



## Storm Drain Channels

During winter months, Northern California can experience severe storms which may result in mud slides, blocked highways, and flooding throughout the Bay Area. With its lack of hillsides, natural rivers, or creeks, Newark normally survives these natural events with relatively few impacts. However, heavy rainfalls can still result in worries from homeowners about possible flooding.

The nearest "natural" creek to Newark is Alameda Creek, which was the source of widespread flooding in the 1950s. Since that time, the Corps of Army Engineers widened, straightened, and improved Alameda Creek from the mouth of Niles Canyon to the creek's connection with the Bay just north of Coyote Hills Regional Park. Chances of flooding from this creek are therefore very slim.

Newark does have a number of flood control channels. These man-made channels are maintained by Alameda County Flood Control and Water Conservation District (ACFC&WCD) and generally follow the historic sloughs which bisected Newark when the area was devoted to farming and dairy operations. The sloughs were converted into flood control channels by straightening and other improvements starting in the 1950s. The ACFC&WCD continues to make improvements in these channels to increase capacity.

Most of these channels extend through Newark from I-880 to the Bay. Generally, most of them start in Fremont. Beginning at the southerly end of the City, these man-made channels are generally located as follows:

- The C&D Line passes under the Nimitz Freeway immediately behind the cinema complex, passes into an underground culvert under Balentine Drive behind TJ Maxx, and then is in an open channel along the south side of Newark Memorial High School.
- The B Line open channel crosses Cedar Boulevard just north of Moores Avenue and passes through the Mowry West subdivision, crossing Cherry Street near Smith Avenue.
- The F Line open channel passes under Cedar Boulevard north of Central Avenue, turns north after crossing under Newark Boulevard, and then follows along the south side of the railroad tracks along Baine Avenue.
- The I Line is an open channel following Mayhews Landing Road east of Thornton Avenue near the Bay. However, it actually starts at I-880 as a large underground culvert, passing behind Newark Square Shopping Center and making its way past the Old Town Shopping Center.
- The H Line drains into the new San Francisco Wildlife Refuge property on the east side of Thornton Avenue near Jarvis Avenue after passing along the north side of Lincoln School. Upstream, just before crossing under

the railroad tracks, the channel splits into two branches, one of which serves the Lido Faire area and the other which, via open channel and underground pipes, serves the Lake and Rosemont areas.

All of the storm drain catch basins and storm drain systems in Newark eventually connect to one of these flood control channels. Since the channels themselves connect directly with the San Francisco Bay, it is important to keep these systems free of oil and other contaminants.

Where these channels meet the Bay, their elevation is the same as the surrounding area, making these channels subject to tidal action. Therefore, many of these channels have flap gates on the downstream end of the channels where they empty into the Bay. These flap gates are simply hinged steel doors which open to let water in the channels flow into the Bay but close to keep tidal water from moving up the channel when the tide is high. (These flap gates are not water tight and some tidal water still gets into most of the channels.)

While these flood control channels normally work well, the combination of a high tide and severe storm can cause problems. When the tide is high, the flap gates close, which drastically reduces the amount of water which can flow into the Bay until the tide recedes. Water then backs up in the channel. If intense rainfalls persist, water will continue to rise in the channel. Hopefully, in those cases, the storm will either slack off, letting the channels drain out, or the tide will drop, allowing the tide gates to open and the releasing the water in the channel.

Because of Newark's low elevation (ranging from 7 to 30 feet above sea level), the local storm drain systems serving residential areas connect to these channels toward the bottom of the channels themselves. Whenever water is more than a couple of feet deep in these channels, water from the channels will flow back upstream into the storm drain pipes which connect with the channels. The water in the storm drain system will then rise up in manholes and catch basins to the same elevation as in the nearby channels. It is easy to understand that if the storm drain channels are full of water, there is nowhere for the water in the storm drain pipes to drain, sometimes resulting in local flooding. In these situations, flooded areas will diminish once the water level in the channels starts to drop.

Because Newark's clay soil does not absorb water well, it is easy for water to get under houses and pond on flat lots or in back yards. These problems will generally disappear with good under-house ventilation and better weather. Problems with water under houses can also be minimized by making sure that gutter downspouts keep water away from building foundations and that yard areas drain away from the house. Rear lot drainage can be improved by making sure that there is a way for water to drain from rear yards around the side of your house to your front yard and the street.

While our close proximity to the Bay can occasionally cause problems, we are still fortunate that we do not have mud slides or annual flooding of rivers or creeks passing through our City.

For information about the City's storm drain system or to report flooding, call the Maintenance Division at (510) 578-4806. For questions regarding the flood control channels, contact ACFC&WCD at (510) 670-5480.