

SECTOR A

TABLES

Table A.2 Availability of Short-time Rainfall Data during Main Rainstorms

| Year | Date | Chaklala | | Islamabad | | RAMC | | Saidpur | |
|------|--------|----------|--------|-----------|--------|----------|--------|----------|--------|
| | | 3-Hourly | Hourly | 3-Hourly | Hourly | 3-Hourly | Hourly | 3-Hourly | Hourly |
| 1970 | 13-Aug | A | | | | | | | |
| 1970 | 24-Aug | A | | | | | | | |
| 1971 | 26-Aug | A | | | | | | | |
| 1972 | 16-Sep | A | | | | | | | |
| 1972 | 9-Dec | A | | | | | | | |
| 1973 | 26-Jul | A | | | | | | | |
| 1974 | 15-Jul | A | A | | | | | | |
| 1975 | 4-Jul | A | | | | | | | |
| 1975 | 18-Jul | A | | | | | | | |
| 1976 | 2-Sep | A | A | | | | | | |
| 1977 | 6-Jul | A | | | | | | | |
| 1978 | 30-Jun | A | | | | | | | |
| 1979 | 15-Sep | A | | | | | | | |
| 1980 | 21-Mar | A | A | | | | | | |
| 1981 | 14-Jul | A | | | | | | | |
| 1982 | 10-Aug | A | | | | | | | |
| 1983 | 26-Aug | A | | | | | | | |
| 1984 | 28-Jun | A | | A | | | | | |
| 1984 | 8-Jul | A | | A | | | | | |
| 1984 | 17-Jul | A | | A | | | | | |
| 1985 | 8-Jul | A | | A | | | | | |
| 1985 | 14-Jul | A | | A | | | | | |
| 1986 | 10-Feb | A | | A | | | | | |
| 1986 | 11-Jul | A | | A | | | | | |
| 1986 | 18-Jul | A | | A | | | | | |
| 1986 | 14-Aug | A | | A | | | | | |
| 1987 | 13-Aug | A | | A | | | | | |
| 1987 | 18-Aug | A | | A | | | | | |
| 1987 | 24-Aug | A | | A | | | | | |
| 1988 | 1-Aug | A | | A | | | | | |
| 1988 | 14-Aug | A | | A | | | | | |
| 1989 | 30-Jul | A | | A | | A | A | | |
| 1989 | 20-Aug | A | | A | | A | A | | |
| 1990 | 9-Aug | A | | A | | | | | |
| 1990 | 29-Aug | A | | A | | | | | |
| 1991 | 9-Aug | A | | A | | | | | |
| 1991 | 6-Sep | A | | A | | | | | |
| 1992 | 10-Sep | A | | A | | | | | |
| 1993 | 24-Mar | A | | A | | | | | |
| 1993 | 10-Aug | A | | A | | | | | |
| 1994 | 3-Jul | A | | A | | | | | |
| 1994 | 10-Aug | A | | A | | | | | |
| 1995 | 24-Jul | A | | A | | | | | |
| 1996 | 29-Jul | A | | A | | | | | |
| 1996 | 8-Aug | A | | A | | | | | |
| 1996 | 16-Aug | A | | A | | | | | |
| 1997 | 27-Aug | A | | A | | A | A | | |
| 1998 | 24-Feb | A | | A | | | | | |
| 1998 | 16-Jul | A | | A | | A | A | | |
| 1998 | 3-Aug | A | | A | | | | | |
| 1998 | 10-Aug | A | | A | | A | A | | |
| 1999 | 17-Jul | A | | A | | | | | |
| 1999 | 29-Sep | A | | A | | | | | |
| 2000 | 21-Aug | A | | A | | | | | |
| 2001 | 23-Jul | A | | A | A | A | | A | |

