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Rainwater Harvesting

For a rainwater harvesting system to fully meet Provision C.3 stormwater treatment requirements, there must be sufficient demand to use 80 percent of the average annual rainfall runoff (“C.3.d amount of runoff”), as specified in Provision C.3.d of the MRP. In order to size the cistern (or other storage device) to achieve the appropriate combination of drawdown time and cistern volume to harvest and use the C.3.d amount of runoff, project designers may refer to the sizing curves presented in this appendix, which are from Appendix F of the 2011 report, “Harvest and Use, Infiltration and Evapotranspiration Feasibility/Infeasibility Criteria Report” (BASMAA 2011)¹.

This appendix includes the following excerpts from the 2011 report:

- Map of Alameda County Precipitation Polygons for applicable precipitation gages:
- Table 8: Required Cistern Volume and Demand per Acre of Impervious Area to Achieve 80% Capture with a 48-Hour Drawdown Time (by precipitation gage)
- Table 9: Required Cistern Volume and Demand per Acre of Impervious Area to Achieve 80% Capture with the Longer Drawdown Time Allowable (Minimum Demand) for Cistern of 50,000 Gallons or Less (by precipitation gage)
- Curves for Percent Capture Achieved by BMP Storage Volume with Various Drawdown Times for 1 Acre 100% Impervious Tributary Area (by precipitation gage):
 - Figure F-1: Berkeley
 - Figure F-3: Dublin
 - Figure F-4: Hayward
 - Figure F-8: Palo Alto
 - Figure F-11: San Jose

¹ This report is available on the Clean Water Program’s website (www.cleanwaterprogram.org – click on “Resources”, then “Development” and scroll to “Feasibility Infeasibility Criteria Report”).

