Appendix B: Peak stage (ft) and arrival time (hr) at railroad closure invert* for different stage combinations at Lane and Osawatomie gages

MDC (ft) / Lane (ft)	23.0	28.0	36.0	40.0	41.5	43.0	46.0	51.0
18.0	-16.2 (3:20)	-14.4 (3:00)	-8.0 (2:35)	-3.4 (2:10)	-1.7 (2:25)	0.0*** (0:00)	3.5*** (0:00)	8.8*** (0:00)
23.0	-10.9 (8:15)	-10.3 (8:05)	-6.9 (7:05)	-3.1 (4:50)	-1.4 (3:55)	0.2 (2:50)	3.6 (0:40)	
24.0	-9.9 (9:20)	-9.6 (9:00)	-6.5 (8:00)	-2.9 (5:40)	-1.3 (4:30)	0.3 (2:50)	3.6 (1:15)	
25.0	-8.6 (9:50)	-8.3 (9:40)	-6.1 (8:20)	-2.7 (6:15)	-1.2 (5:25)	0.4 (4:20)	3.8 (2:35)	
27.0	-6.3 (9:30)	-6.2 (9:20)	-4.7 (8:25)	-2.0 (7:05)	-0.7 (6:25)	0.8 (5:25)	3.9 (2:55)	
27.5	-5.4 (9:15)	-5.3 (9:00)	-4.0 (8:20)	-1.6 (7:00)	-0.4 (6:20)	1.0 (5:35)	4.1 (3:35)	
28.5	-4.7 (9:00)	-4.7 (8:45)	-3.7 (8:20)	-1.4 (7:05)	-0.2 (6:25)	1.2 (5:45)	4.2 (3:40)	9.5 (0:40)
30.0	-2.7 (8:25)	-2.7 (8:15)	-2.1 (7:55)	-0.3 (7:15)	0.7 (6:45)	1.9 (6:00)	4.6 (4:05)	9.6 (1:15)
31.2	-1.0** (8:00)		-0.5 (7:30)	0.9 (6:55)	1.7 (6:30)	2.7 (5:55)	5.0 (4:25)	**9.8 (1:45)**
32.0	0.0** (7:05)		0.0 (7:25)	1.2 (6:50)	2.0 (6:30)	3.7 (5:50)	5.1 (4:25)	**9.9 (1:50)**
33.0	1.6** (7:05)		1.9 (6:50)	2.9 (6:10)	3.5 (5:50)	4.3 (5:30)	6.0 (4:20)	**10.2 (2:05)**
35.3	5.3** (5:50)		5.4 (5:35)	6.0 (5:25)	6.4 (5:30)	7.1 (4:45)	7.6 (3:15)	**10.9 (1:50)**
36.0	6.0** (5:40)		6.0 (5:30)	6.6 (5:10)	7.0 (5:35)	7.4 (4:05)	7.9 (3:10)	**11.1 (1:55)**
37.0	7.8** (5:35)		8.0 (5:35)	8.4 (4:35)	8.4 (4:00)	8.4 (3:35)	9.0 (3:20)	**11.5 (2:05)**

No flooding at the railroad closure	Water within 2.0 ft below railroad closure invert	Water overtops railroad closure invert	**Levee overtopping at railroad closure**

*Railroad closure invert elevation of 858.7 ft NAVD88 is stage 0.0 ft.
**Under conditions of high flow at Lane and low stage at Osawatomie, normal depth was used as downstream boundary condition.
***Under conditions of low flow at Lane and high stage at Osawatomie, the stage at Lane would be higher than expect. The water surface elevation at the flood start time was reported for these scenarios.