A: Available

Table A.3 Annual Maximum Basin Mean Rainfall

| Serial | 3-hourly rainfall | | | 6-hourly rainfall | | | 9-hourly rainfall | | | 12-hourly rainfall | | |
|--------|---------------------|---------------|---------|---------------------|---------------|---------|---------------------|---------------|---------|---------------------|---------------|---------|
| | Date and Time (PST) | Rainfall (mm) | Ranking | Date and Time (PST) | Rainfall (mm) | Ranking | Date and Time (PST) | Rainfall (mm) | Ranking | Date and Time (PST) | Rainfall (mm) | Ranking |
| 1 | 1970/8/24 2:00 | 51.8 | 25 | 1970/8/13 8:00 | 69.3 | 21 | 1970/8/13 8:00 | 70.6 | 23 | 1970/8/13 11:00 | 71.9 | 24 |
| 2 | 1971/8/26 11:00 | 115.6 | 5 | 1971/8/26 11:00 | 132.3 | 7 | 1971/8/26 14:00 | 133.6 | 10 | 1971/8/26 17:00 | 133.6 | 11 |
| 3 | 1972/9/16 5:00 | 46.2 | 30 | 1972/9/16 8:00 | 48.3 | 31 | 1972/9/16 11:00 | 48.3 | 32 | 1972/9/16 14:00 | 48.3 | 32 |
| 4 | 1973/7/26 2:00 | 104.1 | 8 | 1973/7/26 5:00 | 105.9 | 13 | 1973/7/26 8:00 | 105.9 | 15 | 1973/7/26 11:00 | 105.9 | 15 |
| 5 | 1974/7/15 8:00 | 128.6 | 4 | 1974/7/15 11:00 | 143.8 | 5 | 1974/7/15 14:00 | 155.2 | 7 | 1974/7/15 14:00 | 160.5 | 6 |
| 6 | 1975/7/19 8:00 | 58.4 | 21 | 1975/7/4 20:00 | 59.7 | 24 | 1975/7/4 23:00 | 67.3 | 24 | 1975/7/5 2:00 | 67.3 | 26 |
| 7 | 1976/9/2 14:00 | 101.6 | 10 | 1976/9/2 17:00 | 114.0 | 10 | 1976/9/2 20:00 | 118.0 | 13 | 1976/9/2 23:00 | 118.0 | 14 |
| 8 | 1977/7/6 8:00 | 81.3 | 13 | 1977/7/6 8:00 | 133.6 | 6 | 1977/7/6 11:00 | 157.3 | 6 | 1977/7/6 14:00 | 157.3 | 7 |
| 9 | 1978/6/30 5:00 | 58.4 | 21 | 1978/6/30 8:00 | 68.6 | 22 | 1978/6/30 11:00 | 113.1 | 14 | 1978/6/30 14:00 | 129.6 | 12 |
| 10 | 1979/9/15 14:00 | 60.0 | 19 | 1979/9/15 17:00 | 62.0 | 23 | 1979/9/15 20:00 | 63.8 | 27 | 1979/9/15 23:00 | 63.8 | 28 |
| 11 | 1980/3/21 20:00 | 47.5 | 29 | 1980/3/21 23:00 | 59.2 | 25 | 1980/3/22 2:00 | 59.2 | 28 | 1980/3/22 5:00 | 59.2 | 29 |
| 12 | 1981/7/14 5:00 | 101.8 | 9 | 1981/7/14 8:00 | 123.8 | 9 | 1981/7/14 11:00 | 123.8 | 12 | 1981/7/14 14:00 | 123.8 | 13 |
| 13 | 1982/8/10 8:00 | 156.1 | 2 | 1982/8/10 8:00 | 179.2 | 2 | 1982/8/10 14:00 | 265.3 | 2 | 1982/8/10 14:00 | 288.4 | 2 |
| 14 | 1983/8/26 17:00 | 105.0 | 7 | 1983/8/26 20:00 | 155.8 | 4 | 1983/8/26 20:00 | 171.5 | 3 | 1983/8/26 20:00 | 173.5 | 4 |
