

Summary for Pond 20P: Sippo Creek Reservoir - PropCond-Lowered 3.7-feet

Inflow Area = 9,459.200 ac, 19.70% Impervious, Inflow Depth > 2.87" for 500 year-FEMA event
 Inflow = 2,649.63 cfs @ 14.49 hrs, Volume= 2,261.486 af
 Outflow = 2,630.03 cfs @ 14.23 hrs, Volume= 2,274.079 af, Atten= 1%, Lag= 0.0 min
 Primary = 2,343.96 cfs @ 14.22 hrs, Volume= 2,190.541 af
 Secondary = 408.57 cfs @ 15.23 hrs, Volume= 83.538 af
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Sim-Route method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Starting Elev= 1,001.64' Surf.Area= 6.730 ac Storage= 37.975 af
 Peak Elev= 1,003.94' @ 15.23 hrs Surf.Area= 9.530 ac Storage= 56.678 af (18.703 af above start)
 Flood Elev= 1,005.00' Surf.Area= 12.657 ac Storage= 68.385 af (30.411 af above start)

Plug-Flow detention time= 28.5 min calculated for 2,235.484 af (99% of inflow)
 Center-of-Mass det. time= (not calculated: outflow precedes inflow)

| Volume | Invert | Avail.Storage | Storage Description |
|--------|---------|---------------|--|
| #1 | 987.68' | 1,269.498 af | Custom Stage Data (Irregular) Listed below (Recalc) |

| Elevation (feet) | Surf.Area (acres) | Perim. (feet) | Inc.Store (acre-feet) | Cum.Store (acre-feet) | Wet.Area (acres) |
|------------------|-------------------|---------------|-----------------------|-----------------------|------------------|
| 987.68 | 0.500 | 500.0 | 0.000 | 0.000 | 0.500 |
| 990.00 | 1.200 | 1,000.0 | 1.914 | 1.914 | 1.871 |
| 994.00 | 2.000 | 2,500.0 | 6.332 | 8.246 | 11.463 |
| 998.00 | 3.060 | 2,611.0 | 10.045 | 18.291 | 12.526 |
| 1,000.00 | 6.204 | 3,251.0 | 9.081 | 27.372 | 19.381 |
| 1,001.64 | 6.730 | 4,770.0 | 10.603 | 37.975 | 41.639 |
| 1,002.00 | 7.243 | 5,147.0 | 2.515 | 40.489 | 48.470 |
| 1,004.00 | 9.610 | 10,274.0 | 16.797 | 57.287 | 192.907 |
| 1,006.00 | 16.124 | 11,202.9 | 25.455 | 82.741 | 229.356 |
| 1,008.00 | 21.577 | 15,736.9 | 37.569 | 120.310 | 452.497 |
| 1,010.00 | 29.674 | 20,301.4 | 51.036 | 171.347 | 753.009 |
| 1,012.00 | 39.539 | 22,845.5 | 68.977 | 240.324 | 953.544 |
| 1,014.00 | 68.669 | 34,370.5 | 106.876 | 347.201 | 2,158.194 |
| 1,025.00 | 100.000 | 50,000.0 | 922.298 | 1,269.498 | 4,567.224 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|-----------|---|
| #1 | Primary | 997.94' | 50.0' long x 2.9' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.45 2.58 2.66 2.66 2.65 2.64 2.65 2.69 2.69 2.73 2.83 2.95 3.01 3.12 3.32 |
| #2 | Secondary | 1,003.20' | Right Embankment Weir - Building side, Cv= 2.62 (C= 3.28) Head (feet) 0.00 3.00 4.00 22.00 Width (feet) 78.00 78.00 78.00 78.00 |
| #3 | Secondary | 1,003.20' | Left Embankment Weir - Playground side, Cv= 2.62 (C= 3.28) Head (feet) 0.00 1.00 3.00 13.00 15.00 Width (feet) 115.00 130.00 180.00 205.00 225.00 |
| #4 | Tertiary | 1,008.00' | Weir Flow around Bldg. X 0.50, Cv= 2.62 (C= 3.28) Head (feet) 0.00 2.00 4.00 6.00 8.00 10.00 12.00 Width (feet) 50.00 90.00 122.00 166.00 240.00 334.00 420.00 |

Proposed Conditions Sippo Reservoir-Lower *Type II 24-hr 1000 year-FEMA Rainfall=7.00"*

Prepared by URS Corporation

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Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Sim-Route method - Pond routing by Sim-Route method

