

Figure 3-12  
Construction of the potable water system over 5 year periods

The construction of these works also increased the pressure within the distribution network, and as a consequence, leaks appeared due to elevated pressure. In 2001, CESPT started a program to find and repair these leaks, which is still in effect. This program has resulted in the reconfiguration of a pressure control system to minimize the recurrence of leaks in the future. Currently, the potable water distribution system covers an area of approximately 43,006 acres (17,404 hectares) (70 percent of 61,793 acres (25,007 hectares) of the study surface). The service area is very uneven and its elevation ranges from 0 to 1,213 feet (0 to 370 meters) above sea level. The system pressures are reported to range from 20 to 70 psi with a minimum allowed pressure of 20 psi according to the standards of State Office of Human Settlements and Public Works. Although CESPT limits service to areas with an elevation of less than 984 feet (300 meters) above sea level, there are populated areas above this elevation. Normally, urban developments located at these elevations are unplanned settlements.

In 1992, CESPT subdivided the service area into four districts with the goal of making operation, maintenance, and problem resolution better. The delimitation of the districts was established according to the quantity of potable water connections. Each district was formed with an average of approximately 55,000 connections.

Since 1992, two additional districts have been added and subdivided to provide better service to the community. The service area is subdivided into the following seven districts: 1) Ingeniero Juan Ojeda Robles, 2) Paraíso, 3) Independencia, 4) Ing. Armando Valenzuela (previously Matamoros), 5) Reforma, 6) Rosarito and 7) La Morita. The service area of each one of the seven districts is illustrated in Figure 3-13. Each one of the seven districts is described in Appendix C.

### ***Hydrometric Districts***

Beyond dividing the service area into seven main districts, currently the system is being subdivided into 32 hydrometric districts. The hydrometric districts will facilitate the identification and control of water losses. The goal is for each hydrometric district to have areas of influence supplied by one or two points, clearly located and possible to gauge. This will allow for the elimination of the interconnections between the districts, for the network to be managed more efficiently, and for a determination of the condition of the network and the causes and location of the water losses. The division of the network into hydrometric districts should make the system more efficient. It will significantly reduce the loss of potable water through physical leaks, and will help with the detection and elimination of illegal water connections and the substitution and re-calibration of micrometers.

### ***Areas without potable water service***

There are areas in some districts that do not have direct potable water service. Of the 379 *colonias* (neighborhoods) in the study area (303 in Tijuana and 76 in Rosarito), 20 do not have water service. The majority of these *colonias* (neighborhoods) are located in operation Districts 4 and 6 (Ing. Armando Valenzuela and Rosarito). There are 87 other *colonias* (neighborhoods), which, although they have service, have problems with their supply or with their network, either because of the quality of the material

**Legend**

-  Urban area
-  Aqueduct line No.1
-  Aqueduct line No.2
-  Aqueduct line No.3
-  Body of water

**Districts**

-  (1) Ing. Juan Ojeda
-  (2) Paraiso
-  (3) Independencia
-  (4) Ing. Armando Valenzuela S.
-  (5) Reforma
-  (6) Rosarito
-  (7) Morita