| 15 | 1984/7/17 8:00 | 47.8 | 28 | 1984/7/17 14:00 | 57.5 | 27 | 1984/6/28 11:00 | 67.3 | 24 | 1984/6/28 14:00 | 74.9 | 21 |
| 16 | 1985/7/8 8:00 | 110.8 | 6 | 1985/7/8 8:00 | 128.2 | 8 | 1985/7/8 8:00 | 136.8 | 8 | 1985/7/8 8:00 | 140.5 | 9 |
| 17 | 1986/7/11 20:00 | 40.9 | 31 | 1986/7/11 23:00 | 49.4 | 30 | 1986/7/12 2:00 | 49.4 | 31 | 1986/7/12 5:00 | 49.4 | 31 |
| 18 | 1987/8/24 5:00 | 31.6 | 32 | 1987/8/24 14:00 | 45.0 | 32 | 1987/8/24 14:00 | 54.2 | 30 | 1987/8/24 14:00 | 85.8 | 18 |
| 19 | 1988/8/14 11:00 | 64.4 | 17 | 1988/8/14 11:00 | 85.1 | 16 | 1988/8/14 14:00 | 85.1 | 18 | 1988/8/14 17:00 | 85.1 | 19 |
| 20 | 1989/7/30 2:00 | 71.9 | 15 | 1989/8/20 8:00 | 79.6 | 17 | 1989/7/30 5:00 | 81.4 | 19 | 1989/7/30 8:00 | 84.9 | 20 |
| 21 | 1990/8/9 8:00 | 77.7 | 14 | 1990/8/9 8:00 | 113.1 | 11 | 1990/8/9 11:00 | 135.8 | 9 | 1990/8/9 14:00 | 136.7 | 10 |
| 22 | 1991/9/6 5:00 | 63.3 | 18 | 1991/9/6 5:00 | 72.5 | 19 | 1991/9/6 8:00 | 74.0 | 20 | 1991/9/6 11:00 | 74.0 | 22 |
| 23 | 1992/9/9 23:00 | 66.2 | 16 | 1992/9/9 23:00 | 104.0 | 14 | 1992/9/9 23:00 | 128.8 | 11 | 1992/9/9 23:00 | 153.7 | 8 |
| 24 | 1993/8/10 5:00 | 55.8 | 23 | 1993/8/10 8:00 | 57.2 | 28 | 1993/8/10 11:00 | 57.2 | 29 | 1993/8/10 14:00 | 57.2 | 30 |
| 25 | 1994/7/3 17:00 | 150.2 | 3 | 1994/7/3 17:00 | 164.3 | 3 | 1994/7/3 17:00 | 166.0 | 4 | 1994/7/3 20:00 | 166.5 | 5 |
| 26 | 1995/7/24 11:00 | 81.8 | 12 | 1995/7/24 14:00 | 89.4 | 15 | 1995/7/24 17:00 | 89.7 | 16 | 1995/7/24 20:00 | 89.7 | 16 |
| 27 | 1996/7/29 5:00 | 50.8 | 27 | 1996/7/29 8:00 | 77.2 | 18 | 1996/7/29 11:00 | 87.2 | 17 | 1996/7/29 14:00 | 87.2 | 17 |
| 28 | 1997/8/27 8:00 | 87.8 | 11 | 1997/8/27 8:00 | 111.4 | 12 | 1997/8/27 8:00 | 164.5 | 5 | 1997/8/27 8:00 | 192.1 | 3 |
| 29 | 1998/8/3 5:00 | 59.2 | 20 | 1998/8/3 8:00 | 59.2 | 25 | 1998/8/10 11:00 | 70.8 | 22 | 1998/2/24 20:00 | 73.7 | 23 |
| 30 | 1999/7/17 8:00 | 54.3 | 24 | 1999/7/17 8:00 | 71.3 | 20 | 1999/7/17 11:00 | 71.3 | 21 | 1999/7/17 14:00 | 71.3 | 25 |
| 31 | 2000/8/21 8:00 | 51.0 | 26 | 2000/8/21 11:00 | 55.8 | 29 | 2000/8/21 14:00 | 64.6 | 26 | 2000/8/21 17:00 | 64.6 | 27 |
| 32 | 2001/7/23 14:00 | 239.3 | 1 | 2001/7/23 14:00 | 349.4 | 1 | 2001/7/23 14:00 | 400.8 | 1 | 2001/7/23 17:00 | 444.3 | 1 |