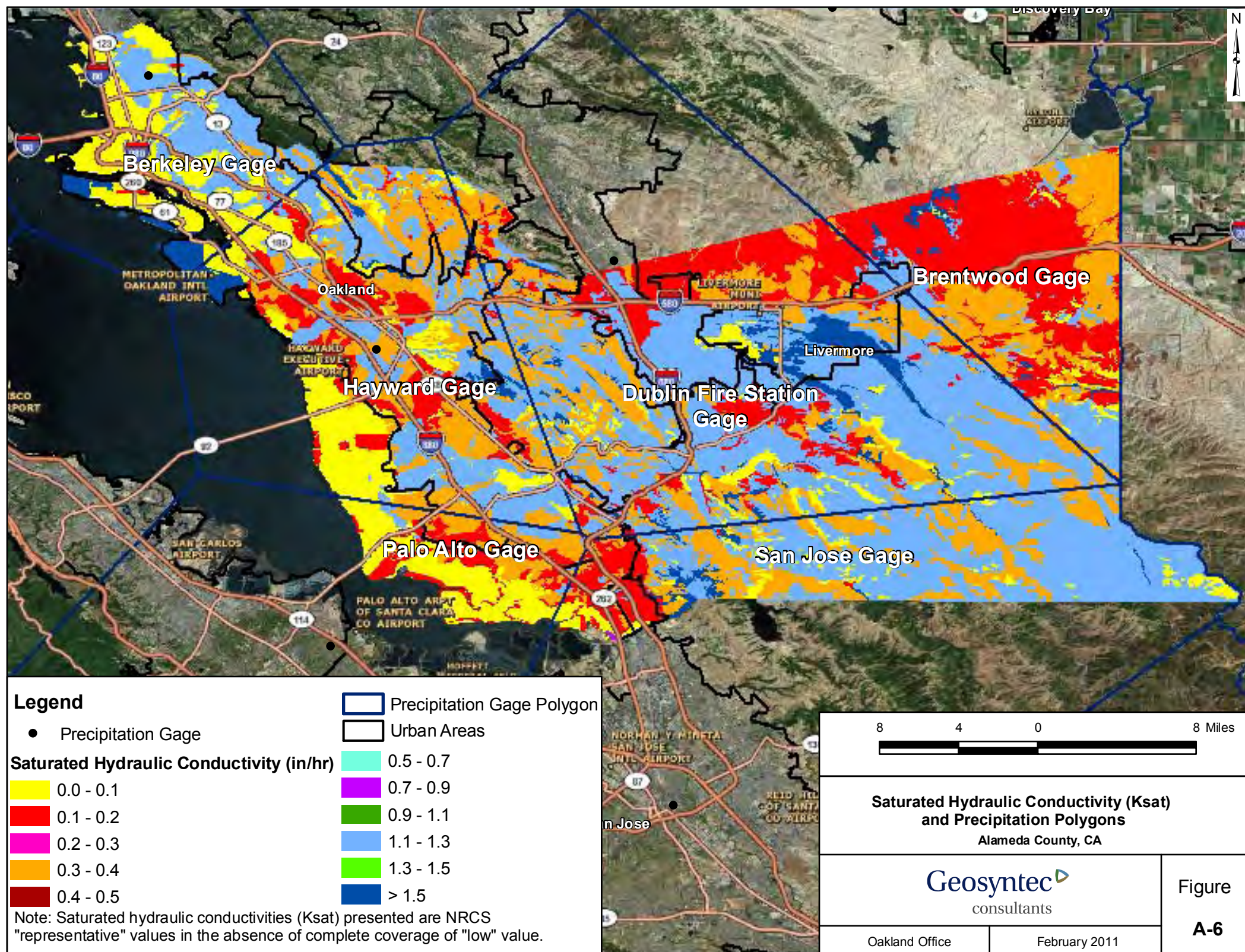


Table 8: Required Cistern Volume and Demand per Acre of Impervious Area to Achieve 80% Capture with a 48-hour Drawdown Time

| Rain Gauge | Drawdown Time (hr.) | Required Cistern Size (gallons) | Required Demand (gal/day) |
|-------------------------|---------------------|---------------------------------|---------------------------|
| Berkeley | 48 | 23,000 | 11,500 |
| Brentwood | 48 | 19,000 | 9,500 |
| Dublin | 48 | 21,000 | 10,500 |
| Hayward | 48 | 23,500 | 11,750 |
| Lake Solano | 48 | 29,000 | 14,500 |
| Martinez | 48 | 23,000 | 11,500 |
| Morgan Hill | 48 | 25,500 | 12,750 |
| Palo Alto | 48 | 16,500 | 8,250 |
| San Francisco | 48 | 20,000 | 10,000 |
| San Francisco Oceanside | 48 | 19,000 | 9,500 |
| San Jose | 48 | 15,000 | 7,500 |

If a longer drawdown time (and lower minimum demand) is desired, Table 9 includes the maximum drawdown time allowable to achieve 80 percent capture for a cistern sized at 50,000 gallons or less per acre of impervious area, along with the required cistern sizes and daily demands.

Table 9: Required Cistern Volume and Demand per Acre of Impervious Area to Achieve 80% Capture with the Longer Drawdown Time Allowable (Minimum Demand) for Cistern of 50,000 Gallons or Less

| Rain Gauge | Drawdown Time (hr.) | Required Cistern Size (gallons) | Required Demand (gal/day) |
|-------------------------|---------------------|---------------------------------|---------------------------|
| Berkeley | 180 | 44,000 | 5,900 |
| Brentwood | 240 | 42,000 | 4,200 |
| Dublin | 240 | 41,000 | 4,100 |
| Hayward | 240 | 47,500 | 4,800 |
| Lake Solano | 120 | 45,000 | 9,000 |
| Martinez | 180 | 44,000 | 5,900 |
| Morgan Hill | 180 | 49,000 | 6,500 |
| Palo Alto | 360 | 44,000 | 2,900 |
| San Francisco | 240 | 45,500 | 4,600 |
| San Francisco Oceanside | 240 | 43,000 | 4,300 |
| San Jose | 480 | 48,000 | 2,400 |

Figure F-1: Percent Capture Achieved by BMP Storage Volume with Various Drawdown Times for 1-Acre, 100% Impervious Tributary Area - Berkeley

