

LEEVE MONITORING GUIDANCE
Criteria for Community Levee Inspectors
Emergency Operations

Purpose: This sheet is to provide community levee inspectors criteria to evaluate the levee protection system. Each levee system is unique and problems that can arise during a flood fight are innumerable and beyond the scope of this sheet. Consult with your City Engineer about specific concerns related to your particular levee section.

Background: Physical problems with the levees, dikes and related infrastructure can be identified and corrected early if a well organized levee patrol team with a good communication system exists.

Reporting: A brief description should be recorded/logged for every event encountered. The location of the event should be indicated on a site map and marked with spray paint / post / small utility flag.

Look for changes – In general, the most important thing is to look for change in what you have seen or heard before; i.e. is there a crack where there wasn't one before, has a crack increased in length or width, is there a wet area that was dry before, things like that.

Condition	Observation(s)	Action Levels
Seepage	Wet/Soft zones on landward levee toe/slope	Note area on map with ID and continue to monitor.
	CLEAR water flowing out of levee or adjacent ground	Mark area and continue to monitor closely. Watch for any changes, increased flow and movement of soil particles.
	Discolored ' DIRTY ' water flowing or sediment deposits. Observation of increasing seepage or any seepage carrying soil particles. In addition, any indication of piping such as sinkholes.	Contact Engineer Immediately.
Scour	Erosion on riverward levee slope, beginning to cut into the levee base.	Note the area on map with ID and monitor. If the erosion is rapid, contact Engineer Immediately.
	Pump discharge line is located on riverward levee slope	Contact City Officials to extend hose into river.
	A whirlpool is noticed in the river. Check behind the levee for any storm sewer outlets or culverts underneath levee.	Contact City Engineer and determine if culvert was plugged.
Stability	Visual changes in the horizontal or vertical crest/toe alignment or evidence of cracks. Any cracks, either transverse or longitudinal.	Mark locations on a map with ID and monitor. Measure the crack to check for movement.
	Cracks in the dam or appurtenant structures with seepage flowing through the cracks or progressive changes in the vertical or horizontal crest alignment.	Contact Engineer Immediately.
Pumps	Pumps are not running or discharging water.	Contact City Officials.
	Water level around the pump is increasing.	Contact City Officials.
River	River level is approaching levee crest (freeboard), within 2 feet.	Notify Engineer.
	Ice jam or obstruction of the river channel.	Contact Engineer

LEVEE MONITORING EXAMPLES



'Dirty' seepage carrying soil particles.



Concentrated seepage boil at levee toe.



Formation of a whirlpool in river.



Scour from pump discharge hose.



Clear seepage through a sand filter.



Scour and erosion of levee from river turbulence.



Formation of cracks along the levee.



Levee Instability.



Monitoring of a levee crack.