Table A.4 Estimation of Annual Maximum Basin Mean Daily Rainfall

| Year | Date | Daily Rainfall (mm) | | | | |
|------------------------|------------|---------------------|-----------|-------|----------|------------|
| | | Saidpur | Islamabad | RAMC | Chaklala | Basin Mean |
| 1944 | 1-Sep | | | | 120.7 | 120.7 |
| 1945 | 18-Aug | | | | 104.1 | 104.1 |
| 1946 | 25-Jul | | | | 88.9 | 88.9 |
| 1947 | 22-Aug | | | | 31.5 | 31.5 |
| 1948 | 6-Aug | | | | 150.6 | 150.6 |
| 1949 | 20-Sep | | | | 66.6 | 66.6 |
| 1950 | 23-Aug | | | | 96.3 | 96.3 |
| 1951 | 17-Aug | | | | 312.4 | 312.4 |
| 1952 | 28-Jul | | | | 80.5 | 80.5 |
| 1953 | 23-Aug | | | | 205.7 | 205.7 |
| 1954 | 10-Sep | | | | 69.6 | 69.6 |
| 1955 | 14-Sep | | | | 86.4 | 86.4 |
| 1956 | 8-Aug | | | | 223.5 | 223.5 |
| 1957 | 13-Aug | | | | 71.1 | 71.1 |
| 1958 | 14-Sep | | | | 90.7 | 90.7 |
| 1959 | 4-Jul | | | | 140.2 | 140.2 |
| 1960 | 18-Aug | | | | 69.3 | 69.3 |
| 1961 | 2-Sep | | | | 64.8 | 64.8 |
| 1962 | 10-Aug | | | | 90.9 | 90.9 |
| 1963 | 17-Aug | | | | 87.1 | 87.1 |
| 1964 | 29-Jul | | | | 71.6 | 71.6 |
| 1965 | 1-Apr | | | | 84.8 | 84.8 |
| 1966 | 26-Jul | | | | 73.9 | 73.9 |
| 1967 | 6-Aug | | | | 101.9 | 101.9 |
| 1968 | 12-Jul | | | | 87.4 | 87.4 |
| 1969 | 12-Aug | | | | 82.3 | 82.3 |
| 1970 | 13-Jul | | | | 69.1 | 69.1 |
| 1971 | 27-Aug | | | | 125.7 | 125.7 |
| 1972 | 18-Oct | | | | 53.3 | 53.3 |
| 1973 | 26-Jul | | | | 105.9 | 105.9 |
| 1974 | 15-Jul | | | | 133.9 | 133.9 |
| 1975 | 23-Aug | | | | 116.8 | 116.8 |
| 1976 | 3-Sep | | | | 120.0 | 120.0 |
| 1977 | 6-Jul | | | | 133.6 | 133.6 |
| 1978 | 30-Jun | | | | 113.1 | 113.1 |
| 1979 | 21-Feb | | | | 78.7 | 78.7 |
| 1980 | 22-Mar | | | | 60.0 | 60.0 |
| 1981 | 14-Jul | | | | 123.8 | 123.8 |
| 1982 | 10-Aug | | | | 181.3 | 181.3 |
| 1983 | 26-Aug | | 172.2 | | 173.5 | 172.4 |
| 1984 | 28-Jun | | 81.8 | | 112.5 | 86.4 |
| 1985 | 8-Jul | | 150.1 | | 86.0 | 140.5 |
| 1986 | 11-Feb | | 54.0 | | 58.1 | 54.6 |
| 1987 | 8-May | | 86.7 | | 49.9 | 81.2 |
| 1988 | 21-Jul | | 135.9 | | 62.2 | 124.8 |
| 1989 | 31-Jul | | 135.7 | 65.5 | 116.8 | 124.7 |
| 1990 | 9-Aug | | 120.4 | 74.1 | 76.7 | 110.0 |
| 1991 | 20-Aug | | 88.2 | 42.4 | 4.6 | 73.9 |
| 1992 | 10-Sep | | 207.7 | 192.3 | 223.4 | 207.3 |
| 1993 | 8-Jul | | 88.8 | 65.5 | 40.0 | 80.9 |
| 1994 | 4-Jul | | 174.8 | 177.4 | 115.0 | 169.2 |
| 1995 | 2-Aug | 87.0 | 107.9 | 105.0 | 119.0 | 102.5 |
| 1996 | 29-Jul | | 62.0 | 114.0 | 163.0 | 78.9 |
| 1997 | 27-Aug | 180.0 | 199.8 | 207.0 | 200.0 | 194.7 |
| 1998 | 15-Feb | 97.5 | 81.5 | 80.0 | 64.5 | 84.3 |
| 1999 | 12-Aug | 141.2 | 80.9 | 53.0 | 45.0 | 91.7 |
| 2000 | 1-Aug | 52.5 | 66.2 | 65.0 | 70.0 | 62.4 |
| 2001 | 24-Jul | 227.2 | 591.9 | 359.0 | 200.0 | 411.4 |
| Tiessen Coefficient | 4 Stations | 0.30 | 0.47 | 0.12 | 0.11 | 1.00 |
| | 3 Stations | | 0.77 | 0.13 | 0.10 | 1.00 |
| | 2 Stations | | 0.85 | | 0.15 | 1.00 |
| | 1 Station | | | | 1.00 | 1.00 |

