER	HYD. GRADE	UPPER	LOWER							STREET GRADE	CAPA-CITY	DRNG. AREA	P.I.	Q	TOTAL Q	
											607.78													
CI 106	2GI 105	46.4'	12" HDPE	0.02	606.74	605.81	614.90	610.25	7.12	607.78	607.77	0.0001	0.01	0.5	0.00	0.00	0.30 25°	LOW	3.50	0.10	3.85	0.39	0.39	5.04
2GI 105	CI 104	136.4'	12" HDPE	0.01	605.61	604.25	610.25	609.50	2.48	607.72	606.67	0.0004	0.05	1.4	0.03	0.03	0.65 80°	LOW	3.50	0.19	3.85	0.73	1.12	3.57
CI 104	EX. CI	29.4'	12" HDPE	0.01	604.05	603.76	609.50	608.40	2.83	606.43	606.40*	0.0010	0.03	2.9	0.13	0.15	0.70 90°	LOW	3.50	0.29	3.85	1.12	2.24	3.57
											* 2.0' BELOW STRUCTURE TOP													
YD 103A	CI 103	38.6'	8" PVC	0.07	610.37	607.67	614.00	615.00	2.96	608.67	608.67	0.0001	0.00	0.2	0.00	0.00	0.35 60°	LOW	2.00	0.02	3.85	0.08	0.08	4.17
CI 103	2GI 102	75.7'	12" HDPE	0.02	607.47	605.96	615.00	610.00	6.33	606.97	606.96	0.0001	0.01	0.4	0.00	0.00	0.24 20°	LOW	3.50	0.06	3.85	0.23	0.31	5.04
2GI 102	CI 101	81.1'	12" HDPE	0.0125	605.76	604.75	610.00	610.00	3.04	605.82	605.75	0.0009	0.07	1.3	0.03	0.04	0.35 30°	LOW	3.50	0.19	3.85	0.73	1.04	3.99
CI 101	EP 100	5.3'	12" RCP	0.01	604.55	604.50	610.00	-	4.25	605.51	605.50	0.0022	0.01	2.2	0.08	0.14	-	LOW	3.50	0.17	3.85	0.65	1.69	3.57



1-23-13

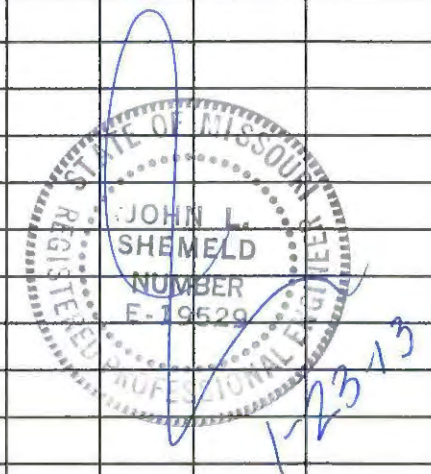
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LINE		PIPE CHARACTERISTICS					STRUCT. TOPS		DEPTH HYD.	ELEV. HYD. GR'D		HYD. GRADE	FRICT. HEAD LOSS	VEL.	V ² /2g	VEL. HEAD LOSS	TURN LOSS	INLETS		FLOW REQUIREMENTS					
UPPER	LOWER	LENGTH	SIZE	F.L. GRADE	F.L. UPPER	F.L. LOWER	UPPER	LOWER	GRADE	UPPER	LOWER							STREET GRADE	CAPA-CITY	DRNG. AREA	P.I.	Q	TOTAL Q	PIPE CAP.	
											607.78														
CI 106	2GI 105	46.4'	12" HDPE	0.02	606.74	605.81	614.90	610.25	7.12	607.78	607.77	0.0001	0.01	0.5	0.00	0.00	0.30 25°	0.00	LOW	3.50	0.10	3.85	0.39	0.39	5.04
2GI 105	CI 104	136.4'	12" HDPE	0.01	605.61	604.25	610.25	609.50	2.48	607.72	606.67	0.0004	0.05	1.4	0.03	0.03	0.65 80°	0.02	LOW	3.50	0.19	3.85	0.73	1.12	3.57
CI 104	EX. CI	29.4'	12" HDPE	0.01	604.05	603.76	609.50	608.40	2.83	606.43	606.40*	0.0010	0.03	2.9	0.13	0.15	0.70 90°	0.09	LOW	3.50	0.29	3.85	1.12	2.24	3.57
										* 2.0'	BELOW STRUCTURE TOP														
											<FULL 611.04														
YD 103A	CI 103	38.6'	8" PVC	0.07	610.37	607.67	614.00	615.00	2.96	608.67	<FULL 608.67	0.0001	0.00	0.2	0.00	0.00	0.55 60°	0.00	LOW	2.00	0.02	3.85	0.08	0.08	4.17
CI 103	2GI 102	75.7'	12" HDPE	0.02	607.47	605.96	615.00	610.00	6.33	606.97	<FULL 606.96	0.0001	0.01	0.4	0.00	0.00	0.24 20°	0.02	LOW	3.50	0.06	3.85	0.23	0.31	5.04
2GI 102	CI 101	81.1'	12" HDPE	0.0125	605.76	604.75	610.00	610.00	3.04	605.82	<FULL 605.75	0.0009	0.07	1.3	0.03	0.04	0.35 30°	0.09	LOW	3.50	0.19	3.85	0.73	1.04	3.99
CI 101	EP 100	5.3'	12" RCP	0.01	604.55	604.50	610.00	-	4.25	605.51	605.50	0.0022	0.01	2.2	0.08	0.14	-	-	LOW	3.50	0.17	3.85	0.65	1.69	3.57