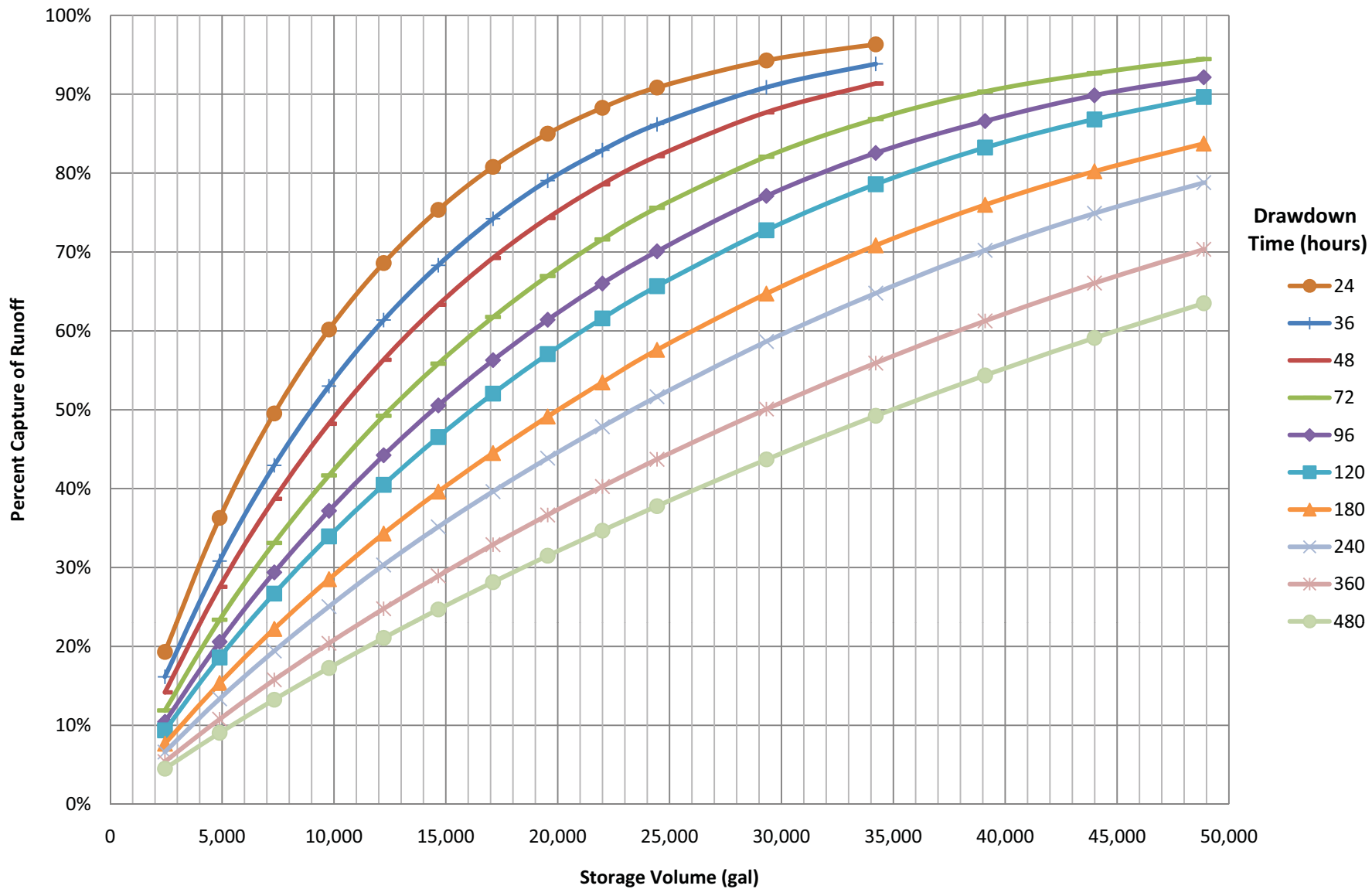


Figure F-3: Percent Capture Achieved by BMP Storage Volume with Various Drawdown Times for 1-Acre, 100% Impervious Tributary Area - Dublin