Daily Rainfall : Total rainfall between 0800 PST of the previous day and 0800 PST of the day

Table A.5 (1/3) Land Use and Curve Number by Sub-basin (2001)

| Subbasin | Area by Land Use (km2) | | | | | | | | Sub-basin Average Curve Number |
|----------|------------------------------|---|--|---|----------------------------|-------------------------------------|------------------------|-------|---|
| | Agricultural Area (CN=70) | Residential Area /Densely Populated (CN=90) | Residential Area /Ordinarily Populated (CN= 75) | Residential Area /Suburb (CN= 70) | Forest Area (CN=70, 65) | Green and Grass Area (CN=65) | Water Body (CN=100) | Total | |
| SB1 | 0.0 | 0.0 | 7.9 | 0.3 | 7.9 | 5.1 | 0.0 | 21.2 | 71 |
| SB2 | 0.0 | 0.0 | 2.9 | 0.0 | 0.0 | 0.6 | 0.0 | 3.5 | 73 |
| SB3 | 0.0 | 0.0 | 3.2 | 0.0 | 8.7 | 4.6 | 0.0 | 16.6 | 70 |
| SB4 | 0.7 | 0.0 | 16.1 | 0.0 | 0.5 | 5.7 | 0.0 | 23.1 | 72 |
| SB5 | 0.7 | 0.0 | 0.1 | 0.0 | 6.0 | 3.1 | 0.0 | 9.9 | 68 |
| SB6 | 7.9 | 0.0 | 0.0 | 0.4 | 6.4 | 5.1 | 0.0 | 19.7 | 69 |
| SB7 | 8.2 | 0.0 | 8.0 | 3.8 | 2.3 | 17.2 | 0.0 | 39.5 | 69 |
| SB8 | 1.6 | 0.0 | 4.1 | 0.0 | 0.0 | 4.7 | 0.4 | 10.8 | 71 |
| SB9 | 12.1 | 1.5 | 2.9 | 0.0 | 0.0 | 4.4 | 0.0 | 20.9 | 71 |
| SB10 | 0.0 | 4.4 | 0.1 | 0.0 | 0.0 | 0.4 | 0.3 | 5.2 | 88 |
| SB11 | 1.4 | 3.4 | 2.3 | 0.0 | 0.0 | 4.1 | 0.0 | 11.2 | 75 |
| SB12 | 0.4 | 1.1 | 5.3 | 1.6 | 0.0 | 2.4 | 0.0 | 10.8 | 73 |
| SB13 | 0.0 | 5.9 | 0.2 | 0.0 | 0.0 | 0.4 | 0.3 | 6.8 | 88 |
| SB14 | 0.0 | 13.5 | 0.1 | 0.0 | 0.0 | 9.0 | 0.2 | 22.8 | 80 |
| SB15 | 0.5 | 1.4 | 0.0 | 0.0 | 3.1 | 7.4 | 0.4 | 12.8 | 69 |
| Total | 33.6 | 31.2 | 53.2 | 6.0 | 35.0 | 74.3 | 1.6 | 234.8 | 72 |

Note: Under normal antecedent moisture condition (AMC II)