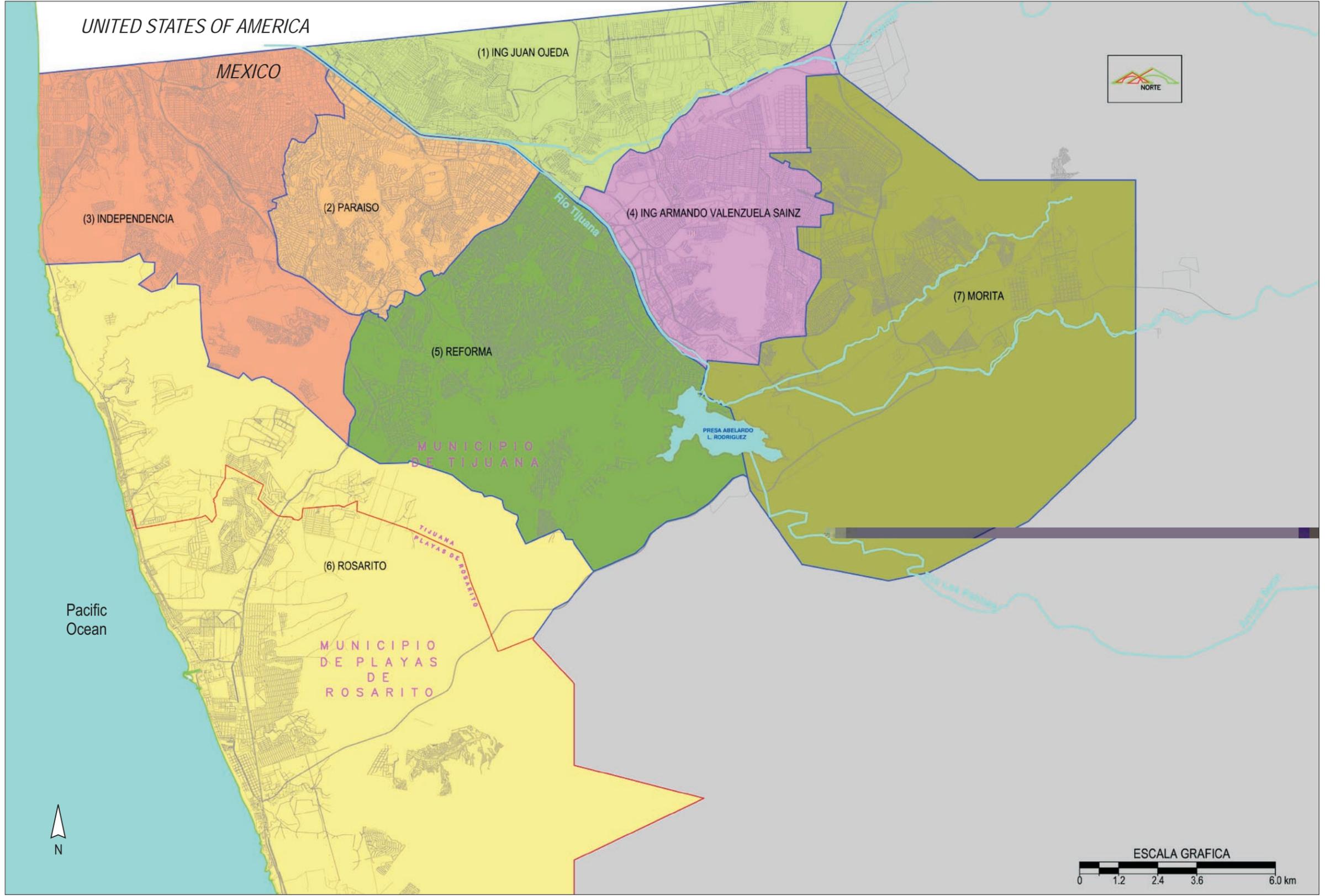


Figure 3-13  
Districts of operation and maintenance

used for its construction or because the equipment has come to the end of its usable life. Table 3-8 lists the number of *colonias* (neighborhoods) with potable water service, those with low pressure, those with a recurrence of leaks, and those that require immediate renovation. Figures 3-14 to 3-17 show the location of these *colonias* (neighborhoods) in the study area.

District	No Service	Low Pressure Area	Low Pressure Area (Summer)	Recurrent/ Leaks	Areas requiring immediate renovation
1	3	2	6	6	2
2	0	0	3	4	2
3	0	2	0	4	2
4	8	3	0	8	3
5	2	0	1	9	1
6	6	0	5	0	1
<b>Total</b>	<b>19</b>	<b>7</b>	<b>15</b>	<b>31</b>	<b>11</b>