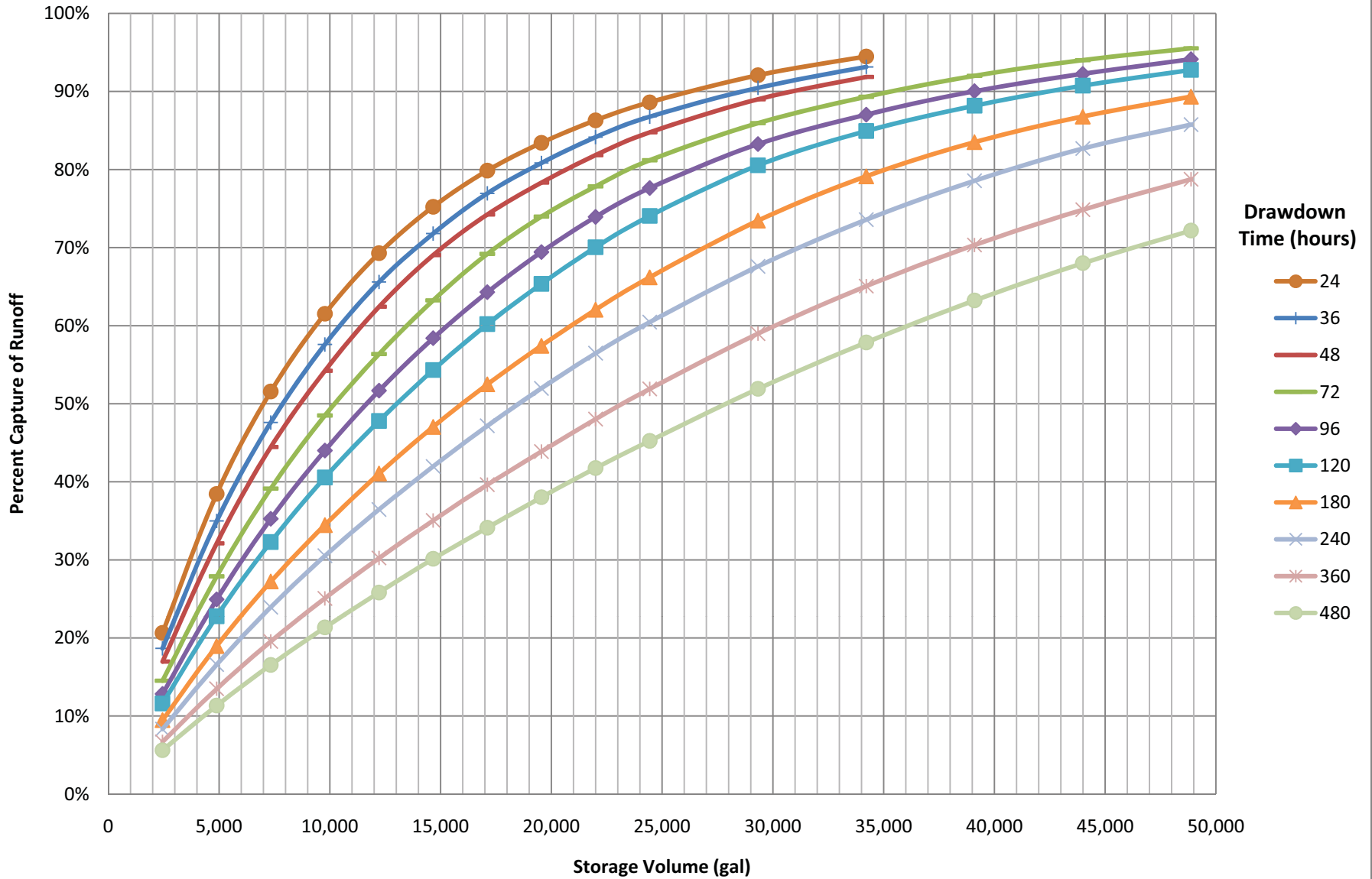


Figure F-4: Percent Capture Achieved by BMP Storage Volume with Various Drawdown Times for 1-Acre, 100% Impervious Tributary Area - Hayward