Table A.5 (2/3) Land Use and Curve Number by Subbasin (2012)

| Subbasin | Area by Land Use (km2) | | | | | | | | Sub-basin Average Curve Number |
|----------|-----------------------------|--|---|--|---------------------------|------------------------------------|-----------------------|-------|---|
| | Agricultural Area (C=70) | Residential Area /Densely Populated (C=90) | Residential Area /Ordinarily Populated (C= 75) | Residential Area /Suburb (C= 70) | Forest Area (C=70, 65) | Green and Grass Area (C=65) | Water Body (C=100) | Total | |
| SB1 | 0.0 | 0.0 | 8.1 | 0.4 | 7.1 | 5.6 | 0.0 | 21.2 | 71 |
| SB2 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 0.5 | 0.0 | 3.5 | 74 |
| SB3 | 0.0 | 0.0 | 3.7 | 0.0 | 8.3 | 4.6 | 0.0 | 16.6 | 70 |
| SB4 | 0.0 | 0.0 | 17.3 | 0.0 | 0.5 | 5.3 | 0.0 | 23.1 | 73 |
| SB5 | 1.0 | 0.0 | 0.5 | 0.0 | 5.5 | 2.9 | 0.0 | 9.9 | 69 |
| SB6 | 9.3 | 0.0 | 0.0 | 0.7 | 6.2 | 3.6 | 0.0 | 19.7 | 69 |
| SB7 | 6.9 | 0.0 | 17.7 | 3.3 | 2.3 | 9.3 | 0.0 | 39.5 | 71 |
| SB8 | 0.2 | 0.0 | 7.0 | 0.0 | 0.0 | 3.2 | 0.4 | 10.8 | 73 |
| SB9 | 9.5 | 3.0 | 3.0 | 0.0 | 0.0 | 5.4 | 0.0 | 20.9 | 72 |
| SB10 | 0.0 | 4.4 | 0.1 | 0.0 | 0.0 | 0.5 | 0.3 | 5.2 | 88 |
| SB11 | 1.4 | 5.0 | 1.4 | 0.0 | 0.0 | 3.3 | 0.0 | 11.2 | 78 |
| SB12 | 0.8 | 2.3 | 4.4 | 1.2 | 0.0 | 2.1 | 0.0 | 10.8 | 75 |
| SB13 | 0.0 | 5.9 | 0.2 | 0.0 | 0.0 | 0.4 | 0.3 | 6.8 | 88 |
| SB14 | 0.0 | 13.8 | 0.1 | 0.0 | 0.0 | 8.7 | 0.2 | 22.8 | 80 |
| SB15 | 0.0 | 2.3 | 0.6 | 0.0 | 2.6 | 6.9 | 0.4 | 12.8 | 71 |
| Total | 29.1 | 36.6 | 67.1 | 5.6 | 32.5 | 62.4 | 1.6 | 234.8 | 73 |

Note: Under normal antecedent moisture condition (AMC II)

Table A.5 (3/3) Land Use and Curve Number by Subbasin (2030)