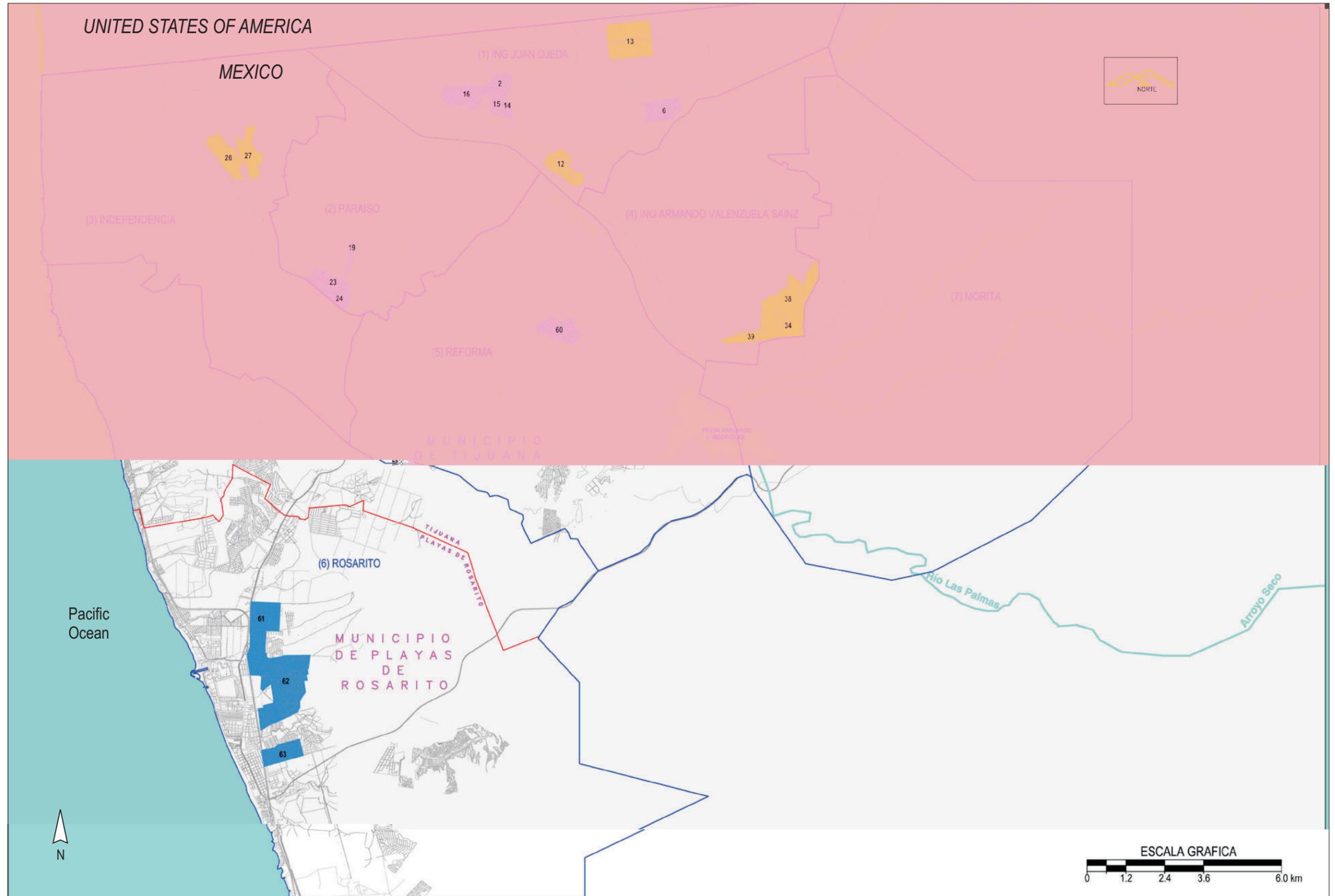
Source: Visits with staff from each one of the districts in operation.

Table I-1 from Appendix I provides the name of each *colonia* (neighborhood) with a problem as noted in Table 3-8. Figure 3-18 shows the areas that generally have potable water service in each one of the operation districts and the areas that still need it. Many of the *colonias* (neighborhoods) that have no potable water service currently are being considered for service before the year 2004 within the Japanese Credit Project.

Of the total urbanized surface area 47,464 acres (19,208 hectares), 9.4 percent does not have potable water service equivalent to 4,458 acres (1,804 hectares). Most of these areas are supplied with potable water by water trucks. CESPT has standpipes located at different places in the service area, which are used to fill the water trucks. The water trucks are operated by CESPT and by private companies. Some of these companies have their own private standpipes. Figure 3-18 shows the location of the standpipes in the service area. In Appendix D there is a list of the standpipes operating in the study area.

Name of each neighborhood

1(The numbers correspond to



**Legend**

- Urban area
- Municipal limit
- Major streams
- District limit
- Body of water
- Permanent low pressure
- Low pressure during summer

**No.** Name of each neighborhood  
(The numbers correspond to the neighborhoods listed in appendix G, table G-1)