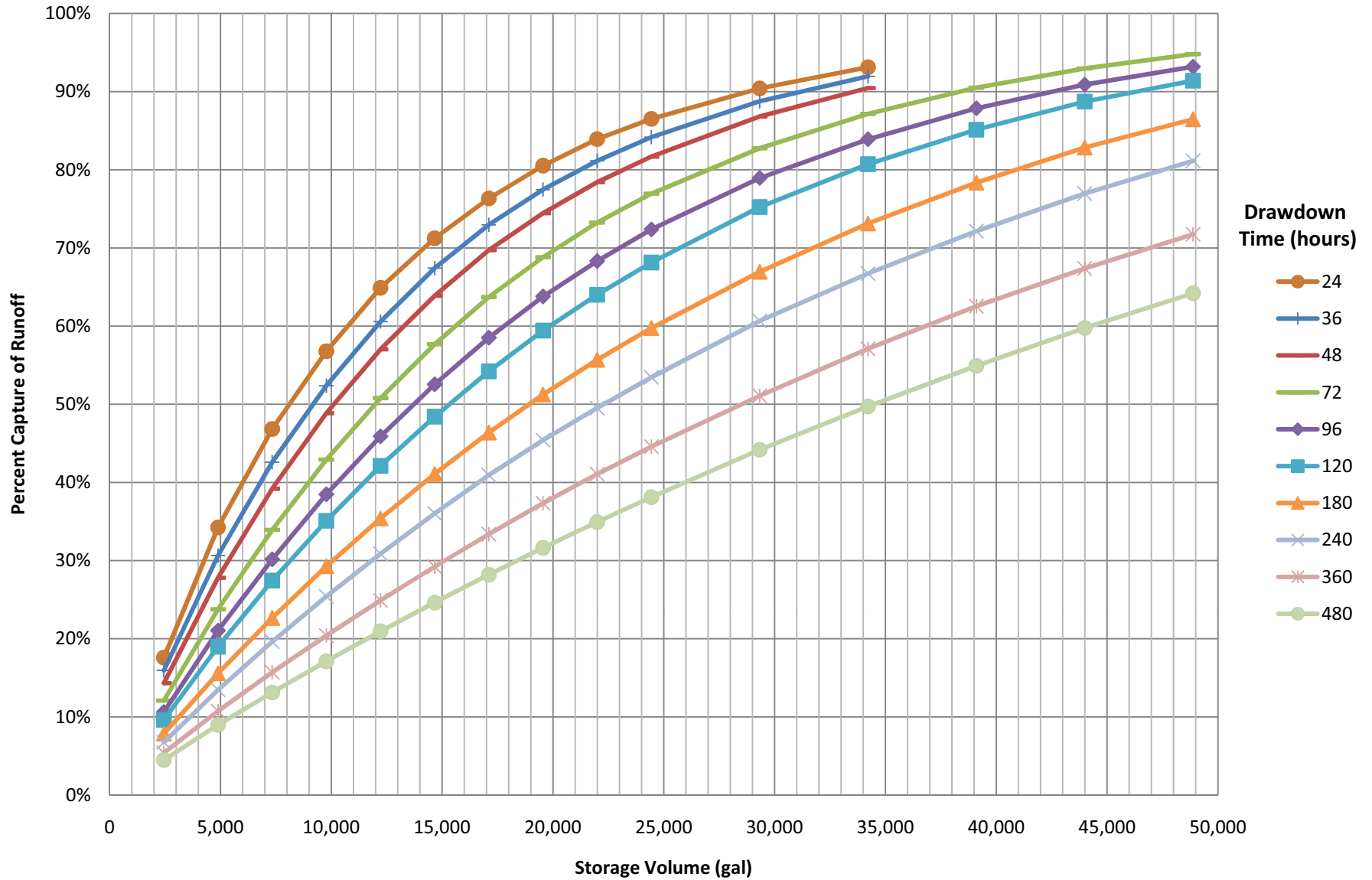


Figure F-8: Percent Capture Achieved by BMP Storage Volume with Various Drawdown Times for 1-Acre, 100% Impervious Tributary Area - Palo Alto