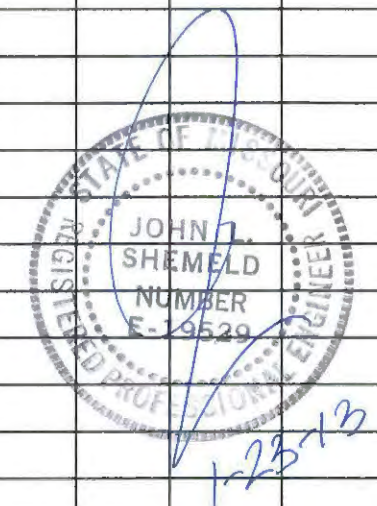


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LINE		PIPE CHARACTERISTICS					STRUCT. TOPS		DEPTH HYD.	ELEV. HYD. GR'D		HYD. GRADE	FRICT. HEAD LOSS	VEL.	V ² /2g	VEL. HEAD LOSS	TURN LOSS	INLETS		FLOW REQUIREMENTS				PIPE CAP.
UPPER	LOWER	LENGTH	SIZE	F.L. GRADE	F.L. UPPER	F.L. LOWER	UPPER	LOWER	GRADE	UPPER	LOWER							STREET GRADE	CAPA-CITY	DRNG. AREA	P.I.	Q	TOTAL Q	
											607.78													
CI 106	2GI 105	46.4'	12" HDPE	0.02	606.74	605.81	614.90	610.25	7.12	607.78	607.77	0.0001	0.01	0.5	0.00	0.00	0.30 25°	LOW	3.50	0.10	3.85	0.39	0.39	5.04
2GI 105	CI 104	136.4'	12" HDPE	0.01	605.61	604.25	610.25	609.50	2.48	607.72	606.67	0.0004	0.05	1.4	0.03	0.03	0.65 80°	LOW	3.50	0.19	3.85	0.73	1.12	3.57
CI 104	EX. CI	29.4'	12" HDPE	0.01	604.05	603.76	609.50	608.40	2.83	606.43	606.40*	0.0010	0.03	2.9	0.13	0.15	0.70 90°	LOW	3.50	0.29	3.85	1.12	2.24	3.57
										* 2.0' BELOW	STRUCTURE TOP													
YD 103A	CI 103	38.6'	8" PVC	0.07	610.37	607.67	614.00	615.00	2.96	608.67	<FULL 611.04	0.0001	0.00	0.2	0.00	0.00	0.55 60°	LOW	2.00	0.02	3.85	0.08	0.08	4.17
CI 103	2GI 102	75.7'	12" HDPE	0.02	607.47	605.96	615.00	610.00	6.33	606.97	<FULL 606.96	0.0001	0.01	0.4	0.00	0.00	0.25 20°	LOW	3.50	0.06	3.85	0.23	0.31	5.04
2GI 102	CI 101	81.1'	12" HDPE	0.0125	605.76	604.75	610.00	610.00	3.04	605.82	<FULL 605.75	0.0009	0.07	1.3	0.03	0.04	0.35 30°	LOW	3.50	0.19	3.85	0.73	1.04	3.99
CI 101	EP 100	5.3'	12" RCP	0.01	604.55	604.50	610.00	-	4.25	605.51	605.50	0.0022	0.01	2.2	0.08	0.14	-	LOW	3.50	0.17	3.85	0.65	1.69	3.57



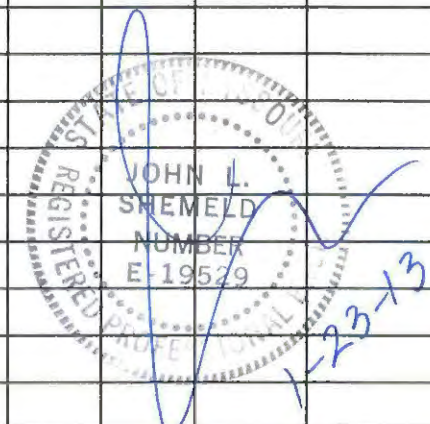
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LINE		PIPE CHARACTERISTICS					STRUCT. TOPS		DEPTH	ELEV. HYD. GR'D		HYD. GRADE	FRICT. HEAD LOSS	VEL.	V ² /2g	VEL. HEAD LOSS	TURN LOSS	INLETS		FLOW REQUIREMENTS				PIPE CAP.
UPPER	LOWER	LENGTH	SIZE	F.L. GRADE	F.L. UPPER	F.L. LOWER	UPPER	LOWER	HYD. GRADE	UPPER	LOWER							STREET GRADE	CAPA-CITY	DRNG. AREA	P.I.	Q	TOTAL Q	
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CI 103	2GI 102	75.7'	12" HDPE	0.02	607.47	605.96	615.00	610.00	6.33	606.97	<FULL 606.96	0.0001	0.01	0.4	0.00	0.00	0.64 20°	LOW	3.50	0.06	3.85	0.23	0.31	5.04
2GI 102	CI 101	81.1'	12" HDPE	0.0125	605.76	604.75	610.00	610.00	3.04	605.82	<FULL 605.75	0.0009	0.07	1.3	0.03	0.04	0.65 30°	LOW	3.50	0.19	3.85	0.73	1.04	3.99
CI 101	EP 100	5.3'	12" RCP	0.01	604.55	604.50	610.00	-	4.25	605.51	605.50	0.0022	0.01	2.2	0.08	0.14	-	LOW	3.50	0.17	3.85	0.65	1.69	3.57



 JOHN L. SCHEMELD
 REGISTERED PROFESSIONAL ENGINEER
 NUMBER E-19529
 1-23-13