| Subbasin | Area by Land Use (km2) | | | | | | | | Sub-basin Average Curve Number |
|----------|-----------------------------|--|---|--|---------------------------|------------------------------------|-----------------------|--------|---|
| | Agricultural Area (C=70) | Residential Area /Densely Populated (C=90) | Residential Area /Ordinarily Populated (C= 75) | Residential Area /Suburb (C= 70) | Forest Area (C=70, 65) | Green and Grass Area (C=65) | Water Body (C=100) | Total | |
| SB1 | 0.00 | 0.00 | 8.06 | 0.66 | 6.76 | 5.69 | 0.00 | 21.17 | 70.56 |
| SB2 | 0.00 | 0.00 | 2.95 | 0.00 | 0.00 | 0.52 | 0.00 | 3.47 | 73.54 |
| SB3 | 0.00 | 0.00 | 2.58 | 0.00 | 8.11 | 5.91 | 0.00 | 16.59 | 69.00 |
| SB4 | 0.00 | 0.00 | 16.83 | 0.00 | 0.46 | 5.79 | 0.04 | 23.12 | 72.43 |
| SB5 | 1.65 | 0.00 | 0.46 | 0.00 | 5.44 | 2.32 | 0.00 | 9.87 | 69.06 |
| SB6 | 5.08 | 0.00 | 4.43 | 0.39 | 6.08 | 3.76 | 0.00 | 19.74 | 70.17 |
| SB7 | 1.54 | 0.00 | 27.40 | 0.00 | 2.30 | 8.34 | 0.00 | 39.59 | 72.41 |
| SB8 | 0.00 | 0.00 | 7.85 | 0.00 | 0.00 | 2.59 | 0.38 | 10.82 | 73.50 |
| SB9 | 1.82 | 1.50 | 13.01 | 0.00 | 0.00 | 4.63 | 0.00 | 20.97 | 73.43 |
| SB10 | 0.00 | 4.44 | 0.09 | 0.00 | 0.00 | 0.46 | 0.25 | 5.24 | 88.03 |
| SB11 | 0.59 | 6.35 | 2.45 | 0.00 | 0.00 | 1.75 | 0.00 | 11.14 | 81.72 |
| SB12 | 0.78 | 2.32 | 4.67 | 1.16 | 0.00 | 1.86 | 0.00 | 10.78 | 75.60 |
| SB13 | 0.00 | 5.86 | 0.24 | 0.00 | 0.00 | 0.42 | 0.28 | 6.80 | 88.35 |
| SB14 | 0.00 | 15.33 | 0.46 | 0.00 | 0.00 | 6.77 | 0.22 | 22.79 | 82.37 |
| SB15 | 0.00 | 3.08 | 2.09 | 0.00 | 2.61 | 4.60 | 0.40 | 12.77 | 73.74 |
| Total | 11.46 | 38.89 | 93.56 | 2.20 | 31.76 | 55.42 | 1.58 | 234.87 | 73.65 |

Note: Under normal antecedent moisture condition (AMC II)

Table A.6 (1/2) Estimated Flood Inundation Depth and Area (2001 Flood)
(km²)

| Inundation Depth | Case 1-1 Reproduction of 2001 Flood | | | Case 1-2 after Completion of ADB | | |
|------------------|--|------------|-------|-------------------------------------|------------|-------|
| | Islamabad | Rawalpindi | Total | Islamabad | Rawalpindi | Total |
| 0.3m - 1m | 0.22 | 1.57 | 1.79 | 0.26 | 1.57 | 1.84 |
| 1m - 2m | 0.35 | 2.20 | 2.54 | 0.30 | 1.54 | 1.84 |
| 2m - 3m | 0.17 | 1.46 | 1.63 | 0.15 | 1.11 | 1.26 |
| 3m - 4m | 0.14 | 1.09 | 1.23 | 0.13 | 0.81 | 0.94 |
| greater than 4m | 0.38 | 1.66 | 2.04 | 0.34 | 0.98 | 1.31 |
| Total | 1.25 | 7.98 | 9.23 | 1.18 | 6.01 | 7.18 |

Table A.6 (2/2) Estimated Flood Inundation Depth and Area (Design Rainfall)

| Inundation Depth | Case 2-1 100yr Flood | | | Case 2-2 50yr Flood | | | Case 2-3 25yr Flood | | |
|------------------|-------------------------|------------|-------|------------------------|------------|-------|------------------------|------------|-------|
| | Islamabad | Rawalpindi | Total | Islamabad | Rawalpindi | Total | Islamabad | Rawalpindi | Total |
| 0.3m - 1m | 0.32 | 1.67 | 1.98 | 0.12 | 0.92 | 1.04 | 0.13 | 0.68 | 0.81 |
| 1m - 2m | 0.23 | 1.52 | 1.74 | 0.16 | 1.17 | 1.33 | 0.16 | 0.69 | 0.85 |
| 2m - 3m | 0.17 | 1.20 | 1.37 | 0.16 | 0.77 | 0.93 | 0.08 | 0.45 | 0.53 |
| 3m - 4m | 0.15 | 0.92 | 1.07 | 0.12 | 0.56 | 0.68 | 0.06 | 0.31 | 0.38 |
| greater than 4m | 0.26 | 1.17 | 1.42 | 0.09 | 0.48 | 0.58 | 0.00 | 0.03 | 0.03 |
| Total | 1.12 | 6.46 | 7.59 | 0.65 | 3.90 | 4.54 | 0.43 | 2.17 | 2.59 |