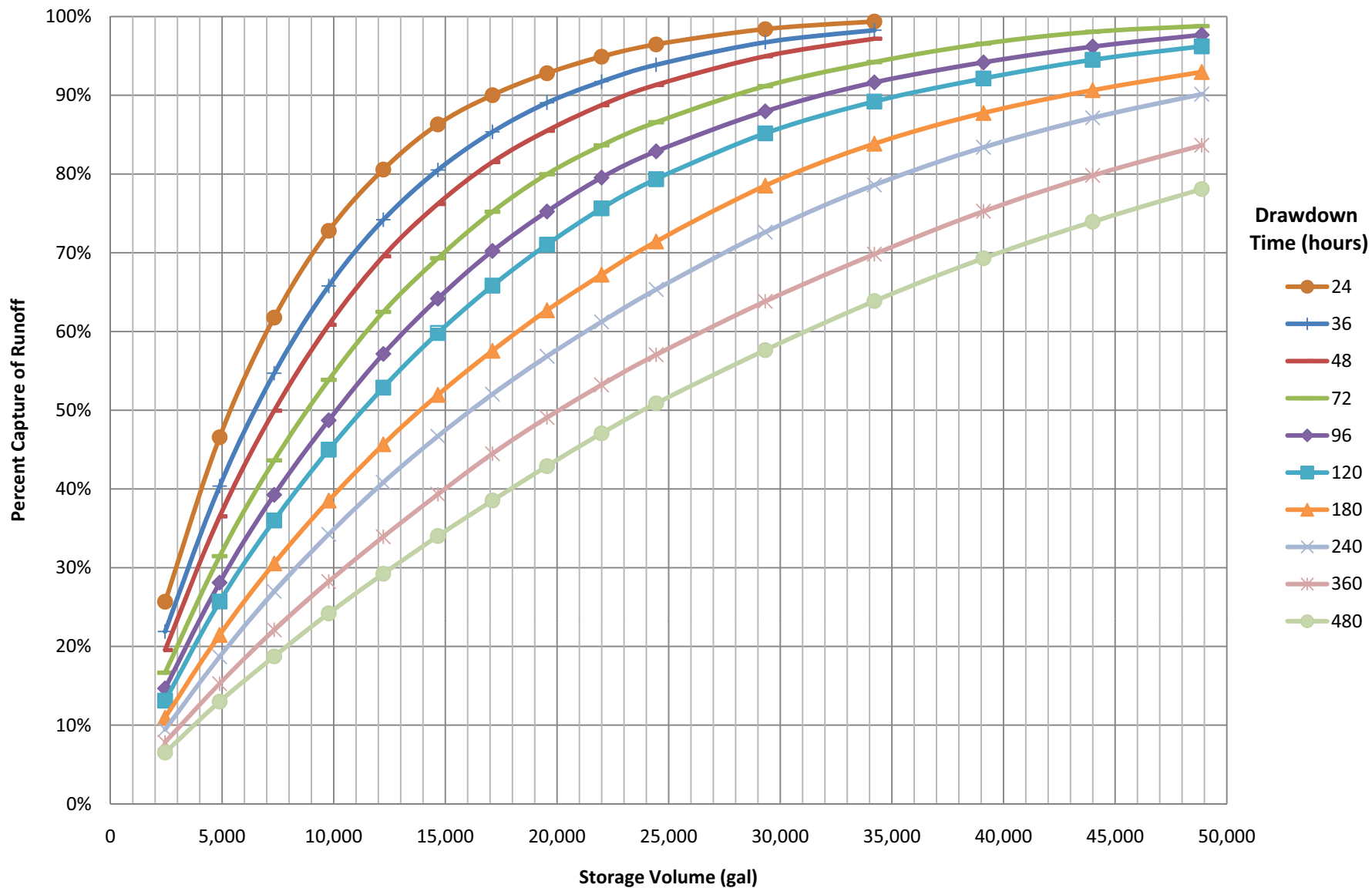


Figure F-11: Percent Capture Achieved by BMP Storage Volume with Various Drawdown Times for 1-Acre, 100% Impervious Tributary Area - San Jose

