The data show that inflow is not uniformly distributed throughout the system and much of the inflow can be accounted for by a smaller proportion of area. The “knee” of the curve in Figure 7-2 shows that 70 percent of the inflow is derived from about 30 percent of the area. By focusing rehabilitation within the 30 percent high inflow areas, overall costs will be reduced and benefits maximized. The basins representing the high I/I areas are shown in Figure 7-3. If 100 percent of the I/I could be completely removed in these basins, system-wide removals would be about 70 percent. Removal of 100 percent however, is not possible and should not be planned on.

A total of 21 basins with 516,253 feet of pipe (31 percent of the monitored system and 20 percent of total current system), comprise the high I/I areas. These areas are shown in Figure 7-3. Based on $2.50/ft for sewer system evaluation surveys (SSES) plus 25% contingency in these areas, a total condition assessment cost of $1.6 million is estimated. Rehabilitation of these basins, including private sector rehabilitation, was estimated using an overall construction cost factor of $30 per linear foot of total sewer in the basin, with a 40-percent factor for design and contingency. Estimated rehabilitation capital cost for these areas is $21.7 million. Total I/I rehabilitation, including SSES work, is estimated at $23.3 million.

Cost-effective I/I removal requires that the cost for finding and fixing the system is less than the cost to transport and treat I/I flows. Hydraulic analyses were performed using the system computer model. The estimated additional conveyance capital cost to convey I/I without any removal is estimated to be $31.3 million. In addition to conveyance cost, additional storage, pumping and treatment capital costs of approximately $10.4 million would result. The total additional capital cost for conveying, storing, pumping and treating I/I without removal would be in the range of $41.7 million. Since the I/I removal costs are less than the costs to transport and treat the I/I flows, rehabilitation is recommended.