

Project name: North Oconee Heritage Park	
Basin location: SA-3	
Total area draining to basin (A): 6.52 acres	
Disturbed area draining to basin: 6.52 acres	
VOLUME	
1. Minimum required storage volume (V _s):	436.84 cy
2. Volume of basin at clean-out (V _c):	144.44 cy
3. Minimum rise spillway elevation:	696 ft
4. Elevation of minimum volume	696 ft
5. Clean-out volume	6.94 ft ³
6. Elevation of clean-out volume	696 ft
7. Riser height:	2.0 ft
8. Riser elev = outlet pipe invert	
STORMWATER RUNOFF	
9. Peak discharge from a 2-year storm (Q ₀₂):	13.14 cfs
10. Q = Q ₀₂ (0.383) (0.78 h ^{0.14}) (A)	
11. Peak discharge from a 25-year storm (Q ₂₅):	18.69 cfs
12. Q ₂₅ = C (0.455) (A)	
SURFACE AREA AND CONFIGURATION	
13. Minimum basin surface area (S _{min}):	5726 ft ²
14. S _{min} = (Q ₀₂) (100 sq/ft) (4.560 cfs/acre)	
15. Actual surface area of riser crest elevation:	7893 ft ²
16. Actual surface area of riser crest elevation:	7893 ft ²
17. Average width of pond:	68 ft
18. Length of pond:	106 ft
19. Length must equal at least 2x width	Yes
20. Is pond length adequate?	Yes
PRINCIPAL SPILLWAY	
21. Maximum spillway capacity:	13.14 cfs
22. Maximum spillway capacity = Q ₀₂	
23. Maximum spillway pipe head (H ₀):	6 ft
24. H = 0.5 ft + 0.5 ft + 5 ft = 6 ft invert at riser	
25. Length of the principal spillway pipe (L):	58 ft
26. Manual or ref. Pipe	18 in
27. Diameter of principal spillway (D ₀₂):	18 in
28. Using H and Q ₀₂ , ref. Table 6-22.1	
29. Flow through the principal spillway (Q ₀):	1.4 cfs
30. Using H and Q ₀ , ref. Table 6-22.1	
31. Correction factor for pipe length:	1
32. Using H and Q ₀ , ref. Table 6-22.1	
33. Actual flow through spillway (Q ₀):	1.34 cfs
34. Q ₀ = W correction factor	
35. Riser diameter (D _r):	30 in
36. D _r = 1.5 (D ₀₂)	
37. Trash rack diameter (D _t):	42 in
38. D _t = 1.4 (D _r)	
39. Minimum spacing between riser crest and emergency spillway crest (N):	0.67 ft
40. Using D _r and Q ₀ , ref. Table 6-22.2	
CONCRETE RISER BASE	
41. Concrete volume/V _c of riser required:	4.29 cu ft
42. Total volume of concrete required:	8.58 cu ft
43. Volume of riser base	4.29 cu ft
44. Concrete riser base width (w):	42 in
45. w = 6 ft + 6 ft	
46. Concrete riser base length (L):	42 in
47. L = 6 ft + 6 ft	
48. Riser base surface area:	12.25 ft ²
49. Surface area = (L) (w)	
50. Base thickness (B):	10 in
51. B = Volume/surface area, rounded up	
ANTI-SEEP COLLAR	
52. Is an anti-seep collar required?	Yes
53. Only required when H is 10 ft or 12" CMP	
54. Use 18" when H is D ₀₂ + 12", otherwise use 24"	18 in
EMERGENCY SPILLWAY	
55. Emergency spillway capacity (Q ₀₅):	5.49 cfs
56. Q ₀₅ = 1.49 (Q ₀₂) if needed	
57. Is an emergency spillway needed?	Yes
58. Only needed if Q ₂₅ exceeds Q ₀₅	
59. (V ₀₅)	10.0 ft ³
60. (V ₀₅)	10.0 ft ³
DESIGN ELEVATIONS	
61. Minimum riser crest elevation:	696 ft
62. Emergency spillway crest elevation:	696.67 ft
63. Riser crest elevation + h	
64. High elevation	697.17 ft
65. Emergency spillway crest elevation + h	
66. High elevation + 1 ft freeboard	698.17 ft
67. High water elevation + 1 ft freeboard	700.17 ft
68. Actual dam elevation	

* The procedures, calculations, and charts mentioned here are referenced from the GSWC Manual for Erosion and Sediment Control in Georgia.