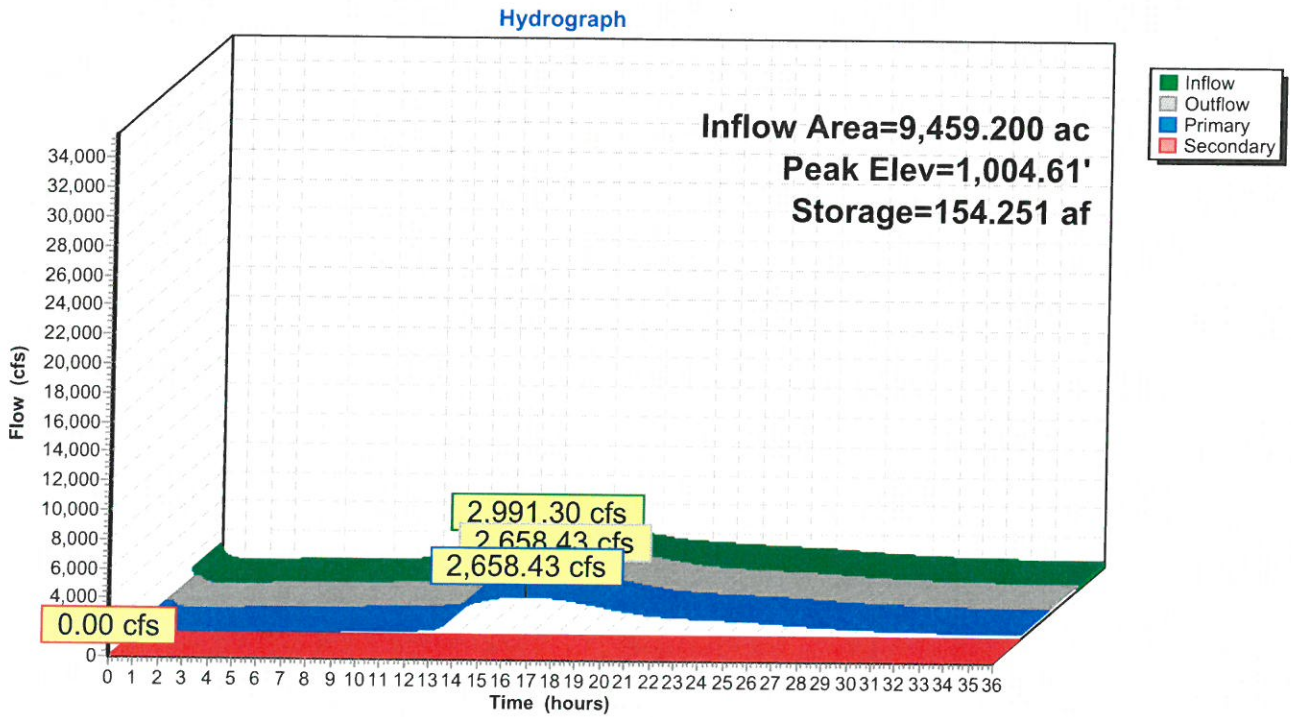
Pond 16P: Lincoln Way Box Peak Elev=1,004.61' Storage=154.251 af Inflow=2,991.30 cfs 2,614.872 af
Primary=2,658.43 cfs 2,613.353 af Secondary=0.00 cfs 0.000 af Outflow=2,658.43 cfs 2,613.353 af

Pond 20P: Sippo Creek Reservoir Peak Elev=1,005.13' Storage=70.104 af Inflow=3,077.78 cfs 2,602.956 af
3.20 cfs 2,288.486 af Secondary=1,331.99 cfs 326.664 af Tertiary=0.00 cfs 0.000 af Outflow=2,991.30 cfs 2,615.150 af

Primary OutFlow Max=2,658.43 cfs @ 15.80 hrs HW=1,004.61' TW=983.90' (Dynamic Tailwater)
 ↳1=Box Culvert (Inlet Controls 2,658.43 cfs @ 23.25 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=978.13' (Dynamic Tailwater)
 ↳2=Linclon Way (172) (Controls 0.00 cfs)

Pond 16P: Lincoln Way Box Culvert-Weir - Sippo Park Storage-



Primary OutFlow Max=2,491.65 cfs @ 13.70 hrs HW=1,004.03' TW=998.03' (Dynamic Tailwater)
 ↳1=Broad-Crested Rectangular Weir (Weir Controls 2,491.65 cfs @ 8.19 fps)

Secondary OutFlow Max=1,325.63 cfs @ 15.47 hrs HW=1,005.08' TW=1,004.48' (Dynamic Tailwater)
 ↳2=Right Embankment Weir - Building side (Weir Controls 499.06 cfs @ 3.41 fps)
 ↳3=Left Embankment Weir - Playground side (Weir Controls 826.57 cfs @ 3.36 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,001.64' (Free Discharge)
 ↳4=Weir Flow around Bldg. (Controls 0.00 cfs)

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Hydrograph