Table A.7 Equipment of FFWS

| Items | Supporting Equipment Included | Quantity (unit) |
|---|---|-----------------|
| 1. PMD Master Control Station | | |
| (1) Telemetry Supervisory Equipment | | 1 |
| (2) Radio Equipment for 5.2 GHz Wireless LAN | | 2 |
| (3) Radio Equipment for 400MHz | | 1 |
| (4) Antenna System | | 1 |
| (5) Printer | | 1 |
| (6) PC type Operation Console | | 1 |
| (7) Processing System (FFWS Server) | | 1 |
| (8) Display System | Visual Display Unit, Plasma Display Unit, Web Server, Client PC, Laser Printer | 1 |
| (9) Uninterruptible Power Supply & Power Regulator | Uninterruptible Power Supply (UPS), Automatic Voltage Regulator (AVR), Insulated Transformer (IT) | 1 |
| (10) Air Conditioner | | 2 |
| 2. Monitoring Station (FFC, WASA, Jinnah Park) | | |
| (1) Radio Equipment for 5.2 GHz Wireless LAN | | 3 |
| (2) Antenna System | | 3 |
| (3) Display System | Visual Display Unit, Plasma Display Unit, Client PC, Laser Printer | 3 |
| (4) Uninterruptible Power Supply & Power Regulator | Uninterruptible Power Supply (UPS), Automatic Voltage Regulator (AVR), Insulated Transformer (IT) | 3 |
| (5) Emergency Power Supply (Engine Generator) | | 3 |
| (6) Air Conditioner | | 6 |
| 3. Rawalpindi Warning Control Station | | |
| (1) Warning Supervisory/Control System | Warning Supervisory/Control System, Operation Console, Serial Printer | 1 |
| (2) Radio Equipment for 5.2 GHz Wireless LAN | | 1 |
| (3) Radio Equipment for 400MHz | | 1 |
| (4) Antenna System | | 1 |
| (5) Printer | | 1 |
| (6) PC type Operation Console | | 1 |
| (7) Display System | Visual Display Unit, Plasma Display Unit, Client PC | 1 |
| (8) Uninterruptible Power Supply & Power Regulator | Uninterruptible Power Supply (UPS), Automatic Voltage Regulator (AVR), Insulated Transformer (IT) | 1 |
| (9) Emergency Power Supply (Engine Generator) | | 1 |
| (10) Air Conditioner | | 2 |
| 4. Rainfall Gauging Station | | |
| (1) Remote Terminal Unit (RTU) | | 5 |
| (2) Radio Equipment for 400MHz | | 5 |
| (3) Antenna System | | 5 |
| (4) Sensor Rainfall Gauge with Data Memory Pack | | 5 |
| (5) Uninterruptible Power Supply & Power Regulator | Photovoltaic Panel, Charge Controller, Storage Battery | 5 |
| 5. Water Level Gauging Station | | |
| (1) Remote Terminal Unit (RTU) | | 5 |
| (2) Radio Equipment for 400MHz | | 5 |
| (3) Antenna System | | 5 |
| (4) Sensor Water Level Gauge with Data Memory Pack | | 5 |
| (5) Uninterruptible Power Supply & Power Regulator | Photovoltaic Panel, Charge Controller, Storage Battery | 5 |
| 6. Warning Post | | |
| (1) Warning Equipment | | 10 |
| (2) Siren Equipment | Siren Control Board, Motor Siren | 10 |
| (3) Audio Amplifier | | 10 |
| (4) Loud Speaker and Sound Collector | Loud Speaker, Speaker Junction Box | 10 |
| (5) Radio Equipment for 400MHz | | 10 |
| (6) Antenna System | | 10 |
| (7) Uninterruptible Power Supply & Power Regulator | DC Power Supply, Insulated Transformer (IT) | 10 |
| 7. Repeater Station (Telemetry System) | | |
| (1) Repeater Equipment | | 1 |
| (2) Radio Equipment for 400MHz | | 2 |
| (3) Antenna System | | 1 |
| (4) Power Supply | | 1 |
| 8. Repeater Station (Wireless LAN) | | |
| (1) Radio Equipment for 5.2 GHz Wireless LAN | | 4 |
| (2) Antenna System | | 2 |
| (3) Uninterruptible Power Supply & Power Regulator | | 2 |